AsReader（ASR-A24D/ASR-M24D）

Barcode Parameter Manual

Asterisk, Inc.

Version 2.0

※This information is subject to change without notice

Revision History

Version	Date	Item
1.0	November 14, 2023	First Version
2.0	September 30, 2024	Added ASR-M24D support. Added Trigger Mode and Continuous Barcode Read.

To set parameter values

Confirm that the batteries of the AsReader ASR-A24D/ASR-M24D (Hereinafter referred to as AsReader) and the Mobile Device are charged adequately before setting the parameters.

How to change parameter values

Scan the appropriate barcodes in this guide.

・How to change the Barcode Parameter Settings
1. Connect the AsReader to your Mobile Device.
2. Launch an application on your Mobile Device that utilizes the AsReader scanner, such as the AsReader demo app.
3. Scan the setting barcode(s).

    ※ Nothing will be displayed on the screen of the mobile device connected to AsReader when setting barcodes are scanned.

    ※ A beep will sound when a setting barcode is successfully read.

    ※ In the programming barcode lists, asterisks (*) indicate the default values of the AsReader.

4. Restart the application mentioned above.

* Indicates Default ——— ***High Volume** ——— Feature/Option
(00h) ——— Option Hex Value for programming via SSI command

Parameter Default settings (factory defaults)

Parameter	Value	Page
Default parameter	Restore Defaults	10
Lock Parameter Scanning	N/A	11
Unlock Parameter Scanning	N/A	11
Suppress Power Up Beeps	Do Not Suppress	12
Decode Session Timeout	9.9 Seconds	13
Triggered Timeout, Same Symbol	Disable	14
Mirrored Image	Disable	15
PDF Prioritization	Disable	16
PDF Prioritization Timeout	200ms	17
Parameter Scanning	Enable	18
Beep After Good Decode	Enable	19
Beep Tone	Medium	20
Beep Volume	High	21
Beep Duration	Medium	22
Decode Aiming Pattern	Enable	23
Trigger Mode	Standard	24
Picklist Mode	Disable	25
Continuous Barcode Read	Disable	26
Enter Key	N/A	26
Tab Key	N/A	26
Transmit Code ID Character	None	27
Prefix Values	7013 <CR><LF>	28
Suffix Values	7013 <CR><LF>	28
Scan Data Transmission Format	Data As Is	29
Transmit "No Read" Message	Disable	27
Disable All Code Types	N/A	28
Enable All Code Types	N/A	28
UPC-A	Enable	29
UPC-E	Enable	29
UPC-E1	Disable	30
EAN-8/JAN8	Enable	30
Transmit EAN-8 Check Digit	Enable	31
EAN-13/JAN13	Enable	31
Transmit EAN-13 Check Digit	Enable	32
Bookland EAN	Disable	32
Bookland ISBN Format	ISBN-10	33
Decode UPC/EAN/JAN Supplementals	Ignore	34

User-Programmable Supplementals
    Supplemental 1
    Supplemental 2
	000	38

UPC/EAN/JAN Supplemental Redundancy	10	39
UPC/EAN/JAN Supplemental AIM ID Format	Combined	40
Transmit UPC-A Check Digit	Enable	41
Transmit UPC-E Check Digit	Enable	41
Transmit UPC-E1 Check Digit	Enable	42
UPC-A Preamble	System Character	43
UPC-E Preamble	System Character	44
UPC-E1 Preamble	System Character	45
Convert UPC-E to UPC-A	Disable	46
Convert UPC-E1 to UPC-A	Disable	46

MSI Check Digit	One MSI Check Digit	97
Transmit MSI Check Digit(s)	Disable	97
MSI Check Digit Algorithm	Mod 10/Mod 10	98
MSI Reduced Quiet Zone	Disable	98
Enable/Disable Chinese 2 of 5	Disable	99
Enable/Disable Matrix 2 of 5	Disable	100
Set Lengths for Matrix 2 of 5	4 to 55	101
Matrix 2 of 5 Check Digit	Disable	103
Transmit Matrix 2 of 5 Check Digit	Disable	103
Enable/Disable Korean 3 of 5	Disable	104
Inverse 1D	Regular	105
US Postnet	Disable	106
US Planet	Disable	106
Transmit US Postal Check Digit	Enable	107
UK Postal	Disable	108
Transmit UK Postal Check Digit	Enable	108
Japan Postal	Disable	109
Australia Post	Disable	109
Australia Post Format	Autodiscriminate	110
Netherlands KIX Code	Disable	111
USPS 4CB/One Code/Intelligent Mail	Disable	111
UPU FICS Postal	Disable	112
Mailmark	Disable	112
GS1Databar - 14	Enable	113
GS1 Databar Limited	Enable	113
GS1 Databar Expanded	Enable	114
Convert GS1 Databar to UPC/EAN/JAN	Disable	114
GS1 DataBar Security Level	Level 1	115
Composite CC-C	Disable	116
Composite CC-A/B	Disable	116
Composite TLC-39	Disable	117
Composite Inverse	Regular Only	117
UPC Composite Mode	UPC Never Linked	118
Composite Beep Mode	Beep As Each Code Type is Decoded	119
GS1-128 Emulation Mode for UCC/EAN Composite Codes	Disable	119
Enable/Disable PDF417	Enable	120
Enable/Disable MicroPDF417	Disable	120
Code 128 Emulation	Disable	121
Data Matrix	Enable	122
GS1 Data Matrix	Disable	122
Data Matrix Inverse	Inverse Autodetect	123
Decode Data Matrix Mirror Images	Auto	124
Maxicode	Disable	125
QR Code	Enable	125
GS1 QR	Enable	126
MicroQR	Enable	126
Linked QR Mode	Linked QR Only	127
Aztec	Enable	128
Aztec Inverse	Inverse Autodetect	129
Han Xin	Disable	129

Set Default Parameter

You can reset the AsReader to two types of defaults: factory defaults or custom defaults. Scan the appropriate bar code below to reset the decoder to its default settings and/or set its current settings as custom defaults.

- **Restore Defaults** - Scan this barcode to reset all default parameters as follows.
  - ・ If you previously set custom defaults by scanning **Write to Custom Defaults**, scan **Restore Defaults** to retrieve and restore the decoder's custom default settings.
  - ・ If you did not set any custom defaults, scan **Restore Defaults** to restore the factory default values listed in the table in page *A-1*.

*Restore Defaults

- **Set Factory Defaults** - Scan this bar code to restore the factory default values listed in the table in page *A-1*. This deletes any custom defaults set.

Set Factory Defaults

- **Write to Custom Defaults** - Scan this bar code to set the current decoder settings as custom defaults.
  Once set, you can recover the custom default settings by scanning **Restore Defaults**.

Write to Custom Defaults

Lock/Unlock Parameter Scanning

This feature locks parameter settings with a 4-digit code to prevent the user from changing parameter values by scanning parameter bar codes. This provides an added level of security not offered via **Disable Parameter Scanning**.

After locking parameter settings, the only parameter bar code that is accepted is Unlock with the correct code.

 NOTE   Parameter Scanning must be enabled in order to scan the Lock parameter bar code. Once the parameter scanning is locked, scanning the Enable or Disable Parameter Scanning bar code results in a parameter error beep.

To lock parameter scanning:

1. Scan the **Lock** bar code.
2. Scan four bar codes from the Appendix's *Numeric Bar Codes* that represent the desired code. Enter leading zeros for numbers below 1000, e.g., to program a code of 29, enter **0**, **0**, **2**, **9**. A "lock" beep sounds (two long high beeps) in addition to the parameter entry beep.

Lock

To unlock parameter scanning:

1. Scan the **Unlock** bar code.
2. Scan four bar codes from the Appendix's *Numeric Bar Codes* that represent the correct code. An "unlock" beep sounds (two long low beeps) in addition to the parameter entry beep. Entering an incorrect code results in a parameter error beep.

Unlock

Suppress Power Up Beeps

Scan one of the following barcodes to select whether or not to suppress the decoder's power-up beeps.

*Do Not Suppress Power Up Beeps
(0)

Suppress Power Up Beeps
(1)

Decode Session Timeout

This parameter sets the maximum time decode processing continues during a scan attempt. It is programmable in 0.1 second increments from 0.5 to 9.9 seconds. The default timeout is 9.9 seconds.

To set a Decode Session Timeout, scan the following barcode, and then scan two barcodes from the Appendix's *Numeric Barcodes* that correspond to the desired "on time." Enter a leading zero for single digit numbers. For example, to set a Decode Session Timeout of 0.5 seconds, scan this barcode, and then scan the 0 and 5 barcodes. To correct an error or change the selection, scan Cancel.

Decode Session Timeout

Triggered Timeout, Same Symbol

Setting the same symbol for a fixed period of time.

Enable Triggered Timeout, Same Symbol
(1)

* **Disable Triggered Timeout, Same Symbol**
(0)

Mirrored Image

Enable this to scan images in reverse, or mirrored, as if seen through a mirror. This mode is useful in applications requiring scanning through a mirror and using symbologies that do not decode in reverse.

Enabling this mode when using snapshot, video, or a video viewfinder mode transmits images as mirrored images.

*Disable Mirrored Image
(00h)

Enable Mirrored Image
(01h)

PDF Prioritization

Scan Enable PDF Prioritization to delay decoding certain 1D barcodes (see Note below) by the value specified in PDF Prioritization Timeout. During that time the decoder attempts to decode a PDF417 symbol (e.g., on a US driver's license), and if successful, reports this only. If it does not decode (cannot find) a PDF417 symbol, it reports the 1D symbol after the timeout. The 1D symbol must be in the device's field of view for the decoder to report it. This parameter does not affect decoding other symbologies.

Enable PDF Prioritization
(1)

*Disable PDF Prioritization
(0)

PDF Prioritization Timeout

If you enabled *PDF Prioritization*, set this timeout to indicate how long the decoder attempts to decode a PDF417 symbol before reporting the 1D barcode in the field of view.

Scan the following barcode, and then scan four barcodes from the Appendix's *Numeric Barcodes* that specify the timeout in milliseconds. For example, to enter 400 ms, scan the following barcode, and then scan 0, 4, 0, 0. The range is 0 to 5000 ms, and the default is 200 ms.

PDF Prioritization Timeout

Parameter Scanning

Scan one of the following barcodes to select whether to enable or disable the decoding of parameter barcodes, including the Set Defaults barcodes.

***Enable Parameter Scanning
(01h)**

**Disable Parameter Scanning
(00h)**

Beep After Good Decode

Scan one of the following barcodes to select whether or not the decoder beeps after a good decode. If you select Do Not Beep After Good Decode, the speaker still operates during parameter menu scanning and to indicate error conditions.

*Beep After Good Decode
(Enable)
(01h)

Do Not Beep After Good Decode
(Disable)
(00h)

Beep Tone

Scan one of the following barcodes to select a beep tone for audible feedback indicating a good decode. Scan Disable Beep Tone to disable all tones.

Disable Beep Tone (3)

Standard Beep Tones

Low Beep Tone (2)

*Medium Beep Tone (1)
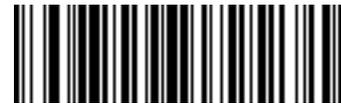
High Beep Tone (0)

Beep Volume

Scan one of the following barcodes to select a beep volume.

Low Volume
(02h)

Medium Volume
(01h)

*****High Volume**
(00h)

Beep Duration

Scan one of the following barcodes to select the duration for the good decode beep.

**Short
(00h)**

*** Medium
(01h)**

**Long
(02h)**

Decode Aiming Pattern

Scan one of the following barcodes to select when to project the aiming pattern in hand-held mode:

• Enable Decode Aiming Pattern - This projects the aiming pattern during barcode capture.

• Disable Decode Aiming Pattern - This turns the aiming pattern off.

