



# QuickScan™ QBT2400

General Purpose Handheld  
Area Imager Bar Code Reader  
with Bluetooth® Wireless Technology



**Quick Reference Guide**

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# QuickScan™ QBT2400

## Description

With rich feature sets and extensive options, the QuickScan™ product series from Datalogic represents the premium level of data collection equipment for general purpose applications. The QuickScan QBT2400 readers have enhanced optics with improved motion tolerance allowing codes placed on fast moving objects to be easily and quickly captured, creating the ideal reader for tasks requiring high throughput like those found in retail and light industrial environments.

<b>Omni-Directional Operation</b>	To read a symbol simply aim the reader and pull the trigger. The QuickScan QBT2400 is a powerful omni-directional reader, so the orientation of the symbol is not important. Datalogic's exclusive patented 'Green Spot' for good-read feedback helps to improve productivity in noisy environments or in situations where silence is required. When using the product with the cradle at a 45° position, the Green Spot can work as an aiming system to aid in positioning the bar code for quick and intuitive reading.
<b>Decoding</b>	Reliably decodes all standard 1D (linear) and 2D bar codes, including GS1 DataBar™ linear codes, Postal Codes (China Post), Stacked Codes (such as GS1 DataBar Expanded Stacked, GS1 DataBar Stacked, GS1 DataBar, Stacked Omnidirectional). The data stream — acquired from decoding a symbol — is rapidly sent to the host. The reader is immediately available to read another symbol.

## Setting Up the Reader

Follow the steps below to connect and get your reader up, and communicating with its host.

1. Configure the Base Station starting on this page.
2. Charge the Batteries (see page 8).
3. Link to the Base Station (see page 11).
4. Select the Interface Type (see page 21).
5. Configure the Reader starting on page 14 (optional, depends on settings needed).

## Locking the Reader to the Base

The Base Station provides a locking mechanism to ensure electrical contact between Reader and Base, in case of inadvertent movements.



## To Lock the Reader in the Base

1. Insert the Reader into the Base. The lock lever rests in its natural disengaged position toward the bottom of the Base.

Figure 1. Lock lever disengaged



2. Engage the locking mechanism by pushing up the lever as far as it will go.

Figure 2. Lever in locked position



**NOTE**

it is good practice to put the scanner in the locked condition at the end of the working shift, or when not in use for an extended period of time. This will ensure that the scanner is fully seated for complete battery recharge.

## Connecting the Base Station

Figure 3 on page 5 shows how to connect the Base Station to a terminal, PC or other host device. Turn off the host before connection and consult the manual for that equipment (if necessary) before proceeding. Connect the interface cable before applying power to the Base Station.



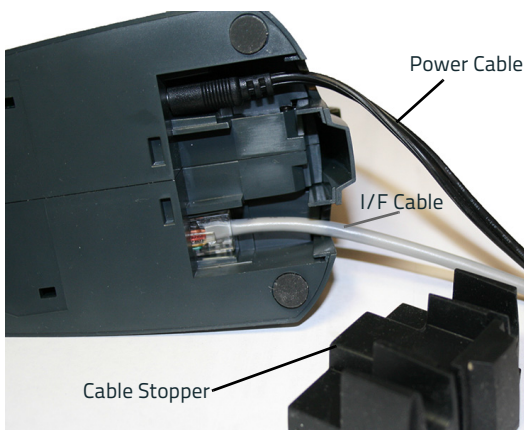
### NOTE

The QBT2400 reader can also be Powered by the Terminal. When powered by the Terminal, the battery charger is automatically set as Slow charge.

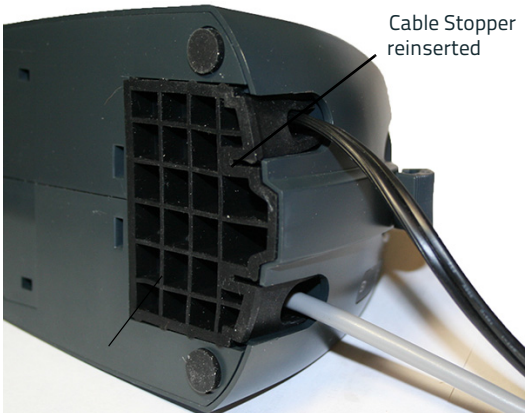
For some specific interfaces or hosts or lengths of cable, the use of an external power supply may be recommended for full recharging capability (see "Technical Specifications" on page 31 for more details).

## Base Station Connection and Routing

1. Remove the rubber Cable Stopper from the bottom of the Base Station.
2. Securely plug the Power Cable and Interface (I/F) Cable connectors into their respective ports in the underside of the Base Station.

