

Bluetooth Adapter



ZEBRA

Product Reference Guide

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About This Guide

This guide provides information about setting up and using the Bluetooth Adapter.

The Bluetooth Adapter provides Bluetooth capability to a host computer. Zebra scanners pair with the Bluetooth Adapter, allowing data to pass directly between the scanner and host computer.

This guide also lists relevant 1D programming barcodes relevant to the Bluetooth Adapter. Sample barcodes are provided for configuring the adapter.

Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: zebra.com/support.

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number

Zebra responds to calls by email, telephone, or fax within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

Notational Conventions

The following conventions are used in this document:

- **Bold** text is used to highlight the following:
 - Dialog box, window, and screen names
 - Dropdown list and list box names
 - Checkbox and radio button names
 - Icons on a screen
 - Key names on a keypad
 - Button names on a screen
- Bullets (•) indicate:
 - Action items
 - List of alternatives
 - Lists of required steps that are not necessarily sequential.
- Sequential lists (for example, those that describe step-by-step procedures) appear as numbered lists.

Firmware Requirements

Minimum firmware requirements for each compatible scanner.

Table 1 Scanner Firmware Requirements

Scanner Name	Minimum Firmware Required
RS5100	CAAEXS001-R07 or later
RS6100	All firmware versions

Getting Started

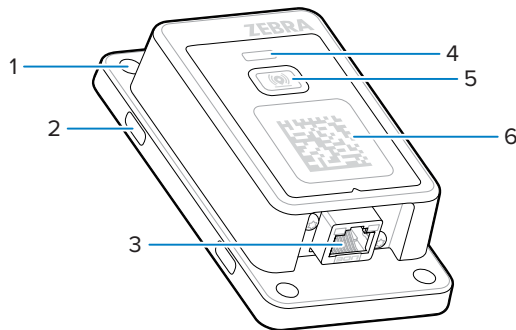
This chapter describes the Bluetooth Adapter's features, connecting the adapter to a host computer and pairing it with a Zebra scanner.

Unpacking

Unpack and examine the device.

Save the shipping container for storing or shipping. Inspect all equipment for damage. If anything is damaged or missing, call an authorized Zebra Support Center immediately.

Features



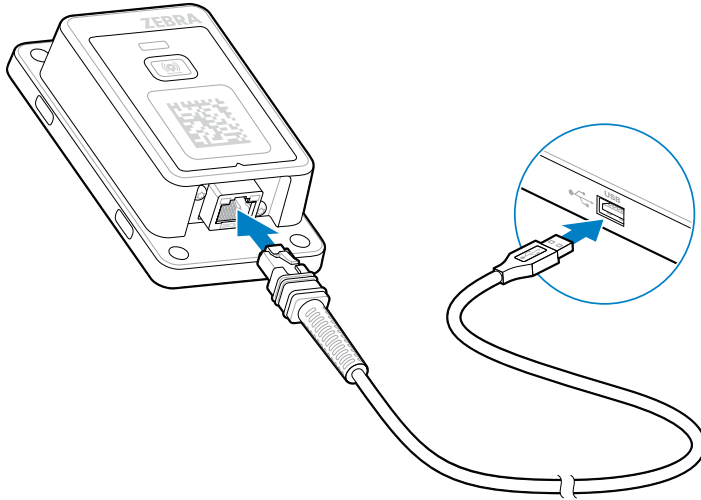
1	Mounting holes for screws
2	Mounting holes for cable ties
3	Interface port
4	LED indicator
5	Page button
6	Pairing barcode

Connecting the Adapter

Connect the Bluetooth Adapter to the host computer to provide a Bluetooth connection.
Use cable CBA-U46-S07ZAR.

1. Connect the latching end of the cable to the Bluetooth adapter port.

Press the cable firmly until you hear a click to ensure it is fully inserted into the port.

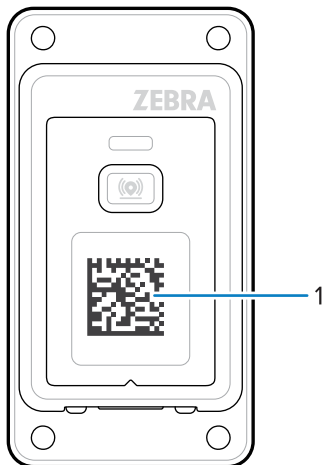


2. Connect the USB end of the cable to the host computer.

Pairing

To pair a Zebra scanner with the adapter:

Use a Zebra scanner in factory default mode¹ to scan the pairing barcode (1) on the adapter.