• Enable Decode Aiming Pattern on PDF - This projects the aiming pattern when the decoder detects a PDF barcode.

NOTE   With Picklist Mode enabled, the decode aiming pattern flashes even if you disable the Decode Aiming Pattern.

* Enable Decode Aiming Pattern
(02h)

Disable Decode Aiming Pattern
(00h)

Enable Decode Aiming Pattern on PDF (3)

Trigger Mode *ASR-M24D only

• Standard (Level)

Scanning starts when the trigger is pressed. Scanning continues until a barcode is successfully decoded, the trigger is released, or the decode session timeout occurs.

*Standard (Level)
(0)

• Presentation Mode

When a barcode is detected within the scan range, scanning is performed. After a period of standby, the scanner enters low-power mode and the LED turns off until motion is detected.

Presentation (Blink)
(7)

Picklist Mode

Scan one of the following barcodes to select the enable or disable Picklist Mode. In this mode, you can pick out and decode a barcode from a group of barcodes that are printed close together by placing the aiming pattern on the barcode you want to decode.

• **Disabled Always** - Picklist mode is always disabled.

• **Enabled Always** - Picklist mode is always enabled.

NOTE Enabling Picklist Mode overrides the Disable Decode Aiming Pattern options. You cannot disable the decode aiming pattern when Picklist Mode is enabled.

NOTE Enabling Picklist Mode can slow decode speed and hinder the ability to decode longer barcodes.

Enable Picklist Mode Always
(2)

*Disable Picklist Mode Always
(0)

Continuous Barcode Read *ASR-M24D only

Barcodes are read continuously while the trigger is held. This mode does not apply in Presentation Mode.

NOTE When using this feature, it is strongly recommended to enable *Picklist Mode*. If Picklist Mode is disabled and multiple barcodes are within the scan range, unintended barcodes may be read.

**Enable Continuous Barcode Read
(1)**

***Disable Continuous Barcode Read
(0)**

Enter Key

Scan the following barcode to add an Enter key (carriage return/line feed) after scanned data. To program other prefixes and/or suffixes, see *Prefix/Suffix Values*

Add Enter Key (Carriage Return/Line Feed)

Tab Key

Scan the following barcode to add a Tab key after scanned data.

Tab Key

Transmit Code ID Character

A Code ID character identifies the code type of a scanned bar code. This is useful when decoding more than one code type. In addition to any single character prefix already selected, the Code ID character is inserted between the prefix and the decoded symbol.

Select no Code ID character, a Symbol Code ID character, or an AIM Code ID character. For Code ID Characters, see *Symbol Code Identifiers on page Z-8* and *AIM Code Identifiers on page Z-10*.

  NOTE If you enable Symbol Code ID Character or AIM Code ID Character, and enable Transmit "No Read" Message on page 27, the decoder appends the code ID for Code 39 to the NR message.

**Symbol Code ID Character
(02h)**

**AIM Code ID Character
(01h)**

***None
(00h)**

Prefix/Suffix Values

You can append a prefix and/or one or two suffixes to scan data for use in data editing. To set a value for a prefix or suffix, scan the prefix or suffix bar code below, then scan a four-digit number (i.e., four bar codes from the Appendix's *Numeric Bar Codes*) that corresponds to that value. See *ASCII Character Sets table in Appendix on page Z-1* for the four-digit codes.

When using host commands to set the prefix or suffix, set the key category parameter to 1, then set the 3-digit decimal value. See *ASCII Character Sets table in the Appendix on page Z-1* for the four-digit codes.

To correct an error or change a selection, scan *Cancel on page Z-7*.

NOTE To use Prefix/Suffix values, set the *Scan Data Transmission Format on page 25*.

Scan Prefix
(07h)

Scan Suffix 1
(06h)

Scan Suffix 2
(08h)

Data Format Cancel

Scan Data Transmission Format

To change the scan data format, scan one of the following eight bar codes corresponding to the desired format.

NOTE   If using this parameter do not use ADF rules to set the prefix/suffix.

To set values for the prefix and/or suffix, see *Prefix/Suffix Values*.

*Data As Is
(00h)

<DATA> <SUFFIX 1>
(01h)

<DATA> <SUFFIX 2>
(02h)

<DATA> <SUFFIX 1> <SUFFIX 2>
(03h)

<PREFIX> <DATA >
(04h)

<PREFIX> <DATA> <SUFFIX 1>
(05h)

Scan Data Transmission Format (continued)

<PREFIX> <DATA> <SUFFIX 2>
(06h)

<PREFIX> <DATA> <SUFFIX 1> <SUFFIX 2>
(07h)

Transmit "No Read" Message

Scan one of the following barcodes to set an option for transmitting the No Read (NR) characters.

• **Enable No Read** - This transmits the characters NR when a successful decode does not occur before trigger release or the Decode Session Timeout expires. See Decode Session Timeout.

• **Disable No Read** - This sends nothing to the host if a symbol does not decode.

> *NOTE* ・If you enable Transmit No Read, and also enable Symbol Code ID Character or AIM Code ID Character for *Transmit Code ID Character on page 22*, the decoder appends the code ID for Code 39 to the NR message.
>
> ・This does not apply in presentation mode.

Enable No Read
(01h)

*Disable No Read
(00h)

Enable/Disable All Code Types

Scan the **Disable All Code Types** barcode to disable all symbologies. This is useful when enabling only a few code types.

Scan **Enable All Code Types** to enable all symbologies. This is useful if you need to disable only a few code types.

Disable All Code Types

Enable All Code Types

UPC/EAN/JAN

Enable/Disable UPC-A

To enable or disable UPC-A, scan the appropriate bar code below.

***Enable UPC-A
(01h)**

**Disable UPC-A
(00h)**

Enable/Disable UPC-E

To enable or disable UPC-E, scan the appropriate bar code below.

***Enable UPC-E
(01h)**

**Disable UPC-E
(00h)**

Enable/Disable UPC-E1

Scan one of the following barcodes to enable or disable UPC-E1.

NOTE UPC-E1 is not a UCC (Uniform Code Council) approved symbology.

Enable UPC-E1
(01h)

***Disable UPC-E1**
(00h)

Enable/Disable EAN-8/JAN-8

To enable or disable EAN-8/JAN-8, scan the appropriate bar code below.

***Enable EAN-8/JAN-8**
(01h)

Disable EAN-8/JAN-8
(00h)

Transmit EAN-8 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan one of the following barcodes to transmit the barcode data with or without the EAN-8 check digit. It is always verified to guarantee the integrity of the data.

*Transmit EAN-8 Check Digit
(1)

Do Not Transmit EAN-8 Check Digit
(0)

Enable/Disable EAN-13/JAN-13

To enable or disable EAN-13/JAN-13, scan the appropriate bar code below.

***Enable EAN-13/JAN-13**
(01h)

Disable EAN-13/JAN-13
(00h)

Transmit EAN-13 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan one of the following barcodes to transmit the barcode data with or without the EAN-13 check digit. It is always verified to guarantee the integrity of the data.

*Transmit EAN-13 Check Digit
(1)

Do Not Transmit EAN-13 Check Digit
(0)

Enable/Disable Bookland EAN

To enable or disable Bookland EAN, scan the appropriate bar code below.

NOTE　　If you enable Bookland EAN, select a **Bookland ISBN Format**. Also set **Decode UPC/EAN/JAN Supplementals** to either Decode UPC/EAN/JAN with Supplementals Only, Autodiscriminate UPC/EAN/JAN With Supplementals, or Enable 978/979 Supplemental Mode.

Enable Bookland EAN
(1)

*Disable Bookland EAN
(0)

Bookland ISBN Format

If Bookland EAN is enabled, select one of the following formats for Bookland data:

- **Bookland ISBN-10** - The decoder 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.

*Bookland ISBN-10
(00h)

- **Bookland ISBN-13** - The decoder reports Bookland data (starting with either 978 or 979) as EAN-13 in 13-digit format to meet the 2007 ISBN-13 protocol.

Bookland ISBN-13
(01h)

NOTE For Bookland EAN to function properly, first enable Bookland EAN using *Enable/Disable Bookland EAN on page 32*, and then set *Decode UPC/EAN/JAN Supplementals on page 34* to either Decode UPC/EAN/JAN with Supplementals Only, Autodiscriminate UPC/EAN/JAN With Supplementals, or Enable 978/979 Supplemental Mode.

Decode UPC/EAN/JAN Supplementals

Supplementals are bar codes appended according to specific format conventions (e.g., UPC A+2, UPC E+2, EAN 13+2). The following options are available:

- If you select **Ignore UPC/EAN/JAN with Supplementals**, and the decoder is presented with a UPC/EAN/JAN plus supplemental symbol, the decoder decodes UPC/EAN/JAN and ignores the supplemental characters.

- If you select **Decode UPC/EAN/JAN with Supplementals**, the decoder only decodes UPC/EAN/JAN symbols with supplemental characters, and ignores symbols without supplementals.

- If you select **Autodiscriminate UPC/EAN/JAN Supplementals**, the decoder decodes UPC/EAN/JAN symbols with supplemental characters immediately. If the symbol does not have a supplemental, the decoder must decode the bar code the number of times set via *UPC/EAN/JAN Supplemental Redundancy on page 39* before transmitting its data to confirm that there is no supplemental.

- If you select one of the following **Supplemental Mode** options, the decoder immediately transmits EAN-13 bar codes starting with that prefix that have supplemental characters. If the symbol does not have a supplemental, the decoder must decode the bar code the number of times set via *UPC/EAN/JAN Supplemental Redundancy on page 39* before transmitting its data to confirm that there is no supplemental. The decoder transmits UPC/EAN/JAN bar codes that do not have that prefix immediately.

  - **Enable 378/379 Supplemental Mode**
  - **Enable 978/979 Supplemental Mode**
  -

    NOTE If you select 978/979 Supplemental Mode and are scanning Bookland EAN bar codes, see *Enable/Disable Bookland EAN* to enable Bookland EAN, and select a format using *Bookland ISBN Format*.

  - **Enable 977 Supplemental Mode**
  - **Enable 414/419/434/439 Supplemental Mode**
  - **Enable 491 Supplemental Mode**
  - **Enable Smart Supplemental Mode** - applies to EAN-13 bar codes starting with any prefix listed previously.
  - **Supplemental User-Programmable Type 1** - applies to EAN-13 bar codes starting with a 3-digit user-defined prefix. Set this 3-digit prefix using *User-Programmable Supplementals on page 38*.

- **Supplemental User-Programmable Type 1 and 2** - applies to EAN-13 bar codes starting with either of two 3-digit user-defined prefixes. Set the 3-digit prefixes using *User-Programmable Supplementals on page 38*.

- **Smart Supplemental Plus User-Programmable 1** - applies to EAN-13 bar codes starting with any prefix listed previously or the user-defined prefix set using *User-Programmable Supplementals on page 38*.

- **Smart Supplemental Plus User-Programmable 1 and 2** - applies to EAN-13 bar codes starting with any prefix listed previously or one of the two user-defined prefixes set using *User-Programmable Supplementals on page 38*.

NOTE   To minimize the risk of invalid data transmission, select either to decode or ignore supplemental characters.

*Ignore Supplementals
(00h)

Decode UPC/EAN/JAN Only With Supplementals
(01h)

Autodiscriminate UPC/EAN/JAN Supplementals
(02h)

Enable 378/379 Supplemental Mode
(04h)

Decode UPC/EAN/JAN Supplementals (continued)

Enable 978/979 Supplemental Mode
(05h)

Enable 977 Supplemental Mode
(07h)

Enable 414/419/434/439 Supplemental Mode
(06h)

Enable 491 Supplemental Mode
(08h)

Enable Smart Supplemental Mode
(03h)

Supplemental User-Programmable Type 1
(09h)

Decode UPC/EAN/JAN Supplementals (continued)

**Supplemental User-Programmable Type 1 and 2
(0Ah)**

**Smart Supplemental Plus User-Programmable 1
(0Bh)**

**Smart Supplemental Plus User-Programmable 1 and 2
(0Ch)**

User-Programmable Supplementals

If you selected a Supplemental User-Programmable option from *Decode UPC/EAN/JAN Supplementals on page 34*, select **User-Programmable Supplemental 1** to set the 3-digit prefix. Then select the 3 digits from the Appendix's *Numeric Bar Codes*. Select **User-Programmable Supplemental 2** to set a second 3-digit prefix. Then select the 3 digits from the *Numeric Bar Codes*.