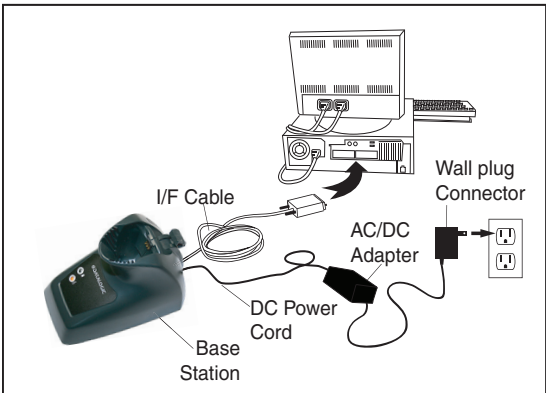


3. After the cables are plugged in, reinsert the Cable Stopper.



4. Connect to an AC Adapter, and plug the AC power cord into the (wall) outlet.

**Figure 3. Connecting the Base Station**



**Host Connection** — Verify before connection that the reader's cable type is compatible with your host equipment.



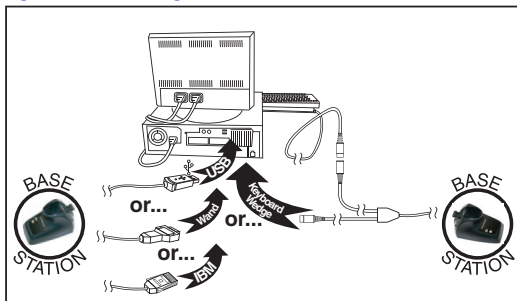
**NOTE**

**The QuickScan QBT2400 reader can be set up to require a PIN code when connecting to the host. If you are adding new equipment to a system that uses a custom security PIN, please see the PRG for information before proceeding.**

Most connections plug directly into the host device as shown in [Figure 4](#). Keyboard Wedge interface cables have a 'Y' con-

nection where its female end mates with the male end of the cable from the keyboard and the remaining end at the keyboard port on the terminal/PC.

**Figure 4. Connecting to the Host**

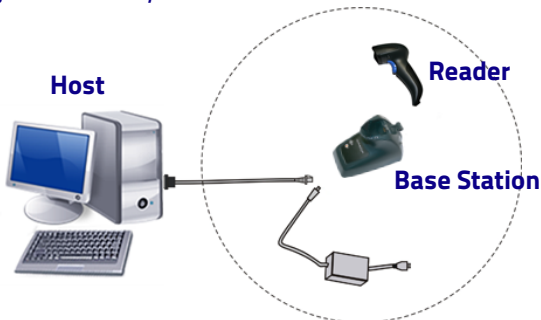


**Power Connection** — Plug the AC Adapter into an approved AC wall socket with the cable facing downwards (as shown in Figure 3) to prevent undue strain on the socket.

## System and Network Layout

### Typical Setup with Cradle and Host

**Figure 5. Reader Layout**



## Using the BC2030™ Radio Base

### Radio Base LEDs

LEDs on the QuickScan Base provide information about the Base as well as battery charging status, as shown in Figure 6.

Figure 6. QuickScan Base LEDs

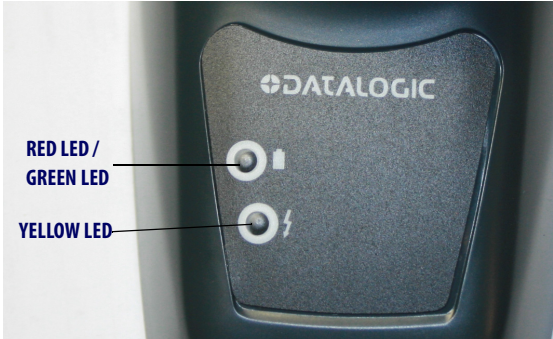




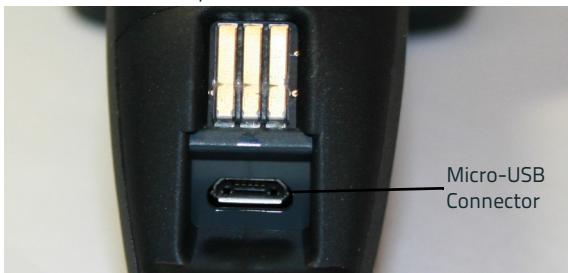


Table 1. Radio Base LEDs

	LED	STATUS
	Power on / Data	Yellow On = Base is powered Yellow Blinking = Base receives data and commands from the Host or the Reader.
	Charging	Red On = the Battery is charging.
	Charge completed	Green On = the Battery is completely charged.
	Charging + Charge completed	Red and Green Blinking together = the Reader is not correctly placed onto the Base.

## Charging the Batteries

The battery can be charged by connecting the reader directly to a host through the micro-USB connector available in the bottom of the handle, as shown.



Alternatively, simply insert the QuickScan into the base. When the scanner is fully seated in the cradle, it will sound a 'chirp' to indicate that the cradle has detected the scanner connection.

The LEDs on the base (shown in [Table 1 on page 7](#)) will indicate the status of the battery.



### NOTE

**Before using the Battery, read "Battery Safety" in the "Regulatory and Safety" insert. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.**



## Replacing the Battery Pack



### NOTE

Before proceeding, read "Battery Safety" in the Regulatory and Safety insert. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

1. Using a coin or screwdriver, unscrew the bottom of the battery pack until it is disengaged.



The battery pack will rise slightly in the rear, pushed by the contact springs.

2. Extract the battery pack by slightly rotating the pack and pulling away from the reader.



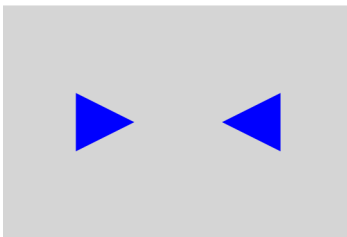
To mount the new battery pack reverse the process:

1. Insert the top of the new pack inside the reader's handle.
2. Rotate the battery pack downward while pressing the bottom side of the battery pack (to seat securely into the contacts springs) so that the edges of the pack and the handle board are aligned, while replacing the screw in the bottom of the handle.

