DATALOGIC

QuickScan™ QM2400

General Purpose Handheld Area Imager Bar Code Reader with Datalogic's STAR Cordless System™

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Quick Reference Guide

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Disclaimer

Patents

See www.patents.datalogic.com for patent list.

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- END -

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QuickScan™ QM2400

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 QM2400 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.

Omni-Directional Operation	To read a symbol simply aim the reader and pull the trigger. The QuickScan™ QM2400 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.
Decoding	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 13).
5. Configure the Reader starting on page 12 (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 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.

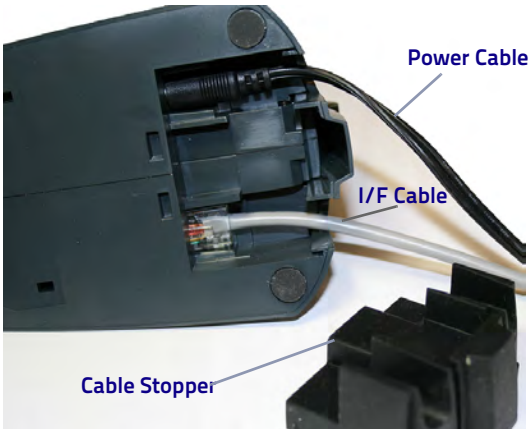
NOTE

The QuickScan QM2400 reader can also be Powered by the Terminal. When powered by the Terminal, the battery charger is automatically set as Slow charge.

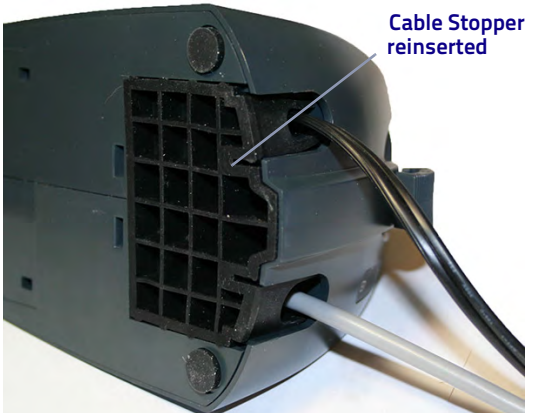
For some specific interfaces or hosts or lengths of cable, the use of an external power supply may be recommended for full recharging capability (see "Technical Specifications" on page 29 for more details).

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.

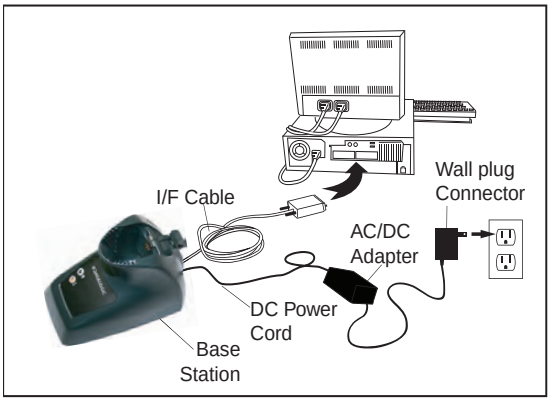


3. After the cables are plugged in, reinsert the rubber Cable Stopper.



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

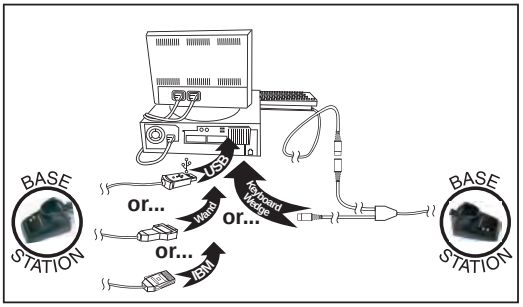
Figure 3. Connecting the Base Station



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

Most connections plug directly into the host device as shown in Figure 4. Keyboard Wedge interface cables have a 'Y' connection 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

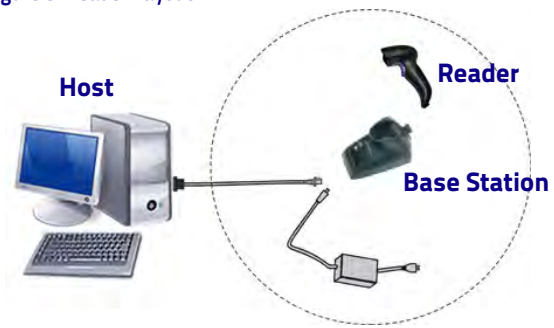


Power Connection — Plug the AC Adapter into an approved AC wall socket with the cable facing downwards (as shown in Figure 3) to prevent undue strain on the socket.

