

AsReader Gun (ASR-R250G / ASR-L251G)
AsReader Combo (ASR-0240D / ASR-023xD)
AsReader DOCK (ASR-022D)

Barcode Setting Manual

AsReader, Inc.

Ver.1.2

※This information is subject to change without prior notice.

Disclaimer

Asterisk, Inc.(Asterisk) reserves the right to make changes in specifications and other information contained in this document without prior notice, and the reader should in all cases consult Asterisk to determine whether any such changes have been made. The information in this publication does not represent a commitment on the part of Asterisk.

Asterisk shall not be liable for technical or editorial errors or omissions contained herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material. Asterisk disclaims all responsibility for the selection and use of software and/or hardware to achieve intended results.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced, or translated into another language without the prior written consent of Asterisk.

Copyright 2016 Asterisk, Inc. All rights reserved.

Web Address: www.asreader.com

Other product names or marks mentioned in this document may be trademarks or registered trademarks of other companies and are the property of their respective owners.

Table of Contents

Disclaimer	2
1. Getting Started.....	10
1.1. About This Manual.....	10
1.2. Resetting the Factory Defaults	10
1.3. Setting Custom Defaults	10
1.4. Resetting the Custom Defaults	11
1.5. Manual Trigger Modes	12
LED Illumination - Manual Trigger.....	12
1.6. Presentation Mode	13
LED Illumination - Presentation Mode.....	13
Presentation LED Behavior after Decode.....	14
Presentation Sensitivity	14
Presentation Centering.....	14
1.7. CodeGate ®	16
1.8. Mobile Phone Read Mode.....	16
1.9. Poor Quality Codes	16
Poor Quality 1D Codes	16
Poor Quality PDF Codes	16
1.10. Hands Free Time-Out.....	18
1.11. Reread Delay	18
1.12. User-Specified Reread Delay.....	18
1.13. 2D Reread Delay	19
1.14. Illumination Lights.....	19
1.15. Aimer Delay	20
User-Specified Aimer Delay.....	20
1.16. Aimer Mode	20
1.17. Centering	20
1.18. Preferred Symbology	22
High Priority Symbology.....	22
Low Priority Symbology.....	22
Preferred Symbology Time-out	23
Preferred Symbology Default	23
1.19. Multiple Symbols.....	23
1.20. No Read.....	23

1.21.	Video Reverse.....	23
1.22.	Working Orientation.....	24
2.	Data Editing.....	25
2.1.	Prefix/Suffix Overview.....	25
	Points to Keep In Mind.....	25
	To Add a Prefix or Suffix:.....	25
	Example: Add a Tab Suffix to All Symbologies.....	26
	To Clear One or All Prefixes or Suffixes.....	26
	To Add a Carriage Return Suffix to All Symbologies.....	26
2.2.	Prefix Selections.....	26
2.3.	Suffix Selections.....	26
2.4.	Intercharacter, Interfunction, and Intermesssage Delays.....	27
	Intercharacter Delay.....	27
	User Specified Intercharacter Delay.....	27
	Interfunction Delay.....	28
	Intermessage Delay.....	28
3.	Symbologies.....	29
3.1.	All Symbologies.....	29
3.2.	Message Length Description.....	30
3.3.	Codabar.....	30
	Codabar On/Off.....	30
	Codabar Start/Stop Characters.....	30
	Codabar Check Character.....	30
	Codabar Concatenation.....	31
	Codabar Message Length.....	31
3.4.	Code 39.....	32
	Code 39 On/Off.....	32
	Code 39 Start/Stop Characters.....	32
	Code 39 Check Character.....	32
	Code 39 Message Length.....	33
	Code 39 Append.....	33
	Code 32 Pharmaceutical (PARAF).....	33
	Full ASCII.....	34
3.5.	Interleaved 2 of 5.....	34
	Check Digit.....	34
	Interleaved 2 of 5 Message Length.....	35
3.6.	NEC 2 of 5.....	36

