

Personal Digital Assistant (PDA)



User's Manual

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Patents

This product is covered by one or more of the following patents:

Design Pat.: EP 1,180,681; AU 329,642; US D633,915S.

US Pat:

5,311,000;5,440,110;5,481,098;5,493,108;5,686,716;5,992,740;6,412,698

B2;6,415,978 B1;6,454,168 B1;6,478,224 B1;6,513,714 B1;6,561,427

B2;6,585,157 B2; 6,808,114 B1; 6,997,385 B2;7,108,170 B2; 7,387,246 B2.

European Pat.: 681,257 B1; 789,315 B1; 1,128,315 B1; 1,396,811 B1; 1,413,971 B1.

Additional patents pending.

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REFERENCES

CONVENTIONS

This manual uses the following conventions:

“User” refers to anyone using an Elf PDA.

“PDA” and “Elf” refer to Elf PDA.

“You” refers to the System Administrator or Technical Support person using this manual to install, configure, operate, maintain or troubleshoot an Elf PDA.

“Single Dock” refers to the Elf Single Slot Dock.

The label artworks may be only a draft. Refer to the product labels for more precise information.

REFERENCE DOCUMENTATION

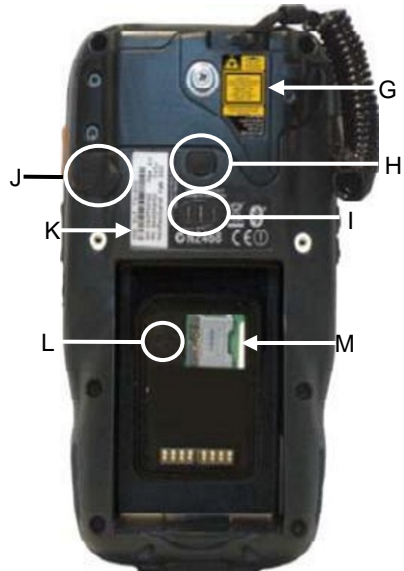
For further information regarding Elf refer to the SDK Help on-Line.

SERVICES AND SUPPORT

Datalogic provides several services as well as technical support through its website. Please check our website at www.datalogic.com under “Support & Services”, then “Automatic Data Capture”, and click on the links indicated for further information including:

- **Downloads**
 - **Manuals** for the latest versions of user manuals and product guides.
 - **Software & Utilities** for the latest firmware release for your product. You can also click on the following link for direct access to this section: www.datalogic.com/products_updates.
- **Service Program** for warranty extensions and maintenance agreements.
- **Repair Centers** for a list of authorised repair centers.
- **Technical Support Automatic Data Capture** email form to contact our technical support.

GENERAL VIEW



- A) Color Display*
- B) ON/OFF Power Key
- C) LEDs
- D) Front Scan Key
- E) Keyboard
- F) Guitar Pick Stylus

- G) Laser Safety Label
- H) Trigger button (for use with the optional pistol trigger Quick-attach Handle - 94ACC1378)
- I) Loudspeaker
- J) Headset Connector
- K) Product Label
- L) Reset Key (under battery)
- M) Micro-SD Card Slot (under battery)

* Remove protective film cover before use



N

O

- N) Side Scan Key (right)
- O) Push-to-talk Key



P

Q

- P) Side Scan Key (left)
- Q) Up/down Volume Keys



R

- R) Data Capture Window



S

T

- S) Handylink™ Connector (host/slave)
- T) Micro USB for supplying power and data transfer (host/slave)

1 INTRODUCTION

1.1 ELF DESCRIPTION

Datalogic's new PDA, Elf is designed with the technology and ruggedness needed in Field Service, Field Sales, Delivery, Retail and Logistics applications. Capitalizing on Datalogic's legendary ergonomics, the new PDA packs unprecedented features into a compact form factor built for single handed operation.

Elf's Power3 construction starts with a parallel microprocessor architecture using a PXA310 and ARM-7 processors combined with 256 MB RAM & Flash and Windows CE 6.0.

Elf 1D laser scanner and 2D imager both come equipped with Datalogic's patented Green Spot good read feedback. Elf can also be outfitted with an autofocus 3MPixel camera with flash.

Summit's latest Wi-Fi 802.11a/b/g wireless radio with CCX v4 certification keeps the users connected throughout the day.

The Micro USB port facilitates charging with a phone industry standard power supply or On-the-Go (OTG) communications.

Datalogic's software tools and strategic software alliances fit Elf to the business practice. Datalogic Desktop and Configuration utilities offer full control over the on device experience. Wavelink Avalanche enables rapid deployment and central management of Elf installation. Finally Datalogic's comprehensive service programs protect the Elf investment.

1.2 AVAILABLE MODELS

The Elf is available in different models depending on the options it is equipped with. All options are listed below:

- communication options: 802.11 a/b/g radio, Bluetooth®
- data capture options: laser, 2D imager
- operating system: Windows CE 6.0, Windows Embedded Handheld 6.5
- keyboard options: numeric, qwerty, azerty.

For further details about the Elf models refer to the web site:

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

For further information regarding Windows CE refer to the website:

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

The currently available models are:

- 944300031 ELF 00A0WI-1N0-CEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std 2D Imager w/ Green Spot, Windows CE 6.0, 256MB RAM/256MB Flash, 27-Key Numeric
- 944300032 ELF 00A0WI-1Q0-CEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std 2D Imager w/ Green Spot, Windows CE 6.0, 256MB RAM/256MB Flash, 46-Key QWERTY
- 944301000 Elf 00A0LS-1N1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std Laser w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 27-Key Numeric
- 944301001 Elf 00A0WI-1N1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std 2D Imager w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 27-Key Numeric
- 944301002 Elf U2A0LS-1Q1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std Laser w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key QWERTY
- 944301003 Elf U2A0LS-1N1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std Laser w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 27-Key Numeric

- 944301004 Elf U2A0WI-1N1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std 2D Imager w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 27-Key Numeric
- 944301005 Elf U2A0WI-1Q1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std 2D Imager w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key QWERTY
- 944301008 Elf 00A0LS-1Q1-MEN0
Elf with Bluetooth v2.0, 802.11 a/ a/b/g CCX V4, Std Laser w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key QWERTY
- 944301009 Elf 00A0WI-1Q1-MEN0
Elf with Bluetooth v2.0, 802.11 a/ a/b/g CCX V4, Std 2D Imager w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key QWERTY
- 944301011 Elf U2A0LS-1Z1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std Laser w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key AZERTY
- 944301012 ELF U2A0WI-1Z1-MEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, 3.5G UMTS HSDPA, GPS, Std 2D Imager w/ Green Spot, Camera 3MPixel, Windows Embedded Handheld 6.5, 256MB RAM/256MB Flash, 46-Key AZERTY
- 944301015 ELF 00A0LS-1N0-CEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std Laser w/ Green Spot, Windows CE 6.0, 256MB RAM/256MB Flash, 27-Key Numeric
- 944301016 ELF 00A0LS-1Q0-CEN0
Elf with Bluetooth v2.0, 802.11 a/b/g CCX V4, Std Laser w/ Green Spot, Windows CE 6.0, 256MB RAM/256MB Flash, 46-Key QWERTY

1.3 PACKAGE CONTENTS

The Elf package contains:

- 1 Elf PDA
- 1 rechargeable battery pack
- 1 hand strap with stylus holder
- 1 guitar pick stylus
- 1 Elf Quick Start Guide
- 1 Safety and Regulatory Addendum
- 1 Wavelink Avalanche Insert
- 1 End User License Agreement (EULA) Sheet

Accessories necessary for the Elf connection to the host computer and to the network are packaged separately: the cradle, one or more connection cables.

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

**CAUTION**

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 first operation to perform is to charge them. See paragraph 2.1.

1.4 REPLACING THE HAND STRAP

To remove the hand strap, proceed as follows.

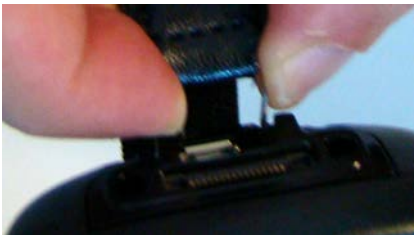
1. Unscrew the strap pivot to remove the upper end of the hand strap:



2. Lift the bottom of the hand strap to place the hook vertically:



3. Press on the upper sides of the hook to remove it:



4. Reverse the steps above to the insert new hand strap.

1.5 INSERTING MICROSD CARD

Elf supports microSD memory cards. To access the microSD card slot and insert the card, proceed as follows:

1. Turn off the Elf.
2. Pull the battery latch down and remove the battery pack:



3. Shift the cardholder to the left and then pull it up:



4. Insert the microSD card with the written part upward:



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



6. First insert the bottom and then the upper (contacts) side of the battery pack into the slot. Press until the battery latch clicks twice.



1.5.1 Removing the MicroSD Card

To remove the microSD 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 microSD card slot for any other accessories.

It is highly recommended to lock the card holder even if the card is not present.

1.6 ACCESSORIES

❑ Cradles

- 94A151124 Dock, Single Slot, Elf
- 94A151130 Dock, Powered Mobile, Elf
- 94A150053 Dock, Ethernet 4 Slot, Elf
- 94A151134 Charger, 4 Slot Dock, Elf
- 94A151136 Charger, 4 Slot Battery, Elf

❑ Batteries

- 94ACC1376 Battery, High Capacity, Elf
- 94ACC1377 Battery, Standard Capacity, Elf

❑ Power Supply

- 94A051975 Power Adapter, 12 to 24v Pwr Plug 2.1mm
- 94A051976 Adapter, Pwr Jack 2.1mm To Handylink
- 94ACC1380 Power Supply, Micro USB
- 94ACC1381 Power Supply, Dock, PWR Plug 2.1mm

❑ Cables

- 94A051020 Cable for dock-PC (RS232) communication
- 94A051968 Cable, Micro USB, Client
- 94A051969 Cable, Micro USB, Host
- 94A051970 Cable, USB Handylink, Client
- 94A051971 Cable, USB Handylink, Host
- 94A051972 Cable, RS232 Handylink, Client
- 94A051973 Cable, RS232 Handylink, Host
- 94A051974 Cable, Dex Handylink

❑ Various

- 95ACC1033 Screen Protector Kit, 5 Pack
- 94ACC1230 Swivel for Functional Case (10pcs)
- 94ACC1345 Stylus Pen (10 pcs.)
- 94ACC1371 Module, Ethernet, Single Slot Dock
- 94ACC1372 Module, Modem, Single Slot Dock
- 94ACC1378 Handle, Elf
- 94ACC1379 Belt Holster, Elf
- 94ACC1382 Stylus, Guitar Pick W/ Cord (5pcs)

**NOTE**

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

2 BATTERIES AND MAINTENANCE

**NOTE**

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

**CAUTION**

By default, the battery pack is disconnected at the factory to avoid damage due to excessive draining.

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 Elf.

Alternatively, it is also possible to recharge the battery pack by using the single slot dock, the powered mobile dock, the Ethernet four slot dock or the four slot battery charger.

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

During the charging process the LED positioned at the left side of the display glows red constantly. Once the charging process has been completed this LED glows green constantly (see par. 4.5.1).

If the battery pack is removed from the PDA, it can be recharged by inserting it into the rear slot of the single slot dock, the powered mobile dock, the ethernet four slot dock or the four slot battery charger.

**NOTE**

It's recommended to charge batteries before first use.

**CAUTION**

Risk of explosion if battery is replaced by an incorrect type.

Dispose of used batteries according to the instructions.

**CAUTION**

Il y a risque d'explosion si la batterie est remplacée par une batterie de type incorrect.

Mettre au rebut les batteries usagées conformément aux instructions.

**CAUTION**

Avoid storing batteries for long periods in a state of full charge or very low charge.

We recommend charging the battery pack every two to three months to keep its charge at a moderate level to maximize battery life.

**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).

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

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

**NOTE**

The battery level may display incorrectly for several minutes after the Elf is disconnected from its charger if the charging cycle is not completed.



NOTE

The Elf may 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.

2.2 REPLACING THE BATTERY PACK

To correctly replace the battery pack, proceed as follows.

1. Turn off the Elf.
2. Pull the battery latch down as indicated in the figure below:



3. Remove the battery pack.



4. Install the new battery pack, first insert the bottom side, then the upper (contacts) side of the battery pack into the slot. Press until the battery latch clicks twice:

**WARNING**

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

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 and/or fire.

Do not place the battery pack in or near a fire or other heat source; 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, in clothes dryers, in high pressure containers, on induction cook surfaces or similar devices. 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 approved power supply. The use of an alternative power supply will void the product warranty, may cause product damage and may cause heat, an explosion, or fire.

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 to power devices other than this PDA.

**WARNING**

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, pressures, 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.

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 compliance with European Directive 2006/66/EC, 2011/65, 2002/96/EC and subsequent modifications, with US and China regulatory laws and regulations about the environment.

**NOTE**

In order to maximize operating autonomy, the Elf checks its battery level at all times. If the battery is not sufficiently charged, the Elf will not turn on when the ON/OFF Power button is pressed.

In this case, either substitute a sufficiently charged battery, insert the Elf into a powered cradle, or plug it into a wall charger.

**NOTE**

To maximize battery life, turn off radios when they are not needed.

2.3 CLEANING THE PDA

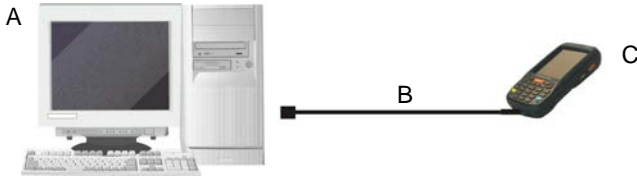
Periodically clean the Elf with a slightly dampened cloth.

Do not use alcohol, corrosive products or solvents.

3 CONNECTIONS

3.1 USB CONNECTION

You can use the standard micro USB cable 94A051968 or the Datalogic Handylink cable 94A051970 to directly connect the Elf to a host computer to transfer data through the USB interface.



Key:

- A Host computer
- B Standard Micro USB cable
94A051968/ 94A051970 Handylink
USB Client Cable
- C Elf

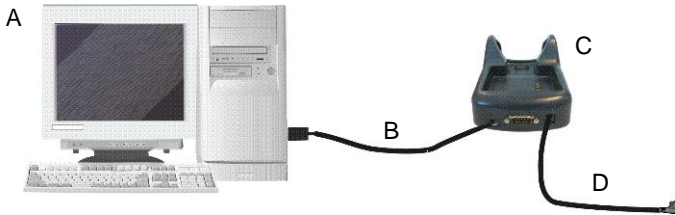


NOTE

Connection through the cable complies to USB 1.1 standard.

The Single Dock can be connected to the Host by means of the Micro-B USB cord 94A051968.

Once the host computer has been turned on, insert the Elf PDA into the cradle.



Key:

- | | | | |
|---|----------------------------------|---|-------------------------------|
| A | Host computer | C | Elf Single Slot Dock |
| B | 94A051968 Micro USB Client Cable | D | 94ACC1381 Power Adapter Cable |



NOTE

Connection through the cradle complies to USB 1.1 standard.



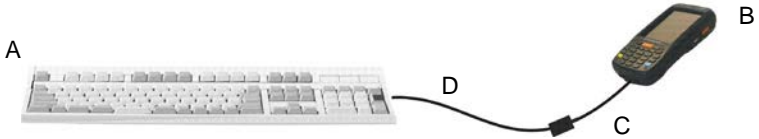
NOTE

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

3.2 CONNECTION TO USB PERIPHERALS

To connect the Elf to a USB keyboard or a memory device, connect the terminal to the Datalogic 94A051969 cable or to the Datalogic 94A051971 cable (together with a standard A to micro A USB cable).

For all these devices maximum current draw must be less than 100mA.



Key:

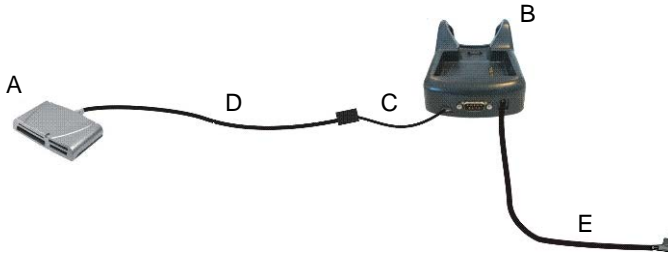
- | | | | |
|---|-----------------------------|---|---|
| A | Keyboard with USB interface | C | 94A051969 Micro USB Host Cable/
94A051971 Handylink Micro USB Host Cable |
| B | Elf | D | Standard A to Micro A USB Cable |



Key:

- | | | | |
|---|---|---|---|
| A | USB hard drive/ external
memory source | C | 94A051969 Micro USB Host Cable/
94A051971 Handylink Micro USB Host Cable |
| B | Elf | D | Standard A to Micro A USB Cable |

Connect the Single Slot Dock to the peripheral by means of a Micro-A USB cord, or use a Micro-A to Std-A receptacle USB adapter such as Datalogic 94A051969 (together with a standard USB cable if needed).



- | | | | |
|---|--------------------------------|---|---------------------------------|
| A | USB Peripheral (memory) | D | Standard A to Micro A USB Cable |
| B | Elf Single Slot Dock | E | 94ACC1381 Power Adapter |
| C | 94A051969 Micro USB Host Cable | | |



NOTE

Elf works with most of the mentioned USB peripherals. In any case, we can't guarantee the interoperability of Elf with all devices on the market.



NOTE

Connection complies to USB 1.1 standard.

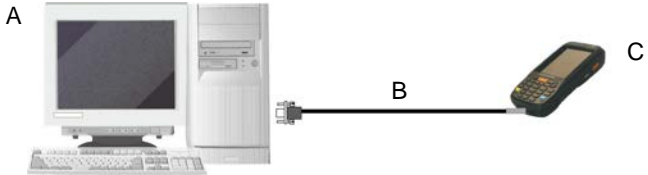


NOTE

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

3.3 RS232 CONNECTION

You can use the Datalogic 94A051972 cable to directly connect the Elf to a host computer to transfer data through the RS232 interface

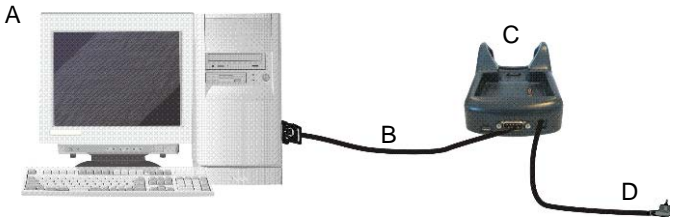


Key:

- A Host computer
- B 94A051972 Handylink Micro RS232 Client Cable
- C Elf

The Single Slot Dock can be connected to the Host by means of a standard null modem cable such as Datalogic 94A051020 CAB-427 for 9-pin connections.

Once the host computer has been turned on, insert the Elf PDA into the cradle.