System and Network Layouts

Stand Alone Layout

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
ϟ	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

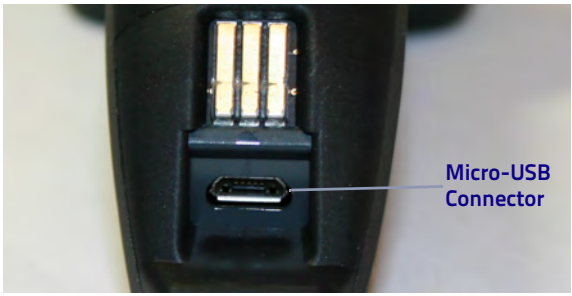
To charge the battery, simply insert the QuickScan reader into the base. When the scanner is fully seated in the cradle, it will sound a 'chirp" to indicate that the cradle has detected the scanner connection.

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 Addendum for this manual. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

Alternatively, 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 below.



Replacing the Battery Pack

NOTE

Before proceeding, read "Battery Safety" in the Regulatory Addendum for this manual. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

1. Using a coin or a screwdriver, unscrew the captive screw located on 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.

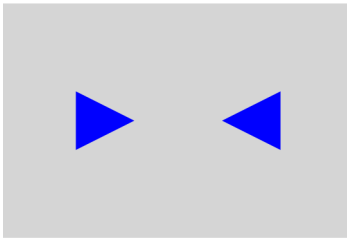
To mount the new battery pack reverse the process:

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 contact springs) so that the edges of the pack and the handle board are aligned, while tightening the captive screw in the bottom of the handle.

Using the Quickscan™ QM2400

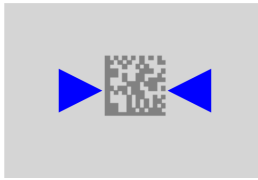
The Quickscan™ QM2400 normally functions by capturing and decoding codes. The aiming system is activated on trigger pull and indicates the center of the field of view which should be positioned over the bar code:

Aiming System



Relative Size and Location of Aiming System Pattern

Linear bar code



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. 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.

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 QM2400 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, either press the trigger to wake it, or simply mount into the base to wake up for operation. If the reader was previously linked to another base, you must first scan the **Unlink** bar code before re-linking to the new base.

Unlink

Power Off

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

PowerOff

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). Check the corresponding features section for your interface, and also the Data Editing and Symbologies chapters.

The reader can also be configured with Datalogic Aladdin™ software (available on the Datalogic website). Aladdin provides RS-232 interface configuration, as well as bar code printing.

Using Programming Bar Codes

This manual contains bar codes which allow you to reconfigure your reader. Some programming bar code labels, like the "Standard Product Default Settings" on page 12, 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 in the PRG to allow for customizing programming features. If your installation requires different programming than the standard factory default settings, refer to the PRG.

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 **Standard Product Default Settings** 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

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 QuickScan 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 the disabled state when powered up. If additional scanner configuration is desired while in this state, pull the trigger and hold for 5 seconds. The scanner will 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[a]
USB-OEM
USB-OEM (can be used for OPOS/UPOS/JavaPOS)  Select USB-OEM
a. Download the correct USB COM driver from www.datalogic.com

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 QM2400 ™ PRG for information about control character emulation which applies to keyboard interfaces.