NEC 2 of 5 On/Off	36
Check Digit.....	36
NEC 2 of 5 Message Length	36
3.7. Code 93	37
Code 93 On/Off	37
Code 93 Message Length	37
Code 93 Append	37
Code 93 Code Page.....	37
3.8. Straight 2 of 5 Industrial (three-bar start/stop).....	38
Straight 2 of 5 Industrial On/Off	38
Straight 2 of 5 Industrial Message Length.....	38
3.9. Straight 2 of 5 IATA (two-bar start/stop).....	39
Straight 2 of 5 IATA On/Off	39
Straight 2 of 5 IATA Message Length	39
3.10. Matrix 2 of 5	40
Matrix 2 of 5 On/Off.....	40
Matrix 2 of 5 Message Length.....	40
3.11. Code 11	41
Code 11 On/Off	41
Check Digits Required.....	41
Code 11 Message Length.....	41
3.12. Code 128	42
Code 128 On/Off.....	42
ISBT 128 Concatenation.....	42
Code 128 Message Length	42
Code 128 Append.....	43
Code 128 Code Page	43
3.13. GS1-128	44
GS1-128 On/Off.....	44
GS1-128 Message Length	44
Telepen.....	45
Telepen On/Off	45
Telepen Output.....	45
Telepen Message Length	45
3.14. UPC-A	46
UPC-A On/Off.....	46
UPC-A Check Digit	46

UPC-A Number System.....	46
UPC-A Addenda.....	47
UPC-A Addenda Required	47
Addenda Timeout.....	47
UPC-A Addenda Separator	47
3.15. UPC-A/EAN-13 with Extended Coupon Code.....	48
3.16. Coupon GS1 DataBar Output.....	48
3.17. UPC-E0.....	49
UPC-E0 On/Off	49
UPC-E0 Expand	49
UPC-E0 Addenda Required	49
UPC-E0 Addenda Separator.....	49
UPC-E0 Check Digit.....	50
UPC-E0 Leading Zero.....	50
UPC-E0 Addenda	50
3.18. UPC-E1.....	51
3.19. EAN/JAN-13.....	51
EAN/JAN-13 On/Off	51
Convert UPC-A to EAN-13	51
EAN/JAN-13 Check Digit.....	51
EAN/JAN-13 Addenda	52
EAN/JAN-13 Addenda Required	52
EAN/JAN-13 Addenda Separator.....	52
ISBN Translate	52
3.20. EAN/JAN-8.....	53
EAN/JAN-8 On/Off.....	53
EAN/JAN-8 Check Digit.....	53
EAN/JAN-8 Addenda	53
EAN/JAN-8 Addenda Required	54
EAN/JAN-8 Addenda Separator.....	54
3.21. MSI	55
MSI On/Off.....	55
MSI Check Character.....	55
MSI Message Length	56
3.22. GS1 DataBar Omnidirectional.....	56
GS1 DataBar Omnidirectional On/Off	56
3.23. GS1 DataBar Limited	56

GS1 DataBar Limited On/Off.....	56
3.24. GS1 DataBar Expanded.....	57
GS1 DataBar Expanded On/Off.....	57
GS1 DataBar Expanded Message Length.....	57
3.25. Trioptic Code.....	57
3.26. Codablock A.....	58
Codablock A On/Off.....	58
Codablock A Message Length.....	58
3.27. Codablock F.....	59
Codablock F On/Off.....	59
Codablock F Message Length.....	59
3.28. Label Code.....	59
3.29. PDF417.....	60
PDF417 On/Off.....	60
PDF417 Message Length.....	60
PDF417 Code Page.....	60
3.30. MacroPDF417.....	60
3.31. MicroPDF417.....	61
MicroPDF417 On/Off.....	61
MicroPDF417 Message Length.....	61
3.32. GS1 Composite Codes.....	61
UPC/EAN Version.....	62
GS1 Composite Code Message Length.....	62
3.33. GS1 Emulation.....	63
3.34. TCIF Linked Code 39 (TLC39).....	64
3.35. QR Code.....	64
QR Code On/Off.....	64
QR Code Message Length.....	64
QR Code Append.....	65
QR Code Page.....	65
3.36. Data Matrix.....	66
Data Matrix On/Off.....	66
Data Matrix Message Length.....	66
Data Matrix Append.....	66
Data Matrix Code Page.....	66
3.37. MaxiCode.....	67
MaxiCode On/Off.....	67