Key:

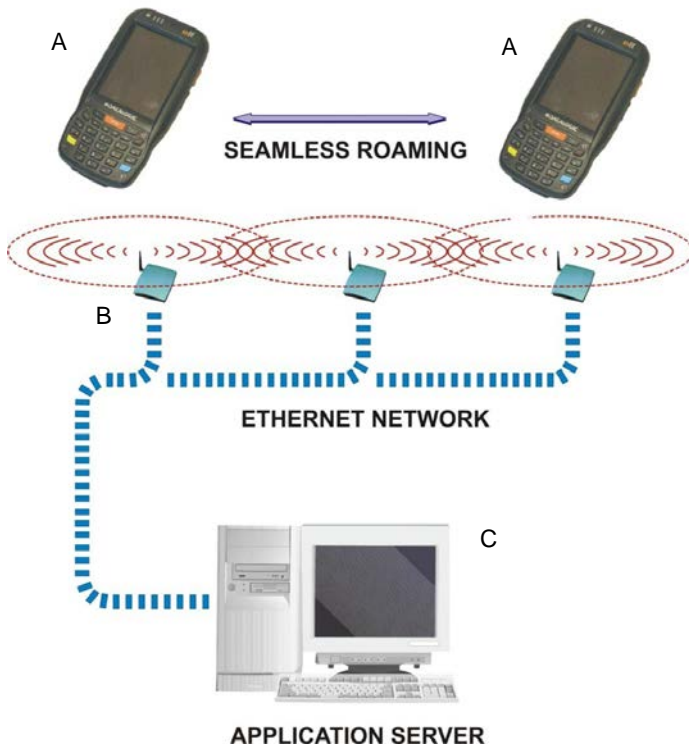
- A Host Computer
- B 94A051020 CAB-427 RS232 Null Modem Cable
- C Elf Single Slot Dock
- D 94ACC1381 Power Adapter

3.4 WLAN CONNECTION

Elf 802.11 a/b/g radio models can communicate with the host using the on-board Wi-Fi radio and an Access Point connected to the host computer network.

For models using the 802.11 a/b/g 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 is visible on the taskbar or you can select the menu item: Start-> Summit and tap the 'Summit Client Utility' icon.



Key:

- A) Elf
- B) Access point
- C) Host – Application Server

**NOTE**

802.11 a/b/g radio module is on by default. In order to avoid wasting energy, you can switch it off using the SCU.

**NOTE**

Suspending the terminal powers off the 802.11 a/b/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 802.11 a/b/g radio driver to re-associate the radio to the network.

**NOTE**

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

**NOTE**

In case of heavy usage the Elf may get warm; this is normal and does not mean a malfunction.

3.5 WPAN CONNECTIONS

Elf Bluetooth® models can communicate with a Bluetooth® device, such as a printer, within a range of 10 m, using the on-board Bluetooth® module.



Key:

A) Elf

B) Bluetooth® printer



NOTE

In order to extend battery life, the Bluetooth® module is off by default. If you need to have Bluetooth® working, the module must be powered on using the SCU (see par. 4.6.6), and perform the Discovery procedure (see par. 4.7.2).



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.).

3.6 WIRELESS AND RADIO FREQUENCIES WARNINGS

**WARNING**

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

**WARNING**

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

**WARNING**

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.

**WARNING**

Turn this device OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may use equipment that could be sensitive to external RF energy.

**WARNING**

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.

**WARNING**

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 a vehicle's wireless equipment is improperly installed and the air bag inflates, serious injury could result.

**WARNING**

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 fuel distribution areas, chemical plants or where any 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 shown.

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

4 USE AND FUNCTIONING

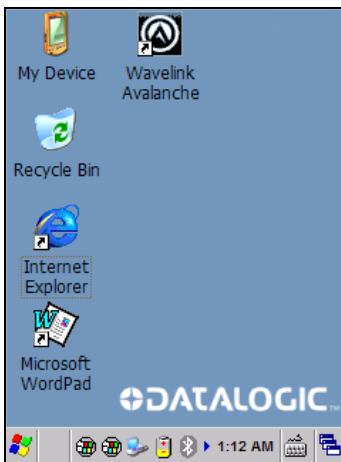
The use of the Elf depends on the application software loaded. However there are several parameters that can be set and utilities that can be used to perform some basic functions such as data capture, communications, file management, etc

4.1 STARTUP

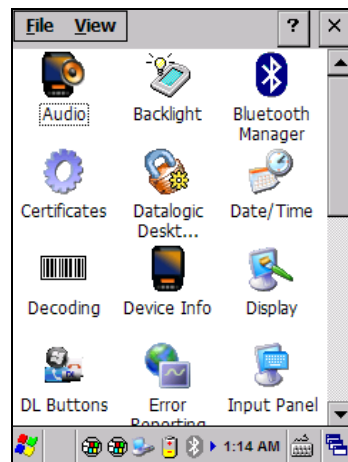
The Elf turns on when the battery pack or the external supply is inserted.

After the battery pack is installed, use the [ON/OFF] key to turn the PDA on and off.

As soon as the PDA is on, the Windows CE 6.0 desktop will appear on the screen. Wait a few seconds before starting any activity so that the PDA completes its startup procedure.



Desktop



Control Panel

Use the stylus (par. 4.1.1) as suggested to select icons and options.

The PDA goes into power-off (low power with display and keyboard backlight off), when it is not used for more than a programmable timeout, which is defined in the POWER applet of the Control Panel. In this mode it can be awakened (resuming operation) by the [ON/OFF] key.

**NOTE**

The PDA can also be awakened or suspended programmatically.

4.1.1 Using the Stylus

The stylus selects items and enters information. The stylus functions like a mouse.

Double Tap:	Double tap the screen with the stylus to open items and select options.
Drag:	Hold the stylus on the screen and drag across the screen to select text and images. Drag in a list to select multiple items.
Tap-and-hold:	Tap and hold the stylus on an item to see a list of actions available for that item. On the pop-up menu that appears, tap the action you want to perform.

To recalibrate the touch screen use the Stylus Applet (see par.4.6.7).

**CAUTION**

Use only original Datalogic styluses supplied with the product itself.

In harsh applications, use of screen protectors should be taken into consideration, in order to extend the touch screen operating life.

To prevent damage to the screen, do not use sharp objects or any tool other than the Datalogic provided stylus.

Do not apply not necessary high pressures on the screen.

For applications where an intensive use of the touch screen is foreseen, please consider that touch screen components are subject to progressive wear.

4.1.2 Touch Gestures

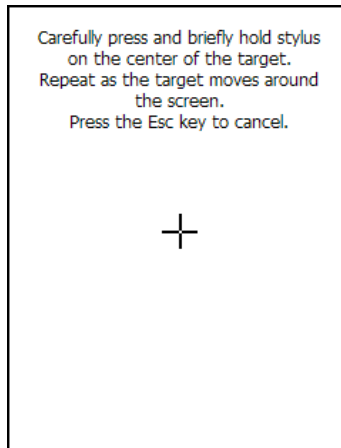
Touch gestures describe gestures in which you use a finger or stylus to make a short, directional movement over a control or object on the screen. Most gestures are a single stroke. Windows CE supports five kinds of gestures.

Tap:	A tap represents the left click of a mouse.
Double Tap:	A double tap represents the left double click of a mouse.
Hold:	The user can press and hold on the screen to represent the right click of a mouse.
Flick:	The user can move a finger across the screen to initiate per-pixel scrolling, and if this movement is fast enough, scrolling will continue after the finger is lifted.
Pan:	The user can press and hold on the screen and then drag the finger in any direction to represent a mouse move event.

4.2 WINDOWS CE TOUCH SCREEN CALIBRATION

In Windows CE, at the very first Elf startup, following a clean boot to restore the registry to default values, the PDA startup (see par. 4.1) is preceded by the touch screen calibration screen. The touch screen calibration will also appear when the PDA is hard reset (cold boot), but the user may press Esc to exit from the calibration.

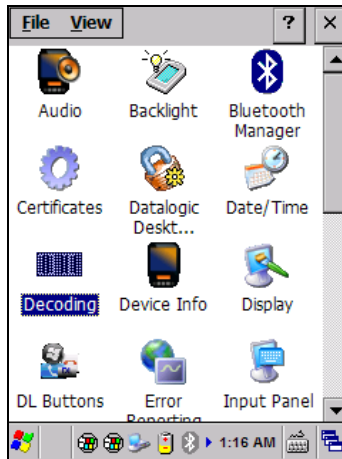
The user must calibrate the touch screen (see par. 4.6.7)



Touch Screen Calibration Screen

4.3 DATA CAPTURE

To capture data tap Start > Settings > Control Panel > double tap Decoding:

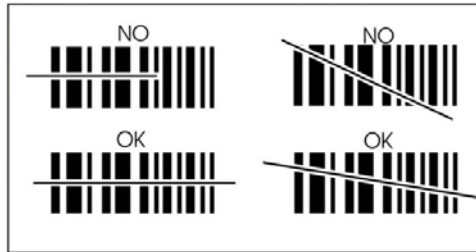
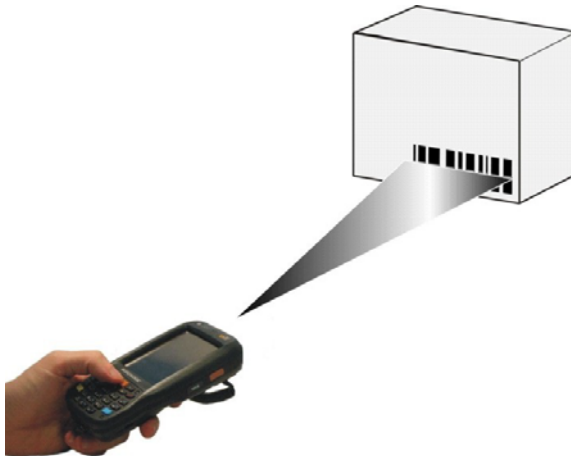


To configure and enable data capture parameters refer to par. 4.6.1.

4.3.1 Laser Data Capture

To scan barcodes, point the Elf laser model onto the code from a distance within the reading range while pressing the SCAN key.

The lighted band emitted by the laser must completely intercept the barcode as shown in the figure below.



If the scan has taken place correctly:

- the Good Read LED glows steadily Green for a configurable time;
- if enabled, the Good Read Beep plays;
- if enabled, the GreenSpot projects a green spot onto the bar code image.



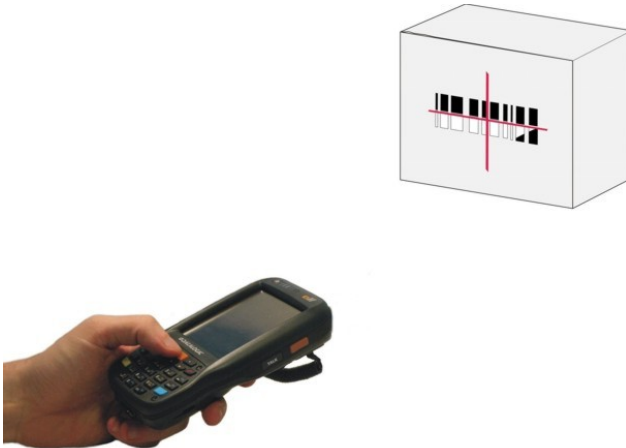
NOTE

Remove the protective film cover over the Laser Output Window before use.

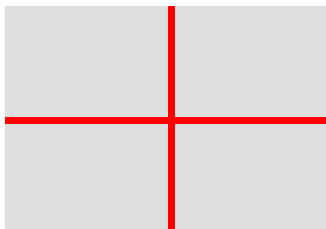
4.3.2 Imager Data Capture

The Elf Imager captures a picture of the entire bar code. The omni-directional scanning does not require that the operator orient the bar code to align with the scan pattern.

To read a 1D or 2D code, simply point the Elf Imager model onto the code and press the SCAN Key.



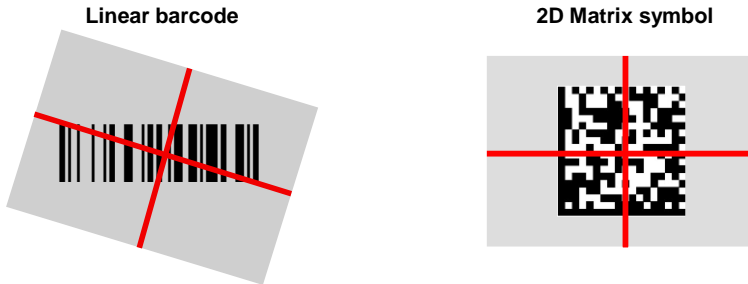
The Elf Imager uses an intelligent aiming system pattern, similar to those on cameras, indicating the field of view, which should be positioned over the code:



Aiming System

If the aiming system pattern is centered over the entire symbology as shown in the following figure, either wait for the timeout or release the Scan key to capture the image.

A red beam illuminates the code, which is captured and decoded. You will get a good read.



Relative Size and Location of Aiming System Pattern

The field of view changes its size as you move the reader closer or farther away from the code. The field of view indicated by the aiming system pattern will be smaller when the Elf Imager is closer to the code and larger when it is farther from the code.

Symbologies with smaller bars or elements (mil size) should be read closer to the unit. Symbologies with larger bars or elements (mil size) should be read farther from the unit. (See par. 5.1 for further details).

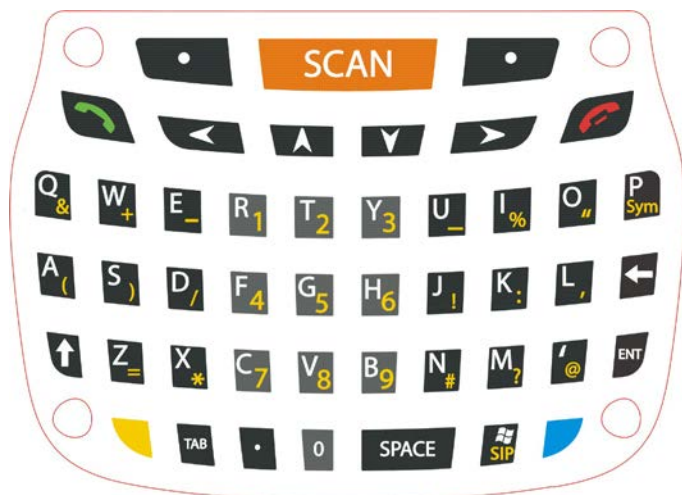
If the scan has taken place correctly:

- the Good Read LED glows steadily Green for a configurable time;
- if enabled, the Good Read Beep plays.

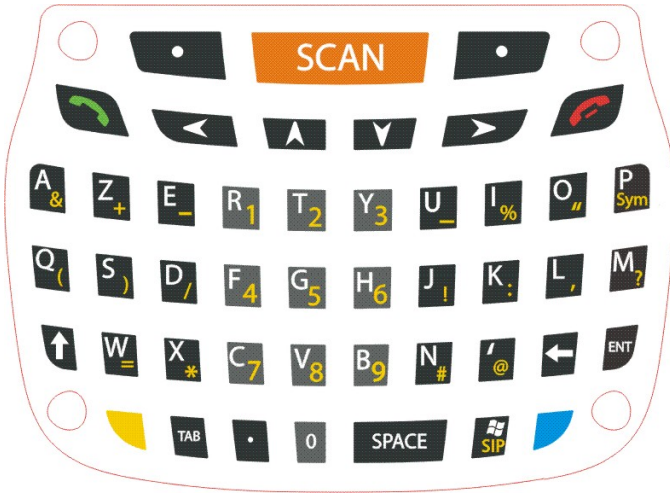
4.4 DESCRIPTION OF THE KEYS

The Elf comes with three different keyboards, two alphanumeric keyboards (qwerty and azerty), both having 46 keys, and a numeric keyboard, having a total of 27 keys.

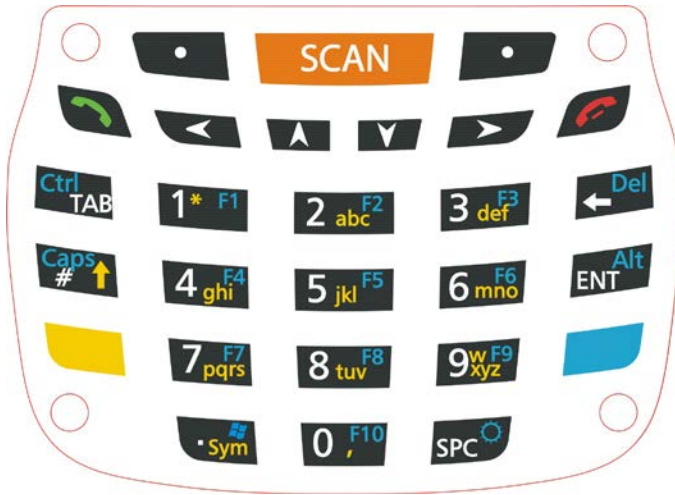
4.4.1 Alphanumeric Keyboard









Azerty Keyboard



Numeric Keyboard



Main Keys Function

KEY	FUNCTION
	Pressing the SCAN key starts barcode data capture.
	Pressing cursor keys let you move forwards, backwards, upwards or downwards within text fields, scroll through a Menu list or browse among folder files.
	Yellow modifier (toggle key): when pressed before a standard key, it enables the character or function printed in yellow above the key.
	Blue modifier (one shot key): when pressed before a standard key, it enables the character or function printed in blue above the key
	It powers the Elf ON or OFF. It is placed on the upper left side of the terminal.
	In blue mode, the Telephone End key generates a VK_ESCAPE virtual key code for applications that use the Esc key to cancel (e.g. touch screen calibration application).

4.4.2 Resetting the Elf

There are several reset methods for the Elf.

A warm boot terminates an unresponsive application and clears the working RAM, but preserves the file system. Registry is restored from persistent memory if available or returned to factory default.

A cold boot forces all applications to close, completely reinitializing the system. It clears the working RAM, but the file system is preserved. Registry is restored from persistent memory.

A clean boot restores the Elf to a clean configuration: both the Registry and the file system returns to a clean status that conforms to factory default.

Warm Boot

To perform a warm boot, press and hold the following keys simultaneously:



Cold Boot

To perform a cold boot, do the following steps:

1. Turn off the Elf by pressing the on-off key.
2. Pull the battery latch down and remove the battery pack.
3. Press the reset button.
4. Insert the battery pack.
5. Turn on the Elf by pressing the on-off key.

Clean Boot

To perform a clean boot, do the following steps:

1. Perform a Cold Boot (see Cold Boot)
2. Press and hold down the 0 and hang up keys simultaneously and then press the on-off key:



A dialog box will appear asking for confirmation. Press the Enter Key.

	Warm Boot	Cold Boot	Clean Boot
Registry	Restored from flash	Restored from flash	Clean configuration (no user config)
File System	Preserved	Preserved	Clean Installation (no user files)

4.5 STATUS INDICATORS

4.5.1 LED Status

The Elf provides three different LEDs signaling the PDA status.






LED	STATUS	
Good Read (right side)	Red	Scanning LED is ON from the time the user hits the scan button or side trigger buttons until the bar code is decoded (laser models) Time-out (imager models).
	Green	Scanning LED is ON, showing a good decode.
Charging Status (left side)	Green	It is constant once the charging process has been completed (full charge).
	Red	It is constant while charging.
	Red blinking	It blinks in case of charge fault or when the device raises a notification to the user.
Keyboard Status (center)	Off	Keyboard in primary.
	Yellow solid	Yellow alternate key mode.
	Blue solid	Blue alternate key mode
	Pink	CapsLock enabled.

4.5.2 Taskbar

The Taskbar provides quick view and links to the Wi-Fi, Bluetooth, and Clock settings. It also makes available the keyboard SIP and window selection.



Windows CE Taskbar

ICONS	DESCRIPTION
	ActiveSync connection icon is displayed when connected to ActiveSync or Windows Mobile Device Center either by USB, RS232, or Bluetooth. Double-tap it to open a status dialog that will let you disconnect the ActiveSync session without physically disconnecting the device from the PC. It is the only way to disconnect a Bluetooth ActiveSync connection.
	Battery icon displays the system battery status.
	It indicates that the battery is charging.
	Bluetooth Manager icon displays whether Bluetooth is enabled, paired, or turned off. Double-tap this icon to open the Bluetooth Manager control panel applet.
	Network connectoid icon displays whether you are connected or not to Ethernet, Wi-Fi, or Bluetooth Personal Area Network.