User-Programmable Supplemental 1

User-Programmable Supplemental 2

UPC/EAN/JAN Supplemental Redundancy

If you selected **Autodiscriminate UPC/EAN/JAN Supplementals**, this option adjusts the number of times to decode a symbol without supplementals before transmission. The range is from 2 to 16. Five or above is recommended when decoding a mix of UPC/EAN/JAN symbols with and without supplementals. The default is 10.

Scan the bar code below to set a decode redundancy value. Next, scan two numeric bar codes from the Appendix's *Numeric Bar Codes*. Enter a leading zero for single digit numbers. To correct an error or change a selection, scan *Cancel*.

UPC/EAN/JAN Supplemental Redundancy

UPC/EAN/JAN Supplemental AIM ID Format

Select an output format when reporting UPC/EAN/JAN bar codes with Supplementals with *Transmit Code ID Character* set to **AIM Code ID Character**:

- **Separate** - transmit UPC/EAN with supplementals with separate AIM IDs but one transmission, i.e.:

  ]E<0 or 4><data>]E<1 or 2>[supplemental data]

- **Combined** – transmit UPC/EAN with supplementals with one AIM ID and one transmission, i.e.:

  ]E3<data+supplemental data>

- **Separate Transmissions** - transmit UPC/EAN with supplementals with separate AIM IDs and separate transmissions, i.e.:

  ]E<0 or 4><data>

  ]E<1 or 2>[supplemental data]

**Separate
(00h)**

***Combined
(01h)**

**Separate Transmissions
(02h)**

Transmit UPC-A Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-A check digit. It is always verified to guarantee the integrity of the data.

*Transmit UPC-A Check Digit
(01h)

Do Not Transmit UPC-A Check Digit
(00h)

Transmit UPC-E Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-E check digit. It is always verified to guarantee the integrity of the data.

*Transmit UPC-E Check Digit
(01h)

Do Not Transmit UPC-E Check Digit
(00h)

Transmit UPC-E1 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan the appropriate bar code below to transmit the bar code data with or without the UPC-E1 check digit. It is always verified to guarantee the integrity of the data.

*Transmit UPC-E1 Check Digit
(01h)

Do Not Transmit UPC-E1 Check Digit
(00h)

UPC-A Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. Select the appropriate option for transmitting a UPC-A preamble to match the host system:

- Transmit System Character only
- Transmit System Character and Country Code ("0" for USA)
- Transmit no preamble.

No Preamble (<DATA>)
(00h)

***System Character (<SYSTEM CHARACTER> <DATA>)**
(01h)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

UPC-E Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. Select the appropriate option for transmitting a UPC-E preamble to match the host system:

- Transmit System Character only
- Transmit System Character and Country Code ("0" for USA)
- Transmit no preamble.

No Preamble (<DATA>)
(00h)

*System Character (<SYSTEM CHARACTER> <DATA>)
(01h)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

UPC-E1 Preamble

Preamble characters are part of the UPC symbol, and include Country Code and System Character. Select the appropriate option for transmitting a UPC-E1 preamble to match the host system:

- Transmit System Character only
- Transmit System Character and Country Code ("0" for USA)
- Transmit no preamble.

No Preamble (<DATA>)
(00h)

***System Character (<SYSTEM CHARACTER> <DATA>)**
(01h)

System Character & Country Code
(< COUNTRY CODE> <SYSTEM CHARACTER> <DATA>)
(02h)

Convert UPC-E to UPC-A

Enable this to convert UPC-E (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 (e.g., Preamble, Check Digit).

Disable this to transmit UPC-E decoded data as UPC-E data, without conversion.

Convert UPC-E to UPC-A (Enable)
(01h)

*Do Not Convert UPC-E to UPC-A (Disable)
(00h)

Convert UPC-E1 to UPC-A

Scan **Convert UPC-E1 to UPC-A (Enable)** to convert UPC-E1 decoded data to UPC-A format before transmission. After conversion, the data follows UPC-A format and is affected by UPC-A programming selections (e.g., Preamble, Check Digit).

Scan **Do Not Convert UPC-E1 to UPC-A (Disable)** to transmit UPC-E1 decoded data as UPC-E1 data, without conversion.

Convert UPC-E1 to UPC-A (Enable)
(01h)

*Do Not Convert UPC-E1 to UPC-A (Disable)
(00h)

EAN-8/JAN-8 Zero Extend

Scan Enable EAN/JAN Zero Extend to add five leading zeros to decoded EAN-8 symbols to make them compatible in length to EAN-13 symbols. Scan Disable EAN/JAN Zero Extend to transmit EAN-8 symbols as is.

**Enable EAN/JAN Zero Extend
(01h)**

***Disable EAN/JAN Zero Extend
(00h)**

UCC Coupon Extended Code

Enable this parameter to decode UPC-A bar codes starting with digit '5', EAN-13 bar codes starting with digit '99', and UPC-A/GS1-128 Coupon Codes. UPC-A, EAN-13, and GS1-128 must be enabled to use this feature.

**Enable UCC Coupon Extended Code
(01h)**

***Disable UCC Coupon Extended Code
(00h)**

NOTE See *UPC/EAN/JAN Supplemental Redundancy* to control autodiscrimination of the GS1-128 (right half) of a coupon code.

Coupon Report

Scan a bar code below to select one of the following options for decoding coupon symbols:

- **Old Coupon Symbols** - Support UPC-A/GS1-128 and EAN-13/GS1-128.
- **New Coupon Symbols** - An interim format to support UPC-A/GS1-DataBar and EAN-13/GS1-DataBar.
- **Both Coupon Formats** - Support both Old Coupon Format and New Coupon Format.

**Old Coupon Symbols
(00h)**

***New Coupon Symbols
(01h)**

**Both Coupon Formats
(02h)**

UPC Reduced Quiet Zone

Scan one of the following barcodes to enable or disable decoding UPC barcodes with reduced quiet zones (the margins on either side of the barcode). If you select **Enable**, select a 1D Quiet Zone Level.

Enable UPC Reduced Quiet Zone
(1)

*Disable UPC Reduced Quiet Zone
(0)

ISSN EAN

Scan one of the following barcodes to enable or disable ISSN EAN.

Enable ISSN EAN
(01h)

*Disable ISSN EAN
(00h)

Code 128

Enable/Disable Code 128

To enable or disable Code 128, scan the appropriate bar code below.

*Enable Code 128
(01h)

Disable Code 128
(00h)

Set Lengths for Code 128

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 128 to any length, one or two discrete lengths, or lengths within a specific range.

NOTE   When setting lengths for different bar code types, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 128 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 128 symbols with 14 characters, scan **Code 128 - One Discrete Length**, then scan 1 followed by 4. To correct an error or change the selection, scan **Cancel**.
- **Two Discrete Lengths** - Select this option to decode only Code 128 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 128 symbols containing either 2 or 14 characters, select **Code 128 - Two Discrete Lengths**, then scan 0, 2, 1, and then 4. To correct an error or change the selection, scan **Cancel**.

- **Length Within Range** - Select this option to decode a Code 128 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Code 128 symbols containing between 4 and 12 characters, first scan **Code 128 - Length Within Range**. Then scan 0, 4, 1, and 2 (enter a leading zero for single digit numbers). To correct an error or change the selection, scan **Cancel**.
- **Any Length** - Select this option to decode Code 128 symbols containing any number of characters within the decoder's capability.

Code 128 - One Discrete Length

Code 128 - Two Discrete Lengths

Code 128 - Length Within Range

*Code 128 - Any Length

Enable/Disable GS1-128 (formerly UCC/EAN-128)

Scan one of the following barcodes to enable or disable GS1-128.

***Enable GS1-128
(01h)**

**Disable GS1-128
(00h)**

Enable/Disable ISBT 128

ISBT 128 is a variant of Code 128 used in the blood bank industry. Scan a bar code below to enable or disable ISBT 128.

*Enable ISBT 128
(01h)

Disable ISBT 128
(00h)

ISBT Concatenation

Select an option for concatenating pairs of ISBT code types:

- **Enable ISBT Concatenation** - There must be two ISBT codes in order for the decoder to decode and perform concatenation. The decoder does not decode single ISBT symbols.

- **Disable ISBT Concatenation** - The decoder does not concatenate pairs of ISBT codes it encounters. This is the default.

- **Autodiscriminate ISBT Concatenation** - The decoder decodes and concatenates pairs of ISBT codes immediately. If only a single ISBT symbol is present, the decoder must decode the symbol the number of times set via *ISBT Concatenation Redundancy* before transmitting its data to confirm that there is no additional ISBT symbol.

NOTE   When enabling ISBT Concatenation or Autodiscriminate ISBT Concatenation set Code 128 security level to Level 2.

*Disable ISBT Concatenation
(00h)

Enable ISBT Concatenation
(01h)

Autodiscriminate ISBT Concatenation
(02h)

Check ISBT Table

The ISBT specification includes a table that lists several types of ISBT bar codes that are commonly used in pairs. If you set **ISBT Concatenation** to **Enable**, enable **Check ISBT Table** to concatenate only those pairs found in this table. Other types of ISBT codes are not concatenated.

***Enable Check ISBT Table
(01h)**

**Disable Check ISBT Table
(00h)**

ISBT Concatenation Redundancy

If you set **ISBT Concatenation** to **Autodiscriminate**, use this parameter to set the number of times the decoder must decode an ISBT symbol before determining that there is no additional symbol.

Scan the bar code below, then scan two numeric bar codes in the Appendix's *Numeric Bar Codes* to set a value between 2 and 20. Enter a leading zero for single digit numbers. To correct an error or change a selection, scan *Cancel*. The default is 10.

ISBT Concatenation Redundancy

Code 128 <FNC4>

This feature applies to Code 128 barcodes with an embedded <FNC4> character. Select **Ignore Code 128 <FNC4>** 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.

*Honor Code 128 <FNC4>
(0)

Ignore Code 128 <FNC4>
(1)

Code 128 Security Level

Code 128 barcodes are vulnerable to mis-decodes, particularly when Code 128 Lengths is set to **Any Length**. The decoder offers four levels of decode security for Code 128 barcodes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security can reduce scanning aggressiveness, so select only the level of security necessary.

Code 128 Security Level 0 - The decoder operates in its most aggressive state, while providing sufficient security in decoding most in-spec barcodes.

Code 128 Security Level 1 - This option eliminates most mis-decodes while maintaining reasonable aggressiveness. This is the default.

Code 128 Security Level 2 - This option applies greater barcode security requirements if **Security Level 1** fails to eliminate mis-decodes.

Code 128 Security Level 3 - If you selected **Security Level 2**, and mis-decodes still occur, select this security level to apply the highest safety requirements.

NOTE Selecting this option is an extreme measure against mis-decoding severely out-of-spec barcodes, and significantly impairs the decoding ability of the decoder. If this level of security is required, try to improve the quality of the barcodes.

Code 128 Security Level 0
(0)

*Code 128 Security Level 1
(1)

Code 128 Security Level 2
(2)

Code 128 Security Level 3
(3)

Code 128 Reduced Quiet Zone

Scan one of the following barcodes to enable or disable decoding Code 128 barcodes with reduced quiet zones (the margins on either side of the barcode). If you select **Enable**, select a *1D Quiet Zone Level*.

