



BCS36x8^{ex} – Programming Options

- Programming manual**
- 123 Scan Utility**

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BCS36x8^{ex} available programming tools

Programming options of BCS36x8^{ex} series

Programming manual with programming barcodes

- BARTEC user manual
- original Zebra Product Reference Guide
- original Zebra programmer guide for advanced data formatting (ADF)
- original Zebra programmer guide for multi data formatting (MDF)

NOTE: customers needs to follow first the BARTEC user manual for installation and connection.

From programming side BARTEC has done no changes on the device itself. Therefore the programming instructions from Zebra can be used.

BARTEC Download [Link](#)

Zebra Download [Link](#)



Zebra 123 Scan Utility

123Scan is an easy-to-use, PC-based software tool that enables the quick and easy set-up of Zebra scanners.

Cost: free software

Tool allows:

- Programming incl. ADF and MDF
- Firmware Update
- Data Viewer for test of barcodes and images
- Creation of programming barcodes
- Upload of configuration to scanner
- And more

Further information [Link](#)

How to video [Link](#)

123 Scan Utility Download [Link](#)



Programming options of BCS36x8^{ex} series

Programming manual with programming barcodes

The available manuals for customizing the BCS36x8^{ex} series consist of a variety of barcodes for programming.

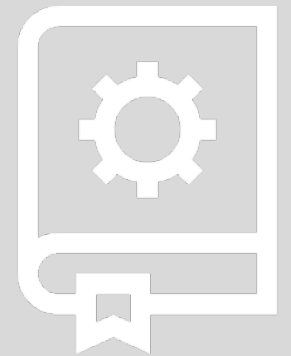
For all functions and parameters the settings are made on the scanner by scanning the barcodes.

Barcodes for programming can also be generated using the 123 Scan Utility software.

The setting/parameterization is possible by scanning the barcodes in any environment.

Further product specific information can be found in the manuals.

The BARTEC user manual describes the intended connection, operation and handling of the device.



Zebra 123 Scan Utility

The Zebra 123 Scan Utility requires a PC with Windows operating system.

The utility automatically receives the latest updates from Zebra via the online update function.

This way the utility is always up to date. With the updates the latest firmware versions for the devices are provided.



Connection of BCS36x8^{ex} series with 123 Scan Utility on PC:

- The corded BCS3608^{ex} series requires a USB programming cable.
- The Bluetooth BCS3678^{ex} series requires a base station with USB (programming) connection cable.

The connection is described in detail on the following pages.

A big advantage of the 123 Scan Utility is that configurations can be created and quickly installed on a large number of devices. It is also possible to create the configurations centrally and distribute them e.g. via e-mail as programming code. The configuration can then be installed on the scanner by scanning from the display or from the printed PDF.

Zebra 123 Scan Utility - Overview

123Scan is an easy-to-use, PC-based software tool that enables the quick and easy set-up of Zebra and BARTEC scanners.

123Scan uses a wizard tool to guide users through a streamlined set up process. Once parameters are set, the values are saved to a configuration file that can be distributed via email, electronically downloaded via USB cable or used to generate a sheet of programming bar codes that can be scanned.

123Scan can generate multiple reports that can be easily rebranded using Microsoft Word and Access. Report options include parameters, asset tracking (inventory) information and a validation of scanned data.

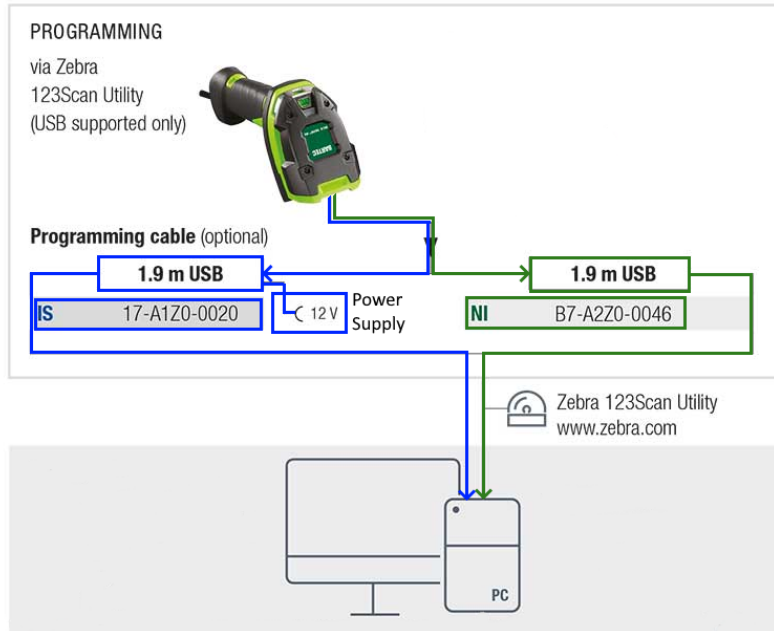
Additionally, 123Scan can display scanned barcode data including non-printable characters. It can display, optimize and save pictures from an imager scanner. It can also upgrade scanner firmware, automatically check online to enable support for newly released products, generate a single 2D barcode for one scan programming and stage large numbers of scanners simultaneously via USB hub(s).

Main functionality:

- Generation of an electronic configuration file
- Program Advanced Data Formatting (ADF), Multi Data Formatting (MDF) or Prefix & Suffix Rules
- Setup of productivity tools as e.g. “Preferred Symbol”, “Parsing options”, “Wi-Fi Friendly Mode” and others
- Firmware upgrade of scanners via programming/communication USB cable
- Data Viewer

For more details read the Zebra documentation about 123 Scan Utility.

123 Scan Utility – set up – corded scanner



The process of programming the scanner has to take place in the non-ex area!

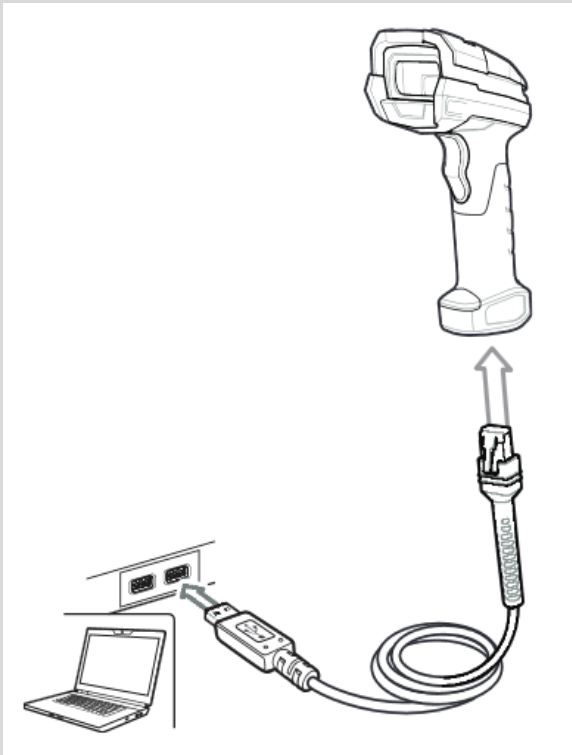
- **Zone 2/22 and Div 2 solution with corded scanner (green marked lines)**
 - with programming cable P/N: B7-A2Z0-0046
 - No power supply required. Power supply via USB port on PC.
- **Zone 1/21 solution with corded scanner (blue marked lines)**
 - with programming cable P/N: 17-A1Z0-0020
 - Power Supply is required! P/N: G7-A0Z0-0019
 - AC power cable is required! P/N: Country specific

Zone 1/21 and Zone 2/22 Div.2 scanners each have a specific programming cable and they can't be used interchangeably