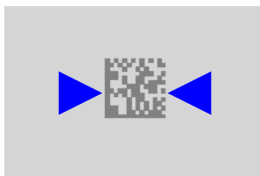
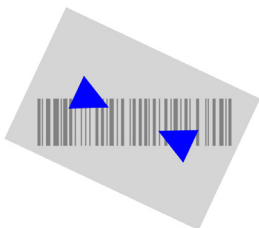
## Using the Quickscan™ QBT2400

The Quickscan™ QBT2400 normally functions by capturing and decoding codes. The aiming system is activated on trigger pull and indicates the center of the field of view which should be positioned over the bar code:

### Aiming System



### Relative Size and Location of Aiming System Pattern



2D Matrix symbol

A beam illuminates the label. The projected pattern of the aiming system will be smaller when the reader is closer to the bar code and larger when it is farther from the code. Symbolologies with smaller bars or elements (mil size) should be read closer to the unit. Symbolologies with larger bars or elements (mil size) should be read farther from the unit.

If the aiming system is centered you will get a good read. Successful reading is signaled by an audible tone plus a good-read green spot LED indicator.

Reference the QuickScan Q2400 Product Reference Guide (PRG) on the Datalogic website for more information about this feature and other programmable settings.

# Linking the Reader

## Link Datalogic RF Devices to Base

For RF devices, before configuring the interface it is necessary to link the handheld with the base.

To link the handheld and the base, press the trigger to wake up the handheld and mount it into the base. If the reader was previously linked to another base, you must first press and hold the button on the base (>5 seconds), then scan the **Unlink** bar code before re-linking to the new base.



Unlink

## Linking to a Bluetooth Adapter in Serial Port Profile Mode

1. Install any drivers provided with the Bluetooth adapter.
2. Scan the **Enable RF Link to Server** label below to make the scanner visible to the host computer.
3. Use the host computer's Bluetooth manager to "Discover new devices" and select "Datalogic Scanner." If you receive an error message, it may be necessary to disable security on the device.
4. Use an RS-232 terminal program to see incoming data on the port designated by the computer's Bluetooth manager.



Enable RF Link to Server

## Linking to a Bluetooth Adapter in HID mode

1. Install any drivers provided with the Bluetooth adapter.
2. Scan the **Link to PC in HID** label below..
3. Use the host computer's Bluetooth manager to "Discover new devices" and select "Datalogic Scanner." If you receive an error message, it may be necessary to disable security on the device.
4. Use a text editor to see incoming data on the port designated by the computer's Bluetooth manager..



Link to PC in HID



### NOTE

**The QBT2400 reader can be set up to require a PIN code when connecting. If you want to set up a PIN, or when adding new equipment to a system that uses a custom security PIN, please see the PRG for information.**

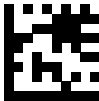
## Variable PIN Code

Some Bluetooth drivers on the Host (such as WIDCOMM and BlueSoleil 8) require a Variable PIN Code. When attempting connection, the application presents a window that includes a PIN Code which is to be input using the QBT2400. Please read the bar code "Variable PIN Code" and restart the sequence from step 2 above.



Variable PIN Code

When you hear the beep and see the Green LED blinking indicating the reader is waiting for an alphanumeric entry, enter the required variable PIN Code by scanning the corresponding bar codes in the 'Hex-Numeric Keypad' section at the back of this manual for alphanumeric entry. Finish by scanning the **Exit HID Variable PIN Code** label.



Exit HID Variable PIN Code

## HID Country Mode

When the Reader is connected with a Bluetooth Adapter in HID mode, you may want to set the country for which your PC is localized. Go to "Country Mode" on page 16" and read one of the configuration command labels.

## HID Caps Lock State

This option specifies the format in which the reader send-character data. See "Caps Lock State" on page 20 for programming labels.

## Programming

The reader is factory-configured with a set of standard default features. After scanning the interface bar code from the Interfaces section, select other options and customize your reader through use of the programming bar codes available in the Product Reference Guide (PRG) or Datalogic Aladdin™ configuration software (both available on the Datalogic website).

### Using Programming Bar Codes

This manual contains bar codes which allow you to reconfigure your reader. Some programming bar code labels require only the scan of that single label to enact the change.

Other bar codes require the reader to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT bar code once to enter Programming Mode; scan the desired parameter settings; scan the ENTER/EXIT bar code again to accept your changes, which exits Programming Mode and returns the reader to normal operation.

### Configure Other Settings

Additional programming bar codes are available to allow for customizing programming features, if your installation requires different programming than the standard factory default settings. Reference the PRG or Datalogic Aladdin™ configuration software.

### Resetting Standard Product Defaults

Reference the PRG for a listing of standard factory settings. If you aren't sure what programming options are in your reader, or you've changed some options and want the factory settings restored, scan the bar code below to copy the factory configuration for the currently active interface to the current configuration.



#### NOTE




**Factory defaults are based on the interface type. Configure the reader for the correct interface before scanning this label.**



Standard Product Default Settings

## HID Alt Mode

Read the configuration command label below for the HID Alt Mode feature.