Enable Code 128 Reduced Quiet Zone

(1)

*Disable Code 128 Reduced Quiet Zone

(0)

Enable/Disable Code 39

Scan one of the following barcodes to enable or disable Code 39.

‖‖‖‖‖‖‖‖‖‖‖‖‖

*Enable Code 39
(01h)

‖‖‖‖‖‖‖‖‖‖‖‖‖

Disable Code 39
(00h)

Enable/Disable Trioptic Code 39

Trioptic Code 39 is a variant of Code 39 used in the marking of computer tape cartridges. Trioptic Code 39 symbols always contain six characters. Scan one of the following barcodes to enable or disable Trioptic Code 39.

‖‖‖‖‖‖‖‖‖‖‖‖‖

Enable Trioptic Code 39
(01h)

‖‖‖‖‖‖‖‖‖‖‖‖‖

*Disable Trioptic Code 39
(00h)

NOTE   You cannot enable Trioptic Code 39 and Code 39 Full ASCII simultaneously.

Convert Code 39 to Code 32

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.

NOTE Code 39 must be enabled for this parameter to function.

**Enable Convert Code 39 to Code 32
(01h)**

***Disable Convert Code 39 to Code 32
(00h)**

Code 32 Prefix

Scan the appropriate bar code below to enable or disable adding the prefix character "A" to all Code 32 bar codes.

NOTE Convert Code 39 to Code 32 must be enabled for this parameter to function.

**Enable Code 32 Prefix
(01h)**

***Disable Code 32 Prefix
(00h)**

Set Lengths for Code 39

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 39 to any length, one or two discrete lengths, or lengths within a specific range. If Code 39 Full ASCII is enabled, **Length Within a Range** or **Any Length** are the preferred options.

NOTE   When setting lengths, enter a leading zero for single digit numbers.

•   **One Discrete Length** - Select this option to decode only Code 39 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 39 symbols with 14 characters, scan **Code 39 - One Discrete Length**, then scan 1 followed by 4. To correct an error or change the selection, scan *Cancel*.

Code 39 - One Discrete Length

•   **Two Discrete Lengths** - Select this option to decode only Code 39 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 39 symbols containing either 2 or 14 characters, select **Code 39 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or change the selection, scan *Cancel*.

Code 39 - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a Code 39 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Code 39 symbols containing between 4 and 12 characters, first scan **Code 39 - Length Within Range**. Then scan **0**, **4**, **1**, and **2** (enter a leading zero for single digit numbers). To correct an error or change the selection, scan *Cancel*..

*Code 39 - Length Within Range

- **Any Length** - Select this option to decode Code 39 symbols containing any number of characters within the decoder's capability.

Code 39 - Any Length

Code 39 Check Digit Verification

Enable this feature to check the integrity of all Code 39 symbols to verify that the data complies with specified check digit algorithm. Only Code 39 symbols which include a modulo 43 check digit are decoded. Enable this feature if the Code 39 symbols contain a modulo 43 check digit.

**Enable Code 39 Check Digit
(01h)**

***Disable Code 39 Check Digit
(00h)**

Transmit Code 39 Check Digit

Scan a bar code below to transmit Code 39 data with or without the check digit.

**Transmit Code 39 Check Digit (Enable)
(01h)**

***Do Not Transmit Code 39 Check Digit (Disable)
(00h)**

NOTE   Code 39 Check Digit Verification must be enabled for this parameter to function.

Code 39 Full ASCII Conversion

Code 39 Full ASCII is a variant of Code 39 which pairs characters to encode the full ASCII character set. To enable or disable Code 39 Full ASCII, scan the appropriate bar code below.

**Enable Code 39 Full ASCII
(01h)**

***Disable Code 39 Full ASCII
(00h)**

NOTE   You cannot enable Trioptic Code 39 and Code 39 Full ASCII simultaneously.

Code 39 Full ASCII to Full ASCII Correlation is host-dependent, and is therefore described in the *ASCII Character Set Table* for the appropriate interface. See the ASCII Character Set for USB or the ASCII Character Set for Serial Hosts.

Code 39 Security Level

The decoder offers four levels of decode security for Code 39 barcodes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security can reduce scanning aggressiveness, so select only the level of security necessary.

•**Code 39 Security Level 0**: The decoder operates in its most aggressive state, while providing sufficient security in decoding most in-spec barcodes.

Code 39 Security Level 0
(0)

•**Code 39 Security Level 1**: This default setting eliminates most mis-decodes.

*Code 39 Security Level 1
(1)

•**Code 39 Security Level 2**: This option applies greater barcode security requirements if **Security Level 1** fails to eliminate mis-decodes.

Code 39 Security Level 2
(2)

•**Code 39 Security Level 3**: If you selected **Security Level 2**, and mis-decodes still occur, select this security level to apply the highest safety requirements.

Code 39 Security Level 3

(3)

NOTE: Selecting this option is an extreme measure against mis-decoding severely out-of-spec barcodes, and significantly impairs the decoding ability of the decoder. If this level of security is required, try to improve the quality of the barcodes.

Code 39 Reduced Quiet Zone

Scan one of the following barcodes to enable or disable decoding Code 39 barcodes with reduced quiet zones (the margins on either side of the barcode). If you select **Enable**, select a *1D Quiet Zone Level*.

Enable Code 39 Reduced Quiet Zone
(1)

*Disable Code 39 Reduced Quiet Zone
(0)

Code 93

Enable/Disable Code 93

Scan one of the following barcodes to enable or disable Code 93.

*Enable Code 93
(1)

Disable Code 93
(0)

Set Lengths for Code 93

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 93 to any length, one or two discrete lengths, or lengths within a specific range.

> *NOTE* When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 93 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 93 symbols with 14 characters, scan **Code 93 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel*.

Code 93 - One Discrete Length

- **Two Discrete Lengths** - Select this option to decode only Code 93 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 93 symbols containing either 2 or 14 characters, select **Code 93 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

Code 93 - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a Code 93 symbol with a specific length range. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Code 93 symbols containing between 4 and 12 characters, first scan **Code 93 - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*Code 93 - Length Within Range

- **Any Length** - Scan this option to decode Code 93 symbols containing any number of characters within the decoder's capability.

Code 93 - Any Length

Code 11

Enable/Disable Code 11

Scan one of the following barcodes to enable or disable Code 11.

**Enable Code 11
(01h)**

***Disable Code 11
(00h)**

Set Lengths for Code 11

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Code 11 to any length, one or two discrete lengths, or lengths within a specific range. The default is **Length Within Range: 4 to 55**.

> *NOTE* When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Code 11 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 11 symbols with 14 characters, scan **Code 11 - One Discrete Length**, then scan 1 followed by 4. To correct an error or to change the selection, scan *Cancel*.

Code 11 - One Discrete Length

- **Two Discrete Lengths** - Select this option to decode only Code 11 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Code 11 symbols containing either 2 or 14 characters, select **Code 11 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

Code 11 - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a Code 11 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Code 11 symbols containing between 4 and 12 characters, first scan **Code 11 - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*Code 11 - Length Within Range

- **Any Length** - Scan this option to decode Code 11 symbols containing any number of characters within the decoder's capability.

Code 11 - Any Length

Code 11 Check Digit Verification

This feature allows the decoder to check the integrity of all Code 11 symbols to verify that the data complies with the specified check digit algorithm.

To enable this feature, scan the bar code below corresponding to the number of check digits encoded in the Code 11 symbols.

*Disable
(00h)

One Check Digit
(01h)

Two Check Digits
(02h)

Transmit Code 11 Check Digits

Scan one of the following barcodes to select whether or not to transmit the Code 11 check digit(s).

Transmit Code 11 Check Digit(s) (Enable)
(01h)

*Do Not Transmit Code 11 Check Digit(s) (Disable)
(00h)

NOTE   Code 11 Check Digit Verification must be enabled for this parameter to function.

Interleaved 2 of 5 (ITF)

Enable/Disable Interleaved 2 of 5

Scan one of the following barcodes to enable or disable Interleaved 2 of 5.

*Enable Interleaved 2 of 5↵
(1)↵

Disable Interleaved 2 of 5↵
(0)↵

Set Lengths for Interleaved 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for I 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range. The range for Interleaved 2 of 5 lengths is 0 - 80. The default is Length Within Range: 6 to 55.

   NOTE When setting lengths, enter a leading zero for single digit numbers.

• **One Discrete Length** - Select this option to decode only I 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only I 2 of 5 symbols with 14 characters, scan **I 2 of 5 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan Cancel.

I 2 of 5 - One Discrete Length

• **Two Discrete Lengths** - Select this option to decode only I 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only I 2 of 5 symbols containing either 2 or 14 characters, select **I 2 of 5 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan Cancel.

I 2 of 5 - Two Discrete Lengths

• **Length Within Range** - Select this option to decode an I 2 of 5 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode I 2 of 5 symbols containing between 4 and 12 characters, first scan **I 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan Cancel.

*I 2 of 5 - Length Within Range↵

- **Any Length** - Scan this option to decode I 2 of 5 symbols containing any number of characters within the decoder's capability.

I 2 of 5 - Any Length

NOTE Due to the construction of the I 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (I 2 of 5 - One Discrete Length, Two Discrete Lengths) for I 2 of 5 applications or increase the *I 2 of 5 Security Level*.

Interleaved 2 of 5 Check Digit Verification

Enable this feature to check the integrity of all I 2 of 5 symbols to verify the data complies with either the specified Uniform Symbology Specification (USS), or the Optical Product Code Council (OPCC) check digit algorithm.

*Disable
(00h)

USS Check Digit
(01h)

OPCC Check Digit
(02h)

Transmit I 2 of 5 Check Digit

Scan the appropriate bar code below to transmit I 2 of 5 data with or without the check digit.

Transmit I 2 of 5 Check Digit (Enable)
(01h)

*Do Not Transmit I 2 of 5 Check Digit (Disable)
(00h)

Febraban

Febraban is an I 2 of 5 barcode of length 44 that requires special check characters to be inserted in the transmitted data stream. When enabled, the I 2 of 5 internal check digit calculation and transmission is disabled. When disabled, all I 2 of 5 functionality works as usual.

Recommendations for Length Setting

I 2 of 5 Length 1: Larger of the fixed length and the FEBRABAN length (==44).
I 2 of 5 Length 2: Smaller of the fixed length and the FEBRABAN length (==44).

Enable Febraban
(1)

*Disable Febraban
(0)

Convert I 2 of 5 to EAN-13

Enable this parameter to convert 14-character I 2 of 5 codes to EAN-13, and transmit to the host as EAN-13. To accomplish this, the I 2 of 5 code must be enabled, and the code must have a leading zero and a valid EAN-13 check digit.

Convert I 2 of 5 to EAN-13 (Enable)
(01h)

*Do Not Convert I 2 of 5 to EAN-13 (Disable)
(00h)

Interleaved 2 of 5 Security Level

Interleaved 2 of 5 barcodes are vulnerable to mis-decodes, particularly when I 2 of 5 Lengths is set to **Any Length**. The decoder offers four levels of decode security for Interleaved 2 of 5 barcodes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security can reduce scanning aggressiveness, so select only the level of security necessary.

- **I 2 of 5 Security Level 0**: This setting allows the decoder to operate in its most aggressive state, while providing sufficient security in decoding the most in-spec bar codes.

I 2 of 5 Security Level 0
(00h)

- **I 2 of 5 Security Level 1**: A bar code must be successfully read twice, and satisfy certain safety requirements before being decoded. This default setting eliminates most mis-decodes.

*I 2 of 5 Security Level 1
(01h)

- **I 2 of 5 Security Level 2**: Select this option with higher safety requirements to the bar codes if **Security Level 1** fails to eliminate mis-decodes.