MaxiCode Message Length	67
3.38. Aztec Code	68
Aztec Code On/Off	68
Aztec Code Message Length	68
Aztec Append	68
Aztec Code Page	68
3.39. Chinese Sensible (Han Xin) Code	69
Han Xin Code On/Off	69
Han Xin Code Message Length	69
3.40. Postal Codes - 2D	70
Single 2D Postal Codes:	70
Combination 2D Postal Codes:	71
Planet Code Check Digit	72
Postnet Check Digit	72
Australian Post Interpretation	73
3.41. Postal Codes - Linear	73
China Post (Hong Kong 2 of 5)	73
China Post (Hong Kong 2 of 5) On/Off	73
China Post (Hong Kong 2 of 5) Message Length	73
3.42. Korea Post	74
Korea Post	74
Korea Post Message Length	74
Korea Post Check Digit	74
4. Utilities	75
4.1. To Add a Test Code I.D. Prefix to All Symbologies	75
4.2. Show Decoder Revision	75
4.3. Show Software Revision	75
4.4. Show Data Format	75
4.5. Test Menu	76
4.6. Application Plug-Ins (Apps)	76
5. Reference Charts	77
5.1. Symbology Charts	77
Linear Symbologies	77
2D Symbologies	78
Postal Symbologies	79
ASCII Conversion Chart	79
5.2. Lower ASCII Reference Table	80

5.3.	ISO 2022/ISO 646 Character Replacements	83
5.4.	Sample Symbols.....	86
5.5.	Programming Chart.....	88

1. Getting Started

1.1. About This Manual

This manual provides various setting options and scannable barcode types for AsReader Gun(ASR-R250G/ASR-L251G), AsReader Combo(ASR-0240D/ASR-023xD) and AsReader DOCK(ASR-022D) (hereinafter referred to as “AsReader”). Choose the applicable barcodes of settings you wish and scan them with AsReader*. The settings will be stored in AsReader.

*You need a smartphone and an application to make AsReader work.

Steps to change barcode settings;

1. Connect your smartphone (iOS or Android) to AsReader.
2. Launch an application that can read barcodes on your smartphone.
3. Scan the barcode for the item whose settings you want to change.

* Nothing is displayed on the screen of the smartphone when a setting barcode is read.

* No beep sounds when the setting barcode is read successfully.

An asterisk (*) next to an option indicates the default setting.

1.2. Resetting the Factory Defaults

This selection resets AsReader to the original factory defaults.

If you aren't sure what programming options are in AsReader, or you've changed some options and want to restore the device to factory default settings, first scan the Remove Custom Defaults bar code, then scan Activate Defaults. This resets the device to the factory default settings.



For AsReader Combo (ASR-0240D/ASR-023xD) , you also have to scan the following barcode to complete the setting.

Do NOT scan this barcode when your device is NOT ASR-0240D or ASR-023xD.



1.3. Setting Custom Defaults

AsReader allows you to create a set of custom defaults. To do so, scan the Set Custom Defaults bar code below first, then scan your desired setting barcodes on this manual as your custom defaults. When you have scanned all the barcodes you want to save for your custom defaults, scan the Save Custom Defaults bar code.



MNUCDP.
Set Custom Defaults



MNUCDS.
Save Custom Defaults

You may have a series of custom settings and want to correct a single setting. To do so, just scan the new setting to overwrite the old one. For example, if you had previously saved the setting for Beeper Volume at Low to your custom defaults, and decide you want the beeper volume set to High, just scan the Set Custom Defaults bar code, then scan the Beeper Volume High menu code, and then Save Custom Defaults. The rest of the custom defaults will remain, but the beeper volume setting will be updated.

Note: Custom defaults are not applied immediately after scanning the Save Custom Defaults bar code. To activate the custom defaults, you must read the Activate Defaults bar code below.

1.4. Resetting the Custom Defaults

If you want the custom default settings restored to AsReader, scan the Activate Defaults bar code below. This is the recommended default bar code for most users. It resets the device to the custom default settings. If there are no custom defaults, it will reset the device to the factory default settings. Any settings that have not been specified through the custom defaults will be defaulted to the factory default settings.



