CHAPTER 6 SCANNER PROFILES

Introduction

This chapter describes how to use the Zebra Scanning Profile application to create and edit profile parameters such as decoder parameters, scan parameters and reader parameters. Use the profiles to enable specific scanning parameters in scanning applications.

Note that default parameters are not be listed in the profile settings application.

Application Installation

Download the Zebra Scanner Profile application from the Zebra Support & Downloads web site. Go to: www.zebra.com/support.

To install the application, see

Profiles

A profile contains information on how the scanner behaves within different applications. Using profiles, an application can have a specific configurations. For example, each application can have a profile which outputs scanned data in the required format when that application comes to the foreground. The application can be configured to process the same set of captured data differently based on the requirements of each application.

Creating a New Profile

To create a new profile:

1. Touch **+**.
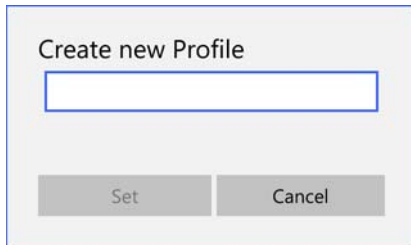
Figure 6-1   *Create New Profile Dialog Box*

2.   In the **Create new Profile** dialog box, enter a name for the new profile.

It is recommended that profile names be unique and made up of only alpha-numeric characters (A-Z, a-z, 0-9). The filename cannot contain: / \ : * ? " < > | or space.

3.   Touch **Set**.
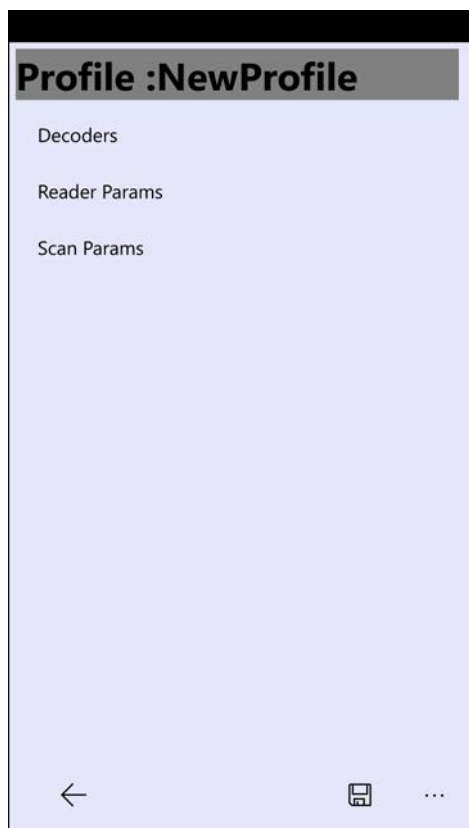
The new profile name appears in the **Profiles** list.

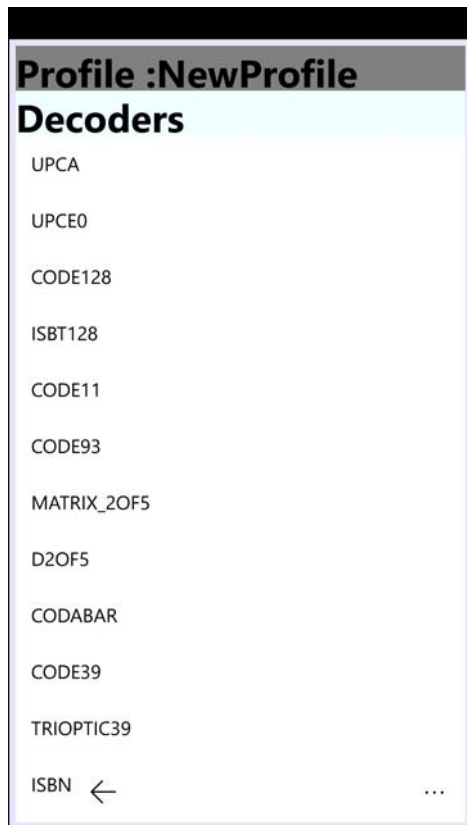
Figure 6-2   *Profile List*

Configuring a Profile

To configure a profile:

1.   Touch the profile name. The **Profile** screen appears.

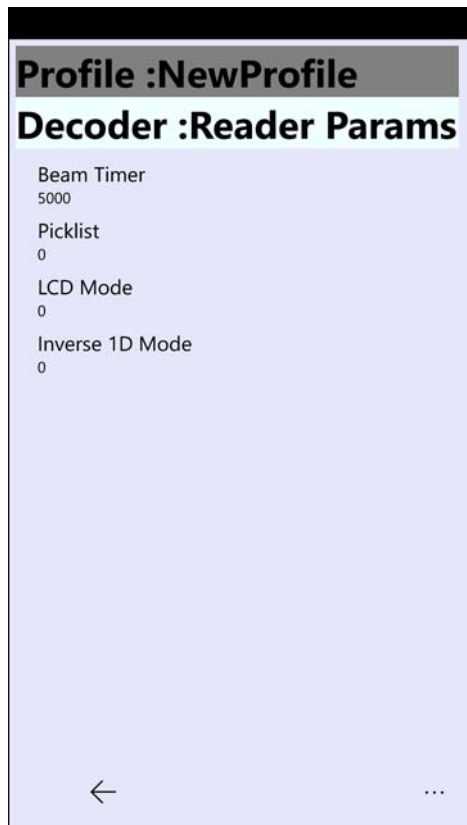**Figure 6-3**   *Profiles Screen*

2.   Touch **Decoders**. The Decoders screen appears.

Figure 6-4   *Decoders*

3. Select a decoder type to configure for this profile. See *Decoders on page 6-7* for detailed information on each decoder.

4. Touch ← to return to the **Profile** screen.

5. Touch **Reader Params** to configure the scanner parameters. The **Reader Params** screen appears.

Figure 6-5   *Reader Parameters*

6. Select all the parameters for this profile and configure. See *Reader Params on page 6-13* for detailed information on each parameter.

7. Touch ← to return to the **Profile** screen.

8. Touch **Scan Params** to configure the scanner parameters. The **Scan Params** screen appears.
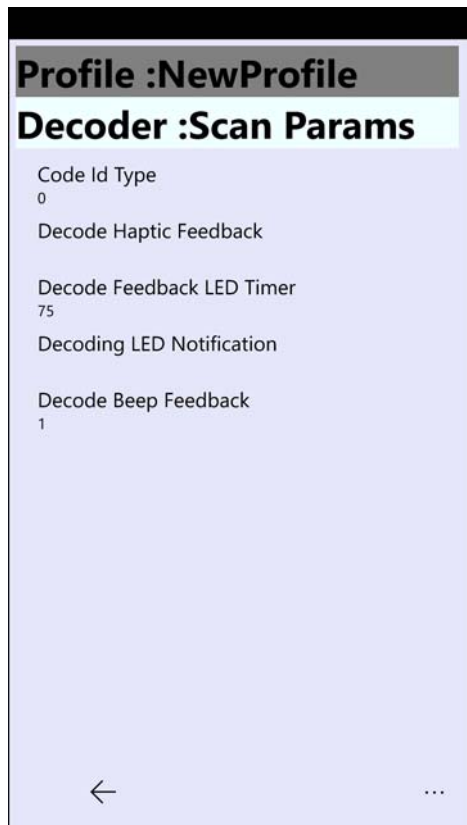
Figure 6-6   *Scan Parameters*

9. Select all the parameters for this profile and configure. See *Scan Params on page 6-13* for detailed information on each parameter.

10. Touch 💾 to save the profile information. A profile file is created in the **Documents** folder.

    The scanner driver is updated.

Using a Profile

To use the profile, the application has to call **setActiveProfile** with newly created profile name as a parameter.

In an application, if the user selects the supported profiles, the newly added profile displays along with the list of default profiles.

Deleting a Profile

To delete a profile:

1. Touch and hold on the profile name until a menu appears.

2. Touch **Remove**.

    The profile is remove from the device and from the scanner driver.