I 2 of 5 Security Level 2
(02h)

- **I 2 of 5 Security Level 3**: If you selected **Security Level 2**, and mis-decodes still occur, select this security level. The highest safety requirements are applied. A bar code must be successfully read three times before being decoded.

I 2 of 5 Security Level 3
(03h)

NOTE   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 decoder. If this level of security is required, try to improve the quality of the bar codes.

I 2 of 5 Reduced Quiet Zone

Scan one of the following barcodes to enable or disable decoding I 2 of 5 barcodes with reduced quiet zones (the margins on either side of the barcode). If you select **Enable**, select a *1D Quiet Zone Level*.

Enable I 2 of 5 Reduced Quiet Zone
(1)

*Disable I 2 of 5 Reduced Quiet Zone
(0)

Discrete 2 of 5 (DTF)

Enable/Disable Discrete 2 of 5

To enable or disable Discrete 2 of 5, scan the appropriate bar code below.

**Enable Discrete 2 of 5
(01h)**

*****Disable Discrete 2 of 5
(00h)**

Set Lengths for Discrete 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for D 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range. The default is **Length Within Range**: 1 to 55..

> *NOTE* When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only D 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only D 2 of 5 symbols with 14 characters, scan **D 2 of 5 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel*.

D 2 of 5 - One Discrete Length↵

- **Two Discrete Lengths** - Select this option to decode only D 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only D 2 of 5 symbols containing either 2 or 14 characters, select **D 2 of 5 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

D 2 of 5 - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a D 2 of 5 symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode D 2 of 5 symbols containing between 4 and 12 characters, first scan **D 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*D 2 of 5 - Length Within Range

● **Any Length** - Scan this option to decode D 2 of 5 symbols containing any number of characters within the decoder's capability.

D 2 of 5 - Any Length

NOTE   Due to the construction of the D 2 of 5 symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (D 2 of 5 - One Discrete Length, Two Discrete Lengths) for D 2 of 5 applications.

Codabar (NW - 7)

Enable/Disable Codabar

To enable or disable Codabar, scan the appropriate bar code below.

*Enable Codabar
(1)

Disable Codabar
(0)

Set Lengths for Codabar

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Codabar to any length, one or two discrete lengths, or lengths within a specific range. The default is **Length Within Range**: 5 to 55.

> *NOTE* When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Codabar symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Codabar symbols with 14 characters, scan **Codabar - One Discrete Length**, then scan 1 followed by 4. To correct an error or to change the selection, scan *Cancel*.

Codabar - One Discrete Length

- **Two Discrete Lengths** - Select this option to decode only Codabar symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Codabar symbols containing either 2 or 14 characters, select **Codabar - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

Codabar - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a Codabar symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Codabar symbols containing between 4 and 12 characters, first scan **Codabar - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*Codabar - Length Within Range

- **Any Length** - Scan this option to decode Codabar symbols containing any number of characters within the decoder's capability.

Codabar - Any Length

CLSI Editing

Scan Enable CLSI Editing to strip the start and stop characters and insert a space after the first, fifth, and tenth characters of a 14-character Codabar symbol if the host system requires this data format.

NOTE Symbol length does not include start and stop characters.

Enable CLSI Editing
(01h)

*Disable CLSI Editing
(00h)

NOTIS Editing

Scan Enable NOTIS Editing to strip the start and stop characters from a decoded Codabar symbol if the host system requires this data format.

Enable NOTIS Editing
(01h)

*Disable NOTIS Editing
(00h)

Codabar Security Level

The decoder offers four levels of decode security for Codabar barcodes. There is an inverse relationship between security and decoder aggressiveness. Increasing the level of security can reduce scanning aggressiveness, so select only the level of security necessary.

• **Codabar Security Level 0**: This setting allows the decoder to operate in its most aggressive state, while providing sufficient security in decoding most in-spec barcodes.

Codabar Security Level 0

(0)

• **Codabar Security Level 1**: This default setting eliminates most mis-decodes.

*Codabar Security Level 1

(1)

• **Codabar Security Level 2**: Select this option with greater barcode security requirements if Security Level 1 fails to eliminate mis-decodes.

Codabar Security Level 2

(2)

• **Codabar Security Level 3**: If you selected Security Level 2, and mis-decodes still occur, select this security level to apply the highest safety requirements.

Codabar Security Level 3
(3)

NOTE Selecting this option is an extreme measure against mis-decoding severely out-of-spec barcodes, and significantly impairs the decoding ability of the decoder. If this level of security is required, try to improve the quality of the barcodes.

Codabar Upper or Lower Case Start/Stop Characters Detection

Scan one of the following barcodes to select whether to transmit upper case or lower case Codabar start/stop characters.

*Upper Case
(00h)

Lower Case
(01h)

Codabar Mod 16 Check Digit Verification

Enable this feature to check the Codabar Mod 16 Check Digit to verify that the data complies with the specified check digit algorithm.

Enable Codabar Mod 16 Check Digit
(1)

* Disable Codabar Mod 16 Check Digit
(0)

Transmit Codabar Check Digit

Scan one of the following barcodes to select whether or not to transmit the Codabar check digit(s).

NOTE Codabar Mod 16 Check Digit Verification must be enabled for this parameter to function.

Enable Codabar Check Digit Transmission
(1)

* Disable Codabar Check Digit Transmission
(0)

MSI

Enable/Disable MSI

To enable or disable MSI, scan the appropriate bar code below.

Enable MSI
(01h)

*****Disable MSI**
(00h)

Set Lengths for MSI

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for MSI to any length, one or two discrete lengths, or lengths within a specific range. The default is **Length Within Range**: 4 to 55.

> *NOTE* When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only MSI symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only MSI symbols with 14 characters, scan **MSI - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel*.

MSI - One Discrete Length

- **Two Discrete Lengths** - Select this option to decode only MSI symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only MSI symbols containing either 2 or 14 characters, select **MSI - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

MSI - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a MSI symbol with a specific length range. Select lengths using numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode MSI symbols containing between 4 and 12 characters, first scan **MSI - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*MSI - Length Within Range

- **Any Length** - Scan this option to decode MSI symbols containing any number of characters within the decoder's capability.

MSI - Any Length

NOTE Due to the construction of the MSI symbology, it is possible for a scan line covering only a portion of the code to transmit as a complete scan, yielding less data than is encoded in the bar code. To prevent this, select specific lengths (**MSI - One Discrete Length**, **Two Discrete Lengths**) for MSI applications.

MSI Check Digits

With MSI symbols, one check digit is mandatory and always verified by the reader. The second check digit is optional. If the MSI codes include two check digits, scan the **Two MSI Check Digits** bar code to enable verification of the second check digit.

See *MSI Check Digit Algorithm* to select second digit algorithms.

***One MSI Check Digit
(00h)**

**Two MSI Check Digits
(01h)**

Transmit MSI Check Digit(s)

Scan a bar code below to transmit MSI data with or without the check digit.

**Transmit MSI Check Digit(s) (Enable)
(01h)**

***Do Not Transmit MSI Check Digit(s) (Disable)
(00h)**

MSI Check Digit Algorithm

Two algorithms are available for verifying the second MSI check digit. Scan one of the following barcodes to select the algorithm used to encode the check digit.

MOD 10/MOD 11
(00h)

*MOD 10/MOD 10
(01h)

MSI Reduced Quiet Zone

Scan one of the following barcodes to enable or disable decoding MSI barcodes with reduced quiet zones. If you select **Enable**, select a *1D Quiet Zone Level*.

*Disable MSI Reduced Quiet Zone
(0)

Enable MSI Reduced Quiet Zone
(1)

Chinese 2 of 5

Enable/Disable Chinese 2 of 5

Scan one of the following barcodes to enable or disable Chinese 2 of 5.

**Enable Chinese 2 of 5
(01h)**

***Disable Chinese 2 of 5
(00h)**

Matrix 2 of 5

Enable/Disable Matrix 2 of 5

Scan one of the following barcodes to enable or disable Matrix 2 of 5.

Enable Matrix 2 of 5
(01h)

*Disable Matrix 2 of 5
(00h)

Set Lengths for Matrix 2 of 5

The length of a code refers to the number of characters (i.e., human readable characters), including check digit(s) the code contains. Set lengths for Matrix 2 of 5 to any length, one or two discrete lengths, or lengths within a specific range.

NOTE   When setting lengths, enter a leading zero for single digit numbers.

- **One Discrete Length** - Select this option to decode only Matrix 2 of 5 symbols containing a selected length. Select the length using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Matrix 2 of 5 symbols with 14 characters, scan **Matrix 2 of 5 - One Discrete Length**, then scan **1** followed by **4**. To correct an error or to change the selection, scan *Cancel*.

Matrix 2 of 5 - One Discrete Length

- **Two Discrete Lengths** - Select this option to decode only Matrix 2 of 5 symbols containing either of two selected lengths. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode only Matrix 2 of 5 symbols containing either 2 or 14 characters, select **Matrix 2 of 5 - Two Discrete Lengths**, then scan **0**, **2**, **1**, and then **4**. To correct an error or to change the selection, scan *Cancel*.

Matrix 2 of 5 - Two Discrete Lengths

- **Length Within Range** - Select this option to decode a Matrix 2 of 5 symbol with a specific length range. Select lengths using the numeric bar codes in the Appendix's *Numeric Bar Codes*. For example, to decode Matrix 2 of 5 symbols containing between 4 and 12 characters, first scan **Matrix 2 of 5 - Length Within Range**. Then scan **0**, **4**, **1**, and **2**. To correct an error or change the selection, scan *Cancel*.

*Matrix 2 of 5 - Length Within Range

- **Any Length** - Scan this option to decode Matrix 2 of 5 symbols containing any number of characters within the decoder's capability.

Matrix 2 of 5 - Any Length

Matrix 2 of 5 Check Digit

The check digit is the last character of the symbol used to verify the integrity of the data. Scan one of the following barcodes to determine whether to include the Matrix 2 of 5 check digit with the barcode data.

**Enable Matrix 2 of 5 Check Digit
(01h)**

***Disable Matrix 2 of 5 Check Digit
(00h)**

Transmit Matrix 2 of 5 Check Digit

Scan one of the following barcodes to transmit Matrix 2 of 5 data with or without the check digit.

**Transmit Matrix 2 of 5 Check Digit
(01h)**

***Do Not Transmit Matrix 2 of 5 Check Digit
(00h)**

Korean 3 of 5

Enable/Disable Korean 3 of 5

Scan one of the following barcodes to enable or disable Korean 3 of 5.

NOTE   The length for Korean 3 of 5 is fixed at 6.

**Enable Korean 3 of 5
(01h)**

***Disable Korean 3 of 5
(00h)**

Inverse 1D

This parameter sets the 1D inverse decoder setting. Options are:

● **Regular Only** - the decoder decodes regular 1D bar codes only.

● **Inverse Only** - the decoder decodes inverse 1D bar codes only.

● **Inverse Autodetect** - the decoder decodes both regular and inverse 1D bar codes.

NOTE   The Inverse 1D setting may impact Composite or Inverse Composite decoding. See

Composite Inverse

*Regular
(00h)

Inverse Only
(01h)

Inverse Autodetect
(02h)

Postal Codes

US Postnet

Scan one of the following barcodes to enable or disable US Postnet.

Enable US Postnet
(01h)

*Disable US Postnet
(00h)

US Planet

To enable or disable US Planet, scan the appropriate bar code below.

Enable US Planet
(01h)

*Disable US Planet
(00h)

Transmit US Postal Check Digit

Scan one of the following barcodes to select whether to transmit US Postal data, which includes both US Postnet and US Planet, with or without the check digit.

||||||| (barcode)

*Transmit US Postal Check Digit
(01h)

||||||| (barcode)

Do Not Transmit US Postal Check Digit
(00h)

UK Postal

Scan one of the following barcodes to enable or disable UK Postal.