123 Scan Utility – set up – corded scanner

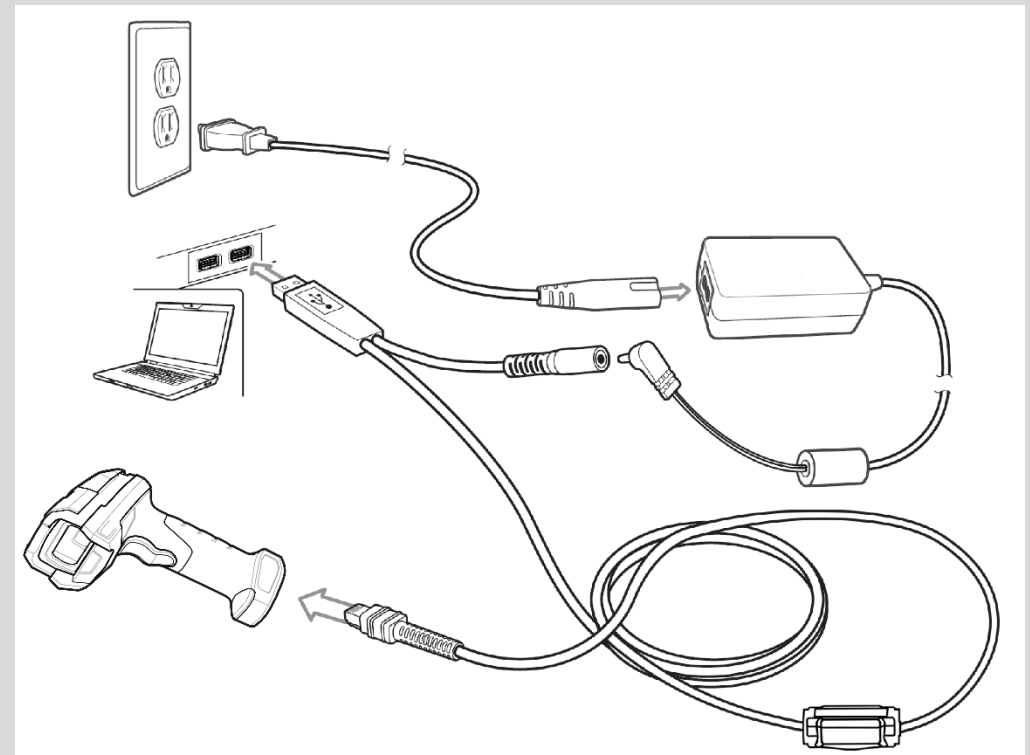
System example for corded version BCS3608^{ex}-NI with:

- programming cable P/N: B7-A2Z0-0046



System example for corded version BCS3608^{ex}-IS with:

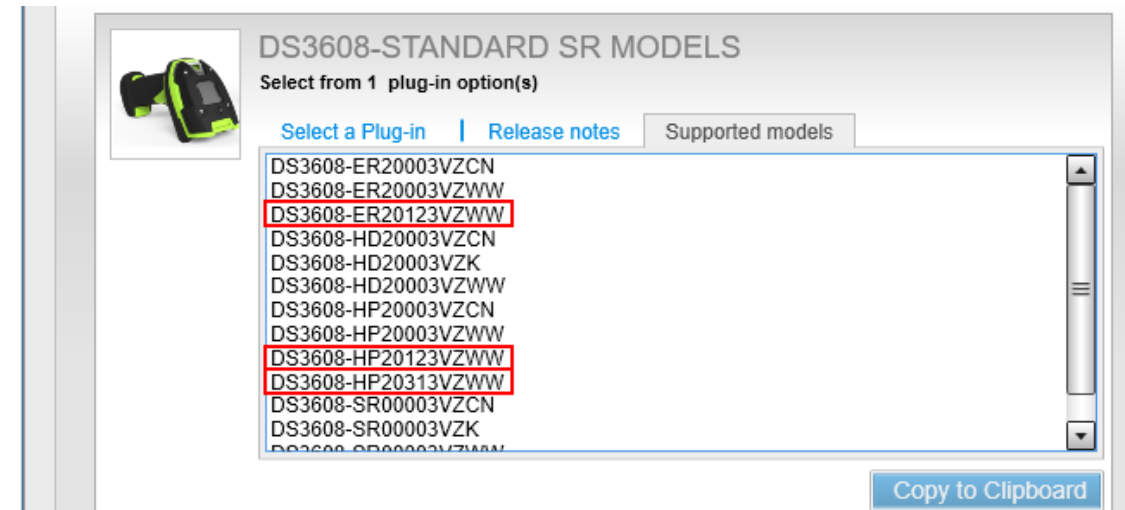
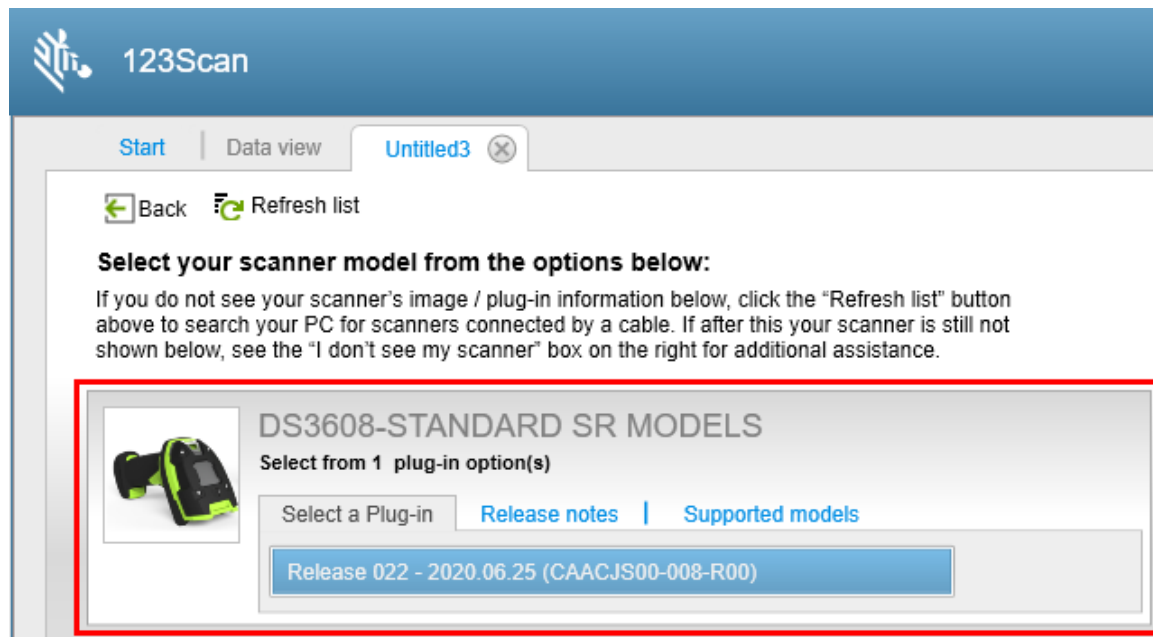
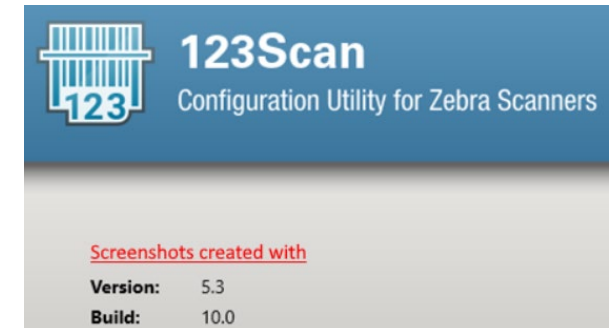
- programming cable P/N: 17-A1Z0-0020
- Power Supply P/N: G7-A0Z0-0019



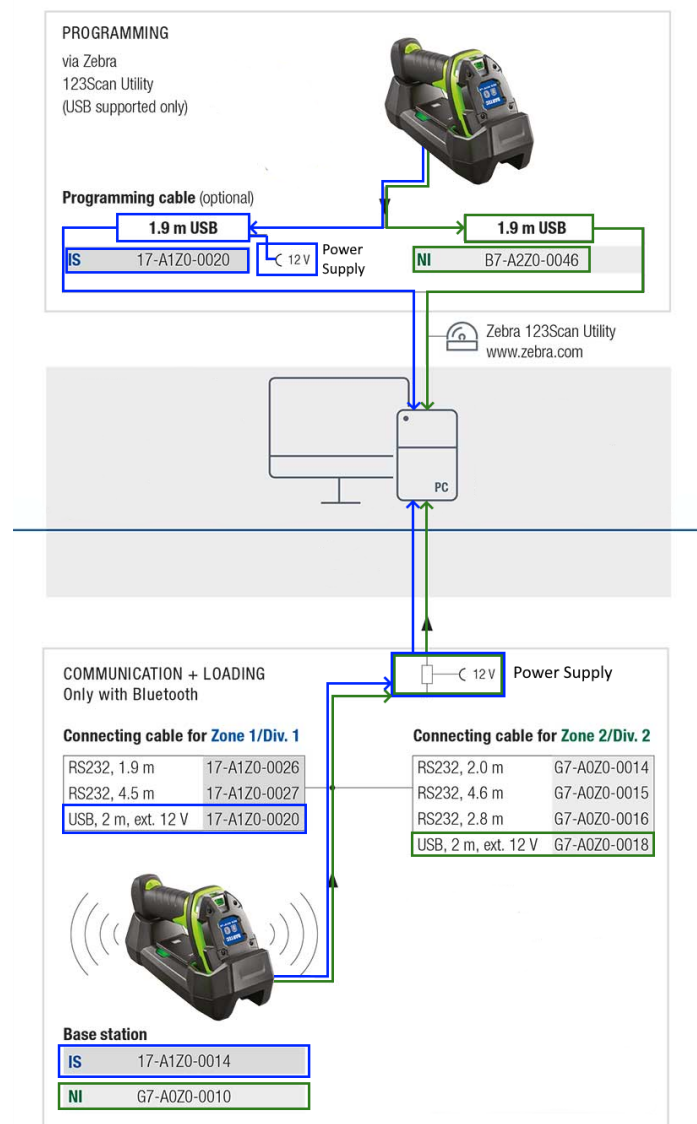
123 Scan Utility – identification of BARTEC version – corded scanner

All available corded scanner versions can be identified in 123 Scan Utility with following part numbers:

- DS3608-HP20313VZWW => Scan Engine SE4750-HP (with new board – revision 1 or later)
- DS3608-HP20123VZWW => Scan Engine SE4750-HP (with old board – no revision)
- DS3608-ER20123VZWW => Scan Engine SE4850-ER



123 Scan Utility – set up – Bluetooth scanner



The process of programming the scanner has to take place in the non-ex area!