Decoders

Use **Decodes** to configure individual decoder parameters.

UPCA

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - True).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

  There are three options for transmitting a UPCA preamble:
  - **Preamble None** - Transmit no preamble.
  - **Preamble Sys Char** - Transmit System Character only (default).
  - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA). Select the appropriate option to match the host system.

UPCE0

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - False).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

  There are three options for transmitting a UPCE0 preamble:
  - **Preamble None** - Transmit no preamble (default).
  - **Preamble Sys Char** - Transmit System Character only.
  - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA).
- **Convert UPCE0 To UPCA** - Enable to convert UPCE0 (zero suppressed) decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections. Disable to transmit UPCE0 decoded data as UPCE0 data, without conversion (default - False).

Code128

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 6-13* for more information.
- **Length2**- Use to set decode lengths (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - False).
- **Enable Plain Code** - Set the ISBT128 subtype. A check in the checkbox indicates that the option is enabled (default - True).

ISBT128

- Check ISBT Table - The If ISBT128 Concat Mode is set, enable this option to concatenate only those pairs found in this table.m Other types of ISBT codes are not concatenated (default - False).

- **Security Level** - Options: **Security level 0**, **Security Level 1**, **Security Level 2** and **Security Level 3** (default - Security level 1).
    - **Security Level 0** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
    - **Security Level 1** - This setting eliminates most misdecodes (default).
    - **Security Level 2** - Select this option if Security level 1 fails to eliminate misdecodes.
    - **Security Level 3** - If Security Level 2 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.
- **Code 128 Reduced Quiet Zone** - Enables decoding of margin-less Code 128 bar codes (default - False).
- **Ignore Code 128 FNC4** - Applies to Code 128 bar codes with an embedded <FNC4> character. Enable this to strip the <FNC4> character from the decode data. The remaining characters are sent to the host unchanged. When disabled, the <FNC4> character is processed normally as per Code 128 standard (default - False).

Code 11

- **Length1** - Use to set decode lengths (default - 4). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).
- **Verify Check Digit** - Check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm. This selects the check digit mechanism for the decoded Code 11 bar code.
    - **No Check Digit** - Do not verify check digit.
    - **1 Check Digit** - Bar code contains one check digit (default).
    - **2 Check Digits** - Bar code contains two check digits.
- **Report Check Digit** - Transmit Code 11 data with or without the check digit. A check in the checkbox indicates to send Code 11 data with check digit (default - False).

Code93

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - False).

Matrix 2 of 5

- **Length1** - Use to set decode lengths (default - 10). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 0). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - False).
- **Report Check Digit** - Transmit Matrix 2 of 5 data with or without the check digit. A check in the checkbox indicates to send Matrix 2 of 5 data with check digit (default - True).
- **Verify Check Digit** - Enable this feature to check the integrity of all Matrix 2 of 5 symbols to verify that the data complies with a specified check digit algorithm (default - True).

Discrete 2 of 5

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 14). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).

Codabar

- **Length1** - Use to set decode lengths (default - 6). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).
- **CLSI Editing** - Enable this parameter to strip the start and stop characters and insert a space after the first, fifth, and tenth characters of a 14-character Codabar symbol. Enable this feature if the host system requires this data format (default - False).
- **NOTIS Editing** - Enable this parameter to strip the start and stop characters from a decoded Codabar symbol. Enable this feature if the host system requires this data format (default - False).

Code39

- **Length1** - Use to set decode lengths (default - 0). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths 4 (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Verify Check Digit** - Enable this feature to check the integrity of all Code 39 symbols to verify that the data complies with a specified check digit algorithm. The digital scanner decodes only those Code 39 symbols that include a modulo 43 check digit. Enable this feature only if the Code 39 symbols contain a modulo 43 check digit (default - False).
- **Report Check Digit** - Transmit Code 39 data with or without the check digit. A check in the checkbox indicates to send Code 39 data with check digit (default - False).
- **Full ASCII**- Code 39 Full ASCII is a variant of Code 39 that pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII (default - False).
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - False).
- **Convert Code39 To Code32** - Code 32 is a variant of Code 39 used by the Italian pharmaceutical industry. Scan the appropriate bar code below to enable or disable converting Code 39 to Code 32 (default - False).
- **Report Code32 Prefix** - Scan the appropriate bar code to enable or disable adding the prefix character "A" to all Code 32 bar codes (default - False).
- **Security Level** - Options: **Security level 0**, **Security Level 1**, **Security Level 2** and **Security Level 3** (default - Security level 1).
  - **Security Level 0** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
  - **Security Level 1** - This setting eliminates most misdecodes (default).
  - **Security Level 2** - Select this option if Security level 1 fails to eliminate misdecodes.
  - **Security Level 3** - If Security Level 2 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.

