



Spectralink PIVOT 8744 Smartphone

Barcode Administration Guide

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Warranty

The *Product Warranty and Software License and Warranty* and other support documents are available at <http://support.spectralink.com>.

Contact Information

US Location

+1 800-775-5330

Spectralink Corporation
2560 55th Street
Boulder, CO 80301
USA

info@spectralink.com

Denmark Location

+45 7560 2850

Spectralink Europe ApS
Bygholm Soepark 21 E Stuen
8700 Horsens
Denmark

infoemea@spectralink.com

UK Location

+44 (0) 20 3284 1536

Spectralink Europe UK
329 Bracknell, Doncastle Road
Bracknell, Berkshire, RG12 8PE
United Kingdom

infoemea@spectralink.com

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Introduction

This is your guide to understanding how barcode technology works in conjunction with PIVOT:SC (model 8744) smartphones and how to deploy it in your facility.

Refer to this document when you need to configure your smartphones for a barcode application or when you need to change a barcode configuration due to advances or changes in the technology.

Information about how to use the PIVOT:SC smartphone as a barcode scanner is contained in the *PIVOT by Spectralink User Guide*.

Be aware that this is a living document. Barcode technology changes rapidly and this document makes every effort to keep up. If you have questions, please contact your Spectralink service provider.

Product Support

Spectralink wants you to have a successful installation. If you have questions please contact the Customer Support Hotline at 1-800-775-5330.

The hotline is open Monday through Friday, 6 a.m. to 6 p.m. Mountain time.

For Technical Support: <mailto:technicalsupport@spectralink.com>

For Return Material Authorization: <mailto:nalarma@spectralink.com>

Spectralink References

PIVOT documents are available on the Spectralink support site at <http://support.spectralink.com/pivot>.

Specific Documents

PIVOT documents are available on the Spectralink support site at <http://support.spectralink.com/pivot>.

AP Configuration Guides show you how to correctly configure access points and WLAN controllers (if applicable) and identify the optimal settings that support Spectralink 87-Series smartphones. The guides are available on the View Certified page on the Spectralink support site at <http://support.spectralink.com/view>.

Quick Network Connect Administration Guide QNC provides step-by-step instructions for configuring wireless settings required for the smartphones to associate with the wireless LAN.

QNC software and documents are available on the Spectralink support site at <http://support.spectralink.com/products/wi-fi/qnc>.

PIVOT by Spectralink CMS Administration Guide The CMS Admin Guide provides information about every setting and option available to the administrator on CMS. Time-saving shortcuts, troubleshooting tips and other important maintenance instructions are also found in this document. CMS software and documents are available on the Spectralink support site at <http://support.spectralink.com/cms>.

PIVOT by Spectralink Deployment Guide The Deployment Guide provides sequential information for provisioning and deploying the smartphones. It covers deployment using QNC and CMS as well as manual deployment.

PIVOT by Spectralink Configuration Guide The PIVOT Configuration Guide provides detailed information about PIVOT menu items that have been developed specifically for the PIVOT smartphone.

PIVOT by Spectralink Wi-Fi Security Implementation Guide Wi-Fi security prevents unauthorized over-the-air access to network components and the sensitive data that resides there. This Guide discusses the various method and explains how to implement each of them.

PIVOT 8753 Barcode Administration Guide This Administration Guide supports the PIVOT 8753 model which incorporates a barcode reader. It provides detailed information about supported symbologies for this model.

PIVOT by Spectralink QBC Administration Guide Provides instruction for implementation of the Quick Barcode Connector application. The *PIVOT by Spectralink User Guide* contains information about using with the smartphone feature.

PIVOT by Spectralink Application Installation Guide The Applications Installation Guide provides detailed information about deploying any type of application, using an app store or MDM and manual processes for loading applications on the Spectralink 87-Series smartphone.

PIVOT by Spectralink User Guide The User Guide provides detailed information about using the features of the 87-Series smartphones.

PIVOT by Spectralink Web Developer's Guide The Web Developer's Guide provides Web application creators with information for developing and deploying Web applications that interface with Spectralink smartphones.

For information on IP PBX and softswitch vendors, see *PIVOT by Spectralink Call Server Interoperability Guide*.

Barcode Reference

The Bar Code Book: A Comprehensive Guide to Reading, Printing, Specifying, Evaluating, and Using Bar Code and Other Machine-Readable Symbols by Roger C. Palmer, Fifth Edition

The book describes the many different forms of 1-D and 2-D bar code symbols, explains how they work, compares their attributes, and provides detailed reference information. Equipment used for printing, reading, and evaluating bar code symbols is reviewed, and extensive information is provided about the applicable industry standards. The emerging fields of Direct Part Marking and image-based scanning is reviewed, and the issue of patents is presented. Many applications of the technology are described.