¹ Refer to the scanner's product reference guide at zebra.com for the factory default configuration barcode.

The LED indicator blinks blue, indicating that the scanner is attempting to establish a connection with the adapter. When a connection is established, the LED indicator turns off, and the scanner emits an alert to signal successful pairing.

Using the Page Button

Activate the Page Button to help find paired scanners.

The Page Button  is a touch-sensitive sensor.

1. Press Page for approximately one second.

The adapter LED indicator turns blue and all connected scanners emit an alert. Based on scanner capability and configuration, the alert may be visual (flashing LED), auditory (beeping), or haptic (vibration).

2. Repeat as needed until the missing scanners are located.



NOTE: An unconnected scanner (such as one that is out of radio range) will not alert when paged.

123Scan and Software Tools

This section describes the Zebra software tools available for customizing scanner operation.

123Scan

123Scan is a software tool that simplifies scanner setup and more.

Intuitive enough for first-time users, the 123Scan wizard guides users through a streamlined setup process. Settings are saved in a configuration file that can be printed as a single programming barcode for scanning, emailed to a smart phone for scanning from its screen or downloaded to the scanner using a USB cable.

Through 123Scan a user can:

- Configure a scanner using a wizard.
 - Program the following scanner settings.
 - Beeper tone/volume settings.
 - Enable/disable symbologies.
 - Communication settings.
 - Modify data before transmission to a host using:
 - Advanced Data Formatting (ADF) - Scan one barcode per trigger pull.
 - Multicode Data Formatting (MDF) - Scan many barcodes in one trigger pull (select scanners).
 - Preferred Symbol - Single out one barcode on a label of many (select scanners).
- Load parameter settings to a scanner via the following:
 - Barcode scanning.
 - Scan a paper barcode.
 - Scan a barcode from a PC screen.
 - Scan a barcode from a smart phone screen.
 - Download over a USB cable.
 - Load settings to one scanner.
 - Stage up to 10 scanners simultaneously (Powered USB Hub recommended with 0.5 amp / port).

- Validate scanner setup.
 - View scanned data within the utility's Data view screen.
 - Capture an image and save it to a PC within the utility's Data view screen.
 - Review settings using the Parameter Report.
 - Clone settings from an already deployed scanner from the Start screen.
- Upgrade scanner firmware.
 - Load settings to one scanner.
 - Stage up to 10 scanners simultaneously (Powered USB Hub recommended with 0.5 amp/port).
- View statistics, such as:
 - Asset tracking information.
 - Time and usage information.
 - Barcodes scanned by symbology.
- Generate the following reports.
 - Barcode Report - Programming barcode, relevant parameter settings, and supported scanner models.
 - Parameter Report - Parameters programmed within a configuration file.
 - Inventory Report - Scanner asset tracking information.
 - Validation Report - Scanned data from the Data view.
 - Statistics Report - All statistics retrieved from the scanner.

For more information, go to zebra.com/123Scan.

Communication with 123Scan

Use a USB cable to connect the scanner to a Windows host computer running 123Scan.

123Scan Requirements

- Host computer running Windows 10 or 11
- Scanner
- USB cable

123Scan Information

Use these links to learn more about using 123Scan and Zebra software tools.

For more information on 123Scan, go to zebra.com/123Scan

For a one-minute tour of 123Scan, go to [How-to Videos For Zebra Scanners](#)

To see a list of all of our software tools, go to zebra.com/scannersoftware

Scanner SDK, Other Software Tools, and Videos

Tackle all your scanner programming needs with our diversified set of software tools. Whether you need to stage a device or develop a fully featured application with image and data capture and asset management, these tools help you every step of the way.

To download any of the following free tools, go to: zebra.com/scannersoftware.