- **Code39 Reduced Quiet Zone** - Enables decoding of margin-less Code 39 bar codes (default - False).

Trioptic 39

- **Redundancy** - Sets the scanner to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).

ISBN

- **Bookland Format** - When Bookland is enabled, permits selection of an option for Bookland data.
  - **Format ISBN-10** - The scanner reports Bookland data starting with 978 in traditional 10-digit format with the special Bookland check digit for backward-compatibility. Data starting with 979 is not considered Bookland in this mode (default).
  - **Format ISBN-13** - The scanner reports Bookland data (starting with either 978 or 979) as EAN-13 in13-digit format to meet the 2007 ISBN-13 protocol.

Interleaved 2 of 5

- **Length1** - Use to set decode lengths (default - 14). See *Decode Lengths on page 6-13* for more information.
- **Length2** - Use to set decode lengths (default - 10). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).
- **Check Digit**
  - **No Check Digit** - A check digit is not used. (default)
  - **USS Check Digit** - Select to check the integrity of all Interleaved 2 of 5 symbols to verify the data complies with either the Uniform Symbology Specification (USS) check digit algorithm.
  - **OPCC Check Digit** - Select to check the integrity of all Interleaved 2 of 5 symbols to verify the data complies with either the Optical Product Code Council (OPCC) check digit algorithm.
- **Report Check Digit** - Transmit Interleaved 2 of 5 data with or without the check digit. A check in the checkbox indicates to send Interleaved 2 of 5 data with check digit (default - False).
- **Convert ITF-14 To EAN13** - Convert 14-character Interleaved 2 of 5 bar codes to EAN-13, and transmit as EAN-13. The Interleaved 2 of 5 bar code must be enabled and must have a leading zero and a valid EAN-13 check digit. A check in the checkbox indicates that the option is enabled (default - False).
- **I2of5 Security Level** - Options: **I2of5 Security level 0**, **I2of5 Security Level 1** (default), **I2of5 Security Level 2** and **I2of5 Security Level 3**.
- **I2of5 Reduced Quiet Zone** - Enables decoding of margin-less I2of5 bar codes (default - False).

MSI

- **Length 1** - Use to set decode lengths (default - 4). See *Decode Lengths on page 6-13* for more information.
- **Length 2** - Use to set decode lengths (default - 55). See *Decode Lengths on page 6-13* for more information.
- **Redundancy** - Sets the reader to read the bar code twice before accepting data. A check in the checkbox indicates that redundancy is enabled (default - True).
- **Check Digit** - With MSI symbols, one check digit is mandatory and always verified by the reader. The second check digit is optional.
  - **One Check Digit** - Verify one check digit (default).
  - **Two Check Digits** - Verify two check digits.

- **Check Digit Scheme** - Two algorithms are possible for the verification of the second MSI check digit. Select the algorithm used to encode the check digit.
    - **Mod-11-10** - First check digit is MOD 11 and second check digit is MOD 10 (default).
    - **Mod-10-10** - Both check digits are MOD 10.
- **Report Check Digit** - Transmit MSI data with or without the check digit. A check in the checkbox indicates to send MSI data with check digit (default - False).