Conventions Used In This Document

Icons

Icons indicate extra information about nearby text.



Caution

The *Caution* icon highlights information you need to know to avoid a hazard that could potentially impact device performance, application functionality, successful feature configuration and/or affect smartphone or network performance.



Admin Tip

This tip advises the administrator of a smarter, more productive or alternative method of performing an administrator-level task or procedure.



Settings

The Settings icon highlights information to help you zero in on settings you need to choose for a specific behavior, to enable a specific feature, or access customization options.

Typography

A few typographic conventions, listed next, are used in this guide to distinguish types of in-text information.

<i>Convention</i>	<i>Description</i>
Bold	Highlights interface items such as menus, soft keys, file names, and directories. Also used to represent menu selections and text entry to the smartphone.
<i>Italics</i>	Used to emphasize text, to show example values or inputs, and to show titles of reference documents available from the Spectralink Support Web site and other reference sites.
<u>Underlined blue</u>	Used for URL links to external Web pages or documents. If you click on text in this style, you will be linked to an external document or Web page.

<i>Convention</i>	<i>Description</i>
Bright orange text	Used for cross references to other sections within this document. If you click on text in this style, you will be taken to another part of this document.
Fixed-width-font	Used for code fragments and parameter names.

This guide also uses a few writing conventions to distinguish conditional information.

<i>Convention</i>	<i>Description</i>
<MACaddress>	Indicates that you must enter information specific to your installation, smartphone, or network. For example, when you see <MACaddress>, enter your smartphone's 12-digit MAC address. If you see <installed-directory>, enter the path to your installation directory.
>	Indicates that you need to select an item from a menu. For example, Settings > Basic indicates that you need to select Basic from the Settings menu.

Chapter 1: Understanding Barcode Technology

Barcode technology enables you to encode and decode information stored in a variety of visual patterns. Barcode patterns can store a variety of data. Currently, PIVOT:SC smartphone supports a wide range of one-dimensional (1D) and stacked 1D barcode types, including the Code 128 barcode symbology, which can contain up to 70 numerals and/or characters. PIVOT:SC smartphone also supports a wide range of two-dimensional (2D) barcode types. Two-dimensional barcode symbologies typically encode more data, which may be contained in a smaller barcode label, as compared with 1D barcode symbologies. PIVOT:SC can decode both 1D and 2D barcode label formats. PIVOT:SC can also decode composite barcodes that contain both a 1D and a 2D barcode component, such as symbologies often found on drug packaging.

1D vs. 2D Formats

PIVOT:SC and 1D Barcode Patterns

Barcode patterns can store a variety of data. Currently, your Spectralink PIVOT:SC smartphone supports a wide range of one-dimensional (1D) and stacked 1D barcode types, including the Code 128 barcode symbology, which can contain up to 70 numerals and/or characters.

1D examples



PIVOT:SC and 2D Barcode Patterns

Your Spectralink PIVOT:SC smartphone supports a wide range of two-dimensional (2D) barcode types. Two-dimensional barcode symbologies typically encode more data, which may be contained in a smaller barcode label, as compared with 1D barcode symbologies. PIVOT:SC can decode both 1D and 2D barcode label formats, as well as composite 1D/2D barcodes.

2D examples



QR



Aztec



Data Matrix

Chapter 2: Barcode Applications

Barcode information is typically entered into a field in an application that processes the data. This application might be running:

- in the web browser on the smartphone
- on a computer that is linked to a PIVOT:SC smartphone via QBC.

Information about how to use the PIVOT:SC smartphone as a barcode scanner is contained in the *PIVOT by Spectralink User Guide*.

Using On-board Applications

You can enter information into a web application running on the web browser on the smartphone. The scanned information is used by the web application and either populates an input field on the page or is used by code in the web page to continue a work flow.

Using the Quick Barcode Connector (QBC)

You can enter information into an application that is running on a computer accessible to the user that has been loaded with the Quick Barcode Connector™ application.

QBC enables you to capture barcode data using a PIVOT:SC smartphone and transfer the data to the application running on the computer associated with the scanning smartphone. You can think of it as a wireless barcode scanner connected to the computer. For more information, see the *Quick Barcode Connector (QBC) Administration Guide*.