■ **Zone 2/22 and Div 2 solution with Bluetooth scanner (green marked lines)**

- Base station P/N: G7-A0Z0-0010
- USB cable (connection and programming cable) P/N: G7-A0Z0-0018
- Power Supply is required! P/N: G7-A0Z0-0019
- AC power cable is required! P/N: Country specific

Note:

Programming cable with P/N: B7-A2Z0-0046 can be used as alternative. No power supply required. Power supply via USB port on PC.

■ **Zone 1/21 solution with Bluetooth scanner (blue marked lines)**

- Base station P/N: 17-A1Z0-0014
- USB cable (connection and programming cable) P/N: 17-A1Z0-0020
- Power Supply is required! P/N: G7-A0Z0-0019
- AC power cable is required! P/N: Country specific

Zone 1/21 and Zone 2/22 and Div.2 scanners each have a specific base station and they can't be used interchangeably

123 Scan Utility – set up – Bluetooth scanner

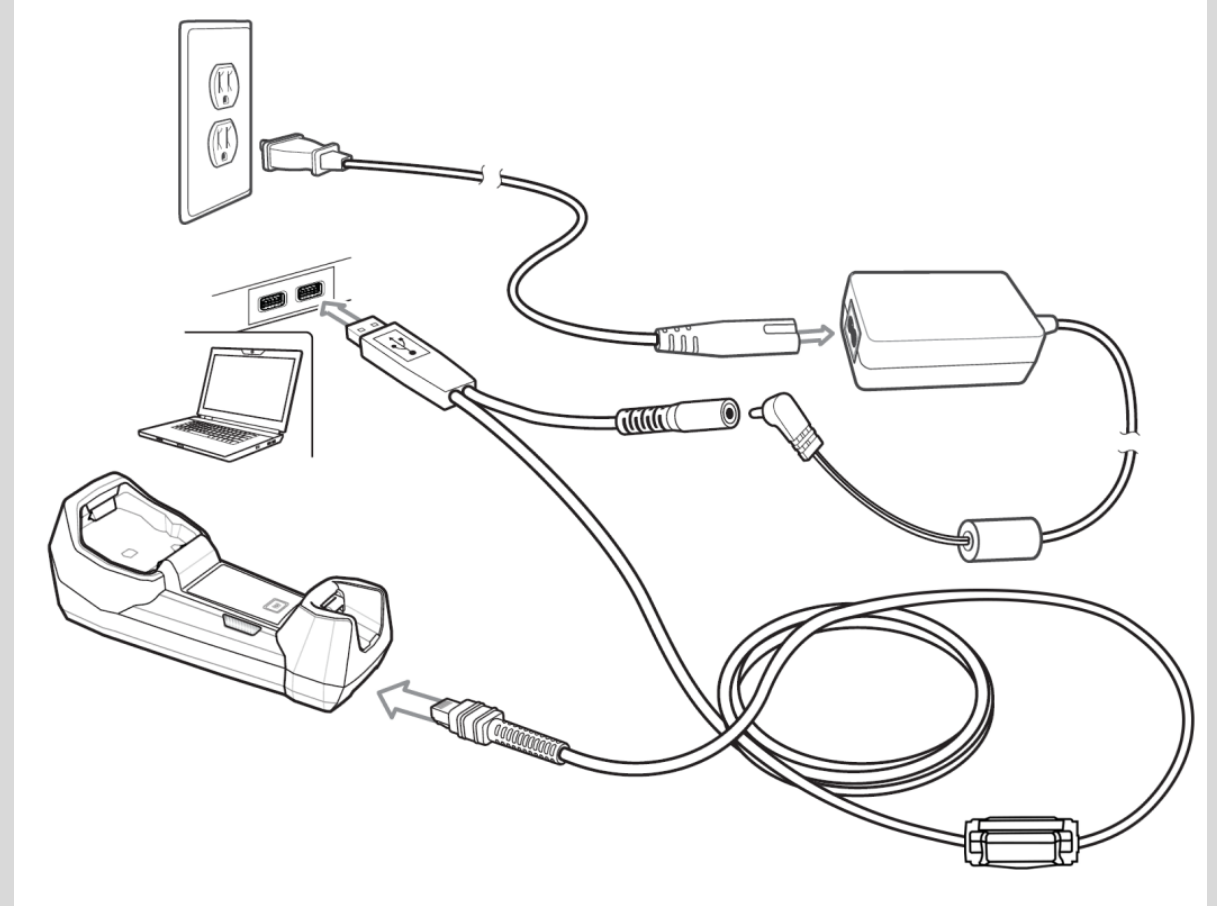
System example for Bluetooth version with base station:

Required parts for BCS3678^{ex}-NI system:

- Base station P/N G7-A0Z0-0010
- USB cable (connection and programming cable)
P/N: G7-A0Z0-0018
- Power Supply P/N: G7-A0Z0-0019
- AC power cable P/N: Country specific

Required parts for BCS3678^{ex}-IS system:

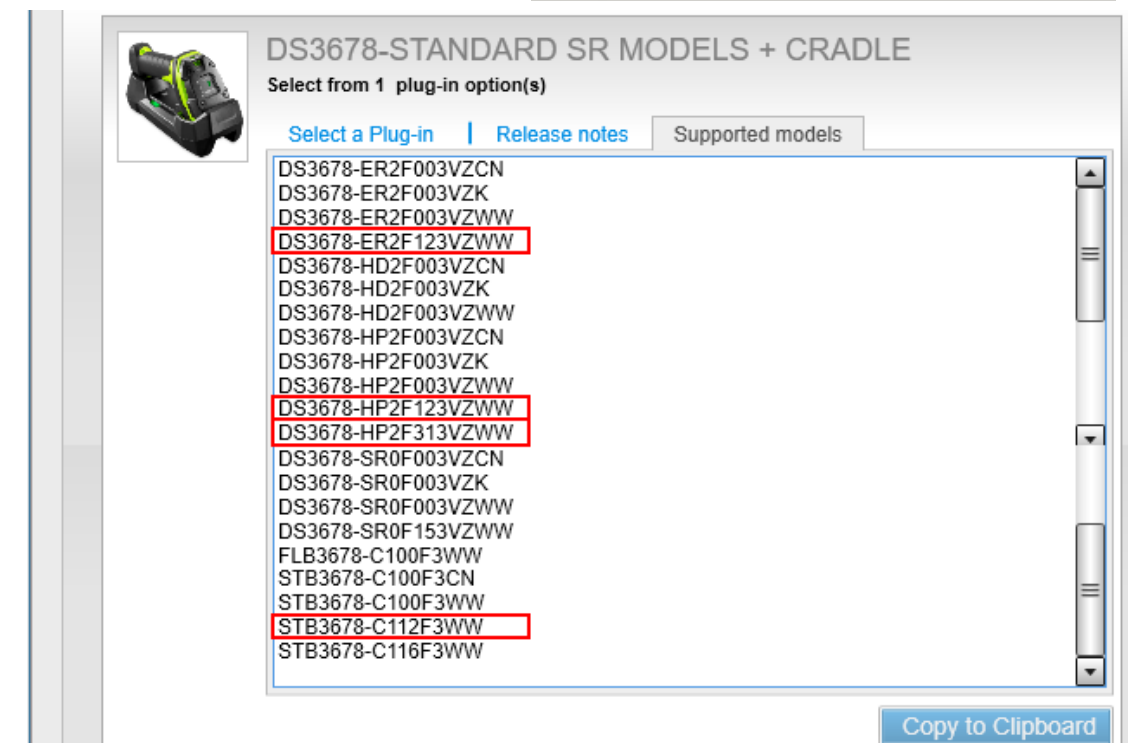
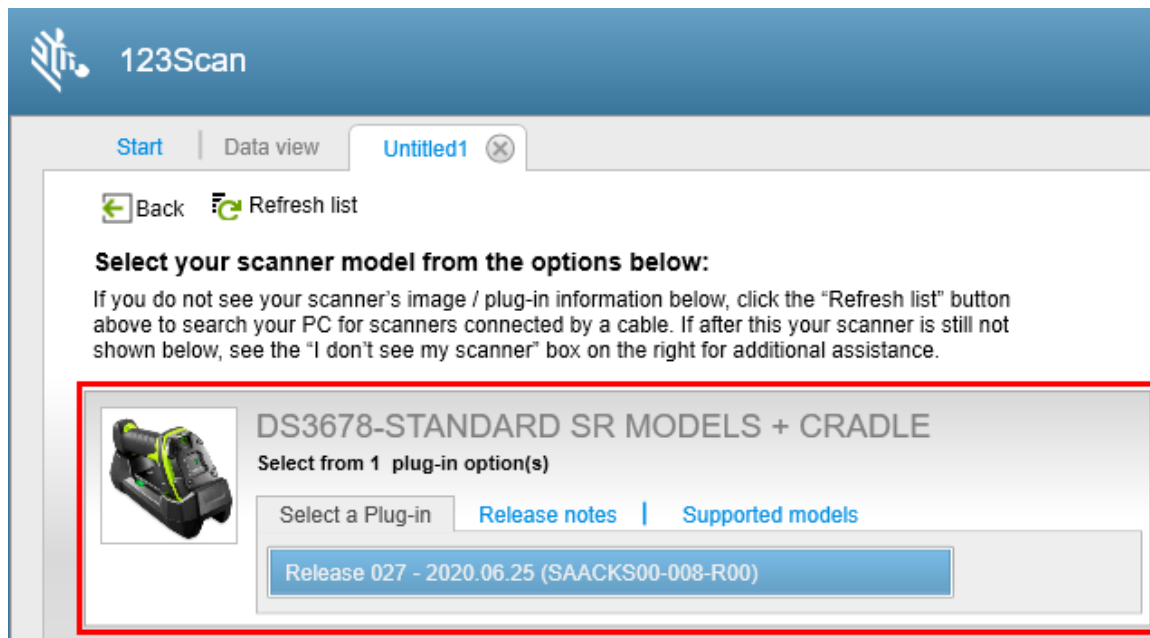
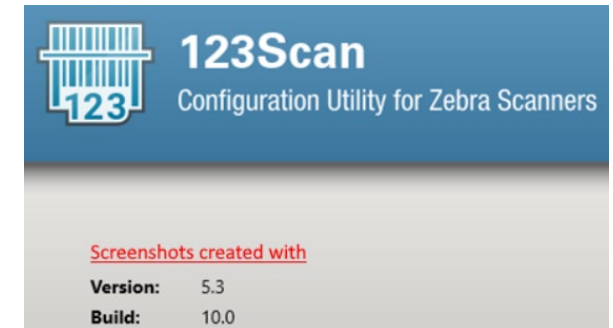
- Base station P/N 17-A1Z0-0014
- USB cable (connection and programming cable)
P/N: 17-A1Z0-0020
- Power Supply P/N: G7-A0Z0-0019
- AC power cable P/N: Country specific



123 Scan Utility – identification of BARTEC version – Bluetooth scanner

All available Bluetooth scanner versions can be identified in 123 Scan Utility with following part numbers:

- DS3678-ER2F123VZWW => Scan Engine SE4850-ER
- DS3678-HP2F123VZWW => Scan Engine SE4750-HP (with old board – no revision)
- DS3678-HP2F313VZWW => Scan Engine SE4750-HP (with new board – revision 1 or later)
- STB3678-C112F3WW => base station



123 Scan Utility - limitations

All features of 123 Scan Utility can be used to parametrize and setup the BCS36x8^{ex} scanner series.

The only limitations are:

- For battery management.
The BCS3678^{ex}-IS version does not use the original Zebra battery. It was necessary to use another battery to fulfill the requirements for hazardous location ATEX/IECEx Zone 1/21 → battery statistics and management operations can't be used with the zone 1 battery
- 123 Scan Utility can't be used with the “universal supply module” or the “Ex i supply module”.
A USB-HID connection is required.
The supply modules only support USB-SPP.



123 Scan Utility – Notes about functions and settings

Main screen after scanner is connected to 123 Scan Utility on PC via USB-HID.

1.

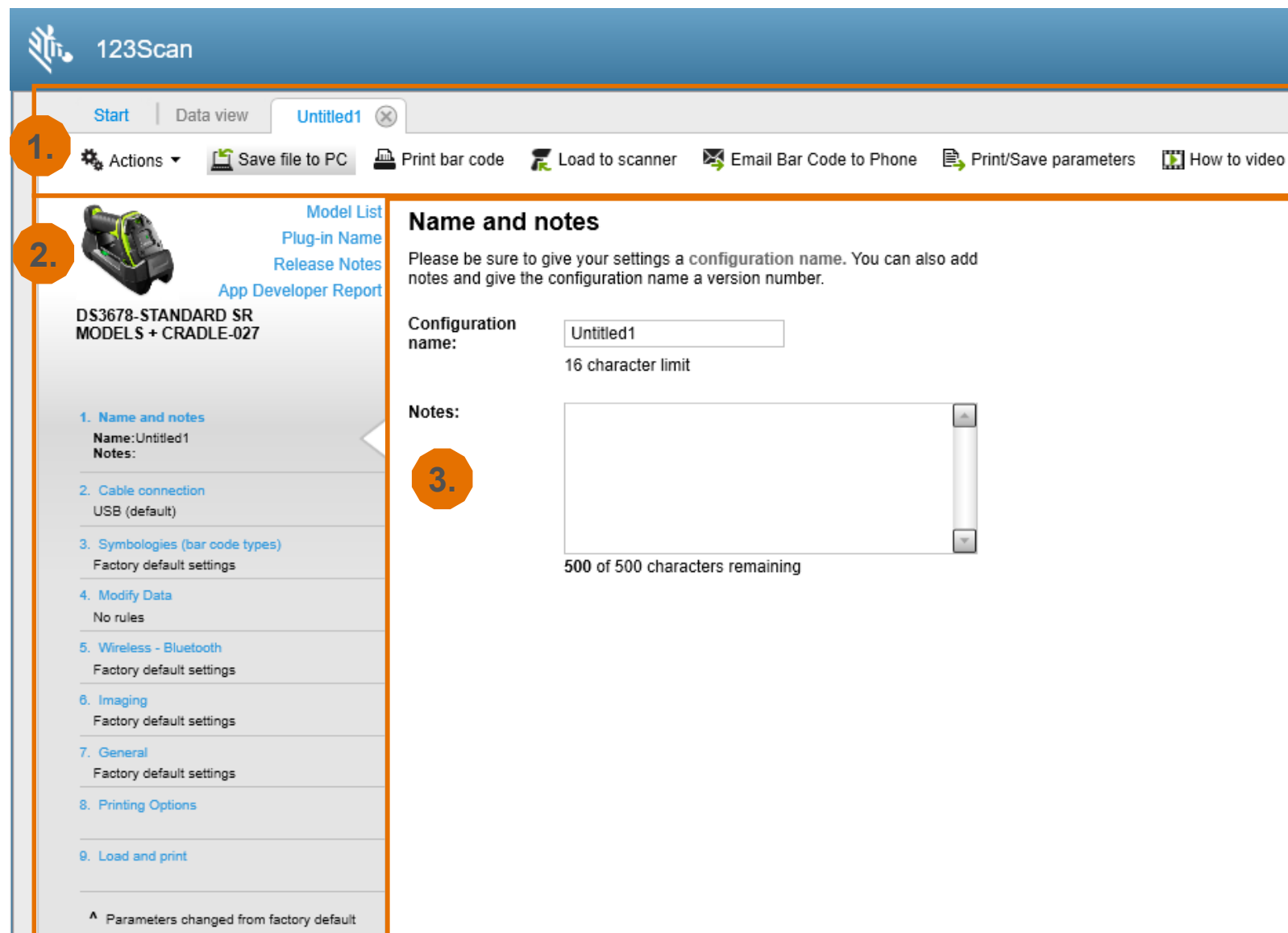
Main menu with options to save, send, print the configuration, as well to upload it to scanner.