4.6 CONTROL PANEL

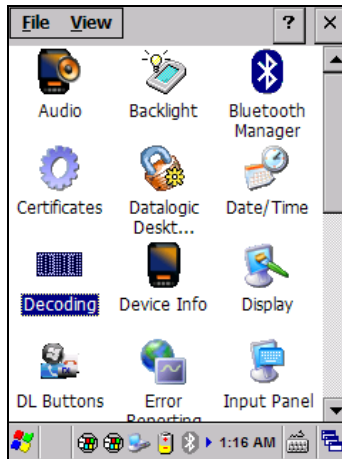
From the Start menu, tap Settings then Control Panel. Below is an expanded view of the Control Panel showing all of the applets.



Windows CE Control Panel

4.6.1 Data Capture Configuration

From the Windows CE control panel main window, double tap the Decoding icon:



There are two sections in the Decoding control panel, each containing additional pages. There are seven General Configuration pages and multiple Barcode symbology pages.

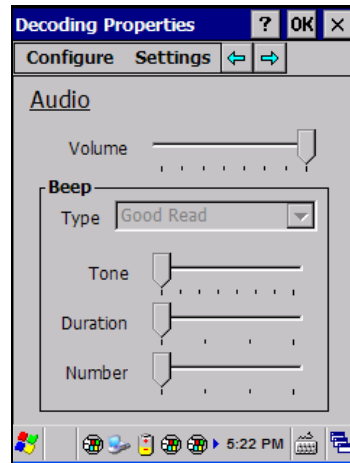
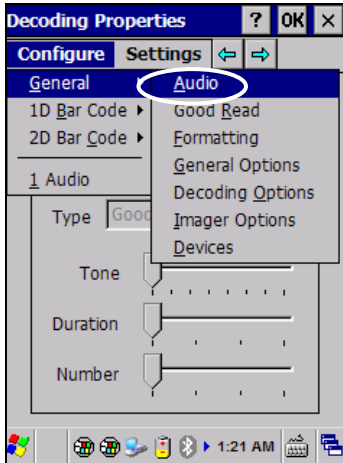
CONFIGURATION CONTROL PANELS

Select the desired configuration from the options shown in the figure below, and the other Decoding Properties figures on the following pages.

Select General, 1D Bar Code or 2D Bar Code, then use the menu or tap the left and right arrow keys to navigate the different pages of the Decoding utility. The menu options will change to reflect the items most recently selected.

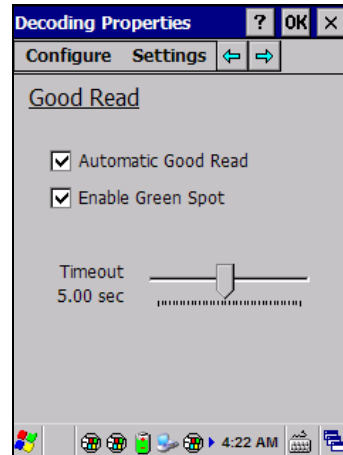
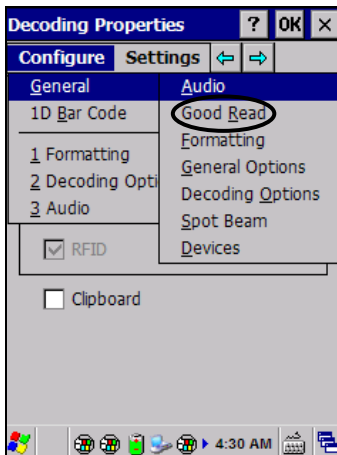
Audio

From the Decoding Properties page, tap Configure > General > Audio. Use it to set volume, tone, duration, and number of various types of beeps.



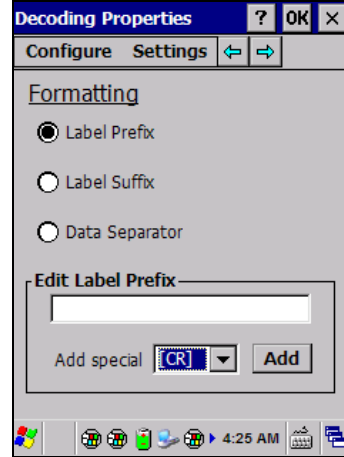
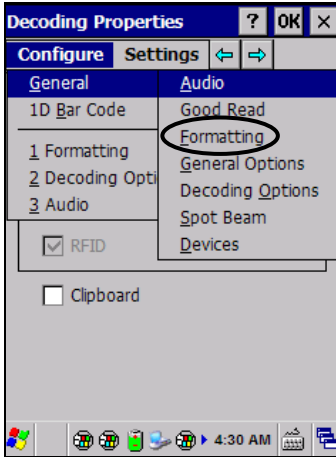
Good Read

From the Decoding Properties page, tap Configure > General > Good Read. Use it to enable Good Read indications, the use of Green Spot and a to set the decoding timeout for decoding labels.



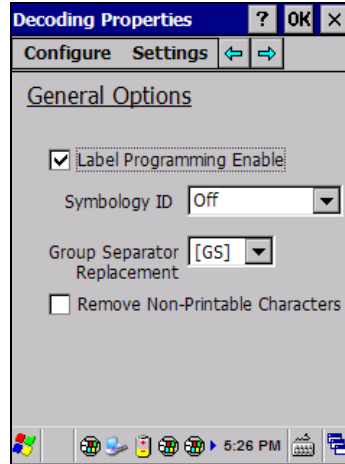
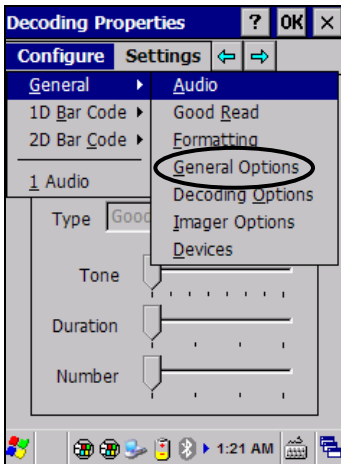
Formatting

From the Decoding Properties page, tap Configure > General > Formatting. Use it to configure prefix, suffix and data separator character strings.



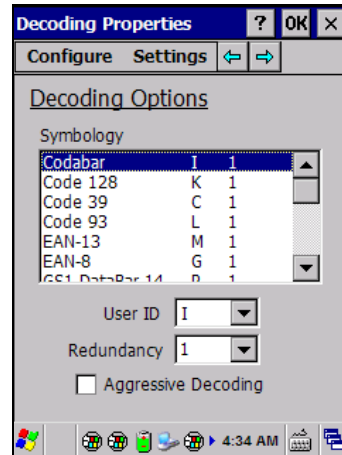
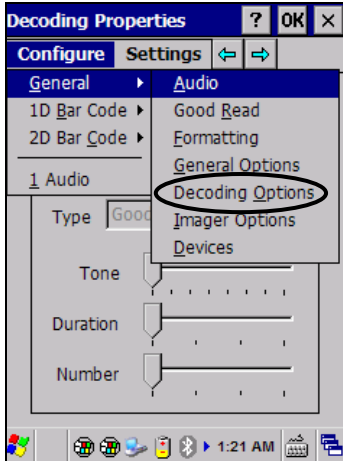
General Options

From the Decoding Properties page, tap Configure > General > General Options. Select from Label Programming Enable, Symbology IDs and Group Separator Replacement.



Decoding Options

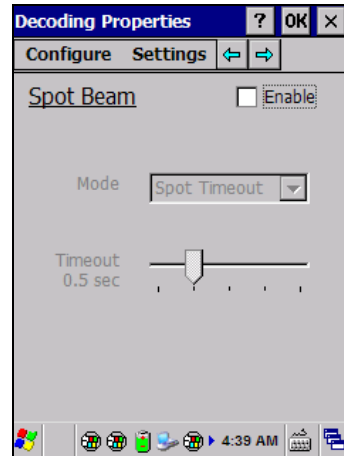
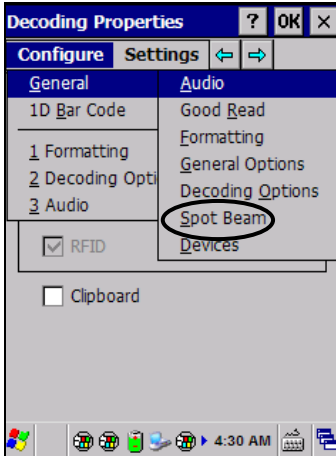
From the Decoding Properties page, tap Configure > General > Decoding Options. Use it to configure the User ID for symbologies, Redundancy and Aggressive Decoding (if supported by the decoding module). Select a symbology to view or change the available properties settings.



Spot Beam

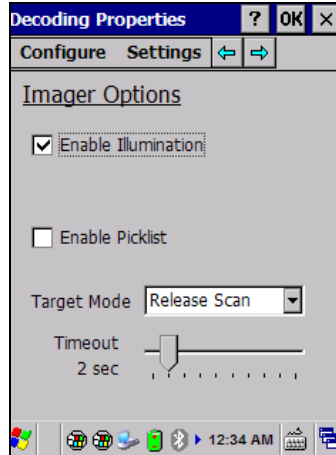
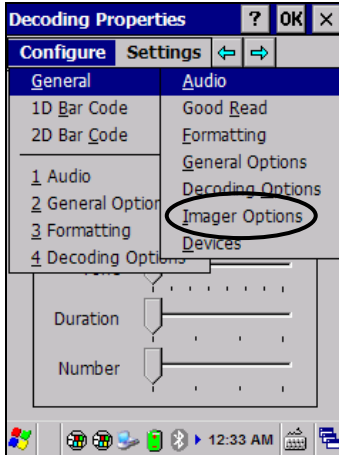
From the Decoding Properties page, tap Configure > General > Spot Beam. It allows enabling and configuration of Spot Beam and triggering modes.

It is only available on devices equipped with laser and advanced long range laser decoding modules that support the Spot Beam Feature.



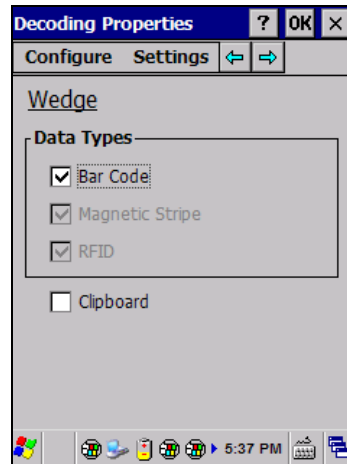
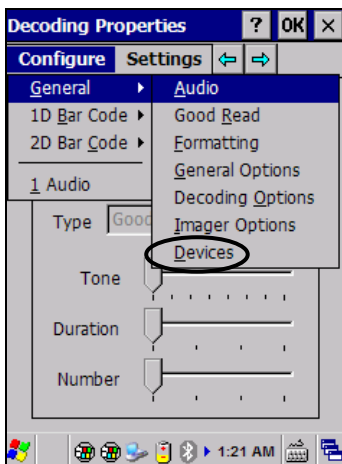
Imager Options

From the Decoding Properties page, tap Configure > General > Imager Options. It configures illumination, target beam and Pick List mode, and triggering modes. It is only available on devices equipped with 2D decoding engines.



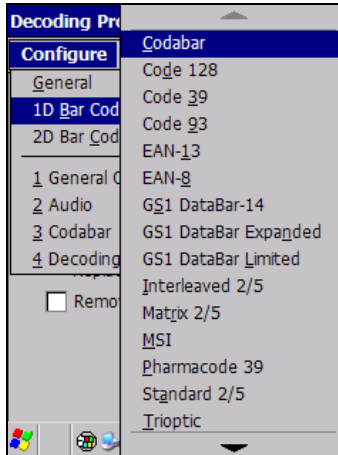
Devices

From the Decoding Properties page, tap Configure > General > Devices. Use it to enable or disable the keyboard wedge for Barcode scanner.



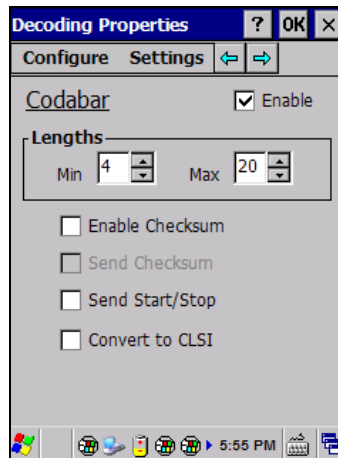
1D Barcode Symbology Pages

Use the drop-down menus from Configure > 1D Barcode, or tap the left and right arrow keys to navigate the different pages of the barcode symbology pages.



Select Configure > ID Bar Code from the menu to view other configuration options.

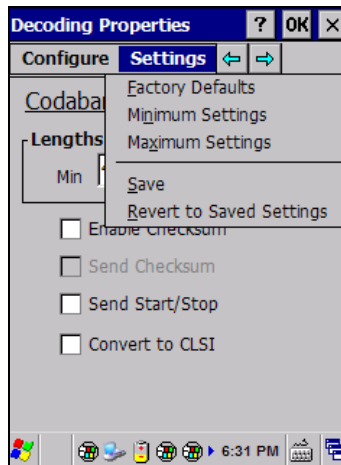
Each barcode symbology opens to its own page, as shown in the figure below. Refer to the sample symbology control panels for examples of the types of fields and options you can modify.



Decoding Settings

Select from the Decoding Properties Settings menu to restore previous configurations and/or other available default settings. Choose from:

- Factory Defaults
- Minimum Settings
- Maximum Settings
- Save (New Settings)
- Revert to Saved Settings



The settings are saved when you tap 'Yes'. To permanently save these settings you need to save the registry using the Persistent Registry applet in the Control Panel.

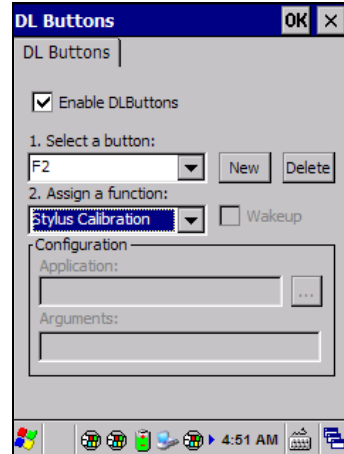
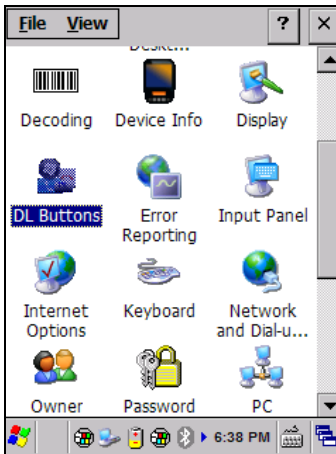
When open, Decoding Properties acts as a simple barcode test tool that provides the Data decoded and the Data Type of the barcode scanned.


4.6.2 DL Buttons

You can use DL Buttons Tab to associate specific keys, such as <F1>-<F10>, with specific applications.

From the control panel main window, double tap the DL Buttons icon.

On the DL Buttons tab, customize the program hardware buttons to launch your most used applications. Under 'Select a button', select the button you want to assign a function to, and then select a program from 'Assign a function'.



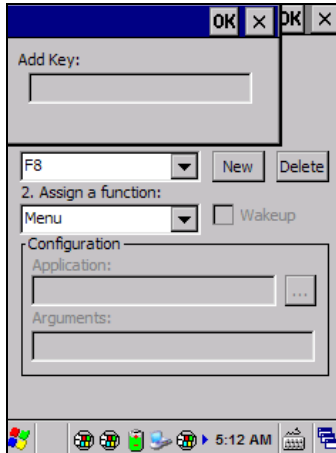
COMMAND	DESCRIPTION
Select a Button	This pull-down list displays the available function keys to define. Select the desired one from the list.
New	Select/tap to specify a new Button, not on the “Select a Button” list.
Delete	Tap to delete the selected Button. You can only delete the Buttons you have added. You cannot delete the following buttons: “Alt + 6”, “Left Button”, “Pistol Trigger”, “Right Button”, “Scan”
Assign a function	This pull-down list displays the available functions.
Application	Displays path to the selected application.
Browse	Select/tap  to browse for application files. You can associate an executable program with the specified Button
Arguments	Type the command-line arguments that are needed for the specified application. This option is only available when “Launch Application” is selected in the “Assign a function” pull-down list.

Adding a new Button

When you select “New” on the “DL Buttons” tab, this opens the “Add Key” dialog box.

To define a new Button, complete the following steps:

1. Enter the key combination in the “Add Key” textbox.



COMMAND	DESCRIPTION
Enter Key	Enter the desired key combination in this text box to define a Button.
OK	Select/tap OK to add the specified Button.
X	Select/tap X to cancel the specified Button.



NOTE

Make sure you do not attempt to add a Button that is already defined.

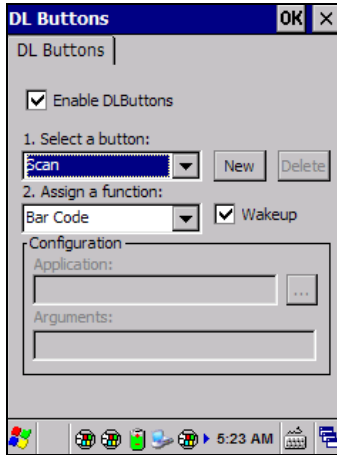
2. Select/tap OK to save the new Button. If you select/tap “X”, the key will not be saved.

**CAUTION**

It is possible for the keyboard wedge to activate assigned Buttons using alphanumeric characters. Barcodes containing characters associated with assigned Buttons will trigger the action or application assigned to that Button.

4.6.3 Triggers

Triggers are special customizable buttons that are mapped by default by DL Buttons. Also, they can be set as wakeup buttons:

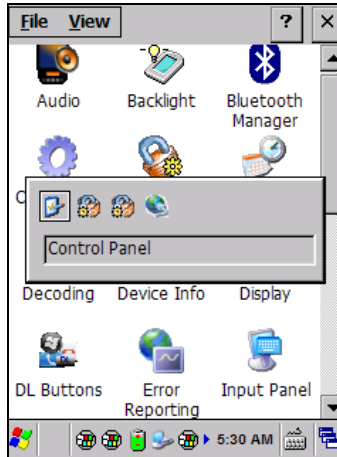


TRIGGERS	AVAILABLE FUNCTIONS
Scan	Bar Code function activates the scanner.
Pistol Trigger	

4.6.4 Application Switcher

The application switcher provides the same functionality as the standard Windows® Alt+Tab function. This allows the user to switch between the various open applications.

The application switcher can be activated via an assigned shortcut key specified in the DL Buttons tab (see par. 4.6.2.) When the assigned button is pressed, the dialog shown below will be displayed:



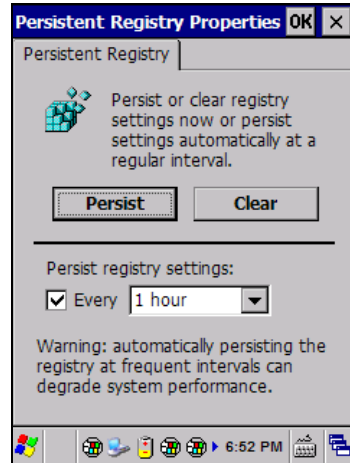
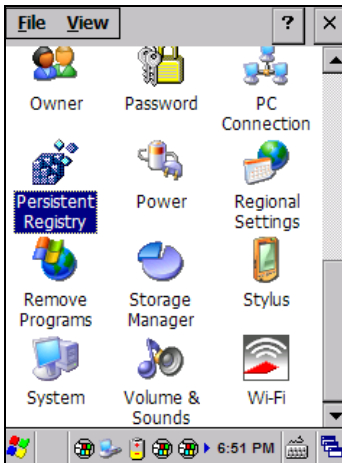
Press the assigned **button** to cycle through the running applications when the dialog is open. Press **<Enter>** to switch to the selected application or **<Esc>** to close the application switcher.

4.6.5 Persistent Registry

The Registry stores information that are necessary to configure the system for applications and hardware devices. The Registry also contains information that the operating system continually references to during operation.