DEFAULT.
Activate Defaults

1.5. Manual Trigger Modes

When in manual trigger mode, AsReader scans until a bar code is read, or until the trigger is released. Two modes are available, Normal and Enhanced. Normal mode offers good scan speed and the longest working ranges (depth of field). Enhanced mode will give you the highest possible scan speed but slightly less range than Normal mode. Enhanced mode is best used

when you require a very fast scan speed and don't require a long working range. Default = Manual Trigger-Normal.



PAPHHF.

* Manual Trigger - Normal



PAPHHS.

Manual Trigger - Enhanced

LED Illumination - Manual Trigger

If you wish to set the illumination LED brightness, scan one of the bar codes below. This sets the LED illumination for AsReader when the trigger is pressed. Default = High.

Note: The LEDs are like a flash on a camera. The lower the ambient light in the room, the brighter the LEDs need to be so AsReader can "see" the bar codes.



PWRNOLD.

Off



PWRNOL100.

Low



PWRNOL120.

Medium



PWRNOL150.

* High

1.6. Presentation Mode

Presentation Mode uses ambient light and scan engine illumination to detect bar codes. When in Presentation Mode, the LEDs remain dim until a bar code is presented to AsReader, then the aimer turns on and the LEDs turn up to read the code. If the light level in the room is not high enough, Presentation Mode may not work properly.

Scan the following bar code to program AsReader for Presentation Mode.



TRGM0D3.

Presentation Mode

LED Illumination - Presentation Mode

If you wish to set the illumination LED brightness, scan one of the bar codes below. This sets the LED illumination for AsReader when it is in Presentation Mode. (If AsReader is triggered manually, the LED illumination will switch to the setting for a manual trigger. See "LED Illumination - Manual Trigger" on page 11) Default = High.

Note: The LEDs are like a flash on a camera. The lower the ambient light in the room, the brighter the LEDs need to be so AsReader can "see" the bar codes.



PWRLDC0.

Off



PWRLDC100.

Low



PWRLDC150.

*** High**

Note: LED Illumination - Presentation Mode does not apply to [CodeGate®](#) or [Mobile Phone Read Mode](#).

Presentation LED Behavior after Decode

When a scan engine is in presentation mode, the LEDs dim 30 seconds after a bar code is decoded. If you wish to dim the LEDs immediately after a bar code is decoded, scan the LEDs Off bar code, below. Default = LEDs On.



Presentation Sensitivity

Presentation Sensitivity is a numeric range that increases or decreases the device's reaction time to bar code presentation. To set the sensitivity, scan the Sensitivity bar code, then scan the degree of sensitivity (from 0-20) from the inside back cover, and Save. 0 is the most sensitive setting, and 20 is the least sensitive. Default = 1.



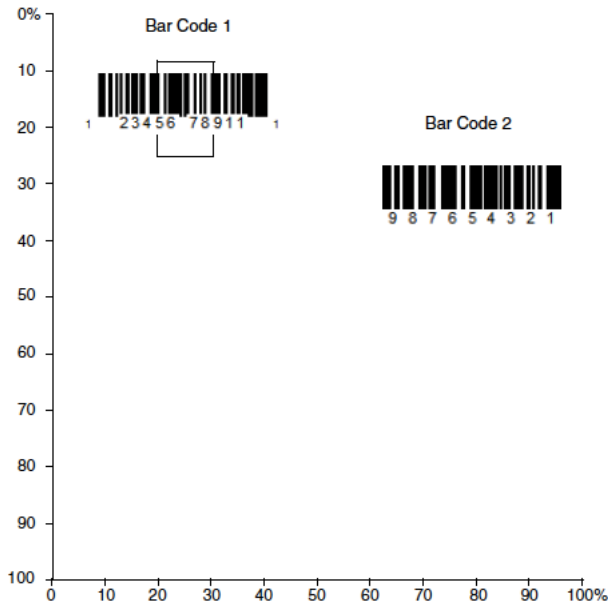
Presentation Centering

Use Presentation Centering to narrow AsReader's field of view when it is in the stand to make sure AsReader reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, Presentation Centering will ensure that only the desired codes are read.

Note: To adjust centering when AsReader is in Manual Trigger Mode, see [Centering](#) (page 19).

