HP Value Wireless Barcode Scanner

User Guide

About This Guide

This guide provides information on setting up and using the HP Value Wireless Barcode Scanner.

⚠ **WARNING!**   Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

⚠ **CAUTION:**   Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

📝 **NOTE:**   Text set off in this manner provides important supplemental information.

Table of contents

1 Quick setup

Use the bar codes in this chapter to perform quick setup procedures for common tasks.

Scan the following bar codes in the order listed below to set the scanner back to the HP defaults.

Figure 1-1 Set Base Defaults

NOTE: Scanning the "Set Base Defaults" bar code does not change the interface type.

Figure 1-2 Enter Programming Mode

Figure 1-3 Set HP Defaults

Figure 1-4 Exit Programming Mode

OPOS driver

The scanner by default is shipped in the human interface device (HID) keyboard emulation mode. In order to use the barcode scanner with OLE for Retail POS (OPOS) drivers the scanner must be put into USB COM (OPOS) mode.

For your convenience the bar code to put the scanner into USB COM (OPOS) mode or into HID keyboard emulation are located in this document. Refer to the *Programming Reference Guide* (PRG) for complete list of barcodes. The document can be found on the HP Point of Sale System Software and Documentation CD that comes with the scanner or the softpaq that is located on the HP support web site.

Scan the following bar code (USB COM OPOS) in order to put the scanner into the mode to be used with the OPOS drivers.

Figure 1-5 SB COM (OPOS)

Carriage return

Scan the following bar code to set the scanner back to the factory defaults.

Figure 1-6 Set Base Defaults

NOTE: Scanning the "Set Base Defaults" bar code does not change the interface type.

If a carriage return is required after each scanned bar code, scan the following bar codes in order:

Figure 1-7 Enter Programming Mode

Figure 1-8 Set HP Defaults

Figure 1-9 Set Global Suffix

Figure 1-10 0

Figure 1-11 D

Figure 1-12 Exit Global Suffix Mode

Figure 1-13 Exit Programming Mode

Tab

Scan the following bar code to set the scanner back to the factory defaults.

Figure 1-14 Set Base Defaults

NOTE: Scanning the "Set Base Defaults" bar code does not change the interface type.

If a tab is required after each scanned bar code, scan the following bar codes in order:

Figure 1-15 Enter Programming Mode

Figure 1-16 Set HP Defaults

Figure 1-17 Set Global Suffix

Figure 1-18 0

Figure 1-19 9

Figure 1-20 Exit Global Suffix Mode

Figure 1-21 Exit Programming Mode

Volume

Scan the following bar code to set the scanner back to the factory defaults.

Figure 1-22 Set Base Defaults

Scan the following barcode to set the volume of the good read beep on the scanner:

Figure 1-23 Enter Programming Mode

Scan one of the four barcodes to set the volume to the desired setting:

Figure 1-24 Set HP Defaults
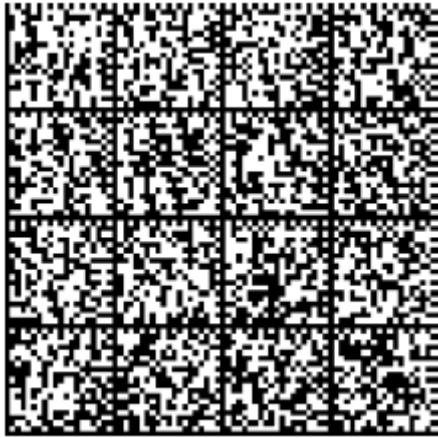
Figure 1-25 Off

Figure 1-26 Low

Figure 1-27 Medium

Figure 1-28 High

2 Product features

HP Value Wireless Barcode Scanner

With rich feature sets and extensive options, the HP Value Wireless Barcode Scanner represents the premium level of data collection equipment for general purpose applications. The HP scanner has enhanced optics with improved motion tolerance, allowing codes placed on fast-moving objects to be easily and quickly captured, creating the ideal scanner for tasks requiring high throughput like those found in retail and light industrial environments. The scanner includes the following features:

- **Omni-Directional Operation**: To read a symbol simply aim the scanner and pull the trigger. The HP Value Wireless Barcode Scanner is a powerful omni-directional scanner, so the orientation of the symbol is not important. The "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 aiming pattern 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 scanner is immediately available to read another symbol.