 ENTER/EXIT PROGRAMMING MODE
 ◆ HID Alt Mode = OFF
 HID Alt Mode = ON

## Power Off

Scan the bar code below to shut off power to the handheld until the next trigger pull.



PowerOff

## Country Mode



### NOTE

The following bar codes can be used either while in HID mode (when reader is connected using Bluetooth) or for configuring the base.

**HID configuration:** Scan any one of the bar codes in the table below to set the country for which your PC is localized.

**Base configuration:** Only the following interfaces support ALL Country Modes:

- USB Keyboard (without alternate key encoding)
- AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/ Std Key Encoding
- Keyboard Wedge for IBM AT PS2 with standard key encoding but without external keyboard
- AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 without Alternate Key
- Keyboard Wedge for IBM AT PS2 without alternate key encoding but without external keyboard

All other interfaces support ONLY the following : U.S., Belgium, Britain, France, Germany, Italy, Spain, Sweden.

COUNTRY MODE
 ENTER/EXIT PROGRAMMING MODE
 Country Mode = U.S.
 Country Mode = Belgium
 Country Mode = Britain



**COUNTRY MODE (continued)**

Country Mode = Croatia\*



Country Mode = Czech Republic\*



Country Mode = Denmark\*



Country Mode = France



Country Mode = French Canadian\*



Country Mode = Germany

\*Supports only the interfaces listed in the Country Mode feature description  
(Base configuration only)

**COUNTRY MODE (continued)**



Country Mode = Hungary\*



Country Mode = Italy



Country Mode = Japanese 106-key\*



Country Mode = Lithuanian\*



Country Mode = Norway\*



Country Mode = Poland\*

\* Supports only the interfaces listed in the Country Mode feature description (Base configuration only)

**COUNTRY MODE (continued)**

Country Mode = Portugal\*



Country Mode = Romania\*



Country Mode = Spain



Country Mode = Sweden



Country Mode = Slovakia\*



Country Mode = Switzerland\*

\*Supports only the interfaces listed in the Country Mode feature description (Base configuration only)

## Caps Lock State



The following bar codes can be used either while in HID mode (when reader is connected using Bluetooth) or for configuring the base.

This option specifies the format in which the reader sends character data.

When using the Base Interface, this applies only to keyboard wedge interfaces. It does not apply when an alternate key encoding keyboard is selected.

CAPS LOCK STATE
 ENTER/EXIT PROGRAMMING MODE
 Caps Lock State = Caps Lock OFF
 Caps Lock State = Caps Lock ON
 Caps Lock State = AUTO Caps Lock Enable

## Selecting the Base Interface Type

Upon completing the physical connection between the base and its host, proceed directly to Interface Selection below for information and programming for the interface type the base is connected to (for example: RS-232, Keyboard Wedge, USB, etc.) and scan the appropriate bar code to select your system's correct interface type.

### Interface Selection

The base will support the following host interfaces:

- RS-232
- RS-232 OPOS
- USB
- Keyboard Wedge

For defaults and additional information associated with each interface, proceed to the corresponding chapter in the Quick-Scan Q2400 PRG.

### Configuring the Interface

Scan the programming bar code which selects the appropriate interface type for the system the reader will be connected to.



#### NOTE

**Unlike some other programming features and options, interface selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scanning an interface selection bar code.**

**Some interfaces require the scanner to start in a disabled state when powered up. If additional configuration is desired in this state, pull the trigger and hold for 5 seconds to change to a state that allows programming with bar codes.**

## RS-232

RS-232 standard interface



Select RS232-STD

RS-232 Wincor-Nixdorf



Select RS232-WN

RS-232 for use with OPOS/UPOS/JavaPOS



Select RS-232 OPOS

USB COM to simulate RS-232 standard interface



Select USB-COM-STD<sup>a</sup>

a. Download the correct USB COM driver from [www.datalogic.com](http://www.datalogic.com)

## USB-OEM

USB-OEM  
(can be used for OPOS/UPOS/JavaPOS)



Select USB-OEM

## Keyboard Interface

Use the programming bar codes to select options for USB Keyboard and Wedge Interfaces.

### KEYBOARD

AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/  
Standard Key Encoding



Select KBD-AT

Keyboard Wedge for IBM AT PS2 with standard key encoding  
but without external keyboard



Select KBD-AT-NK

AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95  
w/Alternate Key



Select KBD-AT-ALT

Keyboard Wedge for IBM AT PS2 with alternate key encoding  
but without external keyboard



Select KBD-AT-ALT-NK

**KEYBOARD (continued)**

PC/XT w/Standard Key Encoding



Select KBD-XT

Keyboard Wedge for IBM Terminal 3153



Select KBD-IBM-3153

Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx  
make only keyboard



Select KBD-IBM-M

Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx  
make break keyboard



Select KBD-IBM-MB

USB Keyboard with alternate key encoding



Select USB Alternate Keyboard



**KEYBOARD (continued)**

USB Keyboard for Apple computers



Select USB-KBD-APPLE

Keyboard Wedge for DIGITAL Terminals  
VT2xx, VT3xx, VT4xx

Select KBD-DIG-VT

USB Keyboard with standard key encoding



Select USB Keyboard

**Scancode Tables**

Reference the QuickScan™ PRG for information about control character emulation which applies to keyboard interfaces.