- 123Scan configuration utility
- SDKs
 - Scanner SDK for Windows
 - Scanner SDK for Linux
 - Scanner SDK for Android
 - Scanner SDK for iOS
- Drivers
 - OPOS driver
 - JPOS driver
 - USB CDC driver
- Scanner Management Service (SMS) for Remote Management
 - Windows
 - Linux
- Mobile Apps
 - Scanner Control App
 - Android
 - iOS
 - Scan-To-Connect Utility
 - Android
 - Windows
- How-To-Videos



NOTE: For a list of SDK-supported scanner functionality by communication protocol, see [Communication Protocol Functionality](#).

Bluetooth Communications

Configure adapter-specific parameters using the barcodes provided.

This section provides information about the adapter's wireless communication options. While different scanners may have additional parameters and settings, the adapter only provides the host computer access to the parameters in the [Bluetooth Communication Defaults](#) table. If the default values suit requirements, programming is not necessary.

To set feature values, scan a single barcode or short barcode sequence. The settings are stored in non-volatile memory and are preserved even when the scanner is powered down.

Errors While Scanning

Unless otherwise specified, to correct an error during a scanning sequence, re-scan the correct parameter.

Bluetooth Communications Parameter Defaults

Default parameters are listed in the following table. If you wish to change any option, scan the appropriate barcode(s).

Table 2 Bluetooth Communication Defaults

Parameter	Parameter Number	Default
Radio Output Power	1324	High (0)
Modes of Operation	538	Point-to-Point (0)
Parameter Broadcast	148 (Scanner)	Enable (1)
Page Button	746	Enable (1)
Page Mode	1364	Page Simple (0)
Page State Timeout	1365	30 seconds (30)
USB Device Type	N/A	USB HID Keyboard

Radio Output Power

Parameter # 1324

The scanner uses a configurable radio which can be configured to operate in:

- Low power mode as a Class 2 device.

- High power mode as Class 1 device.

Optionally, reduce the radio output power to restrict the transmission range and reduce the effect of the radio on neighboring wireless systems.



NOTE: Bluetooth stack reset on power change, and the device loses connection.

Increase the radio output power to increase range. Scan a barcode to select the desired power mode.



*HighPower (0)



*Low Power (1)

Modes of Operation

Parameter # 538 (SSI # F1h A1h)

The Bluetooth Adapter supports two radio communication modes of scanner operation for wireless communication.

Point-to-Point

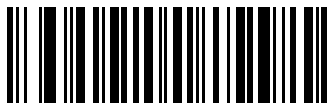
Only one scanner can connect to the adapter at a time. Pair the scanner with the adapter by scanning the pairing code on the Bluetooth Adapter. Communication can be locked, unlocked (default), or in a lock override state (see [Pairing Modes](#)). In locked mode, you must set a connection maintenance interval to set the locking interval.

Multipoint-to-Point

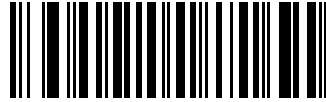
Pair up to seven scanners with one Bluetooth Adapter. To set this mode,

1. Pair a scanner with the adapter.
2. Scan the Multipoint-to-Point barcode.
3. Pair up to six more scanners with the adapter.

This mode allows a [parameter broadcast feature](#) that forwards parameter barcode settings to all connected digital scanners. In this mode, programming one digital scanner applies the settings to all connected digital scanners.



*Point-to-Point Mode (0)



Multipoint-to-Point Mode (1)

Parameter Broadcast (Host Only)

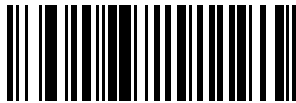
Parameter # 148 (SSI # 94h)

When in Multipoint-to-Point mode, you can enable Parameter Broadcast to broadcast all parameter barcodes scanned to all other connected scanners.

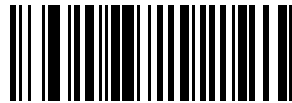
If disabled, only the individual scanner processes parameter barcodes, and the scanner ignores parameters broadcast from other scanners or from the adapter.



NOTE: This parameter is programmed into the scanner, not the adapter. However, the adapter enables the parameter to activate and change. When programming the Bluetooth Adapter's settings on a host computer, this parameter will not appear.



*Enable Parameter Broadcast (1)



Disable Parameter Broadcast (0)

Lock Override

Lock Override overrides a locked scanner base pairing and connects a new scanner. In Multipoint-to-Point mode, this unpairs any disconnected (out of range) scanner first to connect the new scanner.