3 Safety and maintenance

Ergonomic recommendations

⚠ **WARNING!** 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.

Figure 3-1 Cleaning
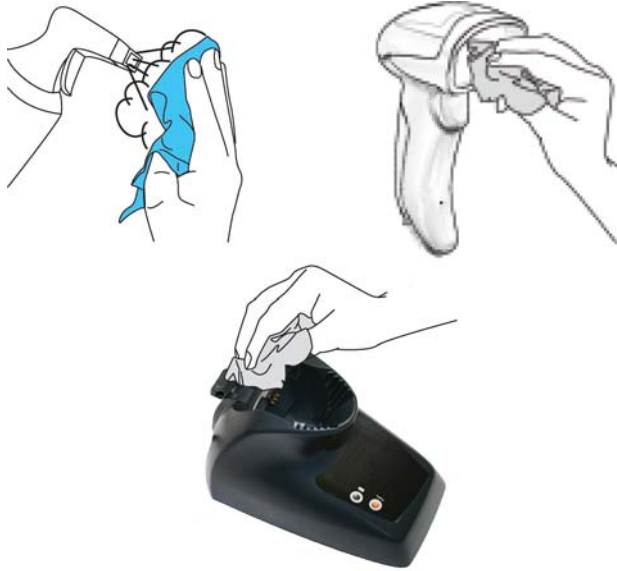
Use a soft, dry cloth to clean the product. If the product is very soiled, clean it with a soft cloth moistened with a diluted non-aggressive cleaning solution or diluted ethyl alcohol.

⚠ **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.

4 Setting up and using the scanner

Follow the steps below to connect and get the scanner up and communicating with its host.

1. Configure the Base Station starting on this page.

2. Charge the Batteries (refer to Charging the batteries on page 15).

3. Link to the Base Station (refer to Linking the scanner on page 19).

4. Select the Interface Type (refer to Selecting the base interface type on page 25).

5. Configure the scanner as described in Programming the scanner on page 29 (optional, depends on settings needed).

Locking the scanner to the base

The base station provides a locking mechanism to ensure electrical contact between the scanner and base in case of inadvertent movements.

Figure 4-1 Lock Lever

To lock the scanner to the base:

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

Figure 4-2 Lock Lever Disengaged

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

Figure 4-3 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

You can 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 scanner 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 (refer to Technical specifications on page 35 for more details).

Base station connection and routing

1. Remove the rubber cable stopper (1) from the bottom of the base station.

2. Securely plug the power cable (2) and interface cable (3) connectors into their respective ports in the underside of the base station.

   Figure 4-4 Connecting Cables
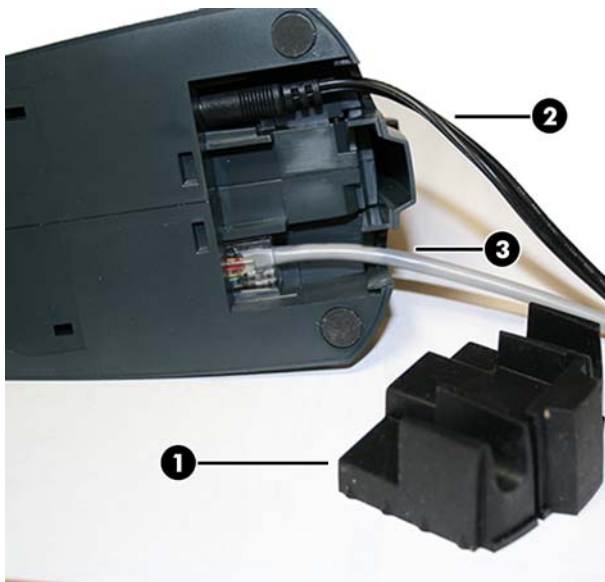
3. After the cables are plugged in, reinsert the cable stopper.