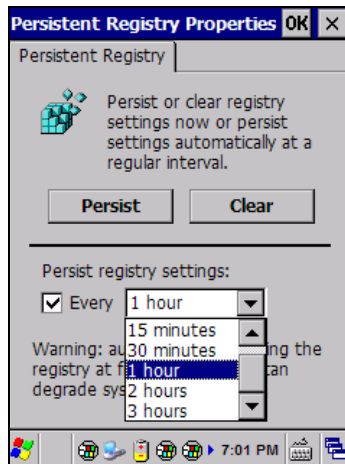
To persist the Registry settings between boots, do the following steps:

1. Select Start > Settings > Control Panel.
2. Double-tap the “Persistent Registry” icon.
3. Tap the “Persist” button.
4. Tap OK to exit.



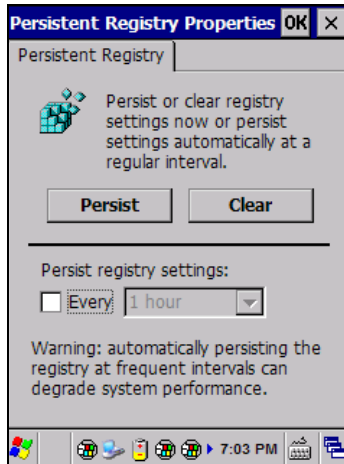
To change Persistent Registry timing, do the following steps:

1. Select Start > Settings > Control Panel.
2. Double-tap the “Persistent Registry” icon.
3. Select a time interval from the menu.
4. Tap OK to save and exit.



To deselect Persistent Registry timing, do the following steps:

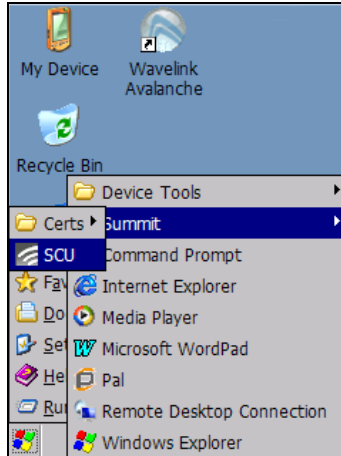
1. Select Start > Settings > Control Panel.
2. Double-tap the 'Persistent Registry' icon.
3. Deselect the 'Persist Registry settings' box.
4. Tap OK to save and exit.



4.6.6 Wireless Communications

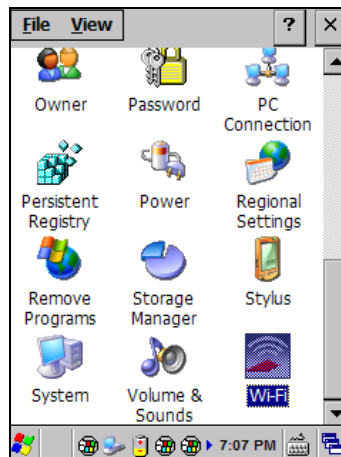
Wireless networking has a customized control, Summit Client Utility (SCU), specific to the radio. There are two methods to access the SCU.

Start > Programs > Summit > SCU:

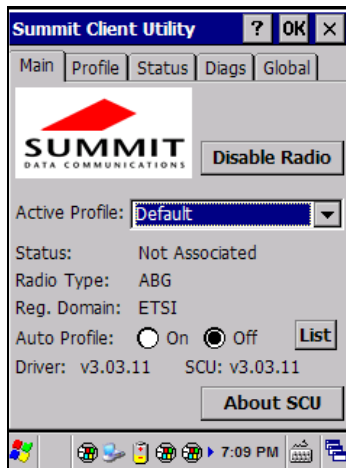


Or

From the Control Panel main window, double tap Wi-Fi to open the Summit Client Utility:

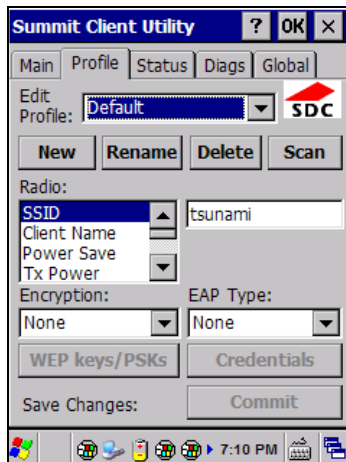


The SCU will open to the “Main” tab:



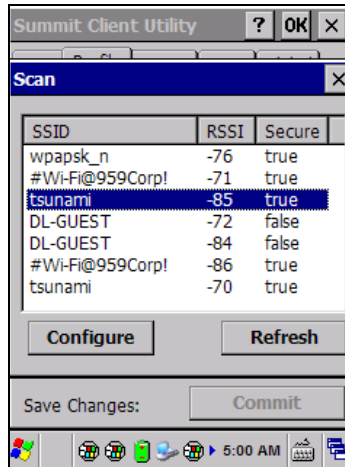
Summit Client Utility

1. To create a new profile, tap the "Profile" tab:



Information about the wireless network can be entered directly in the profile tab or by pressing “Scan” when the desired network ESSID is in range.

- At the "Scan" screen, select the desired SSID:

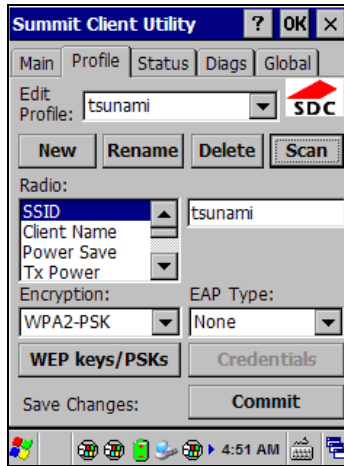


- Click the "Configure" button



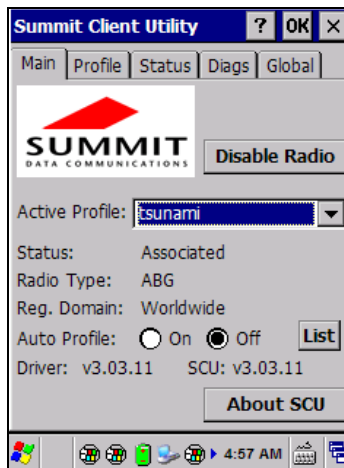
- Follow the on-screen instructions to setup security parameters for your network. For more detailed settings specific to your installation please contact your wireless network administrator.

5. When finished, click “Commit” to save your settings.

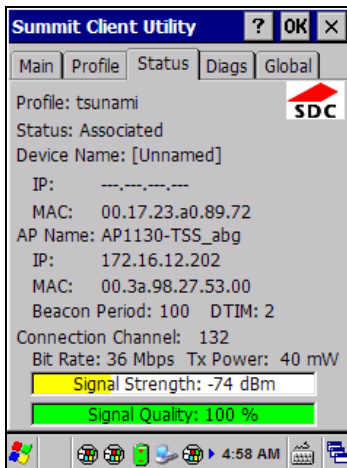


Return to the “Main” tab, if you have not previously selected “Commit” you will be prompted to save your changes.

At the “Main” tab select the profile you just created. If you used the “scan” button the desired profile will have the same name as the ESSID.



Use the “Status” tab to check connectivity to the network.



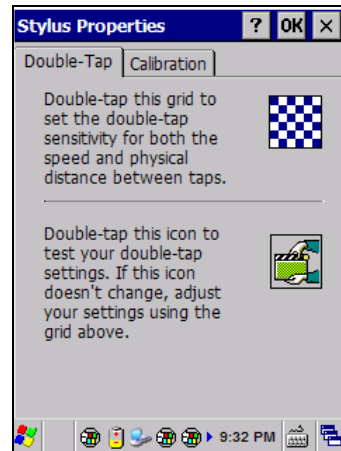
More detailed information about the applet for radio configuration can be found at <http://www.summitdata.com/SCU.htm>.

4.6.7 Stylus Calibration

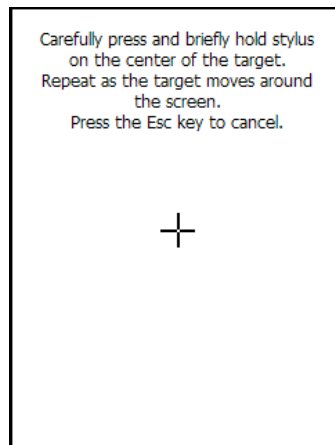
You might need to recalibrate the touch screen (i.e. when you attempt to select one item with the stylus, another item is erroneously selected).

To recalibrate the touch screen, complete the following steps:

1. From the Control Panel main window, double tap Stylus to open the Stylus Settings dialog:



2. Tap 'Calibration' to open the Calibration screen. Tap 'Recalibrate':



3. Carefully press and briefly hold stylus on the center of the target. Repeat as the target moves around the screen.
4. By completing the calibration procedure you implicitly accept the new calibration settings.
5. New calibration settings are persistently saved in registry.

Startup Stylus Calibration

When starting the terminal, a Welcome Wizard (with Stylus Calibration) comes up if valid calibration settings are not available. This happens in the following circumstances:

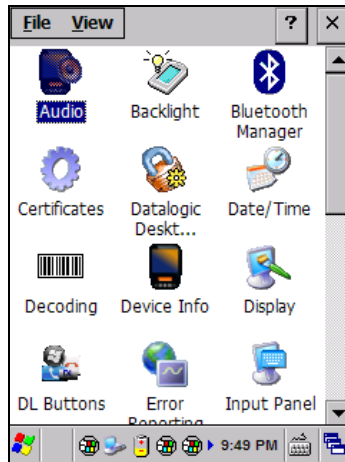
1. At the first startup of the terminal.
2. After restoring registry default settings using the applet Registry Admin and performing a boot.
3. After a Clean Boot.

4.6.8 Audio Settings

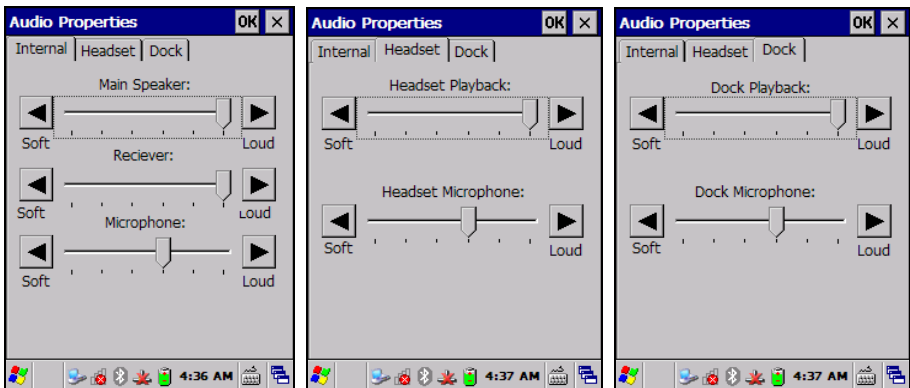
There are two applets that control volume: Audio and Volume & Sounds.

Audio

From the control panel main window, select the Audio applet by double tapping the 'Audio' icon:



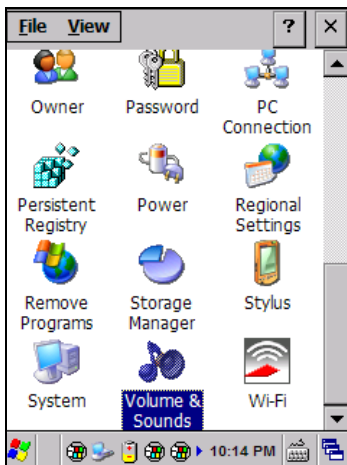
The audio control panel can be used to independently set the playback or recording volume for different types of audio inputs and outputs, such as a headset, powered mobile dock, or the internal speakers and microphone.



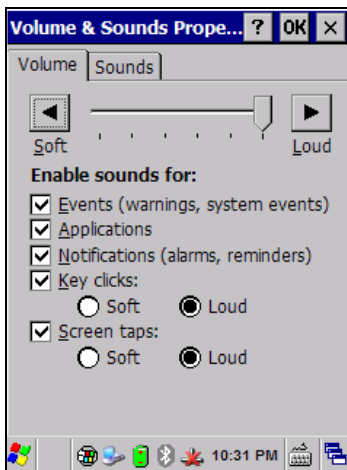
Audio Windows

Volume & Sounds

From the control panel main window, select the Volume & Sounds applet by double tapping the Volume & Sounds icon:



The Volume & Sounds applet configures audio features of all speakers and headphones and appears as follows:



Volume & Sounds Window

4.7 CONNECTING TO OTHER COMPUTERS

There is more than one way to connect the Elf to a host PC running Windows. Each requires specific connections in order to function properly.

4.7.1 Windows Mobile® Device Center

The desktop application Windows Mobile® Device Center gives you the ability to synchronize information between a desktop computer and your Elf. Synchronization compares the data on the Elf with that on the desktop computer and updates both with the most recent information.

Windows Mobile Device Center is only compatible with Windows Vista and Windows 7; if you run Windows XP or earlier, you have to download Microsoft ActiveSync.

You can establish a connection to your Elf through the following interfaces:

- USB either directly or through the Single Dock
- RS232 either directly or through the Single Dock
- Bluetooth® (see par. 4.7.2)

To establish a partnership between the Elf and a host PC, start Windows Mobile® Device Center and follow the steps below:

1. Connect the Elf to the host PC. Windows Mobile® Device Center configures itself and then opens.
2. On the license agreement screen, click Accept.
3. On the Windows Mobile Device Center's Home screen, click Set up your device.
4. Select the information types that you want to synchronize, then click Next.
5. Enter a device name and click Set Up.

When you finish the setup wizard, Windows Mobile Device Center synchronises the PDA automatically. Microsoft® Office Outlook® emails and other information will appear on your device after synchronisation.

**NOTE**

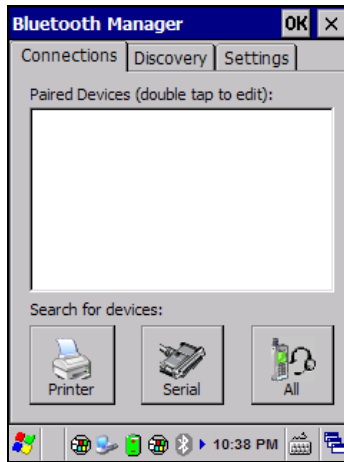
The Elf running Windows CE does not come equipped with Microsoft Office Outlook or any other application that allows users to view contact, calendar, e-mail, or task data. Users can view files copied to the Elf by WMDC's file synchronization feature.

4.7.2 Bluetooth® Manager Device Setup

Using the Elf to connect to another device

To create a Bluetooth® pairing between your device and another device that has Bluetooth® capabilities, ensure that the two devices are turned on, discoverable, and within close range.

1. From the Bluetooth Manager control panel tap 'Connections'.

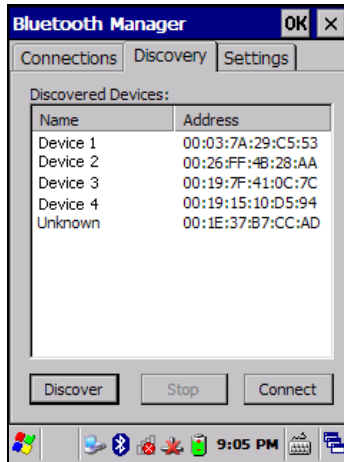


2. Search for available Bluetooth® devices by tapping the button for the type of device you want (Printer, Serial or All) or tap Discovery > Discover to skip this step. The Elf will search for Bluetooth® devices within range.

**NOTE**

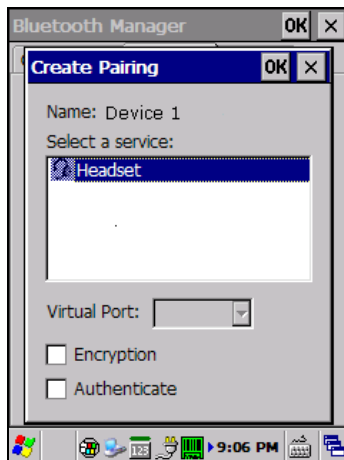
If you attempt to set up a connection when the Bluetooth® radio is disabled, you will receive a message reminding you that the radio is turned off, and asking if you want to turn it on. Tap Yes if you need to enable the Bluetooth® radio.

- Once searching is complete, Bluetooth® device Profiles will be displayed in the Discovery tab. You can set up a connection to a device in the list by selecting the device and then tapping the 'Connect' button:













To create a pairing:

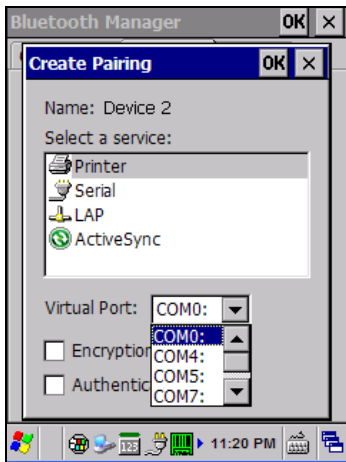
- Select a service:



- Configure any encryption, authentication, or virtual port options required by the service selected.

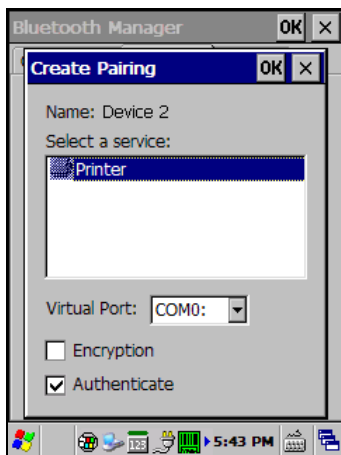
Icon	Service
	Dialup Networking
	Printer
	Object Push (OPP) Object Exchange (OBEX)
	ActiveSync
	Human Interface Device (HID) - Keyboard
	Serial
	Personal Area Network (PAN)
	Modem
	Headset
	Handsfree

Virtual Port allows you to specify the incoming port, which is used to communicate serially with an incoming device just as if it were a physical COM port. This option is available only if you have selected a Printer or Serial service.

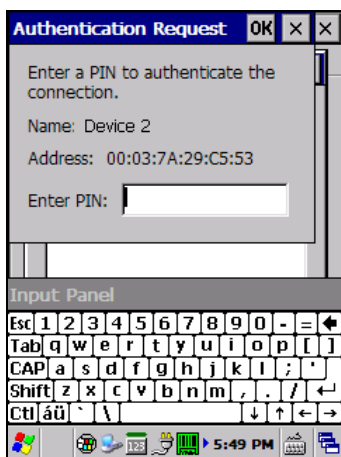


You can also select Encrypt or Authenticate from the Bluetooth® control panel to apply or modify those settings.

1. To require Authentication, check the checkbox, then tap OK.



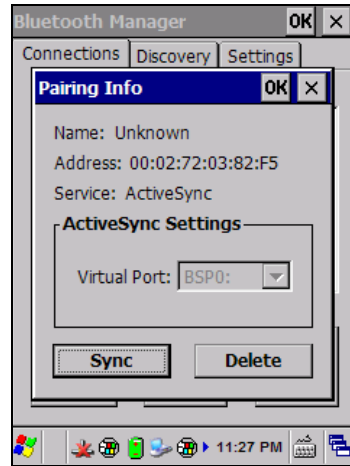
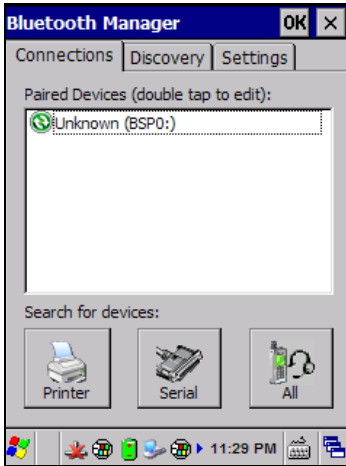
2. If required, the Authentication Request dialog will then open, requesting that you enter a PIN. Use the Input Panel or the keyboard to type the PIN.