Enable UK Postal
(01h)

*****Disable UK Postal**
(00h)

Transmit UK Postal Check Digit

Scan one of the following barcodes to select whether to transmit UK Postal data with or without the check digit.

*****Transmit UK Postal**
Check Digit
(01h)

Do Not Transmit UK Postal Check Digit
(00h)

Japan Postal

Scan one of the following barcodes to enable or disable Japan Postal.

**Enable Japan Postal
(01h)**

***Disable Japan Postal
(00h)**

Australia Post

Scan one of the following barcodes to enable or disable Australia Post.

**Enable Australia Post
(01h)**

***Disable Australia Post
(00h)**

Australia Post Format

To select one of the following formats for Australia Post, scan the appropriate bar code below:

- **Autodiscriminate** (or Smart mode) - Attempt to decode the Customer Information Field using the N and C Encoding Tables.

  NOTE This option increases the risk of mis-decodes because the encoded data format does not specify the Encoding Table used for encoding.

- **Raw Format** - Output raw bar patterns as a series of numbers 0 through 3.

- **Alphanumeric Encoding** - Decode the Customer Information Field using the C Encoding Table.

- **Numeric Encoding** - Decode the Customer Information Field using the N Encoding Table.

For more information on Australia Post Encoding Tables, refer to the *Australia Post Customer Barcoding Technical Specifications available* at http://www.auspost.com.au.

*Autodiscriminate
(00h)

Raw Format
(01h)

Alphanumeric Encoding
(02h)

Numeric Encoding
(03h)

Netherlands KIX Code

Scan one of the following barcodes to enable or disable Netherlands KIX Code.

**Enable Netherlands KIX Code
(01h)**

***Disable Netherlands KIX Code
(00h)**

USPS 4CB/One Code/Intelligent Mail

Scan one of the following barcodes to enable or disable USPS 4CB/One Code/Intelligent Mail.

**Enable USPS 4CB/One Code/Intelligent Mail
(01h)**

***Disable USPS 4CB/One Code/Intelligent Mail
(00h)**

UPU FICS Postal

Scan one of the following barcodes to enable or disable UPU FICS Postal.

**Enable UPU FICS Postal
(01h)**

***Disable UPU FICS Postal
(00h)**

Mailmark

Scan one of the following barcodes to enable or disable Mailmark.

***Disable Mailmark
(0)**

**Enable Mailmark
(1)**

GS1 DataBar

The variants of GS1 DataBar are GS1 DataBar Omnidirectional, GS1 DataBar Truncated, GS1 DataBar Stacked, GS1 DataBar Stacked Omnidirectional, DataBar Expanded, GS1 DataBar Expanded Stacked and DataBar Limited. The limited and expanded versions have stacked variants. Scan the appropriate barcodes to enable or disable each variant of GS1 DataBar.

GS1 DataBar - 14

*Enable GS1 DataBar
(01h)

Disable GS1 DataBar
(00h)

GS1 DataBar Limited

*Enable GS1 DataBar Limited
(1)↵

Disable GS1 DataBar Limited
(0)↵

GS1 DataBar Expanded

*Enable GS1 DataBar Expanded (01h)

Disable GS1 DataBar Expanded (00h)

Convert GS1 DataBar to UPC/EAN/JAN

This parameter only applies to GS1 DataBar Omnidirectional and GS1 DataBar Limited symbols not decoded as part of a Composite symbol. Scan **Enable Convert GS1 DataBar to UPC/EAN/JAN** to strip the leading '010' from DataBar-14 and DataBar Limited symbols encoding a single zero as the first digit, and report the barcode as EAN-13.

For barcodes beginning with between two and five zeros, this strips the leading '0100' and reports the barcode as UPC-A. The *UPC-A Preamble* option that transmits the system character and country code applies to converted barcodes. Note that neither the system character nor the check digit can be stripped.

Enable Convert GS1 DataBar to UPC/EAN/JAN (1)

*Disable Convert GS1 DataBar to UPC/EAN/JAN (0)

113

GS1 DataBar Security Level

The decoder offers four levels of decode security for GS1 DataBar (GS1 DataBar Omnidirectional, GS1 DataBar Limited, GS1 DataBar Expanded) barcodes.

• Security Level 0 - The decoder operates in its most aggressive state, while providing sufficient security decoding for most in-spec barcodes.

GS1 DataBar Security Level 0

(0)

• Security Level 1 - This setting eliminates most mis-decodes while maintaining reasonable aggressiveness.

*GS1 DataBar Security Level 1

(1)

• Security Level 2 - Select this option with greater barcode security requirements if Security Level 1 fails to eliminate mis-decodes.

GS1 DataBar Security Level 2

(2)

• Security Level 3 - If you selected Security Level 2 and mis-decodes still occur, select this security level to apply the highest safety requirements.

GS1 DataBar Security Level 3

(3)

Composite

Composite CC-C

Scan one of the following barcodes to enable or disable Composite barcodes of type CC-C.

Enable CC-C
(01h)

*Disable CC-C
(00h)

Composite CC-A/B

Scan one of the following barcodes to enable or disable Composite barcodes of type CC-A/B.

Enable CC-A/B
(01h)

*Disable CC-A/B
(00h)

Composite TLC-39

Scan one of the following barcodes to enable or disable Composite barcodes of type TLC-39.

Enable TLC39
(01h)

*Disable TLC39
(00h)

Composite Inverse

Select an option to set Composite for either regular decode or inverse decode. This mode only supports Composite Inverse that includes DataBar combined with CCAB, and does not support other 1D/2D combinations.

For this parameter to function, first enable Composite CC-A/B.

• **Regular Only** - The decoder decodes regular Composite barcodes only. Before selecting this, set Inverse 1D to Regular Only or Inverse Autodetect.

• **Inverse Only** - The decoder decodes inverse Composite barcodes only. Before selecting this, set Inverse 1D to Inverse Only or Inverse Autodetect.

*Regular Only
(0)

Inverse Only
(1)

UPC Composite Mode

Select an option for linking UPC symbols with a 2D symbol during transmission as if they were one symbol:

• **UPC Never Linked** - Transmit UPC barcodes regardless of whether a 2D symbol is detected.

• **UPC Always Linked** - Transmit UPC barcodes and the 2D portion. If 2D is not present, do not transmit the barcode.

• **Autodiscriminate UPC Composites** - The decoder determines if there is a 2D portion, then transmits the UPC, as well as the 2D portion if present.

*UPC Never Linked
(0)↵

UPC Always Linked
(1)↵

Autodiscriminate UPC Composites
(2)↵

Composite Beep Mode

Scan one of the following barcodes to select the number of decode beeps that sound upon decoding a Composite barcode.

**Single Beep After Both are Decoded
(00h)**

***Beep as Each Code Type is Decoded
(01h)**

**Double Beep After Both are Decoded
(02h)**

GS1-128 Emulation Mode for UCC/EAN Composite Codes

Scan one of the following barcodes to enable or disable this mode.

**Enable GS1-128 Emulation Mode for
UCC/EAN Composite Codes
(01h)**

***Disable GS1-128 Emulation Mode for
UCC/EAN Composite Codes
(00h)**

2D Symbologies

Enable/Disable PDF417

Scan one of the following barcodes to enable or disable PDF417.

*Enable PDF417
(01h)

Disable PDF417
(00h)

Enable/Disable MicroPDF417

Scan one of the following barcodes to enable or disable MicroPDF417.

Enable MicroPDF417
(01h)

*Disable MicroPDF417
(00h)

Code 128 Emulation

Scan one of the following barcodes to enable or disable Code 128 Emulation.

Enable Code 128 Emulation
(01h)

*Disable Code 128 Emulation
(00h)

Data Matrix

Scan one of the following barcodes to enable or disable Data Matrix.

*Enable Data Matrix
(01h)

Disable Data Matrix
(00h)

GS1 Data Matrix

Scan one of the following barcodes to enable or disable GS1 Data Matrix.

Enable GS1 Data Matrix
(1)

*Disable GS1 Data Matrix
(0)

Data Matrix Inverse

Scan one of the following barcodes to select the Data Matrix inverse decoder setting:

Regular Only - The decoder decodes regular Data Matrix barcodes only.

Inverse Only - The decoder decodes inverse Data Matrix barcodes only.

Inverse Autodetect - The decoder decodes both regular and inverse Data Matrix barcodes.

Regular Only
(0)

Inverse Only
(1)

*Inverse Autodetect
(2)

Decode Data Matrix Mirror Images

Select an option for decoding mirror image Data Matrix bar codes:

- **Always** - decode only Data Matrix bar codes that are mirror images.
- **Never** - do not decode Data Matrix bar codes that are mirror images.
- **Auto** - decode both mirrored and unmirrored Data Matrix bar codes.

Always
(01h)

Never
(00h)

* Auto
(02h)

Maxicode

Scan one of the following barcodes to enable or disable Maxicode.

**Enable Maxicode
(01h)**

***Disable Maxicode
(00h)**

QR Code

Scan one of the following barcodes to enable or disable QR Code.

***Enable QR Code
(01h)**

**Disable QR Code
(00h)**

GS1 QR

Scan one of the following barcodes to enable or disable GS1 QR.

*Enable GS1 QR
(1)

Disable GS1 QR
(0)

MicroQR

Scan one of the following barcodes to enable or disable MicroQR.

*Enable MicroQR
(01h)

Disable MicroQR
(00h)

Linked QR Mode

Scan one of the following barcodes to select a linked QR mode.

• **Linked QR Only** - Does not decode individual QRs from a set of linked QR codes.

• **Individual QR With Headers** - Decodes individual QRs from a set of linked QR codes and keeps the header information and data.

• **Individual QR No Headers** - Decodes individual QRs from a set of linked QR codes and just transmits data without header information.

‖‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖‖‖

* Linked QR Only

(0)

‖‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖‖‖

Individual QR With Headers

(1)

‖‖‖ ‖‖‖‖‖‖‖‖‖ ‖‖‖‖‖

Individual QR No Headers

(2)

Aztec

Scan one of the following barcodes to enable or disable Aztec.

NOTE   Enabling this also enables Linked Aztec.

*Enable Aztec
(01h)

Disable Aztec
(00h)

Aztec Inverse

Scan one of the following barcodes to select the Aztec inverse decoder setting:

• **Regular Only** - The decoder decodes regular Aztec barcodes only.

• **Inverse Only** - The decoder decodes inverse Aztec barcodes only.

• **Inverse Autodetect** - The decoder decodes both regular and inverse Aztec barcodes.

Regular
(00h)

Inverse Only
(01h)

***Inverse Autodetect**
(02h)

Han Xin

Scan one of the following barcodes to enable or disable Han Xin.

Enable Han Xin
(01h)

***Disable Han Xin**
(00h)

Han Xin Inverse

Scan one of the following barcodes to select a Han Xin inverse decoder setting:

• **Regular Only** - The decoder decodes Han Xin barcodes with normal reflectance only.

• **Inverse Only** - The decoder decodes Han Xin barcodes with inverse reflectance only.

• **Inverse Autodetect** - The decoder decodes both regular and inverse Han Xin barcodes.

*Regular
(00h)

Inverse Only
(01h)

Inverse Autodetect
(02h)

Grid Matrix

Scan one of the following barcodes to enable or disable Grid Matrix.

**Enable
(1)**

***Disable
(0)**

Grid Matrix Inverse

Scan one of the following barcodes to select a Grid Matrix inverse decoder setting:

• **Regular Only** - The decoder decodes regular Grid Matrix barcodes only.

• **Inverse Only** - The decoder decodes inverse Grid Matrix barcodes only.

• **Autodiscriminate** - The decoder decodes both regular and inverse Grid Matrix barcodes.