   Figure 4-5 Reinserting Cable Stopper
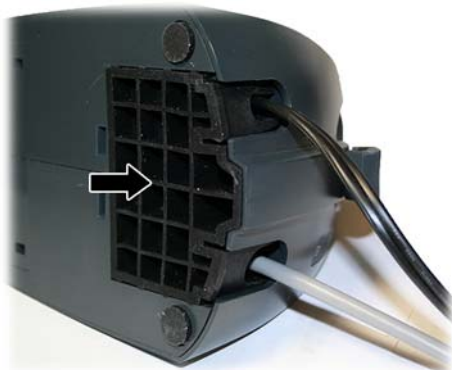
4. Connect to an AC adapter, and plug the AC power cord into the (wall) outlet.

Figure 4-6 Connecting the Base Station
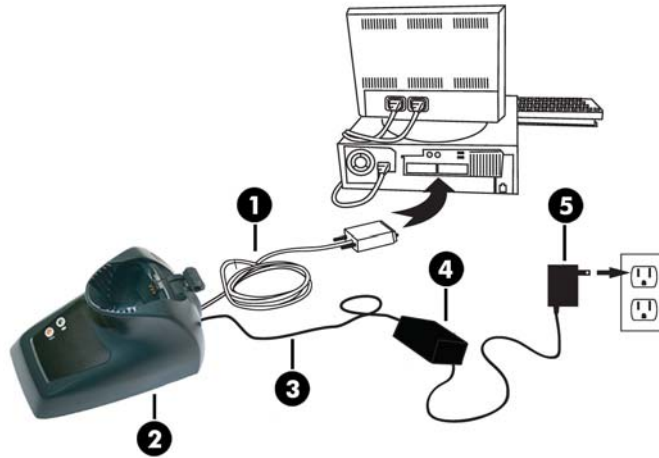
1	Interface cable	4	AC/DC adapter
2	Base station	5	Wall plug connector
3	DC power cord		

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

NOTE: The scanner 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 *Programming Reference Guide* (PRG) for information before proceeding.

Most connections plug directly into the host device as shown below. 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 4-7 Connecting to the Host
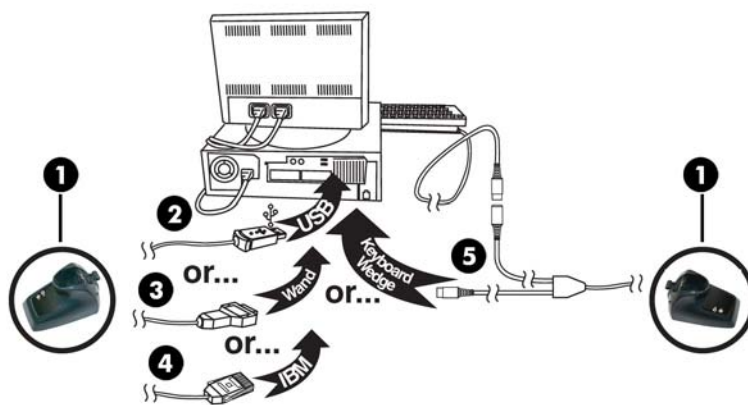
1	Base station	4	IBM

2	USB	5	Keyboard wedge
3	Wand		

Power Connection — Plug the AC adapter into an approved AC wall socket with the cable facing downwards to prevent undue strain on the socket.

System and network layout

The figure below shows the typical setup with the host and base station.

Figure 4-8 Scanner Layout
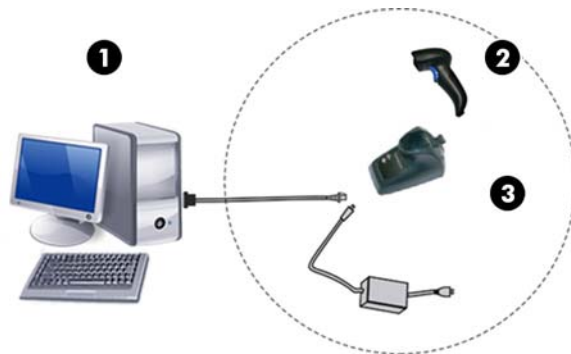
1	Host	3	Base station
2	Scanner		

Using the base

Base LEDs

LEDs on the base provide information about the base as well as battery charging status, as shown below.