GS1 DataBar Limited

- **GS1 Limited Security Level**
    - **GS1 Security Level 1** - This setting allows the scanner to operate in its most aggressive state, while providing sufficient security in decoding most "in-spec" bar codes.
    - **GS1 Security Level 2** - This setting eliminates most misdecodes (default).
    - **GS1 Security Level 3** - Select this option if Security level 2 fails to eliminate misdecodes.
    - **GS1 Security Level 4** - If Security Level 3 is selected and misdecodes still occur, select this security level. Be advised, selecting this option is an extreme measure against mis-decoding severely out of spec bar codes. Selecting this level of security significantly impairs the decoding ability of the scanner. If this level of security is needed, try to improve the quality of the bar codes.

UPCE1

- **Report Check Digit** - The check digit is the last character of the symbol used to verify the integrity of the data. Enables or disables this option. A check in the checkbox indicates that the option is enabled (default - False).
- **Preamble** - Preamble characters are part of the UPC symbol consisting of Country Code and System Character. Select the appropriate option to match the host system.

    There are three options for transmitting a UPCE1 preamble:
    - **Preamble None** - Transmit no preamble (default).
    - **Preamble Sys Char** - Transmit System Character only.
    - **Preamble Country and Sys Char** - Transmit System Character and Country Code ("0" for USA).
- **Convert UPCE1 To UPCA** - Enable this to convert UPCE1 decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections. Disable this to transmit UPCE1 decoded data as UPCE1 data, without conversion (default - False).

UPC EAN Params

✓ *NOTE* This section pertains to the following profiles: **UPCAADD2**, **UPCAADD5**, **UPCEADD2**, **UPCEADD5**, **EAN8ADD2**, **EAN8ADD5**, **EAN13ADD2** and **EAN13ADD5**.

Allows the configuration of the parameters that apply to more than one UPC or EAN decoder.

- **Supplemental Mode**
    - **No Supplementals** - the scanner is presented with a UPC/EAN plus supplemental symbol, the scanner decodes UPC/EAN and ignores the supplemental characters (default).
    - **Supplemental Always** - the scanner only decodes UPC/EAN symbols with supplemental characters, and ignores symbols without supplementals.
    - **Supplements Auto** - the scanner decodes UPC/EAN symbols with supplemental characters immediately. If the symbol does not have a supplemental, the scanner must decode the bar code the number of times

set via UPC/EAN Supplemental Redundancy before transmitting its data to confirm that there is no supplemental.

- **Supplemental Smart** - Enables smart supplementals. In this mode the decoder returns the decoded value of the main block right away if it does not belong to one of the following supplemental types: 378, 379, 977, 978, 979, 414, 419, 434 or 439. If the bar code starts with one of the prefixes it searches the image more aggressively for a supplemental. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

- **Supplemental 378-379** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 378 or 379. Disables reading of supplementals for any other UPC/EAN bar code not starting with 378 or 379. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

- **Supplemental 978-979** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 978 or 979. Disables reading of supplementals for another UPC/EAN bar code not starting with 978 or 979. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

- **Supplemental 414-419-434-439** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 414, 419, 434 or 439. Disables reading of supplementals for another UPC/EAN bar code 4 - 16 not starting with 414, 419, 434 or 439. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

- **Supplemental 977** - Enables (auto-discriminate) supplemental for UPC/EAN codes starting with 977. Disables reading of supplementals for another UPC/EAN bar code not starting with 977. Tries to scan the supplemental if it is present. If the supplemental scanning failed, then the main bar code is returned.

UPCCOUPON

- **Coupon Report Mode** - Traditional coupon symbols are composed of two bar code: UPC/EAN and Code 128. A new coupon symbol is composed of a single Data Expanded bar code. The new format offers more options for purchase values (up to $999.999) and supports complex discount offers as a second purchase requirement. An interim coupon symbol also exists that contain both types of bar codes: UPC/EAN and Databar Expanded. This format accommodates both retailers that do not recognize or use the additional information included in the new coupon symbol, as well as those who can process new coupon symbols.

    - **Old Coupon Report Mode** - Scanning an old coupon symbol reports both UPC and Code 128, scanning is interim coupon symbol reports UPC, and scanning a new coupon symbol reports nothing (no decode).

    - **New Coupon Report Mode** - Scanning an old coupon symbol reports either UPC or Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.