2.

Configuration menu with different categories for scanner specific settings.

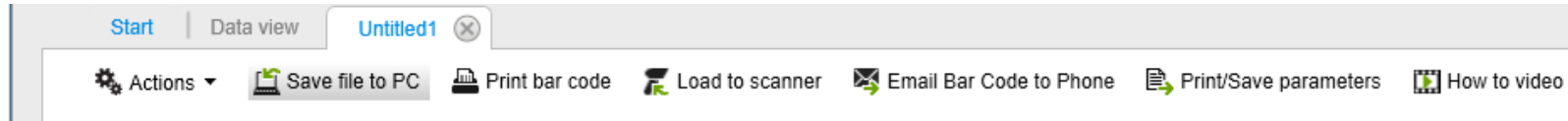
3.

Menu to setup the scanner specific settings in detail.



123 Scan Utility – Notes about functions and settings

Main menu with options to save, send, print the configuration, as well to upload it to scanner.



Actions:

- View scanners connected via USB
- Allows to view and open files with statistics about the connected scanners.
- Create or open SMS (Scanner Management Service) files.
- Open existing configurations
- Exit 123 Scan Utility

Save file to PC: allows you to save the configuration file locally at your PC.

Print bar code: Allows you to print out your configuration as programming barcodes. Scan the codes to activate configuration on your scanner.


Load to scanner: Allows you to upload the configuration to a scanner what is currently connected to 123 Scan Utility via programming cable.

Email Bar Code to Phone: Allows you to send the configuration as file with programming barcodes to other devices as e.g. smartphone. Open file on your device and scan the barcodes from display to activate the configuration on your scanner.

Print/Save parameters: Allows you to get a file with details what parameters and settings are set.

How to video: Different videos available what show how to use scan utility, how to create a configuration, use of advanced and multidata formatting and other usefull knowledge about the utility.

123 Scan Utility – Notes about functions and settings



Model List
Plug-in Name
Release Notes
App Developer Report

DS3678-STANDARD SR
MODELS + CRADLE-027

- 1. Name and notes
Name:Untitled1
Notes:
- 2. Cable connection
USB (default)
- 3. Symbolologies (bar code types)
Factory default settings
- 4. Modify Data
No rules
- 5. Wireless - Bluetooth
Factory default settings
- 6. Imaging
Factory default settings
- 7. General
Factory default settings
- 8. Printing Options
- 9. Load and print

^ Parameters changed from factory default

Configuration menu with different categories for scanner specific settings.

The menu is divided into different categories to adjust the scanner specifically to the customer's requirements.

1. **Name and notes:** allows you to give your configuration a name and make some notes about it.
2. **Cable connection:** allows you connection specific settings
3. **Symbolologies (bar code types):** allows you activation/deactivation of symbolologies and their code specific setup.
4. **Modify data:** allows you setup of Prefix/Suffix and/or creation of complex data modifications via ADF (Advanced Data Formatting) or complex scripting based data modifications e.g. MDF (Multi Data Formatting).
5. **Wireless – Bluetooth:** allows you settings specific to Bluetooth connections.
6. **Imaging:** allows you settings about capture images.
7. **General:** allows you general settings as e.g. keyboard country type, power settings, Pick list mode, Beeper, setup for use of OCR.
8. **Printing options:** allows you setup to print out configuration as programming barcodes.
9. **Load and print:** allows you to select options what you can do with a finished configuration. E.g. save to PC, print, load to connected scanner, send via mail, and more.

General note: Read Zebra Product Reference Guide for more detailed informaton about the different options.

123 Scan Utility – Notes about functions and settings

Category – Name and notes:

You can give your configuration a name and create notes specific to your configuration.

Notes from BARTEC:

No special notes.

The screenshot shows the 123Scan application interface. At the top, there's a blue header with the '123Scan' logo. Below the header, there's a navigation bar with 'Start' and 'Data view' tabs, and a window title 'Untitled1'. A toolbar contains icons for 'Actions', 'Save file to PC', 'Print bar code', 'Load to scanner', 'Email Bar Code to Phone', and 'Print'. The main area is divided into a left sidebar and a right content area. The sidebar shows a scanner icon and the text 'DS3678-STANDARD SR MODELS + CRADLE-027'. It also has links for 'Model List', 'Plug-in Name', 'Release Notes', and 'App Developer Report'. A list of settings is shown, with '1. Name and notes' highlighted by an orange box. The 'Name and notes' section in the main area has a title 'Name and notes' and a description: 'Please be sure to give your settings a configuration name. You can also add notes and give the configuration name a version number.' It includes a 'Configuration name:' field with 'Untitled1' and a '16 character limit' note. Below this is a 'Notes:' text area with a scrollbar, showing '500 of 500 characters remaining'.

123Scan

Start | Data view | Untitled1

Actions | Save file to PC | Print bar code | Load to scanner | Email Bar Code to Phone | Print

Model List
Plug-in Name
Release Notes
App Developer Report

DS3678-STANDARD SR
MODELS + CRADLE-027

1. Name and notes
Name: Untitled1
Notes:

2. Cable connection
USB (default)

3. Symbolologies (bar code types)
Factory default settings

4. Modify Data

Name and notes

Please be sure to give your settings a configuration name. You can also add notes and give the configuration name a version number.

Configuration name: Untitled1
16 character limit

Notes:

500 of 500 characters remaining

123 Scan Utility – Notes about functions and settings

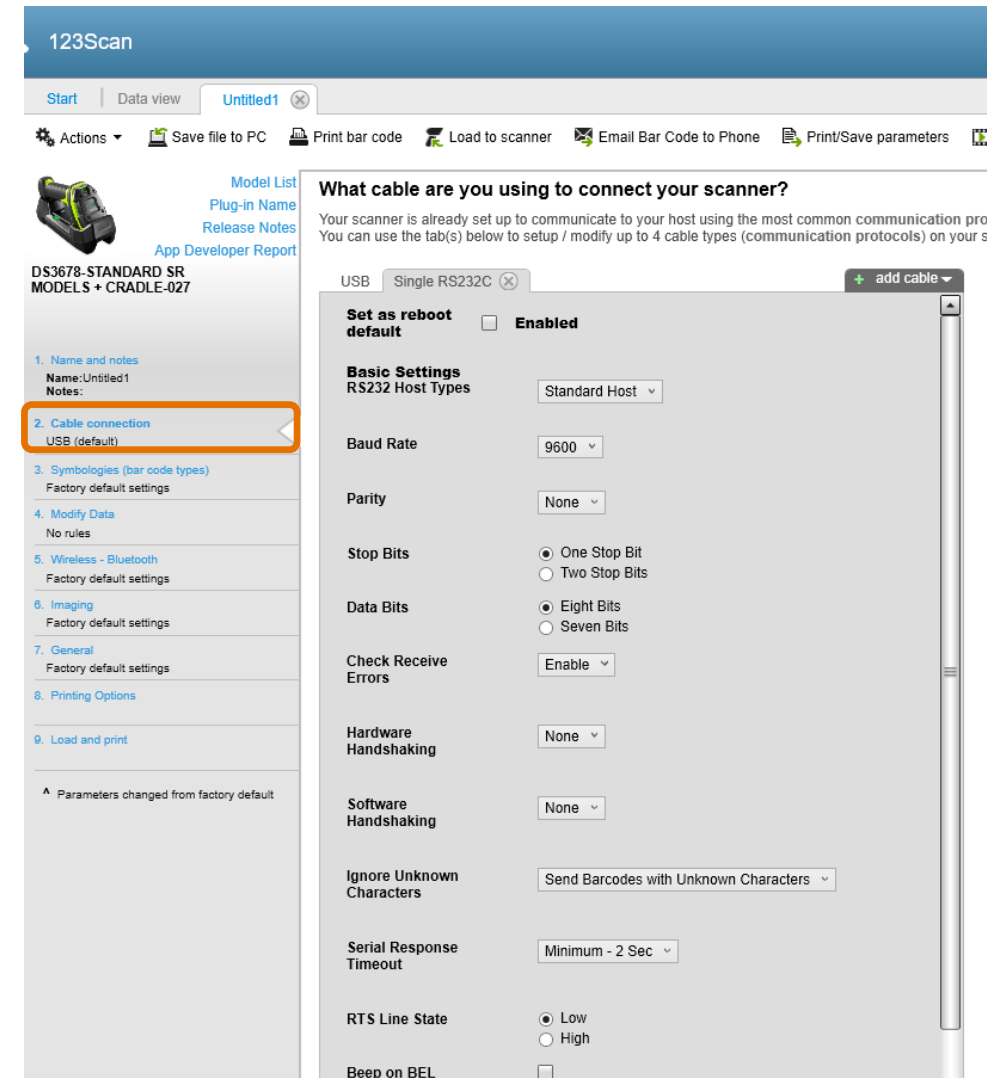
Category – Cable connections:

You can create specific settings for your cable connection in this menu.