Figure 4-9 Base Station LEDs

No.	Icon	LED	STATUS
1	⚡	Power on / Data	Yellow On = Base is powered. Yellow Blinking = Base receives data and commands from the host or the scanner.

No.	Icon	LED	STATUS
2		Charging	Red On = the Battery is charging.
2		Charge completed	Green On = the Battery is completely charged.
2		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 below.

Figure 4-10 Micro USB Connector
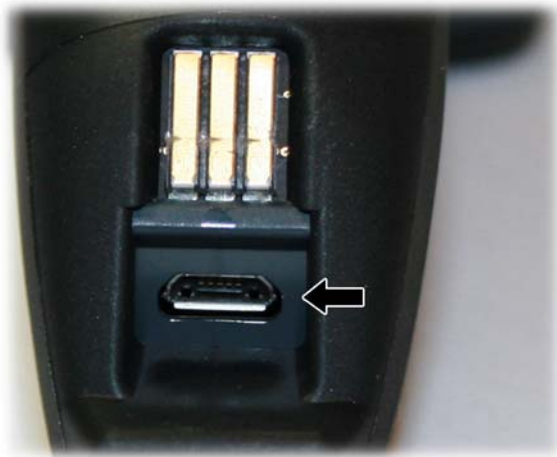
Alternatively, simply insert the scanner into the base. When the scanner is fully seated in the cradle, it will sound a "chirp" to indicate that the cradle has detected the scanner connection.

The LEDs on the base (as shown in Base LEDs on page 14) will indicate the status of the battery.

NOTE: Before using the battery, read "Battery Safety" in the following section. HP recommends annual replacement of rechargeable battery packs to ensure maximum performance.

Battery safety

To install, charge, and/or perform any other action on the battery, follow the instructions in this manual.

⚠ **WARNING!** Do not discharge the battery using any device except for the scanner. When the battery is used in devices other than the designated product, it may damage the battery or reduce its life expectancy. If the device causes an abnormal current to flow, it may cause the battery to become hot, explode, or ignite and cause serious injury.

Lithium-ion battery packs may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed in this guide.

⚠ WARNING! Do not place the battery pack in fire or heat.

Do not connect the positive terminal and negative terminal of the battery pack to each other with any metal object (such as wire).

Do not carry or store the battery pack together with metal objects.

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

Do not solder directly onto the battery pack.

Do not expose the battery pack to liquids, or allow the battery to get wet.

Do not apply voltages to the battery pack contacts.

⚠ WARNING! In the event the battery pack leaks and the fluid gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

⚠ CAUTION: Always charge the battery at 32° – 104° F (0° – 40° C) temperature range.

Use only the authorized power supplies, battery pack, chargers, and docks supplied by your HP reseller. The use of any other power supplies can damage the device and void your warranty.

Do not disassemble or modify the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode, or ignite.

CAUTION: Do not place the battery in or near fire, on stoves or other high temperature locations.

Do not place the battery in direct sunlight, or use or store the battery inside cars in hot weather. Doing so may cause the battery to generate heat, explode, or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy.

CAUTION: Do not place the battery in microwave ovens, high-pressure containers, or on induction cookware.

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

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.

As with other battery types, Lithium-Ion (LI) batteries will lose capacity over time. Capacity deterioration is noticeable after one year of service whether the battery is in use or not. It is difficult to precisely predict the finite life of a LI battery, but cell manufacturers rate them at 500 charge cycles. In other words, the batteries should be expected to take 500 full discharge/charge cycles before needing replacement. This number is higher if partial discharging/recharging is adhered to rather than full/deep discharging.

⚠ CAUTION: Storage of batteries for a long time at fully charged status or at fully discharged status should be avoided.

CAUTION: Only in case of long storage, to avoid deep discharge of the battery it is recommended to partially recharge the battery every three months to keep the charge status at a medium level.

As a reference, run a fast recharge for 20 minutes every three months on unused products to avoid any performance deterioration of the cell.