    - **Both Coupon Report Modes** - Scanning an old coupon symbol reports both UPC and Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded (default).

GS1128COUPON

- **Coupon Report Mode** - Traditional coupon symbols are composed of two bar code: UPC/EAN and Code 128. A new coupon symbol is composed of a single Data Expanded bar code. The new format offers more options for purchase values (up to $999.999) and supports complex discount offers as a second purchase requirement. An interim coupon symbol also exists that contain both types of bar codes: UPC/EAN and

Databar Expanded. This format accommodates both retailers that do not recognize or use the additional information included in the new coupon symbol, as well as those who can process new coupon symbols.

- **Old Coupon Report Mode** - Scanning an old coupon symbol reports both UPC and Code 128, scanning is interim coupon symbol reports UPC, and scanning a new coupon symbol reports nothing (no decode).
- **New Coupon Report Mode** - Scanning an old coupon symbol reports either UPC or Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded.
- **Both Coupon Report Modes** - Scanning an old coupon symbol reports both UPC and Code 128, and scanning an interim coupon symbol or a new coupon symbol reports Databar Expanded (default).

Decode Lengths

- The allowable decode lengths are specified by options **Length1** and **Length2** as follows:
- Variable length: Decode symbols containing any number of characters.
  - Set both **Length1** and **Length2** to 0.
- Range: Decode a symbol with a specific length range (from *a* to *b*, including *a* and *b*).
  - Set **Length1** to *a* and set **Length2** to *b*.
- Two Discrete Lengths: Decode only symbols containing either of two selected lengths.
  - Set both **Length1** or **Length2** to the specific lengths. **Length1** must be greater than **Length2**.
- One Discrete Length: Decode only symbols containing a specific length.
  - Set both **Length1** and **Length2** to the specific length.

Reader Params

Allows the configuration of parameters specific to the selected bar code reader.

- **Beam Timer** - Sets the maximum amount of time that the reader remains on (0 - 60,000 ms in increments of 100 ms). A value of 0 sets the reader to stay on indefinitely (default -5000).
- **Picklist** - Allows the scanner to decode only the bar code that is directly under the cross-hair/reticle (+) part of the pattern. This feature is useful in applications where multiple bar codes may appear in the field of view during a decode session and only one of them is targeted for decode.
  - **Disabled** – Disables Picklist mode. Any bar code within the field of view can be decoded (default).
  - **Hardware Picklist**– Enables Picklist mode by sending a command to hardware.
- **LCD Mode** - Enables or disables LCD mode. LCD mode enhances the ability of the scanner to read bar codes from LCD displays such as cellphones.
  - **Disable** - Disables the LCD mode (default).
  - **Enable** - Enables LCD mode.
- **Inverse 1D Mode** - This parameter allows the user to select decoding on inverse 1D bar codes.
  - **Disable** - Disables decoding of inverse 1D bar codes (default).
  - **Enable** - Enables decoding of only inverse 1D bar codes.
  - **Auto** - Allows decoding of both twice positive and inverse 1D bar codes.

Scan Params

Allows the configuration of Code ID and decode feedback options.

- **Code ID Type** - A Code ID character identifies the code type of a scanned bar code. This is useful when the reader is decoding more than one code type. Select a code ID character to insert between the prefix and the decoded symbol.
    - **Code ID Type None** - No prefix (default)
    - **Code ID Type AIM** - Insert AIM Character prefix.
    - **Code ID Type Symbol** - Insert Symbol character prefix.
- **Decode Haptic Feedback** - Enable the device to vibrate upon a good decode (default - False).
- **Decode Feedback LED Timer** - Set the amount of time (in milliseconds) that the green Data Capture LED stays lit after a good decode. (default - 75 msec.). Move slider to change value.
- **Decoding LED Notification** - Enable the device to light the red Data Capture LED when data capture is in progress. (default - False).
- **Decode Beep Feedback** - Select an audio tone to sound upon a good decode.
    - No Beep Feedback - Audio tone does not sound.
    - Hardware Beep Feedback - Audio tone is system tone (default).
    - Software Beep Feedback - Audio tone is programmed by application.