*Regular Only

(0)

Inverse Only

(1)

Autodiscriminate

(2)

Grid Matrix Mirror

Scan one of the following barcodes to select a Grid Matrix mirror decoder setting:

• **Regular Only** - The decoder decodes regular Grid Matrix barcodes only.

• **Mirrored Only** - The decoder decodes mirrored Grid Matrix barcodes only.

• **Auto-discriminate** - The decoder decodes both regular and mirrored Grid Matrix barcodes.

*Regular Only

(0)

Mirrored Only

(1)

Autodiscriminate

(2)

DotCode

Scan one of the following barcodes to enable or disable DotCode.

‖‖‖‖‖‖‖‖‖‖‖‖‖

* Disable DotCode

(0)

‖‖‖‖‖‖‖‖‖‖‖‖‖

Enable DotCode

(1)

DotCode Inverse

Scan one of the following barcodes to select a DotCode Inverse decoder setting. Setting options are:

• **Regular Only** - Decoder decodes DotCode barcodes with normal reflectance only.

• **Inverse Only** - Decoder decodes DotCode barcodes with inverse reflectance only.

• **Inverse Autodetect** - Decoder decodes both regular and inverse DotCode barcodes.

Regular

(0)

Inverse Only

(1)

* Autodetect

(2)

DotCode Mirrored

Scan one of the following barcodes to select a DotCode Mirror decoder setting:

• **Non-Mirrored Only** - Digital decoder decodes non-mirrored DotCode barcodes only.

• **Mirrored Only** - Digital decoder decodes mirrored DotCode barcodes only.

•**Autodetect** - Digital decoder decodes both mirrored and non-mirrored DotCode barcodes.

Never
(0)

Always
(1)

* Autodetect
(2)

DotCode Prioritize

Enable DotCode Prioritize to give priority to DotCode decoding as compared to other symbologies.

Disable

* Enable

Symbology-Specific Security Features

Redundancy Level

The decoder offers four levels of decode redundancy. Select higher redundancy levels for decreasing levels of bar code quality. As redundancy levels increase, the decoder's aggressiveness decreases.

Select the redundancy level appropriate for the bar code quality.

Redundancy Level 1

The following code types must be successfully read twice before being decoded:

Code Type	Code Length
Codabar	8 characters or less
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less

Redundancy Level 2

The following code types must be successfully read twice before being decoded:

Code Type	Code Length
All	All

Redundancy Level 3

Code types other than the following must be successfully read twice before being decoded. The following codes must be read three times:

Code Type	Code Length
MSI	4 characters or less
D 2 of 5	8 characters or less
I 2 of 5	8 characters or less
Codabar	8 characters or less

Redundancy Level 4

The following code types must be successfully read three times before being decoded:

Code Type	Code Length
All	All

*Redundancy Level 1
(01h)

Redundancy Level 2
(02h)

Redundancy Level 3
(03h)

Redundancy Level 4
(04h)

Security Level

The decoder offers four levels of decode security for delta bar codes, which include the Code 128 family, UPC/EAN/JAN and Code 93. Select increasing levels of security for decreasing levels of bar code quality. There is an inverse relationship between security and decoder aggressiveness, so choose only that level of security necessary for the application.

● **Security Level 0**: The decoder operates in its most aggressive state, while providing sufficient security decoding most in-spec barcodes.

Security Level 0
(00h)

● **Security Level 1**: This default setting eliminates most mis-decodes.

***Security Level 1**
(01h)

● **Security Level 2**: Select this option if Security Level 1 fails to eliminate mis-decodes.

Security Level 2
(02h)

Security Level 3: If you selected Security Level 2 and mis-decodes still occur, select this security level.

Security Level 3
(03h)

Note   Selecting this option is an extreme measure against mis-decoding severely out-of-spec barcodes, and significantly impairs the decoding ability of the decoder. If this level of security is required, try to improve the quality of the barcodes.

1D Quiet Zone Level

This feature sets the level of aggressiveness when decoding barcodes with a reduced quiet zone (the margin on either side of a barcode), and applies to symbologies enabled by a Reduced Quiet Zone parameter. Because higher levels increase the decoding time and risk of mis-decodes, Zebra strongly recommends enabling only the symbologies which require higher quiet zone levels, and leaving Reduced Quiet Zone disabled for all other symbologies. Options are:

•**1D Quiet Zone Level 0** - The decoder performs normally in terms of quiet zone.

•**1D Quiet Zone Level 1** - The decoder performs more aggressively in terms of quiet zone.

•**1D Quiet Zone Level 2** - The decoder only requires a quiet zone at the end of barcode for decoding.

•**1D Quiet Zone Level 3** - The decoder decodes anything in terms of quiet zone or end of barcode.

1D Quiet Zone Level 0
(0)

*1D Quiet Zone Level 1
(1)

1D Quiet Zone Level 2
(2)

1D Quiet Zone Level 3
(3)

Intercharacter Gap Size

The Code 39 and Codabar symbologies have an intercharacter gap that is typically quite small. Due to various barcode printing technologies, this gap can grow larger than the maximum size allowed, preventing the decoder from decoding the symbol. If this problem occurs, scan the **Large Intercharacter Gaps** parameter to tolerate these out-of-specification barcodes.

***Normal Intercharacter Gaps
(06h)**

**Large Intercharacter Gaps
(0Ah)**

OCR

This chapter describes how to set up the decoder for OCR programming. It supports the font types OCR-A and OCR-B.

OCR is not as secure as a barcode. To decrease OCR mis-decodes and speed OCR reading, set an accurate OCR template and character subset, and use a check digit.

All OCR fonts are disabled by default. Enabling OCR could slow barcode decoding.

OCR setup steps

1. Scan the QR code in the "OCR Prerequisite" section.

2. Enable OCR-A reading (see section "OCR-A").

3. Specify a format of the OCR read (see section "OCR-A Variant").

※ When using OCR-B, please see section "OCR-B" and section "OCR-B Variant" separately.

OCR Prerequisite

Scan the following QR code first.

※ When using OCR, be sure to scan the following QR code before doing other respective

settings.

OCR-A

Note To make OCR effective, please first scan the QR code in "OCR Prerequisite".

Scan one of the following barcodes to enable or disable OCR-A.

Enable OCR-A（1）

*Disable OCR-A（0）

OCR-A Variant

Note Enable OCR-A before setting this.

The font variant sets a processing algorithm and default character subset for the given font. To choose a variant, scan one of the following barcodes. Select the most appropriate font variant to optimize performance and accuracy.

OCR-A supports the following variants:
- OCR-A Full ASCII
  !"#$()*+,-./0123456789<>ABCDEFGHIJKLMNOPQRSTUVWXYZ\^
- OCR-A Reserved 1
  $*+-./0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ
- OCR-A Reserved 2
  $*+-./0123456789<>ABCDEFGHIJKLMNOPQRSTUVWXYZ
- OCR-A Banking
  -0123456789<> ५⊣♪

Special banking characters are output as the following representative characters:
  ५ outputs as f

144

⊣ outputs as c

♩ outputs as h

*OCR-A Full ASCII (0)

OCR-A Reserved 1 (1)

OCR-A Reserved 2 (2)

OCR-A Banking (3)

OCR-B

Note To make OCR effective, please first scan the QR code in "OCR Prerequisite".

Scan one of the following barcodes to enable or disable OCR-B.

Enable OCR-B (1)

*Disable OCR-B (0)

OCR-B Variant

Note Enable OCR-B before setting this.

OCR-B has the following variants. Select the most appropriate font variant to optimize performance and accuracy.

- OCR-B Full ASCII
  !#$%()*+,-./0123456789<>ABCDEFGHIJKLMNOPQRSTUVWXYZ^|Ñ
- OCR-B Banking
  #+-0123456789<>JNP|
- OCR-B Limited
  +,-./0123456789<>ACENPSTVX
- OCR-B ISBN 10-Digit Book Numbers
  -0123456789>BCEINPSXz
- OCR-B ISBN 10 or 13-Digit Book Numbers
  -0123456789>BCEINPSXz
- OCR-B Travel Document Version 1 (TD1) 3-Line ID Cards
  -0123456789<ABCDEFGHIJKLMNOPQRSTUVWXYZ
- OCR-B Travel Document Version 2 (TD2) 2-Line ID Cards
  -0123456789<ABCDEFGHIJKLMNOPQRSTUVWXYZ
- OCR-B Travel Document 2 or 3-Line ID Cards Auto-Detect

!#$%()*+,-./0123456789<>ABCDEFGHIJKLMNOPQRSTUVWXYZ^|Ñ

- OCR-B Passport

  -0123456789<ABCDEFGHIJKLMNOPQRSTUVWXYZÑ

- OCR-B Visa Type A

  -0123456789<ABCDEFGHIJKLMNOPQRSTUVWXYZ

- OCR-B Visa Type B

  -0123456789<ABCDEFGHIJKLMNOPQRSTUVWXYZÑ

- OCR-B ICAO Travel Documents

  This allows reading either TD1, TD2, Passport, Visa Type A, or Visa Type B without switching

  between these options. It automatically recognizes these travel documents.

*OCR-B Full ASCII (0)

OCR-B Banking (1)

OCR-B Limited (2)

OCR-B ISBN 10-Digit Book Numbers (6)

OCR-B ISBN 10 or 13-Digit Book Numbers (7)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B Travel Document Version 1 (TD1)

3 Line ID Cards(3)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B Travel Document Version 2 (TD2)

2-Line ID Cards (8)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

Travel Document 2 or 3-Line ID Cards Auto-Detect (20)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B Passport (4)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B Visa Type A (9)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B Visa Type B (10)

‖‖‖‖‖‖‖‖‖‖‖‖‖‖

OCR-B ICAO Travel Documents (11)

OCR Orientation

Select one of five options to specify the orientation of the OCR to read:

• 0º to the imaging engine (default)

• 270º clockwise (or 90º counterclockwise) to the imaging engine

• 180º (upside down) to the imaging engine

• 90º clockwise to the imaging engine

• Omnidirectional

*OCR Orientation 0°(0)

OCR Orientation 270° Clockwise(1)

OCR Orientation 180° Clockwise (2)

OCR Orientation 90° Clockwise (3)

OCR Orientation Omnidirectional (4)

Appendix

ASCII Character Sets

Code Type	Full ASCII Code 39 Encode Char.	Keystroke
1000	%U	CTRL 2
1001	$A	CTRL A
1002	$B	CTRL B
1003	$C	CTRL C
1004	$D	CTRL D
1005	$E	CTRL E
1006	$F	CTRL F
1007	$G	CTRL G
1008	$H	CTRL H / **BACKSPACE**
1009	$I	CTRL I / **HORIZONTAL TAB**
1010	$J	CTRL J
1011	$K	CTRL K
1012	$L	CTRL L
1013	$M	CTRL M / **ENTER**
1014	$N	CTRL N
1015	$O	CTRL O
1016	$P	CTRL P
1017	$Q	CTRL Q
1018	$R	CTRL R
1019	$S	CTRL S
1020	$T	CTRL T
1021	$U	CTRL U
1022	$V	CTRL V
1023	$W	CTRL W
1024	$X	CTRL X

※The keystrokes in bold transmit only if you have enabled "Function Key Mapping." Otherwise, the non-bold keystroke transmits.