**Country Mode**




This feature specifies the country/language supported by the keyboard when configured through the base. See "Country Mode" on page 16 for programming bar codes and information.

**Caps Lock State**

This option specifies the format in which the reader sends character data. See "Caps Lock State" on page 20 for programming bar codes and information.

## Numlock

This option specifies the setting of the Numbers Lock (Numlock) key while in keyboard wedge interface. This only applies to alternate key encoding interfaces. It does not apply to USB keyboard.

NUMLOCK
 ENTER/EXIT PROGRAMMING MODE
 Numlock = Numlock key unchanged
 Numlock = Numlock key toggled

## Reading Parameters

Point the reader at the target and pull the trigger to enable the aiming system and the illuminator (red beam) to decode the barcode label. The aiming system will briefly switch off during the acquisition time and if no code is decoded will switch on again before the next acquisition. The illuminator will remain on until the symbol is decoded.

As you read code symbols, adjust the distance at which you are holding the reader.

### Aiming System

A number of options for customizing control of the Aiming System are available. See the PRG for more information and programming bar codes.

## Good Read Green Spot Duration

Successful reading can be signaled by a good read green spot. Use the bar codes below to specify the duration of the good read pointer beam after a good read.

### GOOD READ GREEN SPOT DURATION



ENTER/EXIT PROGRAMMING MODE



Green Spot Duration = Disable (Green Spot is Off)



◆ Green Spot Duration = Short (300 msec)



Green Spot Duration = Medium (500 msec)



Green Spot Duration = Long (800 msec)

# Scan Modes

The imager can operate in one of several scanning modes.

**Trigger Single** — When the trigger is pulled, scanning is activated until one of the following occurs:

- a programmable duration<sup>1</sup> has elapsed
- a label has been read
- the trigger is released

This mode is associated with typical handheld reader operation.

**Trigger Hold Multiple** — When the trigger is pulled, scanning starts and the product scans until the trigger is released or a programmable duration<sup>1</sup> has elapsed. Reading a label does not disable scanning. Double Read Timeout<sup>1</sup> prevents undesired multiple reads while in this mode.

**Trigger Pulse Multiple** — When the trigger is pulled and released, scanning is activated until programmable duration<sup>1</sup> has elapsed or the trigger has been pulled again to transition to another state. Double Read Timeout<sup>1</sup> prevents undesired multiple reads while in this mode.

**Flashing** — The reader flashes<sup>1</sup> on and off regardless of the trigger status.

**Always On** — No trigger pull is required to read a bar code. Scanning is continually on. If the trigger is pulled, the reader acts as if it is in Trigger Single Mode. Double Read Timeout<sup>1</sup> prevents undesired multiple reads while in this mode.

**Stand Mode** — No trigger pull is required to read a bar code. Scanning is turned on automatically when an item is placed in the reader's field of view.



## NOTE

**If you are using a SMART STAND like the STD-AUTO-QD24-BK or WH, or the STD-AUTFLX-QD24-BK or WH, Stand Mode is turned on automatically when the scanner is positioned into the stand and, if the trigger is pulled, the reader acts as if it is in single read mode.**

Double Read Timeout<sup>1</sup> prevents undesired multiple reads while in this mode.

1. See the Product Reference Guide (PRG) for more information

**SCAN MODES**

ENTER/EXIT PROGRAMMING MODE



◆ Scan Mode = Trigger Single



Scan Mode = Trigger Hold Multiple



Scan Mode = Trigger Pulse Multiple



Scan Mode = Flashing



Scan Mode = Always On



Scan Mode = Stand Mode

## Pick Mode

Pick Mode is a Decoding and Transmission process where bar codes that are not within the configurable distance from the center of the aiming pattern are not acknowledged or transmitted to the host. It is active only while the scanner is in Trigger Single mode. If the scanner switches to a different Read Mode, Pick Mode is automatically disabled.



### NOTE

**This feature is not compatible with Multiple Labels Reading in a Volume. See the PRG for more information.**

### PICK MODE



ENTER/EXIT PROGRAMMING MODE



◆ Pick Mode = Disable



Pick Mode = Enable

## Multiple Labels in a Volume

Enables/disables the ability of scanner to decode multiple labels in the same image. Several programming options are available for this feature, see the PRG for more information.

# Technical Specifications

The following table contains Physical and Performance Characteristics, User Environment and Regulatory information.

<b>Physical Characteristics</b>	
Color	White or Black
Dimensions	Height 6.4"/163 mm Length 3.6"/91 mm Width 1.6"/41 mm
Weight (without cable)	Approximately 200 g (reader) 230 g (base charger)
<b>Electrical Characteristics</b>	
Battery Type	Li-Ion battery pack
Typical charge time for full charge from full discharge	6 hours with Host Power through the micro USB cable connection
	4 hours with Base and 12V external power supply adapter <sup>a</sup>
	Max 22 hours with Base and Host power (in this case no supply adapter is needed) <sup>a</sup>
Operating autonomy (continuous reading)	30,000 reads (typical)
Cradle consumption and DC input supply range	Volt 4.75-14 VDC; Power <8W <sup>b</sup> ; Max 500mA when in host/bus powered mode <sup>b</sup> .