If Presentation Centering is turned on by scanning Presentation Centering On, AsReader only reads codes that pass through the centering window you specify using the Top of Presentation Centering Window, Bottom of Presentation Centering Window, Left, and Right of Presentation Centering Window bar codes.

In the example below, the white box is the centering window. The centering window has been set to 20% left, 30% right, 8% top, and 25% bottom. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



Note: A bar code needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.

Scan Presentation Centering On, then scan one of the following bar codes to change the top, bottom, left, or right of the centering window. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan Save. Default Presentation Centering = 40% for Top and Left, 60% for Bottom and Right.



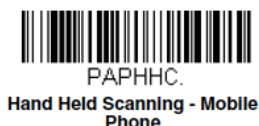
1.7. CodeGate®

When CodeGate is On, the trigger is used to allow decoded data to be transmitted to the application. AsReader remains on, scanning and decoding bar codes, but the bar code data is not transmitted until the trigger is pressed. When CodeGate is Off, bar code data is transmitted when it is decoded. Default = CodeGate Off Out-of-Stand.



1.8. Mobile Phone Read Mode

When this mode is selected, AsReader is optimized to read bar codes from mobile phone or other LED displays. However, the speed of scanning printed bar codes may be slightly lower when this mode is enabled. You can enable Mobile Phone Reading for either a hand held device, or for a hands-free (presentation) application.



Note: To turn off Mobile Phone Read Mode, scan a Manual Trigger Mode bar code (see page 1112).

1.9. Poor Quality Codes

Poor Quality 1D Codes

This setting improves AsReader's ability to read damaged or badly printed linear bar codes. When Poor Quality 1D

Reading On is scanned, poor quality linear bar code reading is improved, but AsReader's snappiness is decreased, making it less aggressive when reading good quality bar codes. This setting does not affect 2D bar code reading. Default = Poor Quality 1D Reading Off.



Poor Quality PDF Codes

This setting improves AsReader's ability to read damaged or badly printed PDF codes by combining information from multiple images. When Poor Quality PDF On is scanned, poor quality PDF code reading is improved, but AsReader's snappiness is decreased, making it less aggressive when reading good quality bar codes. This setting does not affect 1D bar code reading.

Default = Poor Quality PDF Reading Off.



Poor Quality PDF Reading On



*** Poor Quality PDF Reading Off**

1.10. Hands Free Time-Out

The Scan Stand and Presentation Modes are referred to as “hands free” modes. If AsReader’s trigger is pulled when using a hands free mode, AsReader changes to manual trigger mode. You can set the time AsReader should remain in manual trigger mode by setting the Hands Free Time-Out. Once the time-out value is reached, (if there have been no further trigger pulls) AsReader reverts to the original hands free mode.

Scan the Hands Free Time-Out bar code, then scan the time-out duration (from 0-300,000 milliseconds) from the inside back cover, and Save. Default = 5,000 ms.



1.11. Reread Delay

This sets the time period before AsReader can read the same bar code a second time. Setting a reread delay protects against accidental rereads of the same bar code. Longer delays are effective in minimizing accidental rereads. Use shorter delays in applications where repetitive bar code scanning is required. Reread Delay only works when in a [Presentation Mode](#) (see page 12). Default = Medium.



1.12. User-Specified Reread Delay

If you want to set your own length for the reread delay, scan the bar code below, then set the delay (from 0-30,000 milliseconds) by scanning digits from the inside back cover, then scanning Save.



1.13. 2D Reread Delay

Sometimes 2D bar codes can take longer to read than other bar codes. If you wish to set a separate Reread Delay for 2D bar codes, scan one of the programming codes that follows. 2D Reread Delay Off indicates that the time set for [Reread Delay](#) is used for both 1D and 2D bar codes. Default = 2D Reread Delay Off.



DLY2RR0.

* 2D Reread Delay Off



DLY2RR1000.

Short (1000ms)



DLY2RR2000.

Medium (2000ms)



DLY2RR3000.

Long (3000ms)



DLY2RR4000.

Extra Long (4000ms)

1.14. Illumination Lights

If you want the illumination lights on while reading a bar code, scan the Lights On bar code, below. However, if you want to turn just the lights off, scan the Lights Off bar code. Default = Lights On.