The menu itself allows you to select your connection type and to do interface specific settings as e.g. interface parameters and host type.

Notes from BARTEC:

- If you use one of the available supply modules (universal supply module or supply module Ex i) from BARTEC then be aware that all supported interfaces are serial.
 - USB-SPP
The setup of the interface itself is done on the supply module.
The scanner can set to standard USB-HID mode.
 - RS232, RS422 or RS485 => select for all the the „Single RS232“ cable.
The setup of the interface itself is done on the supply module.
The scanner can set to standard RS232 mode.
See BARTEC user manual and available system descriptions for specific notes.
- If a base station is in use then standard USB or RS232 interfaces are available.
- No settings required in this category if you connect a Bluetooth scanner direct via Bluetooth to other Bluetooth devices.



123 Scan Utility – Notes about functions and settings

Category – Symbolologies (bar code types):

You can activate/deactivate the different supported symbolologies.

This menu allows:

- Symbology/barcode specific settings
- Other symbology/barcode specific options
- Symbology security level
- Digimarc (SE4850-ER only)
- Setup for “Preferred Symbol” function
- Setup for Symbology Security Level



Change your bar code settings

Your scanner is already set up to recognize the most common types of bar codes. To modify your decoding options, select a symbology (bar code type) from the drop-down below.

Select symbology (bar code type) to modify

- Aztec
- Chinese 2 of 5
- Codabar
- Code 11
- Code 128
- Code 39
- Code93
- Composite
- Data Matrix
- Discrete 2 of 5
- DotCode
- Gridmatrix
- GS1 Databar
- Han Xin
- Interleaved 2 of 5
- Korean 3 of 5
- Matrix 2 of 5
- MaxiCode
- MSI
- Other Options
- PDF-417
- Postal
- Preferred Symbol
- QR
- Symbology Security Level
- Digimarc
- UPC EAN

123Scan

Start | Data view | Untitled1

Actions | Save file to PC | Print bar code | Load to scanner | Email Bar Code to Phone | Print/Save

Model List
Plug-in Name
Release Notes
App Developer Report

DS3678-STANDARD SR
MODEL S + CRADLE-027

1. Name and notes
Name: Untitled1
Notes:

2. Cable connection
USB (default)

3. **Symbologies (bar code types)**
Factory default settings

4. Modify Data
No rules

5. Wireless - Bluetooth
Factory default settings

6. Imaging
Factory default settings

7. General
Factory default settings

8. Printing Options

9. Load and print

Parameters changed from factory default

Change your bar code settings

Your scanner is already set up to recognize the most common types of bar codes. To modify your decoding options, select a symbology (bar code type) from the drop-down below.

Code 128

Select Code Types

☒ Code 128
☐ ISBT 128
☒ GS1-128 (UCC/EAN-128)

Options for Code 128

Code 128 Lengths

Range

Min.length: 1 Max.length: 55

Code 128 Reduced Quiet Zone ☐

Code 128 Security Level Level 1

Ignore Code 128 <FNC4> ☐

Options for ISBT

ISBT Concatenation Redundancy 10

ISBT Concatenation Autodiscriminate

Check ISBT Table ☒

Notes from BARTEC:

No special notes.

123 Scan Utility – Notes about functions and settings

Category – Modify Data:

You can create different kind of data formatting rules for your application.

This menu allows:

- Use of pre-defined suffix (Tab or Enter)
- Create your own prefix and suffix values

Prefix / Suffix Simple Formatting

Select the layout for prefix & suffix value you want to use.

- | | |
|---|--|
| <input checked="" type="radio"/> <PREFIX> <DATA> | <input type="radio"/> <DATA> <SUFFIX 1> |
| <input type="radio"/> <PREFIX> <DATA> <SUFFIX 1> | <input type="radio"/> <DATA> <SUFFIX 2> |
| <input type="radio"/> <PREFIX> <DATA> <SUFFIX 2> | <input type="radio"/> <DATA> <SUFFIX 1> <SUFFIX 2> |
| <input type="radio"/> <PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2> | |

Enter values for prefix and suffix.

PREFIX: [code list](#)

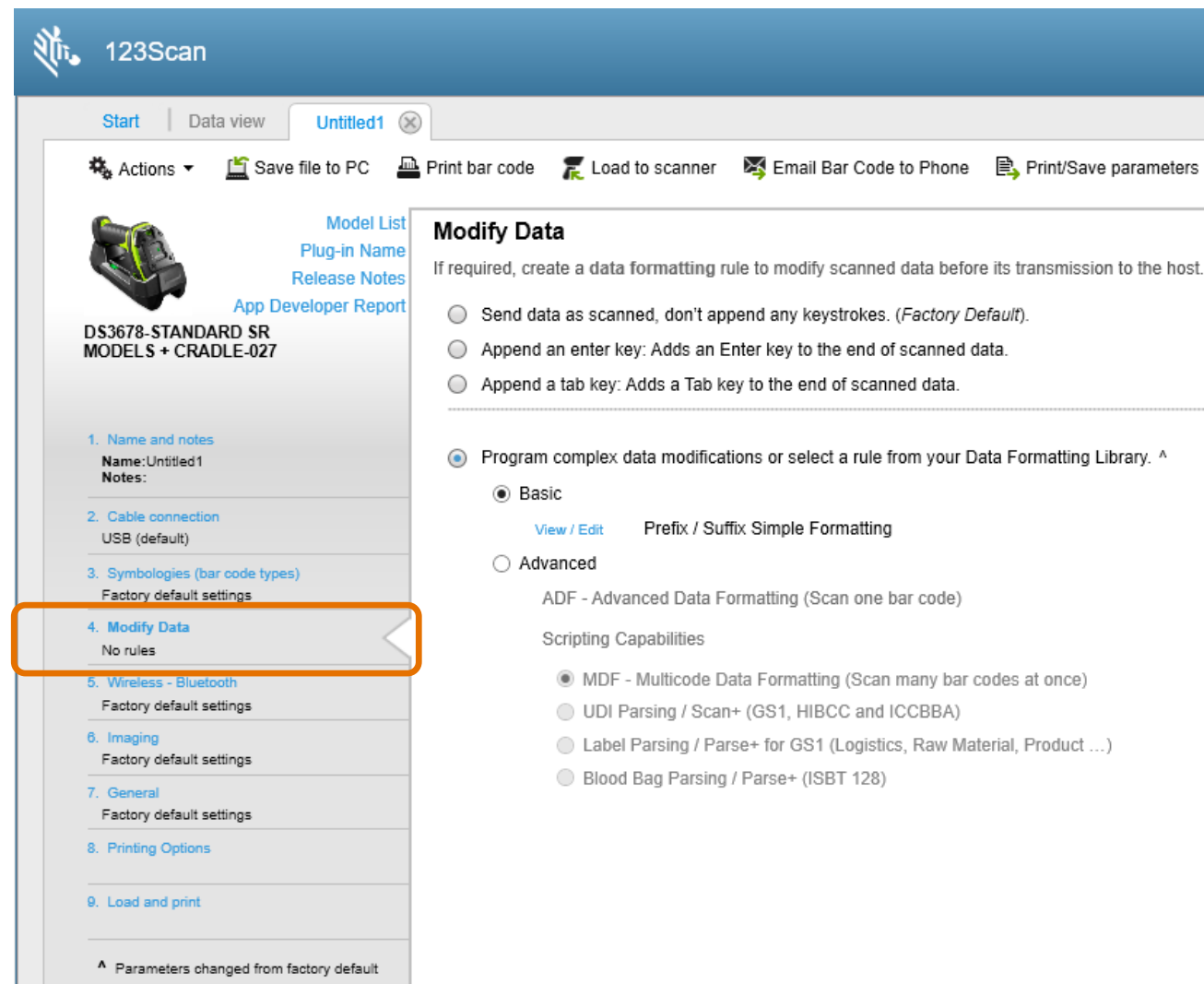
SUFFIX 1: [code list](#)

SUFFIX 2: [code list](#)

- Create ADF (Advanced Data Formatting) rules.
You can watch “How to video” for ADF)
- Create your own scripting based rules
You can watch “How to video” for this options)
 - MDF (Multidata Formatting) rules (scan up to 20 barcodes)
 - UDI- or Label- or Blood Bag parsing rules

Notes from BARTEC:

The performance of the zone 1 scanners vary compared to the zone 2 version due to the required ex-modifications.