The useful life of LI batteries depends on usage and number of charges, etc., after which they should be removed from service, especially in mission critical applications. Do not continue to use a battery showing excessive loss of capacity, it should be properly recycled / disposed of and replaced.

Collect and recycle waste batteries separately from the device to comply with European Directive 2006/66/EC, 2011/65/EU, 2002/96/EC, 2012/19/EU and subsequent modifications, US and China regulatory and other laws and regulations about the environment.

Replacing the battery pack

NOTE: Before proceeding, read "Battery Safety" on the preceding pages. HP recommends annual replacement of rechargeable battery packs to ensure maximum performance.

Use the following procedure to change the reader's battery:

1. Unscrew the bottom of the battery pack until it is disengaged.

   Figure 4-11 Battery Pack Screw

   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 it away from the scanner.

   Figure 4-12 Extracting the Battery Pack

To mount the new battery pack reverse the process:

1. Insert the top of the new pack inside the scanner'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 scanner

The scanner 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:

Figure 4-13 Aiming System
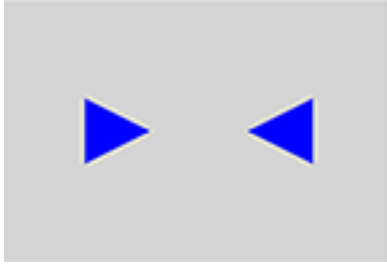
Figure 4-14 Linear bar code

Figure 4-15 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.

Refer to the *Programming Reference Guide* (PRG) for more information about this feature and other programmable settings.

Linking the scanner

Link 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 scanner 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.

Figure 4-16 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 "HP Wireless Bluetooth 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.

    Figure 4-17 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 "HP Wireless Bluetooth 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.

    Figure 4-18 Link to PC in HID

NOTE: The scanner 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, see the *Programming Reference Guide* (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 scanner. Read the bar code "Variable PIN Code" and restart the sequence from step 2 above.

Figure 4-19 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.

Figure 4-20 Exit HID Variable PIN Code
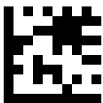
HID country mode

When the scanner 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" and read one of the configuration command labels.

HID caps lock state

This option specifies the format in which the scanner sendcharacter data. See Caps lock state on page 24 for programming labels.

HID alt mode

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

Figure 4-21 ENTER/EXIT PROGRAMMING MODE

Figure 4-22 HID Alt Mode = OFF

Power off

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

Figure 4-24 Power Off

Country mode

📝 **NOTE:** The following bar codes can be used either while in HID mode (when scanner 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.

Figure 4-25 ENTER/EXIT PROGRAMMING MODE

Figure 4-26 Country Mode = U.S.

Figure 4-27 Country Mode = Belgium

Figure 4-28 Country Mode = Britain

Figure 4-29 Country Mode = Croatia*

Figure 4-30 Country Mode = Czech Republic*

Figure 4-31 Country Mode = Denmark*

Figure 4-32 Country Mode = France

Figure 4-33 Country Mode = French Canadian*

Figure 4-34 Country Mode = Germany

Figure 4-35 Country Mode = Hungary*

Figure 4-36 Country Mode = Italy

Figure 4-37 Country Mode = Japanese 106-key*

Figure 4-38 Country Mode = Lithuanian*

Figure 4-39 Country Mode = Norway*

Figure 4-40 Country Mode = Poland*

Figure 4-41 Country Mode = Portugal*

Figure 4-42 Country Mode = Romania*

Figure 4-43 Country Mode = Spain

Figure 4-44 Country Mode = Sweden

Figure 4-45 Country Mode = Slovakia*

Figure 4-46 Country Mode = Switzerland*

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

Caps lock state

NOTE: 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 scanner 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.

Figure 4-47 ENTER/EXIT PROGRAMMING MODE

Figure 4-48 Caps Lock State = Caps Lock OFF

Figure 4-49 Caps Lock State = Caps Lock ON

Figure 4-50 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 PRG.

Configuring the interface

Scan the programming bar code which selects the appropriate interface type for the system the scanner 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.