<b>Performance Characteristics</b>	
Light Source	LEDs
Roll (Tilt) Angle <sup>c</sup>	Up to $\pm 180^\circ$
Pitch Angle <sup>c</sup>	$\pm 40^\circ$
Skew (Yaw) Angle <sup>c</sup>	$\pm 40^\circ$
Field of View	40° H x 26° V

- a. Charge Times are much lower when battery is within daily typical operating condition.
- b. Typical input current measured under factory default configuration.
- c. Based on ISO 15423 specifications

<b>Depth of Field (Typical)<sup>a</sup></b>	
Symbology	
Code 39	5mil: 0.2" - 5.9" (0.5 - 15cm) 10mil: 0" - 8.7" (0 - 22cm) 20mil: up to 16" (40cm)
EAN	7.5mil: 0" - 5.9" (0 - 15cm) 13mil: 0.2" - 13.8" (0.5 - 35cm)
PDF-417	6.6mil: 0.39" - 5.1" (1.0 - 130cm) 10mil: 0" - 8.3" (0 - 21cm) 15mil: 0.2" - 9.5" (0.5 - 24cm)
DataMatrix	10mil: 0.39" - 5.1" (1.0 - 13 cm) 15mil: 0" - 7.1" (0 - 18cm)
QR Code	10mil: 0.2" - 5.1" (0.5 - 13cm) 15mil: 0" - 7.1" (0 - 18cm)
Minimum Element Width	Standard Range: 1D Min Resolution = 4 mil PDF-417 Min Resolution = 5 mil Datamatrix Min Resolution = 7.5 mil
Print Contrast Minimum	25% minimum reflectance

- a. 13 mils DOF based on EAN. All other 1D codes are Code 39. All labels grade A, typical environmental light, 20°C, label inclination 10°



## Decode Capability

### 1D Bar Codes

UPC/EAN/JAN (A, E, 13, 8); UPC/EAN/JAN (including P2 /P5); UPC/EAN/JAN (including; ISBN / Bookland & ISSN); UPC/EAN Coupons; Code 39 (including full ASCII); Code 39 Trioptic; Code39 CIP (French Pharmaceutical); LOGMARS (Code 39 w/ standard check digit enabled); Danish PPT; Code 32 (Italian Pharmacode 39); Code 128; Code 128 ISBT; Interleaved 2 of 5; Standard 2 of 5; Interleaved 2 of 5 CIP (HR); Industrial 2 of 5; Discrete 2 of 5; Datalogic 2 of 5 (China Post Code/Chinese 2 of 5); IATA 2of5 Air cargo code; Code 11; Codabar; Codabar (NW7); ABC Codabar; Code 93; MSI; PZN; Plessey; Anker Plessey; Follet 2 of 5; GS1 DataBar Omnidirectional; GS1 DataBar Limited; GS1 DataBar Expanded; GS1 DataBar Truncated; DATABAR Expanded Coupon.

### 2D / Stacked Codes

The QuickScan QBT2400 scanner is capable of decoding the following symbologies using multiple frames (i.e. Multi-Frame Decoding):

PDF-417; QR Code; Aztec; Datamatrix; Inverse Datamatrix; Datamatrix is configurable for the following parameters; Normal or Inverted; Square or Rectangular Style; Data length (1 - 3600 characters); Maxicode; QR Codes (QR, Micro QR and Multiple QR Codes); Aztec; Postal Codes; Australian Post; Japanese Post; KIX Post; Planet Code; Postnet; Royal Mail Code (RM45CC); Intelligent Mail Bar Code (IMB); Sweden Post; Portugal Post; LaPoste A/R 39; 4-State Canada; PDF-417; MacroPDF; Micro PDF417; GS1 Composites (1 - 12); Codablock F; French CIP13<sup>a</sup>; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded Stacked; GS1 Databar Composites; Chinese Sensible Code; Inverted 2D codes.

Note: The reader can apply the Normal/Reverse Decoding Control to the following symbologies: Datamatrix, QR, Micro QR, Aztec and Chinese Sensible Code.

### Interfaces Supported<sup>b</sup>

RS-232 Std, RS-232 Wincor-Nixdorf, RS-232 OPOS, USB Com Std., USB Keyboard, USB Alternate Keyboard, USB OEM, Keyboard Wedge (AT with or w/o Alternate Key, IBM AT PS2 with or w/o Alternate Key, PC-XT, IBM 3153, IBM Terminals 31xx, 32xx,34xx, 37xx make only and make break keyboard, Digital Terminals VT2x, VT3xx, VT4xx, and Apple).

<b>User Environment</b>	
Operating Temperature	32° to 122° F (0° to 50° C)
Charging Temperature	32° to 104° F (0° to 40° C)
Storage Temperature	-4° to 158° F (-20° to 70° C)
Humidity	Operating: 5% to 90% relative humidity, non-condensing
Drop Specifications	Scanner withstands 18 drops from 1.5 m (4.9 feet) to concrete
Ambient Light Immunity	Up to 100,000 Lux
Contaminants Spray/rain Dust/particulates	IEC 529-IP42 (scanner only)
ESD Level	16 KV
<b>Regulatory</b>	
See the Regulatory Addendum for details.	
<b>Radio Features</b>	
Frequency Range	2400 to 2483.5 MHz
Range (in open air)	25 m

- a. It is acceptable to handle this with ULE
- b. See "Interface Selection" on page 21 for a listing of available interface sets by version type.