To use Lock Override, scan Lock Override and then pair the scanner.



NOTE: Lock Override is applicable in Point-to-Point mode only (it does not work on scanners in Multipoint-to-Point mode). If seven scanners are connected to a cradle/host device, disconnect them manually before connecting a new scanner.



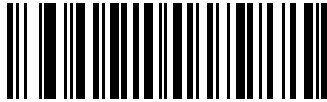
Lock Override

Pairing Modes

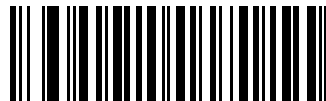
Parameter # 542 (SSI # F1h 1Eh)

The Bluetooth Adapter and scanner support two modes of pairing.

- **Unlocked Pairing Mode** - In Point-to-Point mode only, pair a new scanner to an adapter at any time by scanning the pairing barcode. This unpairs the previously connected scanner from the adapter.
- **Locked Pairing Mode** - When an adapter is paired to a scanner (or up to seven scanners in Multipoint-to-Point mode), it rejects any attempt to connect a different scanner.



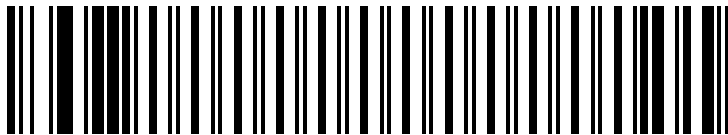
*Unlocked Pairing Mode (0)



Locked Pairing Mode (1)

Unpairing

Choose Unpair to unpair the scanner, to make the host available for pairing with another scanner.



Unpair


Page Button

Parameter # 746 (SSI # F1h EAh)

This parameter enables the Bluetooth Adapter to cause paired scanners to emit an alert sequence when the Page Button is touched.

Choose the following:

- Enabled - Touching the Page Button causes a paired scanner to beep.
- Disabled - Touching the Page Button does not cause a paired scanner to beep.

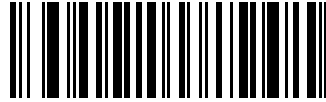
To use the Page Button, press Page  for approximately one second. The LED indicator turns blue. The paired scanner beeps five times. If multiple scanners are paired to the adapter, all scanners beep five times.



NOTE: Scanners out of radio range do not beep when paged.



*Enable Page Button (1)



Disable Page Button (0)

Page Mode

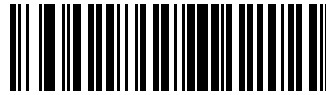
Parameter # 1364 (SSI # F8h 05h 54h)

The adapter and scanner support two page modes, Page State and Page Simple.

- Page State - The adapter sends a page state request to each scanner. It remains in this state until every scanner sends an acknowledgment. The scanner enters Page State when the LED indicator blinks blue and the vibrator and beeper are enabled. When you press the trigger or the [Page State Timeout](#) expires, the scanner sends the acknowledgment to the adapter and returns to its normal state.
- Page Simple - The adapter sends a page indication request to each scanner, and returns to idle state. Each scanner issues a single Page State indication.



Page State (1)



*Page Simple (0)

Page State Timeout

Parameter # 1365 (SSI # F8h 05h 55h)

This parameter enables you to set a page timeout.

The Page State Timeout is programmable in one-second increments from 1 to 99 seconds.



NOTE: Page State Timeout only applies to Page State mode.

To set a page timeout, scan the Page State Timeout barcode and then enter the two numeric barcodes listed in the [Numeric Barcodes](#) section that corresponds to the desired timeout duration. Enter a leading zero for single-digit numbers.

For example, to set a five-second page timeout, enter barcode zero and then five. To correct an error or change the selection, scan the Cancel code.

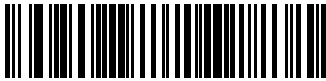


Page State Timeout

USB Device Type

Scan one of the following barcodes to select the USB device type.