Note: This setting does not affect the aimer light. The aiming light can be set using [Aimer Mode](#) (page19).



SCNLED1.

* Lights On



SCNLED0.

Lights Off

1.15. Aimer Delay

The aimer delay allows a delay time for the operator to aim AsReader before the picture is taken. Use these codes to set the time between when the trigger is pulled and when the picture is taken. During the delay time, the aiming light will appear, but the LEDs won't turn on until the delay time is over. Default = Off.



User-Specified Aimer Delay

If you want to set your own length for the duration of the delay, scan the bar code below, then set the time-out by scanning digits (0 - 4,000 ms) from the [Programming Chart](#) inside the back cover of this manual, then scan Save.

1.16. Aimer Mode

This feature allows you to turn the aimer on and off. When the Interlaced bar code is scanned, the aimer is interlaced with the illumination LEDs. Default = Interlaced.

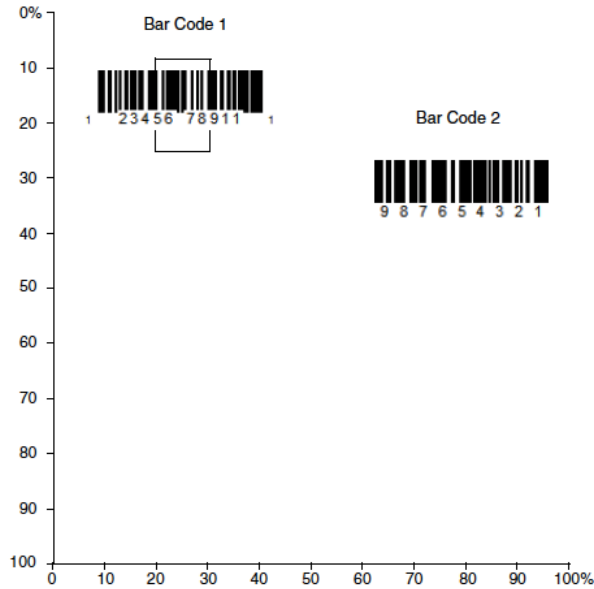


1.17. Centering

Use Centering to narrow AsReader's field of view to make sure that when AsReader is hand-held, it reads only those bar codes intended by the user. For instance, if multiple codes are placed closely together, centering will ensure that only the desired codes are read. (Centering can be used in conjunction with [Aimer Delay](#), page 19, for the most error-free operation in applications where multiple codes are spaced closely together. Using the Aimer Delay and Centering features, AsReader can emulate the operation of older systems, such as linear laser bar code scanners.)

If a bar code is not touched by a predefined window, it will not be decoded or output by AsReader. If centering is turned on by scanning Centering On, AsReader only reads codes that pass through the centering window you specify using the Top of Centering Window and Bottom of Centering Window bar codes.

In the example below, the white box is the centering window. The centering window has been set to 8% top and 25% bottom. Since Bar Code 1 passes through the centering window, it will be read. Bar Code 2 does not pass through the centering window, so it will not be read.



A bar code needs only to be touched by the centering window in order to be read. It does not need to pass completely through the centering window.

Scan Centering On, then scan one of the following bar codes to change the top and bottom of the centering window. Then scan the percent you want to shift the centering window using digits on the inside back cover of this manual. Scan Save. Default Centering = 40% for Top, 60% for Bottom.



1.18. Preferred Symbology

AsReader can be programmed to specify one symbology as a higher priority over other symbologies in situations where both bar code symbologies appear on the same label, but the lower priority symbology cannot be disabled.

For example, you may be using AsReader in a retail setting to read U.P.C. symbols, but have occasional need to read a code on a drivers license. Since some licenses have a Code 39 symbol as well as the PDF417 symbol, you can use Preferred Symbology to specify that the PDF417 symbol be read instead of the Code 39.

Preferred Symbology classifies each symbology as high priority, low priority, or as an unspecified type. When a low priority symbology is presented, AsReader ignores it for a set period of time (see [Preferred Symbology Time-out](#) on page 22) while it searches for the high priority symbology. If a high priority symbology is located during this period, then that data is read immediately.