## LED and Beeper Indications

The reader's beeper sounds and its LED illuminates to indicate various functions or errors on the reader. An optional 'Green Spot' also performs useful functions. The following tables list these indications. One exception to the behaviors listed in the tables is that the reader's functions are programmable, and so may or may not be turned on. For example, certain indications such as the power-up beep can be disabled using programming bar code labels.

Indication	Description	LED	Beeper
Power-up Beep	The reader is in the process of power-ing-up.	N/A	Reader beeps four times at highest frequency and volume upon power-up.
Good Read Beep	A label has been successfully scanned by the reader.	LED behavior for this indication is configurable via the feature 'Good Read: When to Indicate' (see the PRG for information.)	The reader will beep once at current frequency, volume, mono/ bi-tonal setting and duration upon a successful label scan.
ROM Failure	There is an error in the reader's software/programming	Flashes	Reader sounds one error beep at highest volume.
Limited Scanning Label Read	Indicates that a host connection is not established when the IBM or USB interface is enabled.	N/A	Reader 'chirps' six times at the highest frequency and current volume.
Reader Active Mode	The reader is active and ready to scan.	The LED is lit steadily <sup>a</sup>	N/A
Reader Disabled	The reader has been disabled by the host.	The LED blinks continuously	N/A

Indication	Description	LED	Beeper
Green Spot <sup>a</sup> flashes momentarily	Upon successful read of a label, the software shall turn the green spot on for the time specified by the configured value.	N/A	N/A

a Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

**Programming Mode** - The following indications ONLY occur when the reader is in Programming Mode.

Indication	Description	LED	Beeper
Label Programming Mode Entry	A valid programming label has been scanned.	LED blinks continuously	Reader sounds four low frequency beeps.
Label Programming Mode Rejection of Label	A label has been rejected.	N/A	Reader sounds three times at lowest frequency and current volume.
Label Programming Mode Acceptance of Partial Label	In cases where multiple labels must be scanned to program one feature, this indication acknowledges each portion as it is successfully scanned.	N/A	Reader sounds one short beep at highest frequency and current volume.
Label Programming Mode Acceptance of Programming	Configuration option(s) have been successfully programmed via labels and the reader has exited Programming Mode.	N/A	Reader sounds one high frequency beep and 4 low frequency beeps followed by reset beeps.
Label Programming Mode Cancel Item Entry	Cancel label has been scanned.	N/A	Reader sounds two times at low frequency and current volume.

## Error Codes

Upon startup, if the reader sounds a long tone, this means the reader has not passed its automatic Selftest and has entered FRU (Field Replaceable Unit) isolation mode. If the reader is reset, the sequence will be repeated. The following table describes the LED flashes/beep codes associated with an error found.

Number of LED Flashes/Beeps	Error	Corrective Action
1	Configuration	Contact Helpdesk for assistance
2	Interface PCB	
6	Digital PCB	
12	Imager	

## Base Station Indications

Indication	LEDs
Power-up Complete	Yellow LED on
Reader Disabled by the HOST or the communication with HOST is not established	Yellow LED blinking ~1Hz
Data/labels are transmitted to the HOST	Yellow LEDs turned off for 100mSec
Programming Mode	Yellow LED blinks quickly
Configuration alignment with the HH is in progress	Red LED blinks quickly
Battery charger in progress	Red LED on
Battery charger complete	Green LED on
Battery charger error	Green LED and Red LEDs blink alternatively ~1Hz
No HH is placed on the cradle	Red and Green LEDs off

## **Datalogic Limited Factory Warranty**

### **Warranty Coverage**

Datalogic hardware products are warranted against defects in material and workmanship under normal and proper use. The liability of Datalogic under this warranty is limited to furnishing the labor and parts necessary to remedy any defect covered by this warranty and restore the product to its normal operating condition. Repair or replacement of product during the warranty does not extend the original warranty term. Products are sold on the basis of specifications applicable at the time of manufacture and Datalogic has no obligation to modify or update products once sold.

If Datalogic determines that a product has defects in material or workmanship, Datalogic shall, at its sole option repair or replace the product without additional charge for parts and labor, or credit or refund the defective products duly returned to Datalogic. To perform repairs, Datalogic may use new or reconditioned parts, components, subassemblies or products that have been tested as meeting applicable specifications for equivalent new material and products. Customer will allow Datalogic to scrap all parts removed from the repaired product. The warranty period shall extend from the date of shipment from Datalogic for the duration published by Datalogic for the product at the time of purchase (Warranty period). Datalogic warrants repaired hardware devices against defects in workmanship and materials on the repaired assembly for a 90 day period starting from the date of shipment of the repaired product from Datalogic or until the expiration of the original warranty period, whichever is longer. Datalogic does not guarantee, and it is not responsible for, the maintenance of, damage to, or loss of configurations, data, and applications on the repaired units and at its sole discretion can return the units in the "factory default" configuration or with any software or firmware update available at the time of the repair (other than the firmware or software installed during the manufacture of the product). Customer accepts responsibility to maintain a back up copy of its software and data.