読取値	Full ASCII Code 39 Encode Char.	Keystroke
1025	$Y	CTRL Y
1026	$Z	CTRL Z
1027	%A	CTRL [
1028	%B	CTRL \ (※\)
1029	%C	CTRL]
1030	%D	CTRL 6
1031	%E	CTRL -
1032	Space	Space
1033	/A	!
1034	/B	"
1035	/C	#
1036	/D	$
1037	/E	%
1038	/F	&
1039	/G	'
1040	/H	(
1041	/I	)
1042	/J	*
1043	/K	+
1044	/L	,
1045	-	-
1046	.	.
1047	/o	/
1048	0	0
1049	1	1
1050	2	2
1051	3	3
1052	4	4
1053	5	5
1054	6	6

ASCII Value	Full ASCII Code 39 Encode Char.	Keystroke
1055	7	7
1056	8	8
1057	9	9
1058	/Z	:
1059	%F	;
1060	%G	<
1061	%H	=
1062	%I	>
1063	%J	?
1064	%V	@
1065	A	A
1066	B	B
1067	C	C
1068	D	D
1069	E	E
1070	F	F
1071	G	G
1072	H	H
1073	I	I
1074	J	J
1075	K	K
1076	L	L
1077	M	M
1078	N	N
1079	O	O
1080	P	P
1081	Q	Q
1082	R	R
1083	S	S
1084	T	T

ASCII Value	Full ASCII Code 39 Encode Char.	Keystroke
1085	U	U
1086	V	V
1087	W	W
1088	X	X
1089	Y	Y
1090	Z	Z
1091	%K	[
1092	%L	\ (※\)
1093	%M	]
1094	%N	^
1095	%O	_
1096	%W	'
1097	+A	a
1098	+B	b
1099	+C	c
1100	+D	d
1101	+E	e
1102	+F	f
1103	+G	g
1104	+H	h
1105	+I	i
1106	+J	j
1107	+K	k
1108	+L	l
1109	+M	m
1110	+N	n
1111	+O	o
1112	+P	p
1113	+Q	q
1114	+R	r

ASCII Value	Full ASCII Code 39 Encode Char.	Keystroke
1115	+S	s
1116	+T	t
1117	+U	u
1118	+V	v
1119	+W	w
1120	+X	x
1121	+Y	y
1122	+Z	z
1123	%P	{
1124	%Q		
1125	%R	}
1126	%S	~

Numeric Bar codes

```
0
```

```
1
```

```
2
```

```
3
```

```
4
```

```
5
```

```
6
```

```
7
```

‖‖‖‖‖‖‖‖‖‖‖
8

‖‖‖‖‖‖‖‖‖‖‖
9

Cancel

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

‖‖‖‖‖‖‖‖‖‖‖
Cancel

Symbol Code Identifiers

Code Character	Code Type
A	JAN (UPC-A, UPC-E, UPC-E1, EAN-8, EAN-13)
B	Code 39, Code 32
C	NW7 (Codabar)
D	Code 128, ISBT 128, ISBT 128 Concatenated
E	Code 93
F	Interleaved 2 of 5
G	Discrete 2 of 5, or Discrete 2 of 5 IATA
H	Code 11
J	MSI
K	GS1-128
L	Bookland EAN
M	Trioptic Code 39
N	Coupon Code
R	GS1 DataBar Family
S	Matrix 2 of 5
T	UCC Composite, TLC 39
U	Chinese 2 of 5
V	Korean 3 of 5
X	ISSN EAN, PDF417, Macro PDF417, Micro PDF417
z	Aztec, Aztec Rune
P00	Data Matrix
P01	QR Code, MicroQR
P02	Maxicode
P03	US Postnet
P04	US Planet
P05	Japan Postal
P06	UK Postal
P08	Netherlands KIX Code
P09	Australia Post
P0A	USPS 4CB/One Code/Intelligent Mail
P0B	UPU FICS Postal
P0D	Grid Matrix, Grid Matrix Inverse, Grid Matrix Mirror
P0G	GS1 Data Matrix
P0H	Han Xin
P0Q	GS1 QR
P0X	Signature Capture

AIM Code Identifiers

Each AIM Code Identifier contains the three-character string]cm where:

] = Flag Character (ASCII 93)

c = Code Character (See table below)

m = Modifier Character (See table at next page)

Code Character	Code Type
A	Code 39, Code 39 Full ASCII, Code 32
C	Code 128, ISBT 128, ISBT 128 Concatenated, GS1-128, Coupon (Code 128 portion)
d	Data Matrix
E	JAN(UPC/EAN), Coupon (UPC portion)
e	GS1 DataBar Family
F	NW7(Codabar)
G	Code 93
H	Code 11
I	Interleaved 2 of 5
L	PDF417, Macro PDF417, Micro PDF417
L2	TLC 39
M	MSI
Q	QR Code, MicroQR
S	Discrete 2 of 5, IATA 2 of 5
U	Maxicode
z	Aztec, Aztec Rune
X	Bookland EAN, ISSN EAN, Trioptic Code 39, Chinese 2 of 5, Matrix 2 of 5, Korean 3 of 5, US Postnet, US Planet, UK Postal, Japan Postal, Australia Post, Netherlands KIX Code, USPS 4CB/One Code/ Intelligent Mail, UPU FICS Postal, Mailmark, Signature Capture
]g	Grid Matrix, Grid Matrix Inverse, Grid Matrix Mirror

Modifier Character

The modifier character is the sum of the applicable option values based on the table below.

Code Type	Option Value	Option
Code 39		
	0	No check character or Full ASCII processing.
	1	Reader has checked one check character.
	3	Reader has checked and stripped check character.
	4	Reader has performed Full ASCII character conversion.
	5	Reader has performed Full ASCII character conversion and checked one check character.
	7	Reader has performed Full ASCII character conversion and checked and stripped check character.
	Example: A Full ASCII bar code with check character W, A+I+MI+DW, is transmitted as]A7AIMID where 7 = (3+4).	
Trioptic Code 39		
	0	No option specified at this time. Always transmit 0.
	Example: A Trioptic bar code 412356 is transmitted as]X0412356	
Code 128		
	0	Standard data packet, no Function code 1 in first symbol position.
	1	Function code 1 in first symbol character position.
	2	Function code 1 in second symbol character position.
	Example: A Code (EAN) 128 bar code with Function 1 character ^{FNC1} in the first position, AIMID is transmitted as]C1AIMID	
I 2 of 5		
	0	No check digit processing.
	1	Reader has validated check digit.
	3	Reader has validated and stripped check digit.
	Example: An I 2 of 5 bar code without check digit, 4123, is transmitted as]I04123	

Code Type	Option Value	Option
Codabar		
	0	No check digit processing.
	1	Reader has checked check digit.
	3	Reader has stripped check digit before transmission.
	Example: A Codabar bar code without check digit, 4123, is transmitted as]F04123	
Code 93		
	0	No options specified at this time. Always transmit 0.
	Example: A Code 93 bar code 012345678905 is transmitted as]G0012345678905	
MSI		
	0	Check digits are sent.
	1	No check digit is sent.
	Example: An MSI bar code 4123, with a single check digit checked, is transmitted as]M14123	
D 2 of 5		
	0	No options specified at this time. Always transmit 0.
	Example: A D 2 of 5 bar code 4123, is transmitted as]S04123	

JAN(UPC/EAN)		
	0	Standard data packet in full EAN format, i.e. 13 digits for UPC-A, UPC-E, and EAN-13 (not including supplemental data).
	1	Two digit supplemental data only.
	2	Five digit supplemental data only.
	3	Combined data packet comprising 13 digits from EAN-13, UPC-A or UPC-E symbol and 2 or 5 digits from supplemental symbol.
	4	EAN-8 data packet.
	Example: A UPC-A bar code 012345678905 is transmitted as]E00012345678905	
Bookland EAN		
	0	No options specified at this time. Always transmit 0.
	Example: A Bookland EAN bar code 123456789X is transmitted as]X0123456789X	
ISSN EAN		
	0	No options specified at this time. Always transmit 0.
	Example: An ISSN EAN bar code 123456789X is transmitted as]X0123456789X	
Code 11		
	0	Single check digit
	1	Two check digits
	3	Check characters validated but not transmitted.
GS1 DataBar Family		
		No option specified at this time. Always transmit 0. GS1 DataBar and GS1 DataBar Limited transmit with an Application Identifier "01". Note: In GS1-128 emulation mode, GS1 DataBar is transmitted using Code 128 rules (i.e.,)C1).
		Example: A GS1 DataBar bar code 0110012345678902 is transmitted as]e00110012345678902.
EAN.UCC Composites (GS1 DataBar, GS1-128, 2D portion of UPC composite)		
		Native mode transmission. Note: UPC portion of composite is transmitted using UPC rules.
	0	Standard data packet.
	1	Data packet containing the data following an encoded symbol separator character.
	2	Data packet containing the data following an escape mechanism character. The data packet does not support the ECI protocol.
	3	Data packet containing the data following an escape mechanism character. The data packet supports the ECI protocol.
		GS1-128 emulation Note: UPC portion of composite is transmitted using UPC rules.
	1	Data packet is a GS1-128 symbol (i.e., data is preceded with)JC1).
PDF417,Micro PDF417		
	0	Reader set to conform to protocol defined in 1994 PDF417 symbology specifications. **Note**: When this option is transmitted, the receiver cannot reliably determine whether ECIs have been invoked or whether data byte 92_{DEC} has been doubled in transmission.
	1	Reader set to follow the ECI protocol (Extended Channel Interpretation). All data characters 92_{DEC} are doubled.
	2	Reader set for Basic Channel operation (no escape character transmission protocol). Data characters

		92_{DEC} are not doubled. Note: When decoders are set to this mode, unbuffered Macro symbols and symbols requiring the decoder to convey ECI escape sequences cannot be transmitted.
	3	The bar code contains a GS1-128 symbol, and the first codeword is 903-907, 912, 914, 915.
	4	The bar code contains a GS1-128 symbol, and the first codeword is in the range 908-909.
	5	The bar code contains a GS1-128 symbol, and the first codeword is in the range 910-911.
	Example: A PDF417 bar code ABCD, with no transmission protocol enabled, is transmitted as]L2ABCD.	
Data Matrix		
	0	ECC 000-140, not supported.
	1	ECC 200.
	2	ECC 200, FNC1 in first or fifth position.
	3	ECC 200, FNC1 in second or sixth position.
	4	ECC 200, ECI protocol implemented.
	5	ECC 200, FNC1 in first or fifth position, ECI protocol implemented.
	6	ECC 200, FNC1 in second or sixth position, ECI protocol implemented.
GS1 Data Matrix		
	2	ECC 200, FNC1 in first or fifth position.
MaxiCode		
	0	Symbol in Mode 4 or 5.
	1	Symbol in Mode 2 or 3.
	2	Symbol in Mode 4 or 5, ECI protocol implemented.
	3	Symbol in Mode 2 or 3, ECI protocol implemented in secondary message.
QR Code		
	0	Model 1 symbol.
	1	Model 2 / MicroQR symbol, ECI protocol not implemented.
	2	Model 2 symbol, ECI protocol implemented.
	3	Model 2 symbol, ECI protocol not implemented, FNC1 implied in first position.
	4	Model 2 symbol, ECI protocol implemented, FNC1 implied in first position.
	5	Model 2 symbol, ECI protocol not implemented, FNC1 implied in second position.
	6	Model 2 symbol, ECI protocol implemented, FNC1 implied in second position.
GS1 QR		
	3	Model 2 symbol, ECI protocol not implemented, FNC1 implied in first position.
Aztec		
	0	Aztec Symbol
	C	Aztec Rune Symbol

FAQ

・Question

When scanning a JAN-13 which begins with "0 (zero)", the number of digits is changed to 12.

・Answer

When a JAN-13 begins with "0" (zero), it is identical to a UPC-A, in terms of the bar code's bar and space configuration.
Therefore, AsReader identifies it as UPC-A.

UPC-A is a 12-digit barcode, and the leading 0 is not present as data.
Therefore, if the same 13 digits as EAN-13 (JAN-13) are set as the host's expected value, the host may not be able to process it correctly due to data inconsistency.
In this case, set the UPC-A Preamble parameter to System Character & Country Code to convert the UPC-A digits to 13 digits.

You can do this by reading the third barcode "Country Code & System Character" on page 43 of this manual.