123 Scan Utility – Notes about functions and settings

Category – Wireless - Bluetooth:

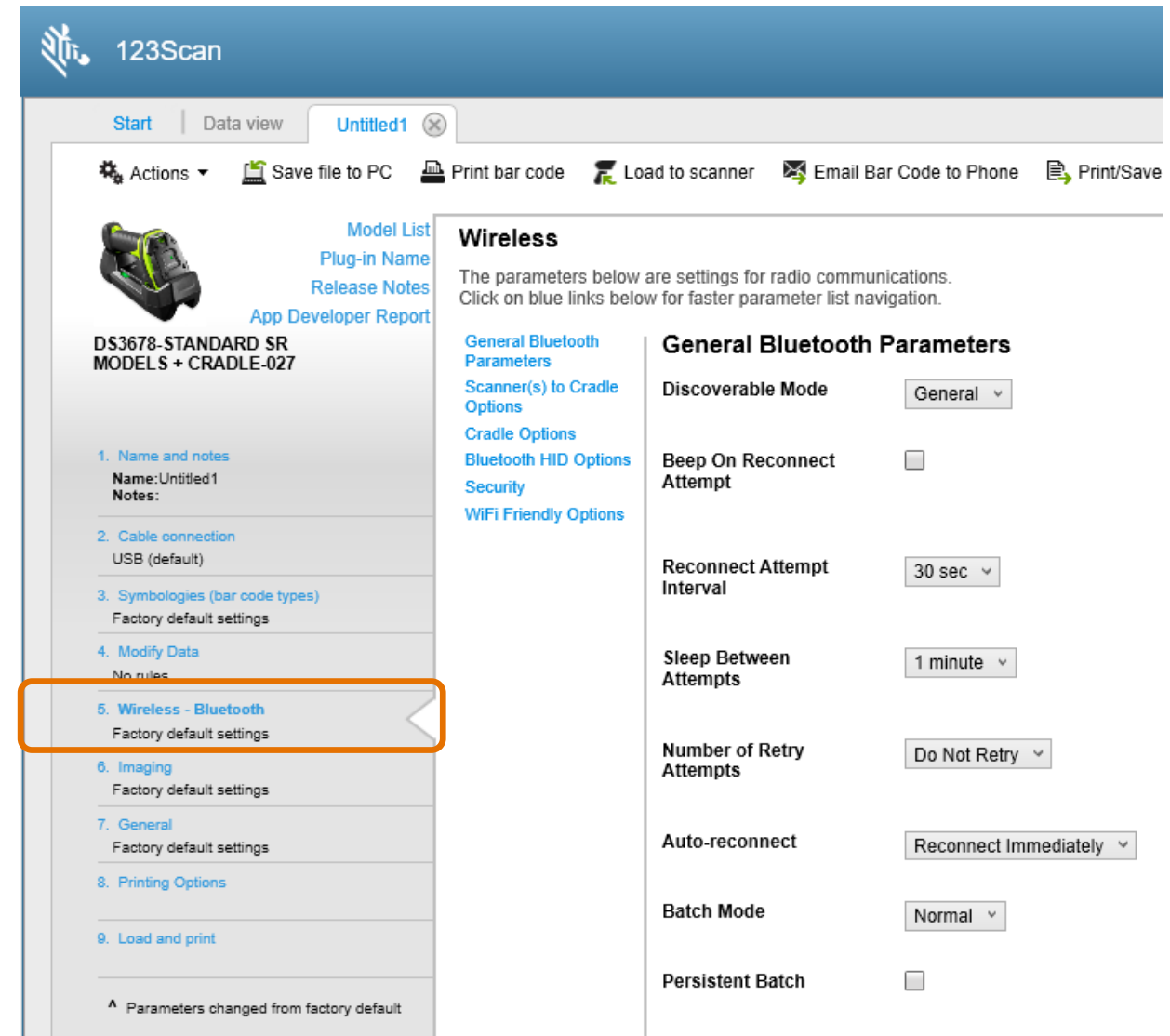
You can do Bluetooth specific settings for your connections and application.

This menu allows:

- General Bluetooth parameters
- Scanner to Cradle (base station) options
- Cradle (base station) options
- Bluetooth HID options
- Security
- Wifi Friendly options

Notes from BARTEC:

- Read Zebra Product Reference Guide for more detailed information about the different options.
- Multipoint-to-point is only available with use of base station (Cradle)
- Pair on Contacts should be disabled if you use base station only for charging
- No support for use of BARTEC universal supply module or supply module Ex i.



123 Scan Utility – Notes about functions and settings

Category – Imaging:

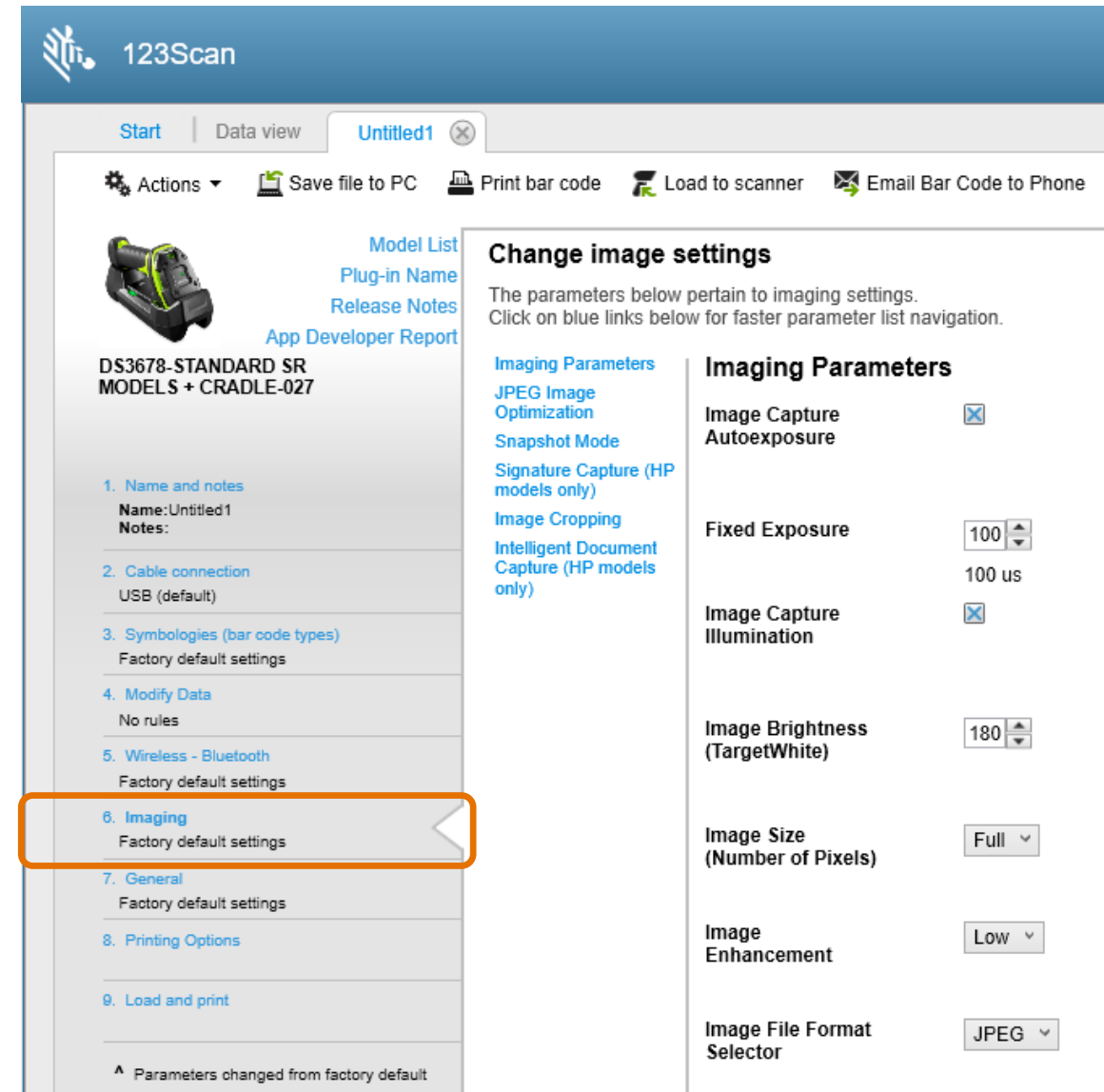
- You can do specific settings for capturing images.
The version with SE4750-HP supports IDC, signature, basic and advanced document & picture capture
- The version with SE4850-ER supports basic document & picture capture

This menu allows:

- Setup of general imaging parameters
- Setup of JPEG image optimization
- Setup of signature capture (SE4750-HP only)
- Setup of image cropping
- Use of IDC (Intelligent Document Capture) function (SE4750-HP only)
The Zone 1 version only support the function by use of Bluetooth scanner with base station or direct connection with other Bluetooth device.