### **Warranty Claims Process**

In order to obtain service under the Factory Warranty, Customer must notify Datalogic of the claimed defect before the expiration of the applicable Warranty period and obtain from Datalogic a return authorization number (RMA) for return of the product to a designated Datalogic service center. If Datalogic determines Customer's claim is valid, Datalogic will

repair or replace product without additional charge for parts and labor. Customer shall be responsible for packaging and shipping the product to the designated Datalogic service center, with shipping charges prepaid. Datalogic shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Datalogic service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations. Failure to follow the applicable RMA policy, may result in a processing fee. Customer shall be responsible for return shipment expenses for products which Datalogic, at its sole discretion, determines are not defective or eligible for warranty repair.

## Warranty Exclusions

The Datalogic Factory Warranty shall not apply to:

- (i) any product which has been damaged, modified, altered, repaired or upgraded by other than Datalogic service personnel or its authorized representatives;
- (ii) any claimed defect, failure or damage which Datalogic determines was caused by faulty operations, improper use, abuse, misuse, wear and tear, negligence, improper storage or use of parts or accessories not approved or supplied by Datalogic;
- (iii) any claimed defect or damage caused by the use of product with any other instrument, equipment or apparatus;
- (iv) any claimed defect or damage caused by the failure to provide proper maintenance, including but not limited to cleaning the upper window in accordance with product manual;
- (v) any defect or damage caused by natural or man-made disaster such as but not limited to fire, water damage, floods, other natural disasters, vandalism or abusive events that would cause internal and external component damage or destruction of the whole unit, consumable items;
- (vi) any damage or malfunctioning caused by non-restoring action as for example firmware or software upgrades, software or hardware reconfigurations etc.;
- (vii) the replacement of upper window/cartridge due to scratching, stains or other degradation and/or
- (viii) any consumable or equivalent (e.g., cables, power supply, batteries, keypads, touch screen, triggers etc.).

## No Assignment

Customer may not assign or otherwise transfer its rights or obligations under this warranty except to a purchaser or transferee of product. No attempted assignment or transfer in violation of this provision shall be valid or binding upon Datalogic.

DATALOGIC'S LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, ORAL OR WRITTEN, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. DATALOGIC SHALL NOT BE LIABLE FOR ANY DAMAGES SUSTAINED BY CUSTOMER ARISING FROM DELAYS IN THE REPLACEMENT OR REPAIR OF PRODUCTS UNDER THE ABOVE. THE REMEDY SET FORTH IN THIS WARRANTY STATEMENT IS THE CUSTOMER'S SOLE AND EXCLUSIVE REMEDY FOR WARRANTY CLAIMS. UNDER NO CIRCUMSTANCES WILL DATALOGIC BE LIABLE TO CUSTOMER OR ANY THIRD PARTY FOR ANY LOST PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL IN-DIRECT, SPECIAL OR CONTINGENT DAMAGES REGARDLESS OF WHETHER DATALOGIC HAD ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

### **Risk of Loss**

Customer shall bear risk of loss or damage for product in transit to Datalogic. Datalogic shall assume risk of loss or damage for product in Datalogic's possession. In the absence of specific written instructions for the return of product to Customer, Datalogic will select the carrier, but Datalogic shall not thereby assume any liability in connection with the return shipment.



## Ergonomic Recommendations



**CAUTION**

In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company's safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion
- Maintain a natural position
- Reduce or eliminate excessive force
- Keep objects that are used frequently within easy reach
- Perform tasks at correct heights
- Reduce or eliminate vibration
- Reduce or eliminate direct pressure
- Provide adjustable workstations
- Provide adequate clearance
- Provide a suitable working environment
- Improve work procedures.

## Cleaning

Exterior surfaces and scan windows exposed to spills, smudges or debris require periodic cleaning to ensure best performance during scanning operations. Contacts on the scanner and the base should also be cleaned as needed to ensure a good connection.

Be sure to unplug the reader and base before cleaning.

Use a soft, dry cloth to clean the product. If the product is very soiled, clean it with a soft cloth moistened with a diluted non-aggressive cleaning solution or diluted ethyl alcohol.



**CAUTION**

**Do not use abrasive or aggressive cleansing agents or abrasive pads to clean scan windows, contacts or plastics.**

**Do not spray or pour liquids directly onto the unit.**

## Cleaning (continued)



## Support Through the Website

Datalogic provides several services as well as technical support through its website.

Log on to [www.datalogic.com](http://www.datalogic.com) and click on the **SUPPORT > GENERAL DUTY HANDHELD SCANNERS** category link. From this page you can select your product model from the dropdown list which gives you access to:

**Downloads** including Data Sheets, Manuals, Software & Utilities, and Drawings;

**Repair Program** for On-Line Return Material Authorizations (RMAs) plus Repair Center contact information;

**Service Program** containing details about Maintenance Agreements;

**Technical Support** through email or phone.

## Hex-Numeric Keypad

Use the bar codes that follow to enter numbers as you would select digits/characters from a keypad.



0



1



2



3



4



5

## Hex-Numeric Keypad (continued)



6



7



8



9

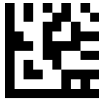


A



B

## Hex-Numeric Keypad (continued)



C



D



E



F

**For HID Variable Pin Code only**

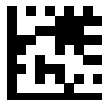
If you make a mistake, scan the **CANCEL** barcode below to abort and not save the entry string. You can then restart.



Cancel an incomplete HID Variable PIN Code

Finish by scanning the **Exit HID Variable PIN Code** label.

Exit HID Variable PIN Code



# NOTES

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(Rev C)

June 2017