Figure 4-51 Select RS-232 Standard Interface

Figure 4-52 Select RS-232 Wincor-Nixdorf

Figure 4-53 Select RS-232 OPOS/UPOS/JavaPOS

Figure 4-54 Select USB-COM-(to simulate RS-232 standard interface)

Figure 4-55 Select USB-OEM (can be used for OPOS/UPOS/JavaPOS)

Keyboard interface

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

Figure 4-56 Select KBD-AT (AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/ Standard Key Encoding)

Figure 4-57 Select KBD-AT-NK (Keyboard Wedge for IBM AT PS2 with standard key encoding but without external keyboard)

Figure 4-58 Select KBD-AT-ALT (AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95)

Figure 4-59 Select KBD-AT-ALT-NK (Keyboard Wedge for IBM AT PS2 with alternate key encoding but without external keyboard)

Figure 4-60 Select KBD-XT (PC/XT w/Standard Key Encoding)

Figure 4-61 Select KBD-IBM-3153 (Keyboard Wedge for IBM Terminal 3153)

Figure 4-62 Select KBD-IBM-M (Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx make only keyboard)

Figure 4-63 Select KBD-IBM-MB (Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx make break keyboard)

Figure 4-64 Select USB Alternate Keyboard (USB Keyboard with alternate key encoding)

Figure 4-65 Select USB-KBD-APPLE (USB Keyboard for Apple computers)

Figure 4-66 Select KBD-DIG-VT (Keyboard Wedge for DIGITAL Terminals VT2xx, VT3xx, VT4xx)

Figure 4-67 Select USB Keyboard (USB Keyboard with standard key encoding)

Scancode tables

Reference to the 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 21 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 24 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.

Figure 4-68 ENTER/EXIT PROGRAMMING MODE

Figure 4-69 Numlock = Numlock Key Unchanged

Figure 4-70 Numlock = Numlock Key Toggled

5 Programming the scanner

The scanner 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 the scanner through use of the programming bar codes available in the *Programming Reference Guide* (PRG). Check the corresponding features section for your interface, and also the Data Editing and Symbologies chapters of the PRG.

Using programming bar codes

This guide contains bar codes that allow you to reconfigure the scanner. Some programming bar code labels, like the "Standard Product Default Settings" in this chapter, require only the scan of that single label to enact the change.

Other bar codes require the scanner 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 scanner 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 the scanner, 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 scanner for the correct interface before scanning this label.

Figure 5-1 Standard Product Default Settings

Reading parameters

Point the scanner 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 scanner.

Aiming system

A number of options for customizing control of the Aiming System are available. See the *Programming Reference Guide* (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 that follow to specify the duration of the good read pointer beam after a good read.

Figure 5-2 ENTER/EXIT PROGRAMMING MODE

Figure 5-3 Green Spot Duration = Disable (Green Spot is Off)

Figure 5-4 Green Spot Duration = Short (300 msec)

Figure 5-5 Green Spot Duration = Medium (500 msec)

Figure 5-6 Green Spot Duration = Long (800 msec)

6   Operating modes

Scan modes

The imager can be set to 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 duration[1] 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 Timeout1 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 reader's field of view. 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 PRG for these and other programmable features.

Figure 6-1 ENTER/EXIT PROGRAMMING MODE

Figure 6-2 Scan Mode = Trigger Single

Figure 6-3 Scan Mode = Trigger Hold Multiple

Figure 6-4 Scan Mode = Trigger Pulse Multiple

Figure 6-5 Scan Mode = Flashing

Figure 6-6 Scan Mode = Always On

Figure 6-7 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.

Figure 6-8 ENTER/EXIT PROGRAMMING MODE

Figure 6-9 Pick Mode = Enable

Figure 6-10 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.

A Technical support

Online technical support

For the online access to technical support information, self-solve tools, online assistance, community forums or IT experts, broad multivendor knowledge base, monitoring and diagnostic tools, go to http://www.hp.com/support.

Preparing to call technical support

If you can not solve a problem, you may need to call technical support. Have the following information available when you call:

- If the product is connected to an HP POS computer, provide the serial number of the POS computer
- Purchase date on invoice
- The spares part number located on the product
- Condition under which the problem occurred
- Error messages received
- Hardware configuration
- Hardware and software you are using

B Technical specifications

The following table contains physical and performance characteristics, user environment and regulatory information.