3. Tap OK to complete.

The dialog will also appear when an Authentication request is received from another device.

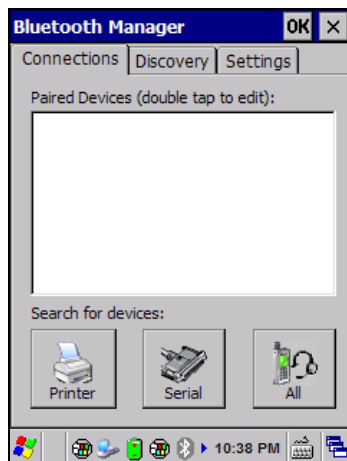
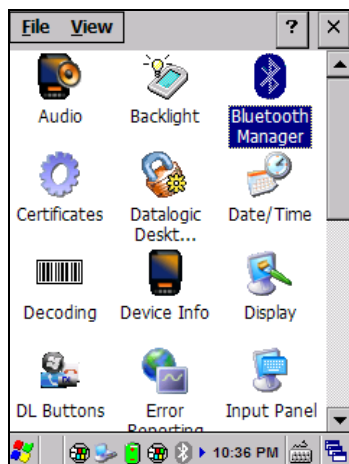
Once you have set up a pairing, you can view the settings by double-tapping its name from the Connections tab. Tap the arrow to change the Virtual Port, or Delete to remove the device pairing. Tap Sync to initiate a Sync (available only if the service is an ActiveSync connection).



Using your device to connect to the Elf

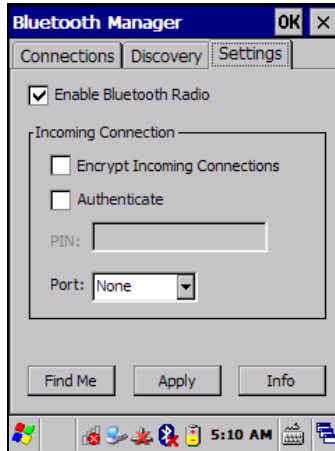
Before turning on Bluetooth®, ensure that the two devices are within close range and that both Bluetooth-enabled devices are discoverable.

1. From the control panel main window, double tap the Bluetooth Manager icon to open the Bluetooth Manager control panel.



2. Tap Settings. The Settings tab allows you to enable or disable the Bluetooth® radio and specify settings for Incoming Connections.

3. Select or clear the “Enable Bluetooth Radio” check box.
If you’re going to be attaching a serial device (i.e. a scanner) to the Elf, use the Port control to select a virtual COM port to use for the connection.



5. Tap ‘Find Me’ if you want to make the Elf discoverable to other Bluetooth® devices for 60 seconds, allowing them to set up a connection.

**NOTE**

By default, Bluetooth® is turned off. If you turn it on, and then turn off your device, Bluetooth® also turns off. When you turn on your device again, Bluetooth® turns on automatically.

4.8 DATALOGIC FIRMWARE UTILITY

The Datalogic devices are equipped with a field upgradeable firmware mechanism. Firmware updates are available on the Datalogic website:

<http://www.datalogic.com/eng/support-services/automatic-data-capture/downloads/software-utilities-sw-2.html>.

After you have downloaded the desired update, there are several ways you can update the firmware on your device.

- Use Wavelink Avalanche™ if you have multiple Datalogic devices to update. For more information refer to the dedicated section of the Wavelink website: <http://www.wavelink.com/Datalogic-device-downloads>.
- If Wavelink Avalanche™ is not available or you have only a few Datalogic devices to update, use the Datalogic Firmware Utility (DFU), described below, to install or update the firmware using an ActiveSync connection.

The following sections provide procedures for the retrieval and installation of the most current firmware image onto a Datalogic device.

4.8.1 Retrieving a Firmware Image Update

The following instructions use Internet Explorer to retrieve the most current firmware image.

1. Launch Internet Explorer on your PC and navigate to the Datalogic website.
2. Navigate to the Downloads section of the website.
3. Using the device selection fields, select the file you want to download, then click Save to begin copying the files to your local machine (or local network location).

4.8.2 Installing DFU on the Host PC

The Datalogic Firmware Utility (DFU) provides administrators with a field upgrade mechanism. You must have Microsoft® ActiveSync (for Windows XP devices) or Windows Mobile® Device Center (for Windows 7 and Vista devices) already loaded and running on the host PC to use DFU. Refer to par. 4.7.1 for more information about Windows Mobile® Device Center.

**NOTE**

Prior to installing, you must remove any previous versions of DFU installed on the host PC.

To install the Datalogic Firmware Utility, complete the following steps on the PC:

1. Go to the Datalogic website and download the most current version of the Datalogic Firmware Utility. Unzip the file, then double-click to run `DFU_Setup.exe`.
2. Click OK to continue once you have removed previous versions of DFU.
3. The Welcome to DFU Setup Program screen opens.
 - Please exit all Windows applications before running this installer.
 - Click Next to continue the Setup.
4. Follow the onscreen instructions to complete the installation.

4.8.3 Updating the Firmware

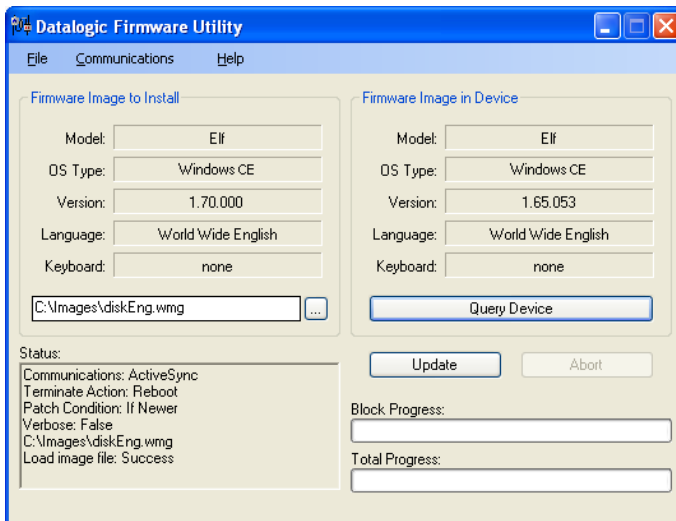
After copying the firmware image to the host PC (see par. 4.10.1) and installing DFU (see par. 4.8.2), you can upgrade the firmware on your Datalogic device.



NOTE

The following steps require that you have already established an ActiveSync or Windows Mobile® Device Center connection between the host computer and the Datalogic device.

1. Go to Start > Programs > Datalogic > DFU > Datalogic Firmware Utility.
2. Verify that ActiveSync is selected by clicking Communications > WMDC/ ActiveSync.
3. Click browse (...) and navigate to the location where you saved the firmware file for your terminal.



4. Select the current *.out file and click Open.
5. Click Update.
6. DFU will compare the selected firmware image with the firmware already loaded on the device; if the image is compatible with the connected device, DFU will proceed to update the firmware image on your device.

After the firmware of your device has been updated, DFU will automatically perform a warm reset of the device

4.9 DATALOGIC CONFIGURATION UTILITY

Datalogic Configuration Utility (DCU) is a Datalogic Windows-based utility tool allowing the uploading, modifying and downloading of the configuration of a Datalogic device. Configuration settings include Scanner, Control Panel, and Datalogic Desktop Utility (DDU). The DCU installer is downloadable from the Datalogic website (<http://www.datalogic.com/eng/support-services/automatic-data-capture/downloads/software-utilities-sw-2.html>).

DCU functions in both direct (with an ActiveSync connection) and indirect (with Wavelink Avalanche™) modes.

In direct mode, connect a device through ActiveSync and then click on the Get from Device icon to receive the device's current configuration.

Once loaded, the Configuration Tree (on the left side of the window) is used to navigate the device's configuration. The right side of the window is a work area where the values of different parameters may be set for each branch of the configuration tree. Click on the parameter group branch to open it and inspect the parameters you wish to modify.

After altering the device's configuration, the new configuration can be sent to the terminal by clicking on the Send to Device icon.

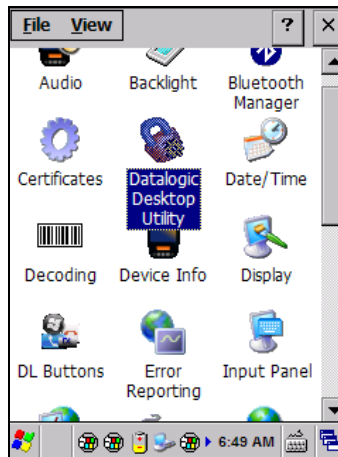
Reference the Wavelink Avalanche™ documentation on the Wavelink website (www.wavelink.com/Datalogic-device-downloads) for a description of indirect mode for DCU, which will allow you to update the configuration of multiple devices simultaneously over Wi-Fi.

4.10 DATALOGIC DESKTOP UTILITY

Datalogic Desktop Utility (DDU) allows administrators to configure Windows® CE and Embedded Handheld devices to control individual user access. This includes the ability to:

- Prevent users from changing your device OS settings.
- Use Application Selector to replace the desktop with a selection of authorized applications.
- Restrict user access in Internet Explorer.
- Set up configuration and customized error recovery mechanisms.
- Create quick access hot keys and configure trigger actions.

To open DDU for the first time, tap Start > Settings > Control Panel > or Start > Programs > Device tools > and then double tap the icon for “Datalogic Desktop Utility”.



You can also open DDU by pressing the appropriate key shortcut. The default is “Alt + 6”.

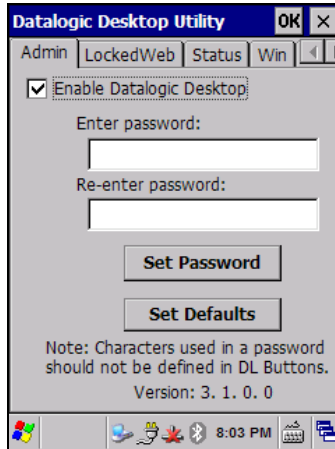


NOTE

The key combination can be changed by using DL Buttons to redefine the association for specific keys (such as <F1>-<F10>). See par. 4.6.2 for more information.

4.10.1 Administrative Options (Admin tab)

When you open the DDU control panel, the “Admin” tab appears.



COMMAND	DESCRIPTION
Enable Datalogic Desktop	Select/tap this checkbox to activate the DDU functions such as Windows Access Restrictions and Application Selector.
Enter Password	Enter a password in the text box. This allows the user to specify a password when this utility is launched. By default the password is “1234”. A password can consist of all standard keyboard characters.
Re-Enter Password	Carefully re-enter the password in the second text box.
Set Password	Select/tap “Set Password” to enable the password. To change or remove the password, enter a new value, re-enter the new value, and select/tap “Set Password”.
Set Defaults	Select/tap “Set Defaults” to reset the default values of all the functions on all the tabs. After you select this option, you will receive a prompt to verify this selection.

Setting a Password

To set a password:

1. Enter a password in the field. This allows the user to specify a password when this utility is launched. By default the password is "1234".



NOTE

Be sure to record the Password for future reference.

2. Re-enter the password in the second field.
3. Select/tap "Set Password" to enable the password.
4. Select/tap "OK" to close the "Set Password Confirmation" dialog.



NOTE

You must select/tap "Set Password" prior to exiting DDU in order to store and activate your new password. It is not necessary to select "Enable Datalogic Desktop".



CAUTION

If you select/tap "Set Defaults" it will remove all custom settings and restore all the factory default settings, except a previously set password.

Changing a Password

To change to a new password:

1. Enter a new value in the "Enter Password field".
2. Re-enter the new value in the "Re-enter Password" field.
3. Select/tap "Set Password".

Removing a Password

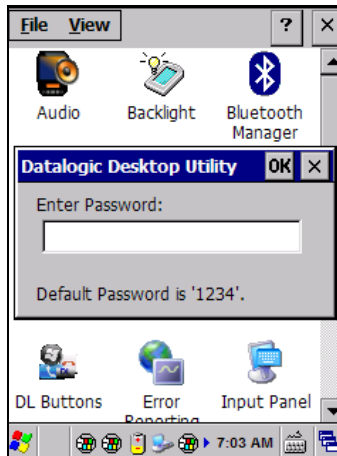
To remove a password:

1. Enter blanks in both “Password” fields.
2. Select/tap “Set Password”.

Password Request Dialog Box

Once the password is set, the next time you open the “Datalogic Desktop Utility”, the DDU Password dialog box opens.

This dialog box will only open if a password was defined.



1. Type in your password using either the keypad on the unit, or using the stylus on the soft input panel (SIP).
If you enter an incorrect password, the system will prompt you to input the correct one.
2. Select/tap “OK” to verify the password. Or tap “X” to cancel.

4.10.2 Locked Web Browser Options (LockedWeb tab)

Tap the **LockedWeb** tab to access the **Locked Web Browser Configuration**.



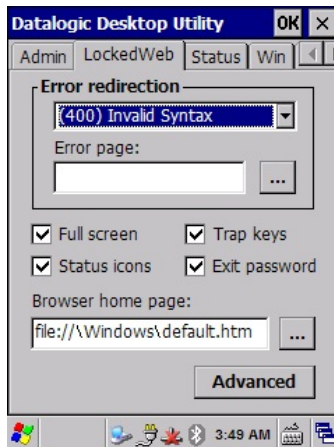
NOTE

Locked Web Browser is disabled by default. To enable, go to “Advanced settings” on the next page for more information.

For additional information about Locked Web Browser commands and metatags, see section 4.13, Locked Web Browser.

Error Page Redirection

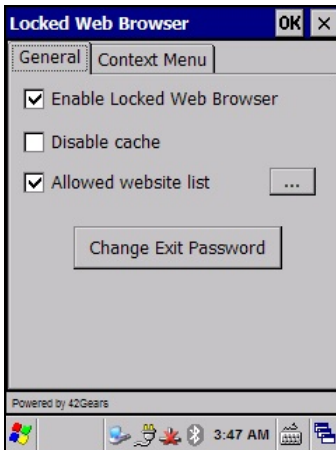
Use the Error Redirection option to provide customized recovery from common errors. When an error occurs, the browser can redirect access to a specified error page with instructions on how to recover from the problem.



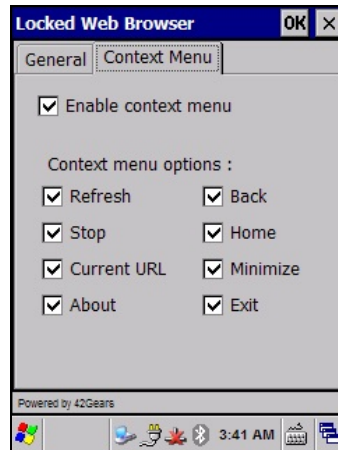
Locked Web Configuration Tab

Error Redirection options	
Error Type	The "Error Type" pull-down list displays available Error Types: (400) Invalid Syntax, (403) Request Forbidden, (404) Object Not Found, (406) No Response Format, (410) Page Doesn't Exist, (500) Internal Server Error, (501) Server Can't Do That, Generic Error, Network Disconnected
Error Page	Edit this textbox to associate a website or html file with the specified error.
Other options	
Full Screen	Set the web browser in full screen mode. This is the only option available for Windows Mobile.
Status Icon	Enable or disable the status icons view (see par. 4.11.3). The status icons can be configured on the Status tab of DDU.
Trap Keys	When checked: <ul style="list-style-type: none"> – all key presses will be trapped by the Locked Web Browser to prevent the user from accessing unsafe parts of the system. For example, pressing Ctrl+O to Open a File will not work; – safe key presses (e.g. Alpha numeric) will still get processed by the Locked Web Browser as normal. For example entering a number in a text field on a web page; – DL Buttons keys will not work in the LockedWeb Browser; – all Locked Web Browser command keys will work (e.g. Ctrl+O to exit). When unchecked: <ul style="list-style-type: none"> – all keys will be processed normally by the system and the browser; – DL Buttons keys will work normally; – all Locked Web Browser command keys will work (e.g. Ctrl+O to exit).
Exit Password	When checked, a password will be required before the Locked Web Browser can exit. This password is different than the DDU exit password, with a default value of "0000", and can be changed in the "Advanced" settings.
Browser Home Page	This sets the Internet Explorer home page, regardless of the enable state of the Locked Web Browser.
Advanced	Pressing this button will launch a dialog used to enable Locked Web Browser and to configure Advanced settings.

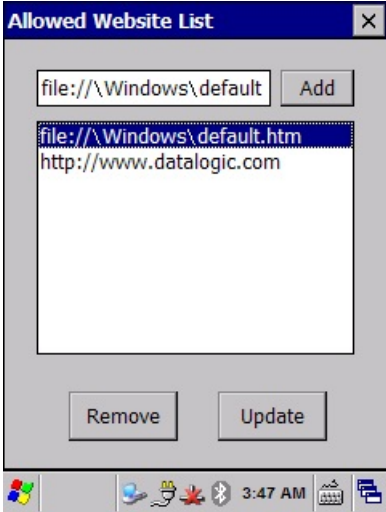
Advanced Settings



General Tab



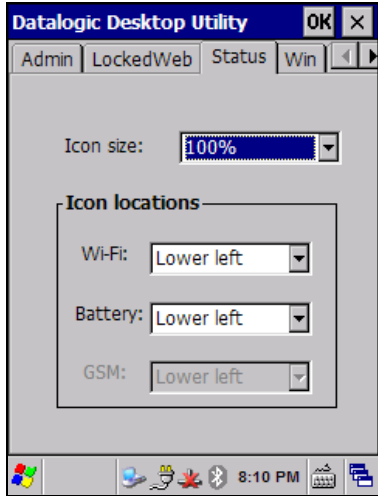
Context Menu

Advanced Locked Web Browser options	
General	
Enable Locked Web Browser	When checked, enables the Locked Web Browser when Internet Explorer is launched.
Disable Cache	Prevents the browser from loading the local intranet page from cache instead of navigating to the “Network Disconnected” error redirection page.
Allowed Website List	<p>Enables a “white list,” which restricts browsing only to files and URLs in the Allowed Website list (accessed by the “...” button). The following dialog appears:</p>  <p style="text-align: center;">Allowed Website List</p> <p>Click the “Add” button to add allowed URLs to the white list. Other sites will be restricted when the option is enabled. Domain names must be exactly specified.</p>
Change Exit Password	Pressing this button brings up a dialog which allows the user to change the password required to exit the Locked Web Browser (when the “Exit password” option is selected on the LockedWeb tab in DDU).

Context Menu	
Enable Context Menu	Enables the context menu accessed by a touch screen press in the Locked Web Browser.
Refresh	Adds a "Refresh" item to the Locked Web Browser context menu. Selecting the "Refresh" item refreshes the web page.
Stop	Adds a "Stop" item to the Locked Web Browser context menu. Selecting during navigation stops the downloading of a page.
Current URL	Adds a "Current URL" item to the Locked Web Browser context menu. Selecting the item pops up a dialog displaying the URL for the current web page.
About	Adds an "About" item to the Locked Web Browser context menu. Selecting the "About" item pops up the "About" dialog.
Zoom	(WEHH only) Adds a "Zoom" item to the Locked Web Browser context menu. Selecting the item brings up the IE Zoom Tool.
Back	Adds a "Back" item to the Locked Web Browser context menu. Selecting the "Back" item performs a navigation to the previous page.
Home	Adds a "Home" item to the Locked Web Browser context menu. Selecting the "Home" item navigates to the IE home page.
Minimize	Adds a "Minimize" item to the Locked Web Browser context menu. Selecting the item minimizes the Locked Web Browser and allows access to other programs.
Show SIP	Adds a "Show SIP" item to the Locked Web Browser context menu. Selecting the "Show SIP" item toggles the show state of the SIP.
Exit	Adds an "Exit" item to the Locked Web Browser context menu. Selecting the item exits the Locked Web Browser with an optional password (set in the Locked Web Browser Advanced options).