Supported Symbolologies

Aztec	EAN8	MSI Plessey
Codabar	Grid Matrix	NEC 2 of 5
Code11	GS1 Databar 14	PDF 417
Code 32	Han Xin Code	Plessey
Code 39	Hong Kong 2 of 5	QR
Code 49	IATA 2 of 5	Straight 2 of 5
Code 93	Interleaved 2 of 5	Telepen
Code 128	Matrix 2 of 5	UPC-A
Data Matrix	Micro PDF417	UPC-E
EAN13	Micro QR	

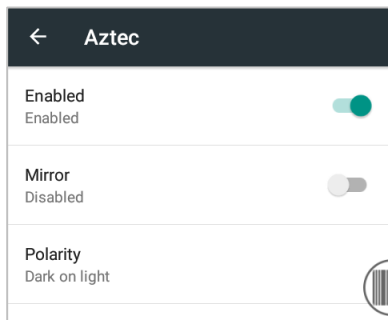
Chapter 3: Barcode Symbologies

Barcode parameters must be set correctly so the information is decoded as needed. For QBC, the barcode symbology configured in the Admin menu must match the parameters configured in the QBC Application on the PC.

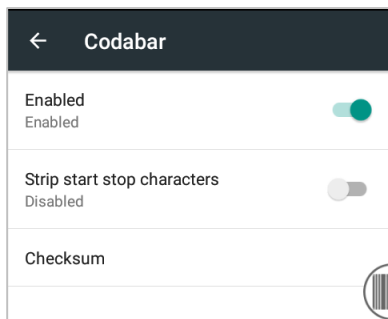
Barcode parameter groups are listed here in alphabetical order. All higher level symbologies are enabled by default. When a symbology does not have the enable/disable toggle next to it, additional options are available in a submenu.

Symbology Parameters

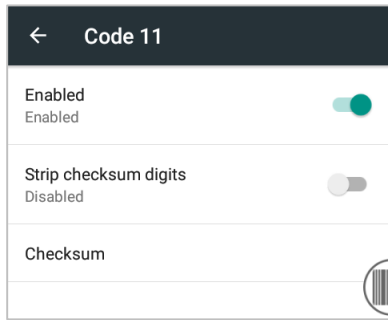
Aztec



Codabar



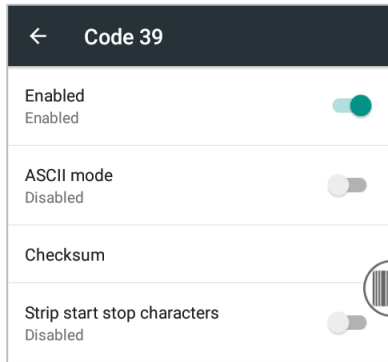
Code 11



Code 32

Enable/Disable

Code 39



Code 49

Enable/Disable

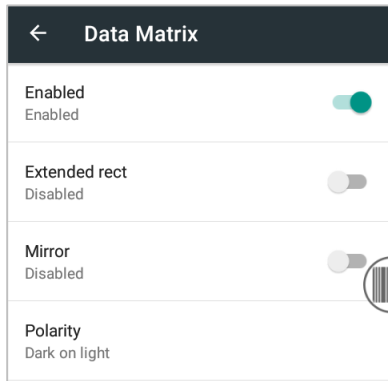
Code 93

Enable/Disable

Code 128

Enable/Disable

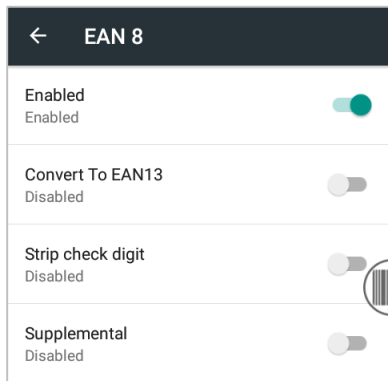
Data Matrix



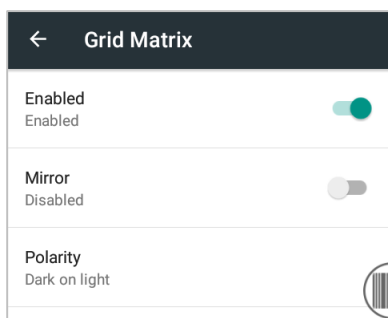
EAN 13

Enable/Disable

EAN 8



Grid Matrix



GS1 Databar 14

Setting	Status
Enabled	Enabled
CC-A	Disabled
CC-B	Disabled
CC-C	Disabled
Expanded	Disabled
Expanded Stack	Disabled
Limited	Disabled
Stacked	Disabled



Admin Tip: GS1 Composite

A composite code is comprised of a 1D and a 2D code. In order to properly decode a composite code these two actions need to be taken:

- 1 Enable Composite type of choice: CC-A, CC-B OR CC-C in the GS1 DataBar 14 menu.
- 2 Enable the corresponding 2D symbology corresponding to the composite type enabled:
 - a Enable MicroPDF417 for CC-A and CC-B
 - b Enable PDF417 for CC-C.