- When changing USB device types, the scanner resets and issues the standard startup beep sequences.
- When connecting two scanners to a host, IBM does not allow selecting two of the same device type. If you require two connections, select an IBM Table-top USB for one scanner and an IBM Hand-held USB for the second scanner.
- Select OPOS (IBM Hand-held with Full Disable) to completely shut off the scanner when an IBM register issues a Scan Disable command, including aim, illumination, decoding, and data transmission.
- Before selecting USB CDC Host, ensure your host OS has a USB CDC driver installed. For reference, Windows 10 includes a native (built-in) USB CDC driver. To recover a scanner stalled (non-functional) in USB CDC mode:
 - Install a USB CDC Driver
- Select USB HID POS to communicate over a USB cable with Microsoft's Universal Windows Platform (UWP) applications running on Windows 10 devices.



*USB HID Keyboard



IBM Table-top USB



IBM Hand-held USB



OPOS (IBM Hand-held with Full Disable)



USB CDC Host



SSI over USB CDC



Symbol Native API (SNAPI) with Imaging Interface



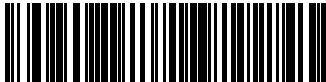
Symbol Native API (SNAPI) without Imaging Interface



USB HID POS (Windows 10 devices only)

Symbol Native API (SNAPI) Status Handshaking

After selecting a SNAPI interface as the USB device type, select an option to enable or disable status handshaking.



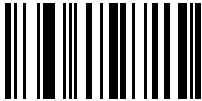
*Enable SNAPI Status Handshaking



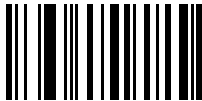
Disable SNAPI Status Handshaking

Numeric Barcodes

For parameters requiring specific numeric values, scan the appropriately numbered barcode(s).



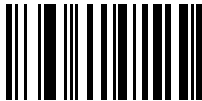
0



1



2



3



4



5



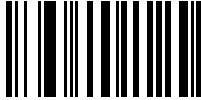
6



7



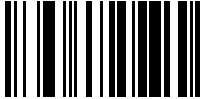
8



9

Cancel

To correct an error or change a selection, scan the barcode below.



Cancel

Bluetooth Adapter Technical Specifications

Physical specifications and requirements for the Bluetooth Adapter.

Table 3 Bluetooth Adapter Technical Specifications

Item	Description
Dimensions	Height: 113 mm (4.45 in.) Width: 60.1 mm (2.37 in.) Depth: 31mm (1.22 in.)
Weight	98 g (3.46 oz)
Input Power Requirements	5 V DV, 200 mA
Operating Temperature	-20°C to 50°C (-4°F to 122°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)
Humidity	5 to 95% non-condensing
Drop	75 cm (30 in.) drops to concrete at room temperature.
Electrostatic Discharge (ESD)	+/- 15 kV air discharge +/- 8 kV contact discharge
Bluetooth	Class 1 and 2, Bluetooth v 5.2 Supported profiles: Serial Port Profile (SPP), Human Interface Device Profile (HID), Simple Serial Interface (SSI).

Troubleshooting

If the adapter does not work after following the previous procedures:

- Check the system power.
- Check for loose cable connections.
- Check that the host computer settings are correct and that the adapter is connected to the appropriate port.

Communication Protocol Functionality

Table 4 Communication Interface Functionality

Communication Interfaces	Functionality		
	Data Transmission	Remote Management	Image and Video Transmission
USB			
HID Keyboard Emulation	Supported	Not Available	Not Available
CDC COM Port Emulation	Supported	Not Available	Not Available
SSI over CDC COM Port Emulation	Supported	Supported	Not Available
IBM Table-Top USB	Supported	Supported	Not Available
IBM Hand-Held USB	Supported	Supported	Not Available
USB OPOS Hand-Held	Supported	Supported	Not Available
Symbol Native API (SNAPI) without Imaging Interface	Supported	Supported	Not Available
Symbol Native API (SNAPI) with Imaging Interface	Supported	Supported	Supported

Table 5 Communication Interface Functionality

Communication Interfaces	Scanner Functionality
Simple Serial Interface	SSI BT Classic (non-discoverable) SSI BT Classic (discoverable) SSI BT Low Energy SSI BT with MFi (iOS Support)
HID (Keyboard Emulation)	HID BT Classic HID BT LE (discoverable)
Serial Port Profile (SSP)	SPP BT Classic (non-discoverable) SPP BT Classic (discoverable)