4.10.3 Status Icons Options (Status Tab)

Tap the “Status” tab to access the Status Icons option. You can configure the view of some status icons that are used in “LockedWeb” and in “Application Selector” to display the status of: Wi-Fi radio, battery and GSM.



 *The GSM status icon feature is available only on devices that support GSM.*

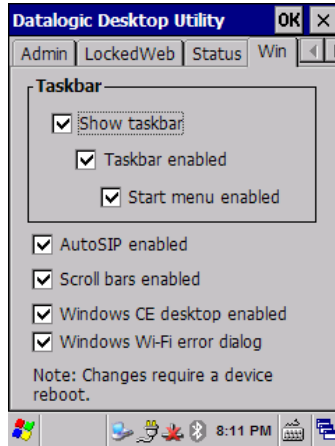
NOTE

Status Icons Options	
Set Status Icon Defaults	Restores the status icons’ factory settings.
Icon Size	Sets the status icons’ size.
Icon Location	Selects the preferred location for each status icon.

4.10.4 Windows Controls

Select/tap the “Win” (Windows Controls) tab to access the Windows Controls option. Use Windows controls to allow or restrict access to Windows system functions.

You can disable normal Windows functions such as the taskbar, leaving nothing but a blank workspace. This allows applications to be run in full screen mode and prevents users from accidental or unauthorized use of the taskbar, Internet Explorer, and any other resident applications.



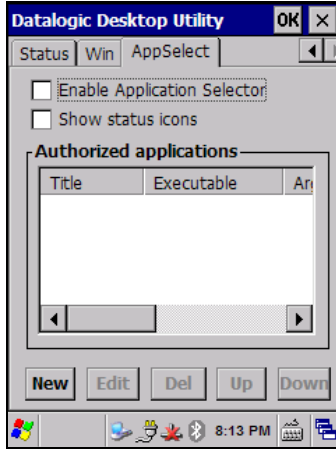
WINDOWS CONTROLS	
Show Taskbar	Select/tap "Show Taskbar" to specify whether the Taskbar is displayed or not
Taskbar Enabled	Select/tap "Taskbar Enabled" to specify whether the taskbar is accessible. This option is only available when the "Show Taskbar" is checked.
Start Menu Enabled	Select/tap "Start Menu Enabled" to specify whether the Start Menu is displayed or not. This option works only when "Task Bar Enabled" is checked.
AutoSIP Enabled	Enables the AutoSIP Windows feature.
Scroll Bars Enabled	This control only takes effect in Locked Web Browser. When checked, displays horizontal and vertical scroll bars to help view large web pages which do not fit the screen. When unchecked, scroll bars will not be present.
Windows CE Desktop Enabled	Windows CE Desktop Enabled specifies whether the desktop icons are accessible or not
Windows Wi-Fi Error Dialog	This control only takes effects in Locked Web Browser and Internet Explorer. When checked, the device will display a warning dialog when the Wi-Fi connected device moves out of range of an access point and the user attempts to navigate to a web page. This dialog box allows the user to reconfigure the Wi-Fi on the device. When unchecked, that dialog box will not appear and the "Network Disconnected" error page redirection is used to prevent users from reconfiguring the Wi-Fi on the device. Tap the "Locked Web Configuration Tab" to configure the "Network Disconnected" error page redirection (see par 4.11.2).

**NOTE**

Changes require a device reboot.

4.10.5 AppSelector Options (AppSelect tab)

Tap the Application Selector (“AppSelect” Tab) to edit, add, or delete applications for the application selector.



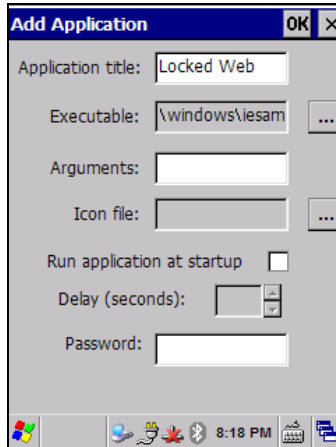
Application Selector Options	
Enable Application Selector	Select/tap “Enable Application Selector” to enable/disable the application selector. When enabled, the Application Selector replaces the desktop and allows only authorized use of applications.
Show status icons	Enable or disable the status icons view (see par. 4.11.3). The status icons can be configured on the Status tab of DDU.
Authorized Applications	This is a list of applications that the user can access.



Application Selector Commands	
New	Select/tap “New” to create a new application entry.
Edit	Select/tap “Edit” to edit the selected entry.
Del	Select/tap “Del” to delete the selected entry.
Up/Down	Select/tap “Up/Down” to move an entry up or down in the ListView.

Add Applications

The “Add Application” dialog opens when you tap either “New” or “Edit”. From the “Add Application” dialog the administrator can configure and/or add/change a new application entry in the list.

Applications with the “Run Application at Startup” option enabled will start automatically when the Application Selector starts up.



COMMAND	DESCRIPTION
Application Title	Type the name of the application in this textbox in the way you wish it to appear for the user.
Executable	Displays the path for the executable file which you want to run.
Browse	Select/tap  to browse for the desired executable file. The results of this search are placed in the “Executable” textbox.
Arguments	Type any command line arguments to be used when an application is executed.
Icon File	Displays the path/link to the desired icon file.
Browse	Select/tap  to browse for the desired icon file. The results of this search are placed in the “Icon File” textbox.

COMMAND	DESCRIPTION
Run Application at Startup	Select/tap this box to force this application to auto start when the Application Selector starts up. Applications will be started in the order listed in the authorized application list.
Delay	Enter a delay duration in seconds in the combo box. This option delays auto start of application(s) to allow drivers to load prior to starting applications.
OK	Select/tap "OK" to add/save changes.
X	Select/tap "X" to cancel the creation of this entry.

4.11 APPSELECTOR (APPLICATION SELECTOR)

The Application Selector is an application that allows a device to run in kiosk mode. The administrator can choose for the user to have access to the desktop or not.

The Application Selector can replace the desktop and limit the user to the specified list of applications.

By default, the Application Selector comes with no applications preset.

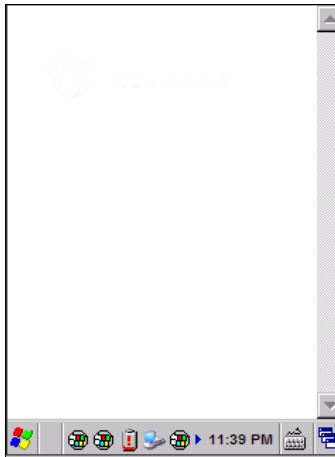


Figure 9 - Application Selector

The administrator can customize this list as shown in chapter 4.11.5.

To run an application, tap on its name.

Additionally, the page template can be modified to display a different background. Contact your Datalogic representative for more information on this feature.

To exit from Application Selector, press ALT + 6, uncheck the 'Enable Application Selector' check box on the AppSelect Tab and press OK to exit DDU.

4.12 LOCKED WEB BROWSER

The Locked Web Browser is a browser helper object for Internet Explorer. It allows an administrator to define a restricted internet usage environment. Once in the restricted environment, a password is required to exit. This means users can only access web applications and websites set by the administrator.



NOTE

Configuration is set up through the DDU control panel. See section 4.11.2 for more information.



Full Screen Mode



CE Mode

In Full Screen mode, status icons may be used to display signal strength and battery state. For CE, a non-full screen mode exists that allows the status bar to be displayed but with user interaction disabled.

While in these modes, the user can navigate within the web application by using the following keyboard shortcuts:

Home	Ctrl + 7
Refresh	Ctrl + 8
Cancel	Ctrl + 9
Exit	Ctrl + 0

For firmware versions 1.60 and greater, the following command line arguments are supported:

- /E optional parameter which allows for Exit without entering a password
- @URL optional parameter which specifies a URL to use as a home page.
- /C optional parameter which disables the ctrl keys (including the one to exit).

4.12.1 Locked Web Browser Special Metatags

General Metatag Comments

A metatag is a special HTML tag that stores information about a Web page but does not display in a Web browser. For example, metatags provide information such as the program used to create the page, a description of the page, and keywords relevant to the page.

As per the HTML specification, all metatags must be contained within a `<head> ... </head>` tag set.

Also, the head tag set must be complete within the first 15K of the web page.

The Datalogic Locked Web Browser defines some special metatags that allow the web application to interact with the device:

In particular, the special metatags allow it to:

- enable/disable scan engine triggers
- enable/disable specific symbologies in the scan engine
- easily assign a key press to a javascript function.

Metatag settings of trigger enable, symbology enable, or DL_Key assignments persist past the page in which they are loaded. The settings stay in effect until they are changed by another metatag.

Trigger Metatag

DL_Triggers – “Enable” or “Disable” all triggers

If the page contains this tag, the triggers are enable or disable depending on the “content=” value.

Example:

```
<meta http-equiv="DL_Triggers" content="Disable">
```

GetSerialNumber Meta-tag

DL_GetSerialNumber – Obtains the device serial number and sends it as an argument to a customer's javascript function.

Content – name of function to pass serial number to. Example:

```
<meta http-equiv="DL_GetSerialNumber" content="Javascript:CustomerFunction">
```

When a page with this metatag is loaded, the content should be a javascript function that receives one parameter, the serial number. An example would be function CustomerFunction(SerialNumber).

Reboot – Warm Boot Device Metatag

DL_Reboot – Warm boot device.

Content – “OnPageLoad” – Warm boot immediately upon page load.

Example:

```
<meta http-equiv="DL_Reboot" content=" OnPageLoad ">
```

Exit Metatag

DL_Exit – Exit the Locked Web Browser.

Content – “OnPageLoad” – Exit immediately upon page load. If “Exit password” has been enabled in the Locked Web Browser options, the Exit password will be required before exit.

Example:

```
<meta http-equiv="DL_Exit " content=" OnPageLoad ">
```

Decoding Metatags:

Each decoding metatag has a possible content of "Enable" or "Disable". The settings are valid for the entire page (enables/disables each symbology).

DL_Code_39
DL_Code_128
DL_Code_I25
DL_Code_S25
DL_Code_M25
DL_Code_CODABAR
DL_Code_93
DL_Code_UPCA
DL_Code_UPCE
DL_Code_EAN13
DL_Code_EAN8
DL_Code_MSI
DL_Code_MSR
DL_Code_GS1_14
DL_Code_GS1_LIMIT
DL_Code_GS1_EXP
DL_Code_PDF417
DL_Code_DATAMATIX
DL_Code_MAXICODE
DL_Code_TRIOPTIC
DL_Code_PHARMA39
DL_Code_RFID
DL_Code_MICROPDF417
DL_Code_COMPOSITE
DL_Code_QRCODE DL_Code_AZTEC
DL_Code_POSTAL

Examples:

```
<meta http-equiv="DL_Code_39" content="Disable">
```

```
<meta http-equiv="DL_Code_I25" content="Enable">
```

Key press Metatags

The key press metatags can be used to call JavaScript functions. They have the name structure: "DL_Key_xxx" where xxx is the VKey code.

Example:

```
<meta http-equiv="DL_Key_13" content="Javascript:CheckEnter();">
```

Assigning a key press via a DL_Key metatag overrides its use on the page. For instance, when entering data in a text box a character assigned as a DL_Key would not be entered in the text box. Instead, the javascript action would occur.

Refer to the Microsoft website to find the list of all the possible Vkey codes:

<http://msdn.microsoft.com/en-us/library/bb431750.aspx>

[http://msdn.microsoft.com/en-us/library/aa243025\(VS.60\).aspx](http://msdn.microsoft.com/en-us/library/aa243025(VS.60).aspx)



NOTE

Because DL_Keys persist past the page in which they were loaded, the DL_Clear metatag is provided to clear the settings on subsequent page loads.

Scanning Metatags

DL_Scan – Captures scan results and sends barcode/tag value to a javascript function on the web page.

If the "content=" value is a javascript function the device will be taken out of keyboard wedge mode and start listening for scan events. A scanned barcode/tag result will be used as an argument to that javascript function which is then invoked.

If the "content=" value is "Wedge" then the device will stop listening for scanned event and enter keyboard wedge mode.

If the "content=" value is "Disable" then the device will stop listening for scanned events but not enter keyboard wedge mode.

Example:

```
<meta http-equiv="DL_Scan" content="Javascript:ValidateInput()">
```

4.13 AUTOSTART

The AutoStart program provides three functions:

- Allows you to create a list of applications (with optional command line arguments) to run automatically prior to loading CAB files.
- Automatically reinstalls specified CAB files when the Elf is cold booted.
- Allows you to create a list of applications (with optional command line arguments) to run automatically after loading CAB files.

AutoStart launches each time the Elf is rebooted executing each line with the specified command line arguments. It will take into account any AutoStart options at the beginning of the line.

Upon a Cold Boot, AutoStart installs all the CAB files located in the \CAB folder. If the CAB folder does not exist, no CAB files will be installed.

AutoStart will then run the **Autostart.ini** from the \root directory, executing each line with the specified command line arguments. It will take into account any AutoStart options at the beginning of the line.

4.13.1 Installing CAB files

Copy any CAB files you want to install into the \CAB folder. These CAB files will then be automatically in-stalled in alphabetical order the next time you start the device.

4.13.2 How AutoStart Uses Wceload



NOTE

If you intend to create highly interactive installers, you should either install the CABs manually or review the section on “Interactive CAB Install” in this chapter..



CAUTION

In certain environments, CAB files will be deleted after execution. To prevent the CAB file from being deleted, write protect the file before copying the file onto the device.

CAB files are installed by AutoStart using the **Wceload.exe** application. The following table shows available command line option:

Option	Description
/noui	Specifies that you will not be prompted for any input during the installation. If the CAB file is signed, any responses will automatically be answered ‘Yes.’ If the CAB is unsigned, then any responses will be answered ‘No.’
/silent	Suppresses dialog boxes during the installation.

Please refer to the Microsoft documentation on your device for further details on **Wceload.exe**.

Sample:

```
\Windows\Wceload.exe /delete 1 /noui /silent
"\CAB\"
```

4.13.3 Interactive CAB Install

- If the CAB installer requires user interaction that must be performed during the AutoStart CAB installation process, you can specify a special file name to disable the silent mode installation. If this mode is specified, the CAB file will be installed with `wceload` without any command line arguments specified.

An example of what AutoStart would execute is:

```
\Windows\Wceload.exe <cab file>
```

To force this mode of installation via AutoStart, rename the CAB file to include a '_' character before the ".cab" extension of the file.

Example:

"**File.cab**" should be renamed "**File_.cab**" to force AutoStart to not install the CAB in silent mode. This specially-named CAB file should be placed in the AutoStart folder with other CAB files intended for installation on the next reboot.

4.13.4 Autostart.ini



NOTE

A file named 'PreAuto.ini' can also be created in addition to or instead of Autostart.ini. PreAuto.ini is executed before CAB files in the \Cab folder are installed. Autostart.ini is executed after CAB files in the \Cab folder are installed. The format for the PreAuto.ini is identical to that of Autostart.ini.."

Autostart.ini is a text file that AutoStart will run upon startup of the Elf, and after any CAB files are installed. This file should be placed in the \root folder. AutoStart will run the Autostart.ini file on each reboot of the device.

Line Formatting

Each line of the `Autostart.ini` can consist of Autostart options, an executable, and any command line arguments.

```
< Autostart option(s)> <full path to executable>  
<command line arguments>
```

Sample:

```
- \windows\pword.exe \file.doc
```

The following table breaks down the sample Autostart.ini line:

Autostart option(s)	Full path to executable	Command line arguments
-	\windows\pword.exe	\file.doc

Spaces must be placed between each component of the line in the Autostart.ini.

If the executable path is in a folder that contains spaces in the name, quotes are required to distinguish what the actual executable name is. The following is an example of this:

```
"\Program Files\ScannerApp.exe" /run           (valid)
\Program Files\ScannerApp.exe /run           (invalid)
```

The second line is an invalid line because there is no way to distinguish the executable from the argument.

AutoStart Options

The table below shows options you can use when writing a line in the Autostart.ini file.

Description	Character	Comments
Comment: This line will not be executed.	'#' OR ' ' (space)	This may only be used as the first character of the line. If the comment option is specified in the options elsewhere, it is ignored.
Do not wait on line completion: This will cause the line to execute and immediately move onto the next line.	','	
Query: Request user confirmation when running the executable.	'?'	This will halt parsing the Autostart.ini until the confirmation is answered. This is intended for debugging the Autostart.ini file.
Execute only on Cold Reset	'!'	
Execute only after a warm boot	'%'	

Cold Reset Only: This will cause the line to execute only after a Cold Reset.



NOTE

An empty line will be treated as a comment line.

Combining Options

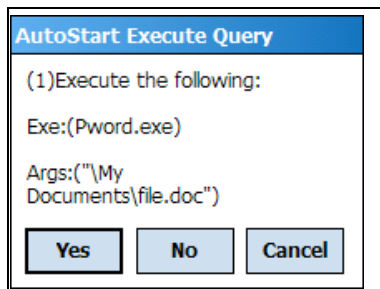
Autostart options can be combined together as shown in the following sample:
?- \Windows\Pword.exe

This line would:

- Request confirmation before executing the line. The next line would not be processed before the confirmation is answered.
- Run the next line without waiting on the current line to complete execution.

Query Option

The query option is intended for use when debugging the autostart.ini. When a line with this option is executed, the following dialog will appear with the specified executable and command line arguments. The populated fields shown in the AutoStart Execute Query are described the next table:



Field	Description
Line Number	This is the line number in the script being executed.
Exe	The executable as parsed by AutoStart.
Args	The argument as parsed by AutoStart.

**NOTE**

The fields may be broken up into multiple lines (as shown in the example) due to limited space in the dialog.

AutoStart Query Options

Parentheses are used to surround the given field and make it very clear what the value of the field is.

The following table describes the results of each choice:

Button	Action
Yes	The current line will execute.
No	The current line will not execute. AutoStart will continue parsing the Autostart.ini.
Cancel	The current line will not execute and AutoStart will discontinue parsing the Autostart.ini.

Autostart.ini Samples

The next table is a collection of sample Autostart.ini lines:

Line	Description
? \windows\wceload.exe "My Documents\Sample.cab"	This will confirm the execution of \Windows\wceload.exe with specified argument "My Documents\Sample.cab"
\Program Files\App.exe	(invalid) This will execute \Program with the argument Files\App.exe.
\Program Files\App.exe /run	(invalid) This will execute \Program with the argument Files\App.exe /run.
"\Program Files\App.exe" /run	This will execute the program \Program Files\App.exe with the argument /run.
?- \Windows\Pword.exe	This will confirm the execution of \Windows\Pword.exe. If the execution is confirmed, AutoStart will immediately process the next line.
!"\Program Files\App.exe" /run	This will execute the program \Program Files\App.exe with the argument /run ONLY after a Cold Reset.

5 TECHNICAL FEATURES

5.1 TECHNICAL DATA

PHYSICAL CHARACTERISTICS	
DIMENSIONS (LXWXH)	157 x 81x 42 mm (6.18 x 3.18 x 1.65 in)
WEIGHT (DEPENDING ON MODEL)	415 to 440 g (14.6 to 15.5 oz) depending on model (incl. battery)
AUDIO	Loudspeaker Headset
LEDS	Six LEDs Decoding Status/ Keyboard Status/ Charging Status
DISPLAY	Reflective TFT daylight readable color display, allowing both resolution 320 x 240 pixels and 640 x 480, 89 mm (3.5 in) diagonal, 65K color, backlight, touch screen
KEYBOARD	27-key Numeric or 46-key QWERTY backlit keyboard standard. Side scan keys, push to talk and volume setting
OPERATING TEMPERATURE*	-10° +50°C (14° to 122°F)
STORAGE TEMPERATURE	-20° +70°C (-4° to 158°F)
HUMIDITY**	95% non condensing for temperatures < 40 °C
DROP RESISTANCE***	Withstands 18 drops from 1.5 m (5 ft) onto concrete
ENVIROMENTAL SEALING	IP64 standard for water and dust resistance
ESD PROTECTION	4 KV contact discharge, 8 KV air discharge

* Std batteries must be charged at a temperature ranging from 0° to +40 °C.
 High batteries must be charged at a temperature ranging from 0° to +35 °C
 Close to the limits of the working temperature, some display and/or battery performance degradation may occur.