Notes from BARTEC:

- The performance of the zone 1 scanners vary compared to the zone 2 version due to the required ex-modifications
- The image quality of the zone 1 scanners may vary slightly compared to the zone 2 version due to the required ex-modifications



123 Scan Utility – Notes about functions and settings

Category – General:

You can do specific general scanner settings in this menu.

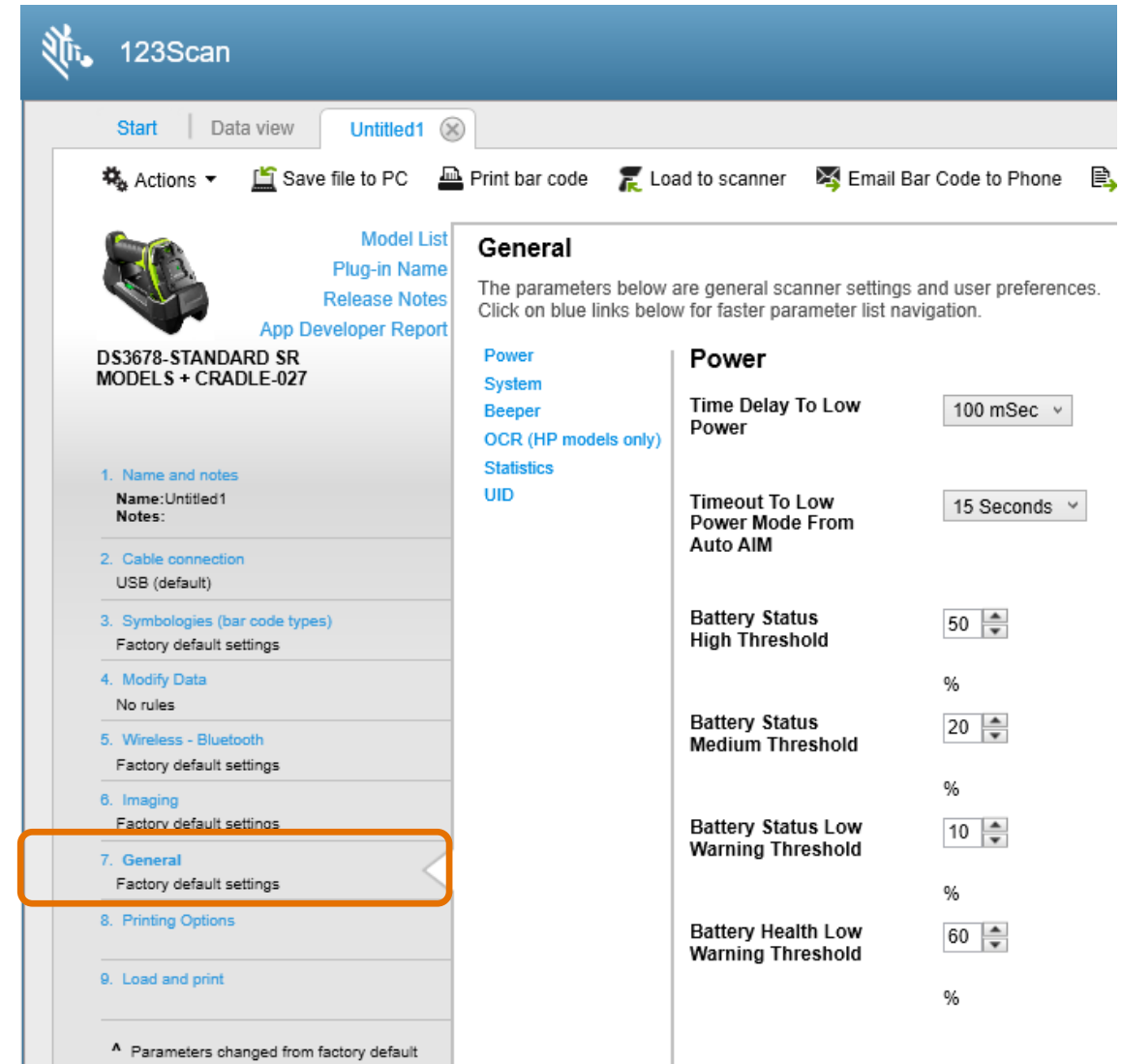
For example you can setup your used keyboard country language that data correct send to your host system.

This menu allows:

- Power settings and your own preferred battery status threshold for the status LED
- System relevant settings as your keyboard country, used unicode output, trigger modes, picklist mode (enables the digital scanner to decode only barcodes that are aligned under the LED aiming dot), and other options.
- Beeper setup as tone, volume, duration, and others
- OCR settings (SE4750-HP only)
Allows activation and setup of OCR specific parameters.
- UID and UID parsing (Unique Item iDentification)

Notes from BARTEC:

- The OCR and UID performance of the zone 1 scanners vary compared to the zone 2 version due to the required ex-modifications.
- The volume of the Zone 1 scanners are little quiet in compared to the zone 2 version due to the required ex-modifications.



123 Scan Utility – Notes about functions and settings

Category – Printing options:

In this menu you can make specific setup if you plan to print out your final configuration and plan to install it on your scanner via scan of the programming barcodes.

Notes from BARTEC:

No special notes.

The screenshot displays the 123Scan application window. The title bar reads "123Scan". Below the title bar is a menu bar with "Start", "Data view", and "Untitled1". A toolbar contains icons for "Actions", "Save file to PC", "Print bar code", "Load to scanner", "Email Bar Code to Phone", and "Print/Save parameters". The main area is divided into a left sidebar and a right pane. The sidebar lists configuration steps: 1. Name and notes, 2. Cable connection, 3. Symbolologies, 4. Modify Data, 5. Wireless - Bluetooth, 6. Imaging, 7. General, 8. Printing Options (highlighted with an orange box), and 9. Load and print. The right pane shows the "Printing Options" settings. It includes a "Default Options" section with radio buttons for "No Defaults", "Set Factory Defaults", and "Set Defaults" (selected). There are checkboxes for "Print only parameters changed from defaults" and "Erase All Rules". The "Page Setup" section includes "Paper Size" (Letter), "Orientation" (Portrait selected), and "Margin" settings (Top, Bottom, Left, Right). The "Barcode Layout" section includes "Barcode Type" (2D) and "Barcode Mil size" (Small).

123Scan

Start | Data view | Untitled1

Actions | Save file to PC | Print bar code | Load to scanner | Email Bar Code to Phone | Print/Save parameters

Model List
Plug-in Name
Release Notes
App Developer Report

DS3678-STANDARD SR
MODELS + CRADLE-027

1. Name and notes
Name:Untitled1
Notes:

2. Cable connection
USB (default)

3. Symbolologies (bar code types)
Factory default settings

4. Modify Data
No rules

5. Wireless - Bluetooth
Factory default settings

6. Imaging
Factory default settings

7. General
Factory default settings

8. Printing Options

9. Load and print

Parameters changed from factory default

Printing Options
The parameters below are print and paper options

Default Options

Start programming barcode with
☐ No Defaults
☐ Set Factory Defaults
☒ Set Defaults

Print only parameters changed from defaults ☒

Erase All Rules ☒

Page Setup

Paper Size: Letter (8.5 x 11.0 in, 216 x 280 mm)

Orientation: ☒ Portrait
☐ Landscape

Margin Top: 100 x0.01 Inches

Margin Bottom: 100 x0.01 Inches

Margin Left: 75 x0.01 Inches

Margin Right: 75 x0.01 Inches

Barcode Layout

Barcode Type: 2D (ALL settings in one barcode) DataMat

Barcode Mil size: Small (Default)

123 Scan Utility – Notes about functions and settings

Category – Load and print:

In this menu you can define what to do with your final configuration and in which way you plan to install it on your scanner.

This menu allows:

- Save your configuration on your PC.
Allows you to update and rework your existing configuration at later time.
- Load the configuration to a current connected scanner
- Send the configuration file via Email to other devices e.g. to a smartphone to install configuration via scan of programming barcode from display.
- Print/export your parameters to get an detailed overview of all defined settings. (only parameters what vary from default values)

Notes from BARTEC:

A complete list of default values can be found in Zebra product reference guide.