Item	Description
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 7.1 ounces / 200 g (reader)
	Approximately 8.1 ounces / 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 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]; Max 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) [1]	
Symbology	SR:
Code 39	5mil: 0.2" - 5.9" (0.5 - 15cm)

Depth of Field (Typical) [1]	
Symbology	**SR:**
	10mil: 0" - 8.7" (0 - 22cm)
	20mil: up to 17.7" (up to 45cm)
EAN	7.5mil: 0" - 5.9" (0 - 15cm)
	113mil: 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 mil
Print Contrast Minimum	25% minimum reflectance

[1]   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 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 scanner can apply the Normal/Reverse Decoding Control to the following symbologies: Datamatrix, QR, Micro QR, Aztec and Chinese Sensible Code.

Interfaces Supported[b]	USB Com Std., USB Keyboard, USB (see Selecting the base interface type on page 25 for a listing of available interface options)

Decode Capability

1D Bar Codes

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).

[a]It is acceptable to handle this with ULE.

[b]See for a listing of available interface sets by version type.

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 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
Radio Features	
Frequency Range	2400 to 2483.5 MHz
Range (in open air)	25 m

LED and beeper indications

The scanner's beeper sounds and its LED illuminates to indicate various functions or errors on the scanner. 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 scanner'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 scanner is in the process of powering-up.	N/A	Scanner beeps four times at highest frequency and volume upon power-up.
Good Read Beep	A label has been successfully scanned by the scanner.	LED behavior for this indication is configurable via the feature "Good Read: When to Indicate" (see the *Programming Reference Guide* for information).	The scanner will beep once at current frequency, volume, mono/bitonal setting and duration upon a successful label scan.
ROM Failure	There is an error in the scanner's software/programming.	Flashes	Scanner 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	Scanner 'chirps' six times at the highest frequency and current volume.
Scanner Active Mode	The scanner is active and ready to scan.	The LED is lit steadily[1]	N/A
Scanner Disabled	The scanner has been disabled by the host.	The LED blinks continuously	N/A
Green Spot[1] 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
Image Capture	When ready to capture image.	Blue light flashes 2 times when updating	N/A

[1]   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 scanner is in programming mode.

INDICATION	DESCRIPTION	LED	BEEPER
Label Programming Mode Entry	A valid programming label has been scanned.	LED blinks continuously	Scanner sounds four low frequency beeps.
Label Programming Mode Rejection of Label	A label has been rejected.	N/A	Scanner 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	Scanner sounds one short beep at highest frequency and current volume.

INDICATION	DESCRIPTION	LED	BEEPER
Label Programming Mode Acceptance of Programming	Configuration option(s) have been successfully programmed via labels and the scanner has exited programming mode.	N/A	Scanner 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	Scanner sounds two times at low frequency and current volume.

Error codes

Upon startup, if the scanner sounds a long tone, this means the scanner has not passed its automatic Selftest and has entered FRU (Field Replaceable Unit) isolation mode. If the scanner 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 Help desk for assistance
2	Interface PCB	Contact Help desk for assistance
6	Digital PCB	Contact Help desk for assistance
12	Imager	Contact Help desk for assistance
15	Accelerometer	Contact Help desk for assistance

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

C Hex-numeric keypad

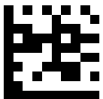Use the bar codes that follow to enter numbers as you would select digits/characters from a keypad.

Figure C-1 0

Figure C-2 1

Figure C-3 2

Figure C-4 3

Figure C-5 4

Figure C-6 5

Figure C-7 6

Figure C-8 7

Figure C-9 8

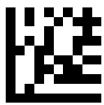

Figure C-10 9

Figure C-11 A

Figure C-12 B

Figure C-13 C

Figure C-14 D

Figure C-15 E

Figure C-16 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.

Figure C-17 Cancel an Incomplete HID Variable PIN Code

Finish by scanning the Exit HID Variable PIN Code label.

Figure C-18 Exit HID Variable PIN Code