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

*** Multiple drops can permanently damage the device.

SYSTEM	
OPERATING SYSTEM	Microsoft Windows Embedded Handheld 6.5 with Mobile Tools: Text, Messaging, Word Mobile, Excel Mobile, PowerPoint Mobile, One Note Mobile and Internet Explorer Mobile 6.0
MICROPROCESSOR	XScale™ PXA310 @ 624 MHz
SYSTEM RAM MEMORY	256 MB
SYSTEM FLASH MEMORY	256 MB (including backup directory for user data & program permanent storage)
POWER SUPPLY*	Removable battery pack with rechargeable Li-ion batteries; 3.7 V 3000/5000 mAh (11.10/18.50 Watt hours)
COMMUNICATIONS	
INTERFACES	Micro USB connector: USB 1.1 Client, USB 1.1 Host and Client OTG, also for supplying power; Integrated RS232 up to 115.2 Kbps, USB 1.1 Client, USB 1.1 Host
LOCAL AREA NETWORK (LAN)	Summit IEEE 802.11a/b/g Frequency range: Country dependent, typically 2.4 and 5.2 GHz CCX v4 Security
PERSONAL AREA NETWORK (PAN)	Bluetooth® Wireless Technology IEEE 802.15 Class 2 with EDR

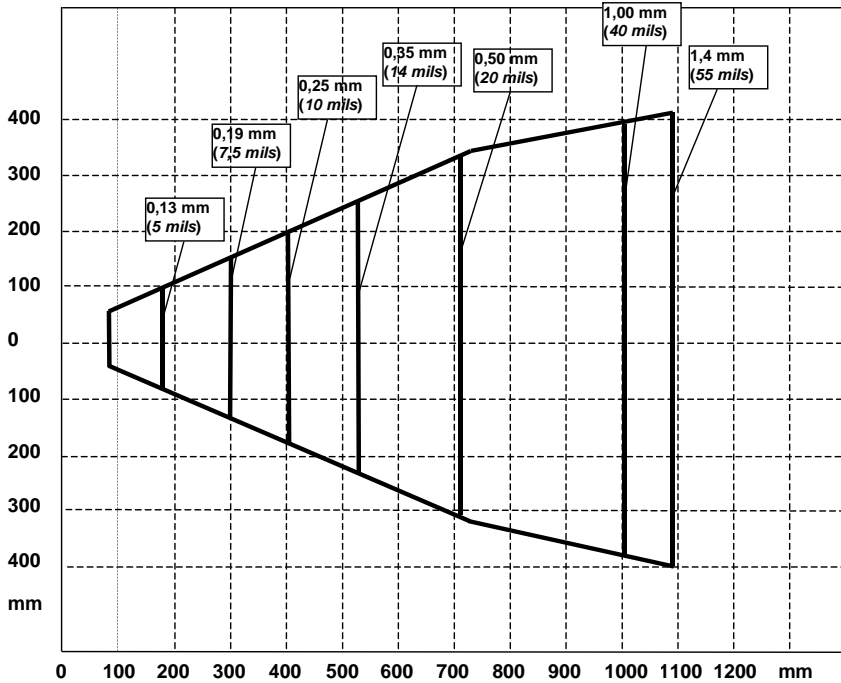
* Use only DL approved power adapters.

READING OPTIONS	
<i>LASER CHARACTERISTICS</i>	
SCANNING RATE	104 ± 12 scan/sec
MINIMUM RESOLUTION	0.10 mm / 4 mils
DEPTH OF FIELD	5 to 64 cm (2 to 25 in), depending on bar code density
SKEW ANGLE	± 50°
PITCH ANGLE	± 65°
AIMING LASER	VLD, wavelength 630~680 nm
BAR CODES	GS1 Databar, EAN/UPC, Code 39, 2/5 Codes, Plessey, Codabar, Code 128, EAN128, MSI, Code 93, Code 11
LASER CLASSIFICATION	VLD - Class 2/II EN 60825-1/CDHR
LED CLASSIFICATION	IEC Class 1M
<i>IMAGER CHARACTERISTICS</i>	
SCANNING RATE	60 frames/sec maximum
MINIMUM RESOLUTION	Linear codes at 3 mils; 2D codes at 5 mils
AIMING LASER	VLD, wavelength 645~665 nm
BAR CODES	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, MSI, PDF417, Micro PDF, DataMatrix, QR, GS1 Databar, Aztec, Maxicode, POSTNET, PLANET, Japan Post, Australia Post, KIX Code, Royal Mail RM4SCC, USPS 4CB, UPU FICS
LASER CLASSIFICATION	CDRH/IEC Class II
LED CLASSIFICATION	IEC Class 1M
ILLUMINATION SYSTEM	LEDs 620~630 nm

5.2 READING DIAGRAMS

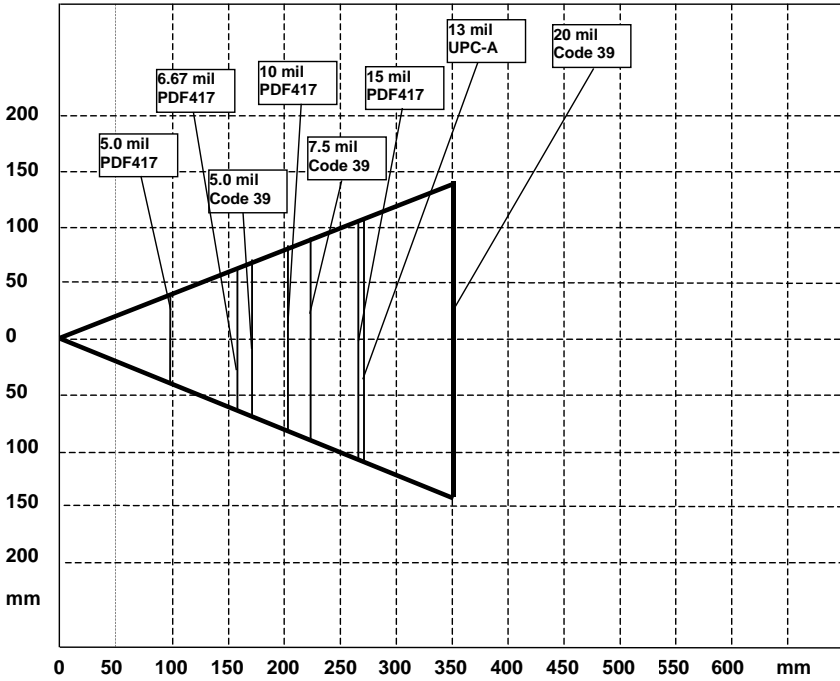
Elf 1D

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



ELF SE4500-DL

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



6 TEST CODES

High Density Codes

0.25 mm (10 mils)

Code 39



17162

2/5 Interleaved



0123456784

Code 128



test

80%

EAN 13



8 012345 000012

80%

EAN 8



6450 9723

Medium Density Codes

0.38 mm (15 mils)

Code 39



17162

Interleaved 2/5



0123456784

Code 128



test

EAN 13

100%



8 012345 000012

EAN 8

100%



6450 9723

Low Density Codes

0.50 mm (20 mils)

Code 39



17162

Interleaved 2/5



0123456784

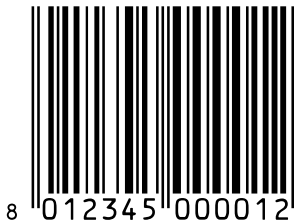
Code 128



test

120%

EAN 13



8 012345 000012

120%

EAN 8



6450 9723

2D Codes

Datamatrix ECC200



Example

Inverse
Datamatrix ECC200



Example

SAFETY REGULATIONS



NOTE

*Read this manual carefully before performing any type of connection to the Elf PDA.
The user is responsible for any damages caused by incorrect use of the equipment or by inobservance of the indication supplied in this manual.*

GENERAL SAFETY RULES

- Use only the components supplied by the manufacturer for the specific Elf being used.
- Do not attempt to disassemble the Elf PDA, as it does not contain parts that can be repaired by the user. Any tampering will invalidate the warranty.
- When replacing the battery pack or at the end of the operative life of the Elf PDA, disposal must be performed in compliance with the laws in force in your jurisdiction.
- Before using the devices and the battery packs, read chapter 2.
- Do not submerge the Elf in liquid products.
- For further information, refer to this manual and to the Datalogic web site: www.datalogic.com.

POWER SUPPLY

This device is intended to be connected to a UL Listed/CSA Certified computer which supplies power directly to the Elf or else be supplied by a UL Listed/CSA Certified Power Unit marked “Class 2” or LPS power source rated 5 V, 3.0 A, which supplies power directly to the Elf via the power connector of the cable.

The package includes three international plug adapters. The adapters must be plugged into the power supply before the power supply itself is plugged on the wall outlet.

LASER SAFETY

The laser light is visible to the human eye and is emitted from the window indicated in the figure.

This information applies to both laser models and the Elf Imager Aiming System.



I	D	F	E
<p>La luce laser è visibile all'occhio umano e viene emessa dalla finestra indicata nella figura.</p>	<p>Die Laserstrahlung ist für das menschliche Auge sichtbar und wird am Strahlaustrittsfenster ausgesendet (siehe Bild).</p>	<p>Le rayon laser est visible à l'oeil nu et il est émis par la fenêtre désignée sur l'illustration dans la figure.</p>	<p>La luz láser es visible al ojo humano y es emitida por la ventana indicada en la figura.</p>
<p>LUCE LASER NON FISSARE IL FASCIO APPARECCHIO LASER DI CLASSE 2 MASSIMA POTENZA DI USCITA: 1 mW LUNGHEZZA D'ONDA EMESSA: 630-680 nm CONFORME A EN 60825-1 (2007)</p>	<p>LASERSTRAHLUNG NICHT IN DER STRAHL BLINKEN PRODUKT DER LASERKLASSE 2 MAXIMALE AUSGANGLEISTUNG: 1 mW WELLENLÄNGE: 630-680 nm ENTSPR. EN 60825-1 (2007)</p>	<p>RAYON LASER EVITER DE REGARDER LE RAYON APPAREIL LASER DE CLASSE 2 MAXIMUM PUISSANCE DE SORTIE: 1 mW LONGUER D'ONDE EMISE: 630-680 nm CONFORME A EN 60825-1 (2007)</p>	<p>RAYO LÁSER NO MIRAR FIJO EL RAYO APARATO LÁSER DE CLASE 2 MÁXIMA POTENCIA DE SALIDA: 1 mW LONGITUD DE ONDA EMITIDA: 630-680 nm CONFORME A EN 60825-1 (2007)</p>

ENGLISH

The following information is provided to comply with the rules imposed by international authorities and refers to the correct use of your PDA.

STANDARD LASER SAFETY REGULATIONS

This product conforms to the applicable requirements of both CDRH 21 CFR 1040 Subchapter J and EN 60825-1:2007 at the date of manufacture.

For installation, use and maintenance, it is not necessary to open the device.



CAUTION

Do not attempt to open or otherwise service any components in the optics cavity. Opening or servicing any part of the optics cavity by unauthorized personnel may violate laser safety regulations. The optics system is a factory only repair item.



CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in exposure to hazardous visible laser light.

The product utilizes a low-power laser diode. Although staring directly at the laser beam momentarily causes no known biological damage, avoid staring at the beam as one would with any very strong light source, such as the sun. Avoid that the laser beam hits the eye of an observer, even through reflective surfaces such as mirrors, etc.



CAUTION

Use of optical systems with the scanner will increase eye hazard. Optical instruments include binoculars, microscopes, eye glasses and magnifying glasses.

ITALIANO

Le seguenti informazioni vengono fornite dietro direttive delle autorità internazionali e si riferiscono all'uso corretto del terminale.

NORMATIVE STANDARD PER LA SICUREZZA LASER

Questo prodotto risulta conforme alle normative vigenti sulla sicurezza laser alla data di produzione: CDRH 21 CFR 1040 sezione J e EN 60825-1:2007.

Non si rende mai necessario aprire l'apparecchio per motivi di installazione, utilizzo o manutenzione.



ATTENZIONE

Non tentare di accedere allo scomparto contenete i componenti ottici o di farne la manutenzione.

L'apertura dello scomparto, o la manutenzione di qualsiasi parte ottica da parte di personale non autorizzato, potrebbe violare le norme della sicurezza. Il sistema ottico può essere riparato solamente alla fabbrica.



ATTENZIONE

L'utilizzo di procedure o regolazioni differenti da quelle descritte nella documentazione può provocare un'esposizione pericolosa a luce laser visibile.

Il prodotto utilizza un diodo laser a bassa potenza. Sebbene non siano noti danni riportati dall'occhio umano in seguito ad una esposizione di breve durata, evitare di fissare il raggio laser così come si eviterebbe qualsiasi altra sorgente di luminosità intensa, ad esempio il sole. Evitare inoltre di dirigere il raggio laser negli occhi di un osservatore, anche attraverso superfici riflettenti come gli specchi.



ATTENZIONE

L'uso di strumenti ottici assieme allo scanner può aumentare il pericolo di danno agli occhi. Tali strumenti ottici includono cannocchiali, microscopi, occhiali e lenti di ingrandimento.

DEUTSCH

Die folgenden Informationen stimmen mit den Sicherheitshinweisen überein, die von internationalen Behörden auferlegt wurden, und sie beziehen sich auf den korrekten Gebrauch vom Terminal.

NORM FÜR DIE LASERSICHERHEIT

Dies Produkt entspricht am Tag der Herstellung den gültigen EN 60825-1:2007 und CDRH 21 CFR 1040 Subchapter J Normen für die Lasersicherheit.

Es ist nicht notwendig, das Gerät wegen Betrieb oder Installations-, und Wartungs-Arbeiten zu öffnen.



ACHTUNG

Unter keinen Umständen darf versucht werden, die Komponenten im Optikhohlraum zu öffnen oder auf irgendwelche andere Weise zu warten. Das Öffnen bzw. Warten der Komponenten im Optikhohlraum durch unbefugtes Personal verstößt gegen die Laser-Sicherheitsbestimmungen. Das Optiksystem darf nur werkseitig repariert werden.



ACHTUNG

Jegliche Änderungen am Gerät sowie Vorgehensweisen, die nicht in dieser Betriebsanleitung beschrieben werden, können ein gefährliches Laserlicht verursachen.

Der Produkt benutzt eine Laserdiode. Obwohl zur Zeit keine Augenschäden von kurzen Einstrahlungen bekannt sind, sollten Sie es vermeiden für längere Zeit in den Laserstrahl zu schauen, genauso wenig wie in starke Lichtquellen (z.B. die Sonne). Vermeiden Sie es, den Laserstrahl weder gegen die Augen eines Beobachters, noch gegen reflektierende Oberflächen zu richten.



ACHTUNG

Die Verwendung von Optiksystemen mit diesem Scanner erhöht die Gefahr einer Augenbeschädigung. Zu optischen Instrumenten gehören unter anderem Ferngläser, Mikroskope, Brillen und Vergrößerungsgläser.

FRANÇAIS

Les informations suivantes sont fournies selon les règles fixées par les autorités internationales et se réfèrent à une correcte utilisation du terminal.

NORMES DE SECURITE LASER

Ce produit est conforme aux normes de sécurité laser en vigueur à sa date de fabrication: CDRH 21 CFR 1040 sous-chapitre J et EN 60825-1:2007.

Il n'est pas nécessaire d'ouvrir l'appareil pour l'installation, l'utilisation ou l'entretien.



ATTENTION

Ne pas essayer d'ouvrir ou de réparer les composants de la cavité optique. L'ouverture de la cavité optique ou la réparation de ses composants par une personne non qualifiée peut entraîner le nonrespect des règles de sécurité relatives au laser. Le système optique ne peut être réparé qu'en usine.



ATTENTION

L'utilisation de procédures ou réglages différents de ceux donnés ici peut entraîner une dangereuse exposition à lumière laser visible.

Le produit utilise une diode laser. Aucun dommage aux yeux humains n'a été constaté à la suite d'une exposition au rayon laser. Eviter de regarder fixement le rayon, comme toute autre source lumineuse intense telle que le soleil. Eviter aussi de diriger le rayon vers les yeux d'un observateur, même à travers des surfaces réfléchissantes (miroirs, par exemple).



ATTENTION

L'utilisation d'instruments optiques avec le scanneur augmente le danger pour les yeux. Les instruments optiques comprennent les jumelles, les microscopes, les lunettes et les verres grossissants.

ESPAÑOL

Las informaciones siguientes son presentadas en conformidad con las disposiciones de las autoridades internacionales y se refieren al uso correcto del terminal.

NORMATIVAS ESTÁNDAR PARA LA SEGURIDAD LÁSER

Este aparato resulta conforme a las normativas vigentes de seguridad láser a la fecha de producción: CDRH 21 CFR 1040 Sección J y EN 60825-1:2007.

No es necesario abrir el aparato para la instalación, la utilización o la manutención.



ATENCIÓN

No intente abrir o de ninguna manera dar servicio a ninguno de los componentes del receptáculo óptico. Abrir o dar servicio a las piezas del receptáculo óptico por parte del personal no autorizado podría ser una violación a los reglamentos de seguridad. El sistema óptico se puede reparar en la fábrica solamente.



ATENCIÓN

La utilización de procedimientos o regulaciones diferentes de aquellas descritas en la documentación puede causar una exposición peligrosa a la luz láser visible.

El aparato utiliza un diodo láser a baja potencia. No son notorios daños a los ojos humanos a consecuencia de una exposición de corta duración. Eviten de mirar fijo el rayo láser así como evitarían cualquiera otra fuente de luminosidad intensa, por ejemplo el sol. Además, eviten de dirigir el rayo láser hacia los ojos de un observador, también a través de superficies reflectantes como los espejos.



ATENCIÓN

El uso de sistemas ópticos con el escáner aumentará el riesgo de daños oculares. Los instrumentos ópticos incluyen binoculares, microscopios, lentes y lupas.

LED CLASS

According to EN60825-1:2001, the Elf 1D models which use the green spot LED are also CLASS 1 LED PRODUCTS.

APPARECCHIO LED CLASSE 1 IEC
PRODUKT LED KLASSE 1 IEC

PRODUIT LED DE CLASSE 1 IEC
PRODUCTO LED DE CLASE 1 IEC

According to EN60825-1:2001, the Elf 2D models which use the illuminator LED are also CLASS 1M LED PRODUCTS.

LED LIGHT
DO NOT VIEW DIRECTLY
WITH OPTICAL INSTRUMENTS
CLASS 1M LED PRODUCT

LUCE LED
NON OSSERVARE DIRETTAMENTE
CON STRUMENTI OTTICI
APPARECCHIO LED DI CLASSE 1M

LAMPE LED
NE PAS OBSERVER DIRECTEMENT
AVEC INSTRUMENTS OPTIQUES
APPAREIL LED DE CLASSE 1M

LUZ LED
NO OBSERVAR DIRECTAMENTE
CON INSTRUMENTOS ÓPTICOS.
PRODUCTO LED DE CLASE 1M

LED-LICHT
NICHT DIREKT MIT OPTISCHEN
INSTRUMENTEN BETRACHTEN.
GERÄTEKLASSE 1M

RADIO COMPLIANCE

In radio systems configured with mobile computers and access points, the frequencies to be used must be allowed by the spectrum authorities of the specific country in which the installation takes place. Be absolutely sure that the system frequencies are correctly set to be compliant with the spectrum requirements of the country.