Country Mode

This feature specifies the country/language supported by the keyboard. Only these 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 Country Modes: 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 = Croatia*

*Supports only the interfaces listed in the Country Mode feature description

COUNTRY MODE (continued)
 Country Mode = Czech Republic*
 Country Mode = Denmark*
 Country Mode = France
 Country Mode = Germany
 Country Mode = Hungary*
 Country Mode = Italy

*Supports only the interfaces listed in the Country Mode feature description

COUNTRY MODE (continued)
 Country Mode = Japanese 106-key*
 Country Mode = Norway*
 Country Mode = Poland*
 Country Mode = Portugal*
 Country Mode = Romania*
 Country Mode = Spain

*Supports only the interfaces listed in the Country Mode feature description

COUNTRY MODE (continued)
 Country Mode = Sweden
 Country Mode = Slovakia*
 Country Mode = Switzerland*

*Supports only the interfaces listed in the Country Mode feature description

Caps Lock State

This option specifies the format in which the reader sends character data. This applies to keyboard wedge interfaces. This does not apply when an alternate key encoding keyboard is selected.

ENTER/EXIT PROGRAMMING MODE

Caps Lock State = Caps Lock OFF

Caps Lock State = Caps Lock ON

Caps Lock State = AUTO Caps Lock Enable

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.

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 bar code 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.

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[1] 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[1] has elapsed. Reading a label does not disable scanning. Double Read Timeout[1] prevents undesired multiple reads while in this mode.

Trigger Pulse Multiple — When the trigger is pulled and released, scanning is activated until programmable duration1 has elapsed or the trigger has been pulled again to transition to another state. Double Read Timeout[1] prevents undesired multiple reads while in this mode.

Flashing — The reader flashes[1] 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[1] 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[1] prevents undesired multiple reads while in this mode.

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

SCAN MODE

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.

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.

Physical Characteristics	
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)
Electrical Characteristics	
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[a]
	Max 22 hours with Base and Host power (in this case no supply adapter is needed)[a]
Operating autonomy (continuous reading)	30,000 reads (typical)
Cradle consumption and DC input supply range	Volt 4.75-14 VDC; Power <8W[b]; Imax 500mA when in host/bus powered mode[b].

Performance Characteristics	
Light Source	LEDs
Roll (Tilt) Angle[c]	Up to ± 180°
Pitch Angle[c.]	± 40°
Skew (Yaw) Angle[c.]	± 40°
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.

Depth of Field (Typical)[a]	
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

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 QM2400 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[a]; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded Stacked; GSI 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[b]

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).

User Environment	
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 meters (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

a. It is acceptable to handle this with ULE

b. See "Interface Selection" on page 13 for a listing of available interface sets by version type.

Regulatory	
Electrical Safety	UL 60950, CSA C22.2 No. 60950, IEC 60950
EMI/RFI	Europe; Russia; Australia; China; Singapore; Mexico

Radio Features	
Frequency working center	433MHz
Range (in open air)	25 m
Max number of devices per base station	16

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 powering-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[a]	N/A

Indication	Description	LED	Beeper
Reader Disabled	The reader has been disabled by the host.	The LED blinks continuously	N/A
Green Spot[a] 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 ADC Limited Factory Warranty

Warranty Coverage

Datalogic ADC ('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

To avoid or minimize potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure 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 frequently used objects 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. Contacts on the scanner and base should also be cleaned as needed to ensure a good connection.

Be sure to unplug the product from electrical outlet 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.

Services and Support

Datalogic provides several services as well as technical support through its website. Log on to **www.datalogic.com** and click on the links indicated for further information.

Products

Search to find your product page where you can download specific **Manuals** and **Software & Utilities**, including:

- **Datalogic Aladdin™**, a multi-platform utility program that allows device configuration using a PC. It provides RS-232 interface configuration as well as bar code printing.

Service & Support

- **Technical Support** –Product documentation and programming guides and Technical Support Departments over the world
- **Service Programs** –Warranty Extensions and Maintenance Agreements
- **Repair Services** – Flat Rate Repairs and Return Material Authorization (RMA) Repairs.
- **Downloads** – Manuals & Documentation, Data Sheets, Product Catalogues, etc.

Contact Us

- Information Request Form and Sales & Service Network

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820066914 (Rev B) June 2015