Han Xin Code

Enable/Disable

Hong Kong 2 of 5

Enable/Disable

IATA 2 of 5

← IATA 2 of 5

Enabled
Enabled

Checksum

Interleaved 2 of 5

← Interleaved 2 of 5

Enabled
Enabled

Checksum

Quiet Zone
0

Matrix 2 of 5

← Matrix 2 of 5

Enabled
Enabled

Checksum

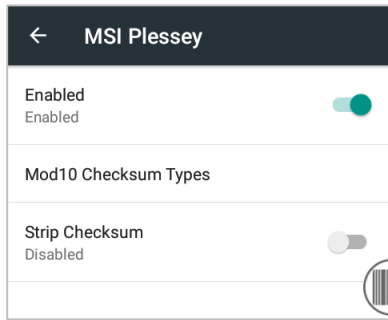
Micro PDF417

Enable/Disable

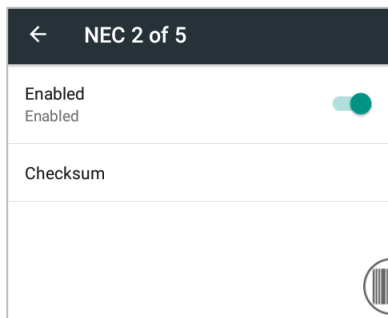
Micro QR

Enable/Disable

MSI Plessey



NEC 2 of 5



PDF 417

Enable/Disable

Plessey

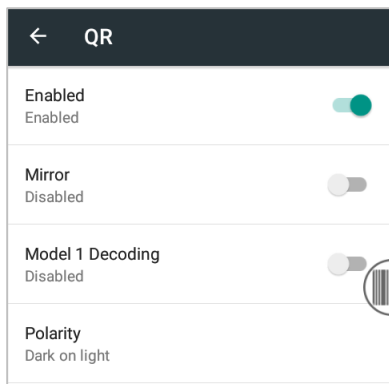
Enable/Disable

QR

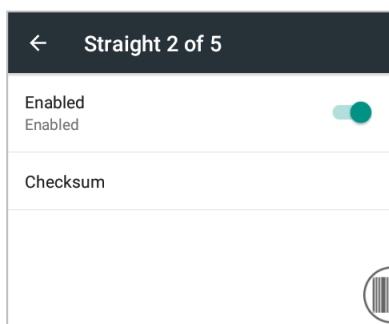


Caution: Model 1 Decoding error correction

Model 1 Decoding Negative and Model 1 Decoding Negative Mirrored barcodes are not read in the current implementation.



Straight 2 of 5



Telepen



Caution: UPC supplemental codes

Unlike certain other symbologies with supplemental codes, the UPC symbology structure does not indicate the presence of a supplemental code. The base UPC code is decodable on its own. Therefore, the decoding of the supplemental code cannot be absolutely guaranteed. The supplemental information is usually an expiration date or sometime price information. Usually systems that key on that information would prompt for a rescan if the information was missing.

Therefore please be aware that unless the scan demands the information in the supplemental code, it is possible to scan the barcode and not pick up the supplemental code.

In Spectralink tests of UPC symbologies, the PIVOT 8744 scanner is very fast and may pick up just the base code unless the supplemental code is required.

When using supplemental barcodes, be sure to include checks that the supplemental portion was read and decoded.

Enable/Disable

UPC-A

← UPC-A	
Enabled Enabled	<input checked="" type="checkbox"/>
Convert To EAN13 Disabled	<input type="checkbox"/>
Strip check digit Disabled	<input type="checkbox"/>
Strip UPCA system number digit Disabled	<input type="checkbox"/>
Supplemental Disabled	<input type="checkbox"/>

UPC-E

← UPC-E	
Enabled Enabled	<input checked="" type="checkbox"/>
Expansion Disabled	<input type="checkbox"/>
Strip check digit Disabled	<input type="checkbox"/>
Strip UPCE system number digit Disabled	<input type="checkbox"/>
Supplemental Disabled	<input type="checkbox"/>

Appendix A: Open Source Information

OFFER for Source for GPL and LGPL Software

You may have received a Spectralink PIVOT smartphone from Spectralink that contains—in part—free software (software licensed in a way that allows you the freedom to run, copy, distribute, change, and improve the software).

A complete list of all open source software included in the Spectralink PIVOT smartphone, as well as related license and copyright information, is available at <http://support.spectralink.com>.

You may also obtain the same information by contacting Spectralink by regular mail or email at the addresses listed at the bottom of this notice.

For at least three (3) years from the date of distribution of the applicable product or software, we will give to anyone who contacts us at the contact information provided below, for a charge of no more than our cost of physically distributing, the items listed in “Spectralink OFFER of Source for GPL and LGPL Software”, which is available at <http://support.spectralink.com>.

Contact Information for Requesting Source Code

Spectralink Open Source Manager

2560 55th Street

Boulder, CO 80301

OpenSource@Spectralink.com