The Radio modules used in this product automatically adapt to the frequencies set by the system and do not require any parameter settings.

The TYPE field shows the correspondence between ELF™ types and radio modules:
TYPE: ABCDEE-FGH-IJK-LMMMM

A: "0" if WWAN module is not present, "E" for GSM/GPRS/EDGE WWAN module, "U" for UMTS/HSDPA WWAN module

B: "0" if GPS module is not present

C: "0" if IEEE 802.11 module is not present, "A" for IEEE 802.11 abg module, "G" for IEEE 802.11 bg module, "N" for IEEE 802.11 abgn module

D: "0" if RFID module is not present.



Information for the User

ENGLISH

Contact the competent authority responsible for the management of radio frequency devices of your country to verify any possible restrictions or licenses required. Refer to the web site <http://ec.europa.eu/enterprise/sectors/rtte/documents/contacts-points/spectr/> for further information.

ITALIANO

Contatta l'autorità competente per la gestione degli apparati a radio frequenza del tuo paese, per verificare eventuali restrizioni o licenze. Ulteriori informazioni sono disponibili sul sito:
<http://ec.europa.eu/enterprise/sectors/rtte/documents/contacts-points/spectr/>.

FRANÇAIS

Contactez l'autorité compétente en la gestion des appareils à radio fréquence de votre pays pour vérifier d'éventuelles restrictions ou licences. Pour tout renseignement vous pouvez vous adresser au site web:
<http://ec.europa.eu/enterprise/sectors/rtte/documents/contacts-points/spectr/>.

DEUTSCH

Wenden Sie sich an die für Radiofrequenzgeräte zuständige Behörde Ihres Landes, um zu prüfen ob es Einschränkungen gibt, oder eine Lizenz erforderlich ist. Weitere Informationen finden Sie auf der Web Seite:
<http://ec.europa.eu/enterprise/sectors/rtte/documents/contacts-points/spectr/>.

ESPAÑOL

Contacta la autoridad competente para la gestión de los dispositivos de radio frecuencia de tu país, para verificar cualesquiera restricciones o licencias posibles requerida. Además se puede encontrar mas información en el sitio web:
<http://ec.europa.eu/enterprise/sectors/rtte/documents/contacts-points/spectr/>.

FCC COMPLIANCE

FCC Regulations

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiated radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the equipment and receiver.
 - Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.

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

- The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

RF EXPOSURE INFORMATION (SAR)

This model device meets the government's requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

While there may be differences between the SAR levels of various devices and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model device with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model device is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on the below FCC IDs:

FCC ID: U4G-0040.

This device is compliant with SAR for general population /uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and had been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C.

INDUSTRY CANADA COMPLIANCE

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

The County Code Selection feature is disabled for products marketed in the US/Canada.

This EUT is compliant with SAR for general population/uncontrolled exposure limits in IC RSS-102 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528. This equipment should be installed and operated with minimum distance 1,5cm between the radiator & your body.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

SAR COMPLIANCE

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

- For the used worst case positions, the portable device ELF from Datalogic (FCC ID: U4G0040; contains FCC ID: U4G004W) is in compliance with the IC RSS 102 Issue 4 [RSS 102] and Federal Communications Commission (FCC) Guidelines [OET 65] for uncontrolled exposure. SAR assessment in body worn was conducted with a distance of 15 mm between the housing of the handheld and the flat phantom.
- EN 50360:2001: product standard to demonstrate the compliance of mobile phones with the basic restrictions related to human exposure to electromagnetic fields (300 MHz – 3 GHz).
- EN 62311:2008: assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz – 300 GHz).

CTIA COMPLIANCE

- Do not disassemble or open crush, bend or deform, puncture or shred
- Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard.
- Only use the battery for the system for which it is specified
- Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.
- Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725-2006. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard.
- Promptly dispose of used batteries in accordance with local regulations
- Battery usage by children should be supervised.
- Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion or other hazard.
- The device shall only be connected to products that bear the USB-IF logo or have completed the USB-IF compliance program

WEEE COMPLIANCE



Informazione degli utenti ai sensi della Direttiva Europea 2002/96/EC

L'apparecchiatura che riporta il simbolo del bidone barrato deve essere smaltita, alla fine della sua vita utile, separatamente dai rifiuti urbani.

Smaltire l'apparecchiatura in conformità alla presente Direttiva consente di:

- evitare possibili conseguenze negative per l'ambiente e per la salute umana che potrebbero invece essere causati dall'errato smaltimento dello stesso;
- recuperare materiali di cui è composto al fine di ottenere un importante risparmio di energia e di risorse.

Per maggiori dettagli sulle modalità di smaltimento, contattare il Fornitore dal quale è stata acquistata l'apparecchiatura o consultare la sezione dedicata sul sito www.datalogic.com.

Information for the user in accordance with the European Commission Directive 2002/96/EC

At the end of its useful life, the product marked with the crossed out wheeled wastebin must be disposed of separately from urban waste.

Disposing of the product according to this Directive:

- avoids potentially negative consequences to the environment and human health which otherwise could be caused by incorrect disposal
- enables the recovery of materials to obtain a significant savings of energy and resources.

For more detailed information about disposal, contact the supplier that provided you with the product in question or consult the dedicated section at the website www.datalogic.com.

Information aux utilisateurs concernant la Directive Européenne 2002/96/EC

Au terme de sa vie utile, le produit qui porte le symbole d'un caisson à ordures barré ne doit pas être éliminé avec les déchets urbains.

Éliminer ce produit selon cette Directive permet de:

- éviter les retombées négatives pour l'environnement et la santé dérivant d'une élimination incorrecte
- récupérer les matériaux dans le but d'une économie importante en termes d'énergie et de ressources

Pour obtenir des informations complémentaires concernant l'élimination, veuillez contacter le fournisseur auprès duquel vous avez acheté le produit ou consulter la section consacrée au site Web www.datalogic.com.

Información para el usuario de acuerdo con la Directiva Europea 2002/96/CE

Al final de su vida útil, el producto marcado con un símbolo de contenedor de basura móvil tachado no debe eliminarse junto a los desechos urbanos.

Eliminar este producto de acuerdo con la Directiva permite de:

- evitar posibles consecuencias negativas para el medio ambiente y la salud derivadas de una eliminación inadecuada
- recuperar los materiales obteniendo así un ahorro importante de energía y recursos

Para obtener una información más detallada sobre la eliminación, por favor, póngase en contacto con el proveedor donde lo compró o consultar la sección dedicada en el Web site www.datalogic.com.

Benutzerinformation bezüglich Richtlinie 2002/96/EC der europäischen Kommission

Am Ende des Gerätelebenszyklus darf das Produkt nicht über den städtischen Hausmüll entsorgt werden. Eine entsprechende Mülltrennung ist erforderlich.

Beseitigung des Produkts entsprechend der Richtlinie:

- verhindert negative Auswirkungen für die Umwelt und die Gesundheit der Menschen
- ermöglicht die Wiederverwendung der Materialien und spart somit Energie und Ressourcen

Weitere Informationen zu dieser Richtlinie erhalten sie von ihrem Lieferanten über den sie das Produkt erworben haben, oder besuchen sie unsere Homepage unter www.datalogic.com.

GLOSSARY

Access Point

A device that provides transparent access between Ethernet wired networks and IEEE 802.11 interoperable radio-equipped mobile units. Hand-held mobile computers, PDAs or other devices equipped with radio cards, communicate with wired networks using Access Points (AP). The mobile unit (mobile computer) may roam among the APs in the same subnet while maintaining a continuous, seamless connection to the wired network.

Applet

Diminutive form of app (application), it refers to simple, single-function programs that often ship with a larger product. Programs such as Windows' Calculator, File Manager, and Notepad are examples of applets.

Barcode

A pattern of variable-width bars and spaces which represents numeric or alphanumeric data in binary form. The general format of a barcode symbol consists of a leading margin, start character, data or message character, check character (if any), stop character, and trailing margin. Within this framework, each recognizable symbology uses its own unique format.

Baud Rate

A measure for data transmission speed.

Bit

Binary digit. One bit is the basic unit of binary information. Generally, eight consecutive bits compose one byte of data. The pattern of 0 and 1 values within the byte determines its meaning.

Bluetooth®

A standard radio technology using a proprietary protocol. The onboard Bluetooth® module in the device is compatible with the 2.1 protocol with Enhanced Data Rate (EDR).

Byte

On an addressable boundary, eight adjacent binary digits (0 and 1) combined in a pattern to represent a specific character or numeric value. Bits are numbered from the right, 0 through 7, with bit 0 the low-order bit. One byte in memory can be used to store one ASCII character.

Decode

To recognize a bar code symbology (e.g., Codabar, Code 128, Code 3 of 9, UPC/EAN, etc.) and convert the content of the bar code scanned from a visual pattern into electronic data.

Depth of Field (DOF)

The portion of a scene that appears acceptably sharp in the image. Although a lens can precisely focus at only one distance, the decrease in sharpness is gradual on each side of the focused distance, so that within the DOF, the unsharpness is imperceptible under normal viewing conditions.

EDGE

Enhanced Data rates for GSM Evolution (EDGE) is a backward-compatible digital mobile phone technology that allows improved data transmission rates, as an extension on top of standard GSM. EDGE is considered a 3G radio technology and is part of ITU's 3G definition.

EEPROM

Electrically Erasable Programmable Read-Only memory. An on-board non-volatile memory chip.

Ethernet

The standard local area network (LAN) access method. A reference to "LAN," "LAN connection" or "network card" automatically implies Ethernet. Defined by the IEEE as the 802.3 standard, Ethernet is used to connect computers in a company or home network as well as to connect a single computer to a cable modem or DSL modem for Internet access.

Firmware

Firmware is a software program or set of instructions programmed on a hardware device. It provides the necessary instructions for how the device communicates with the other computer hardware. Firmware is typically stored in the flash ROM of a hardware device. While ROM is "read-only memory," flash ROM can be erased and rewritten because it is actually a type of flash memory.

Flash Disk

Non-volatile memory for storing application and configuration files.

Host

A computer that serves other mobile computers in a network, providing services such as network control, database access, special programs, supervisory programs, or programming languages.

IEEE 802.11

A set of standards carrying out wireless local area network (WLAN) computer communication in the 2.4, 3.6 and 5 GHz frequency bands. They are created and maintained by the IEEE LAN/MAN Standards Committee.

Light Emitting Diode (LED)

A low power electronic light source commonly used as an indicator light. It uses less power than an incandescent light bulb but more than a Liquid Crystal Display (LCD).

Liquid Crystal Display (LCD)

A display that uses liquid crystal sealed between two glass plates. The crystals are excited by precise electrical charges, causing them to reflect light outside according to their bias. They use little electricity and react relatively quickly. They require external light to reflect their information to the user.

Null modem cable

RS-232 serial cable where the transmit and receive lines are crosslinked. In some cables there are also handshake lines crosslinked. In many situations a straight through serial cable is used, together with a null modem adapter. The adapter contains the necessary crosslinks between the signals.

Pairing

A Bluetooth pairing occurs when two Bluetooth devices agree to communicate with each other and establish a connection.

Piconet

A piconet is a Bluetooth PAN that links up to eight devices. Each piconet is controlled by one master device, and up to seven slave devices at any one time. Any device may be a member of more than one piconet, changing its membership as a user moves from one area to another.

RAM

Random Access memory. Data in RAM can be accessed in random order, and quickly written and read.

RF

Radio Frequency.

RTC

Real Time Clock.

TDMA

Time division multiple access (TDMA) is digital transmission technology that allows a number of users to access a single radio-frequency (RF) channel without interference by allocating unique time slots to each user within each channel. The TDMA digital transmission scheme multiplexes three signals over a single channel. The current TDMA standard for cellular divides a single channel into six time slots, with each signal using two slots, providing a 3 to 1 gain in capacity over advanced mobile-phone service (AMPS). Each caller is assigned a specific time slot for transmission.

USB

Universal Serial Bus. Type of serial bus that allows peripheral devices (disks, modems, printers, digitizers, data gloves, etc.) to be easily connected to a computer. A "plug-and-play" interface, it allows a device to be added without an adapter card and without rebooting the computer (the latter is known as hot-plugging). The USB standard, developed by several major computer and telecommunications companies, supports data-transfer speeds up to 12 megabits per second, multiple data streams, and up to 127 peripherals.

WLAN

A Wireless Local Area Network links devices via a wireless distribution method (typically spread-spectrum or OFDM radio), and usually provides a connection through an access point to the wider internet. This gives users the mobility to move around within a local coverage area and still be connected to the network.

WPAN

A Wireless Personal Area Network is a personal area network - a network for interconnecting devices centered around an individual person's workspace - in which the connections are wireless. Typically, a wireless personal area network uses some technology that permits communication within about 10 meters - in other words, a very short range.

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Datalogic ADC S.r.l.
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*modelli con funzionalità radio 802.11a/b/g+BT
models with 802.11a/b/g+BT radio feature
modèles avec 802.11a/b/g+BT radio intégrés
modelle mit 802.11a/b/g+BT radio-funktionalität
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RADIO DISTURBANCE CHARACTERISTICS
LIMITS AND METHODS OF MEASUREMENTS*

**EN 55024: 1998
AMENDMENT A1:2001
AMENDMENT A2:2003**

*INFORMATION TECHNOLOGY EQUIPMENT
IMMUNITY CHARACTERISTICS
LIMITS AND METHODS OF MEASUREMENT*

ETSI EN 301 489-1 v1.8.1, APRIL 2008:

*ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS
(ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO
EQUIPMENT AND SERVICES; PART 1: COMMON TECHNICAL
REQUIREMENTS*

ETSI EN 301 489-17 v2.1.1 MAY 2009

ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT; PART 17: SPECIFIC CONDITIONS FOR 2,4 GHZ WIDEBAND TRANSMISSION SYSTEMS, 5 GHZ HIGH PERFORMANCE RLAN EQUIPMENT AND 5,8 GHZ BROADBAND DATA TRANSMITTING SYSTEMS

ETSI EN 300 328 v1.7.1, OCTOBER 2006

ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); WIDEBAND TRANSMISSION SYSTEMS; DATA TRANSMISSION EQUIPMENT OPERATING IN THE 2,4GHZ ISM BAND AND USING WIDE BAND MODULATION TECHNIQUES; HARMONIZED EN COVERING ESSENTIAL REQUIREMENTS UNDER ARTICLE 3.2 OF THE R&TTE DIRECTIVE

ETSI EN 301 893 v1.6.1, NOVEMBER 2011

BROADBAND RADIO ACCESS NETWORKS (BRAN); 5 GHZ HIGH PERFORMANCE RLAN; HARMONIZED EN COVERING THE ESSENTIAL REQUIREMENTS OF ARTICLE 3.2 OF THE R&TTE DIRECTIVE

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AMENDMENT A1:2010**

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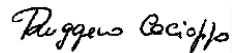
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ASSESSMENT OF ELECTRONIC AND ELECTRICAL EQUIPMENT RELATED TO HUMAN EXPOSURE RESTRICTIONS FOR ELECTROMAGNETIC FIELDS (0 HZ - 300 GHZ)

EN50581:2012

TECHNICAL DOCUMENTATION FOR THE ASSESSMENT OF ELECTRICAL AND ELECTRONIC PRODUCTS WITH RESPECT TO THE RESTRICTION OF HAZARDOUS SUBSTANCES

Lippo di Calderara di Reno, April 12th 2013



Ruggero Cacioppo
Quality & Reliability MGR
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LIMITS AND METHODS OF MEASUREMENT*

ETSI EN 301 489-1 v1.8.1, APRIL 2008

*ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS
(ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO
EQUIPMENT AND SERVICES; PART 1: COMMON TECHNICAL
REQUIREMENTS*

ETSI EN 301 489-3 v1.4.1, AUGUST 2002	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM);ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT AND SERVICES;PART 3: SPECIFIC CONDITIONS FOR SHORT-RANGE DEVICES (SRD) OPERATING ON FREQUENCIES BETWEEN 9 KHZ AND 40 GHZ</i>
ETSI EN 301 489-7 v1.3.1, NOVEMBER 2005	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT AND SERVICES; PART 7: SPECIFIC CONDITIONS FOR MOBILE AND PORTABLE RADIO AND ANCILLARY EQUIPMENT OF DIGITAL CELLULAR RADIO TELECOMMUNICATIONS SYSTEMS (GSM AND DCS)</i>
ETSI EN 301 489-17 v2.1.1, MAY 2009	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT; PART 17: SPECIFIC CONDITIONS FOR 2,4 GHZ WIDEBAND TRANSMISSION SYSTEMS, 5 GHZ HIGH PERFORMANCE RLAN EQUIPMENT AND 5,8 GHZ BROADBAND DATA TRANSMITTING SYSTEMS</i>
ETSI EN 301 489-24 v1.5.1, OCTOBER 2010	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARD FOR RADIO EQUIPMENT AND SERVICES; PART 24: SPECIFIC CONDITIONS FOR IMT-2000 CDMA DIRECT SPREAD (UTRA AND E-UTRA) FOR MOBILE AND PORTABLE (UE) RADIO AND ANCILLARY EQUIPMENT</i>
ETSI EN 301 511 v9.0.2, MARCH 2003	<i>GLOBAL SYSTEM FOR MOBILE COMMUNICATIONS (GSM);HARMONIZED EN FOR MOBILE STATIONS IN THE GSM 900 AND GSM 1800 BANDS COVERING ESSENTIAL REQUIREMENTS UNDER ARTICLE 3.2 OF THE R&TTE DIRECTIVE (1999/5/EC)</i>
ETSI EN 301 908-1 v5.2.1, MAY 2011	<i>IMT CELLULAR NETWORKS; HARMONIZED EN COVERING THE ESSENTIAL REQUIREMENTS OF ARTICLE 3.2 OF THE R&TTE DIRECTIVE; PART 1: INTRODUCTION AND COMMON REQUIREMENTS</i>
ETSI EN 300 328 v1.7.1, OCTOBER 2006	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); WIDEBAND TRANSMISSION SYSTEMS; DATA TRANSMISSION EQUIPMENT OPERATING IN THE 2,4GHZ ISM BAND AND USING WIDE BAND MODULATION TECHNIQUES; HARMONIZED EN COVERING ESSENTIAL REQUIREMENTS UNDER ARTICLE 3.2 OF THE R&TTE DIRECTIVE</i>
ETSI EN 301 893 v1.6.1, NOVEMBER 2011	<i>BROADBAND RADIO ACCESS NETWORKS (BRAN); 5 GHZ HIGH PERFORMANCE RLAN; HARMONIZED EN COVERING THE ESSENTIAL REQUIREMENTS OF ARTICLE 3.2 OF THE R&TTE DIRECTIVE</i>
ETSI EN 300 440-2 v1.3.1, MARCH 2009	<i>ELECTROMAGNETIC COMPATIBILITY AND RADIO SPECTRUM MATTERS (ERM); SHORT RANGE DEVICES; RADIO EQUIPMENT TO BE USED IN THE 1 GHZ TO 40 GHZ FREQUENCY RANGE; PART 2: HARMONIZED EN UNDER ARTICLE 3.2 OF THE R&TTE DIRECTIVE</i>
EN 60950-1:2006 AMENDMENT A1:2010	<i>INFORMATION TECHNOLOGY EQUIPMENT - SAFETY - PART 1 : GENERAL REQUIREMENTS</i>
EN 50360, NOVEMBER 2001	<i>PRODUCT STANDARD TO DEMONSTRATE THE COMPLIANCE OF MOBILE PHONES WITH THE BASIC RESTRICTIONS RELATED TO HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS (300MHZ - 3GHZ)</i>

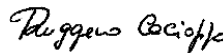
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Ruggero Cacioppo
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