If the time-out period expires before a high priority symbology is read, AsReader will read any bar code in its view (low priority or unspecified). If there is no bar code in AsReader's view after the time-out period expires, then no data is reported.

Note: A low priority symbol must be centered on the aiming pattern to be read.

Scan a bar code below to enable or disable Preferred Symbology. Default = Preferred Symbology Off.



PRFENA1.

Preferred Symbology On



PRFENA0.

*** Preferred Symbology Off**

High Priority Symbology

To specify the high priority symbology, scan the High Priority Symbology bar code below. On the [Symbology Charts](#) on page 76, find the symbology you want to set as high priority. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart (inside back cover). Scan Save to save your selection. Default = None



PRFCOD.

High Priority Symbology

Low Priority Symbology

To specify the low priority symbology, scan the Low Priority Symbology bar code below. On the [Symbology Charts](#) on page 76, find the symbology you want to set as low priority. Locate the Hex value for that symbology and scan the 2 digit hex value from the Programming Chart (inside back cover).

If you want to set additional low priority symbologies, scan FF, then scan the 2 digit hex value from the Programming Chart for the next symbology. You can program up to 5 low priority symbologies. Scan Save to save your selection. Default = None

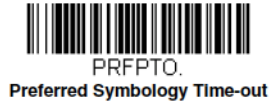


PRFBLK.

Low Priority Symbology

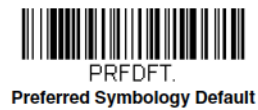
Preferred Symbology Time-out

Once you have enabled Preferred Symbology and entered the high and low priority symbologies, you must set the time-out period. This is the period of time AsReader will search for a high priority bar code after a low priority bar code has been encountered. Scan the bar code below, then set the delay (from 1-3,000 milliseconds) by scanning digits from the inside back cover, then scanning Save. Default = 500 ms.



Preferred Symbology Default

Scan the bar code below to set all Preferred Symbology entries to their default values.



1.19. Multiple Symbols

When this programming selection is turned On, it allows you to read multiple symbols with a single pull of AsReader's trigger. If you press and hold the trigger, aiming AsReader at a series of symbols, it reads unique symbols once, beeping (if turned on) for each read. AsReader attempts to find and decode new symbols as long as the trigger is pulled. When this programming selection is turned Off, AsReader will only read the symbol closest to the aiming beam. Default = Off.



1.20. No Read

With No Read turned On, AsReader notifies you if a code cannot be read. An "NR" appears when a code cannot be read. If No Read is turned Off, the "NR" will not appear. Default = Off.



1.21. Video Reverse

Video Reverse is used to allow AsReader to read bar codes that are inverted. The Video Reverse Off bar code below is an example of this type of bar code. Scan Video Reverse Only to read only inverted bar codes. Scan Video Reverse and Standard Bar Codes to read both types of codes.

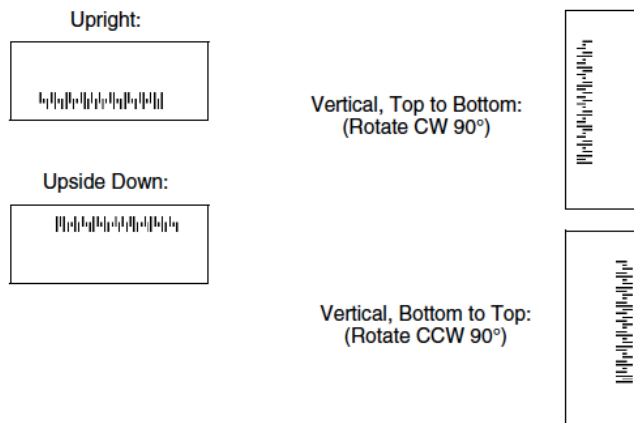
Note: After scanning Video Reverse Only, menu bar codes cannot be read. You must scan Video Reverse Off or Video Reverse and Standard Bar Codes in order to read menu bar codes.

Note: Images downloaded from the unit are not reversed. This is a setting for decoding only.



1.22. Working Orientation

Some bar codes are direction-sensitive. For example, KIX codes and OCR can misread when scanned sideways or upside down. Use the working orientation settings if your direction-sensitive codes will not usually be presented upright to the scanner. Default = Upright.

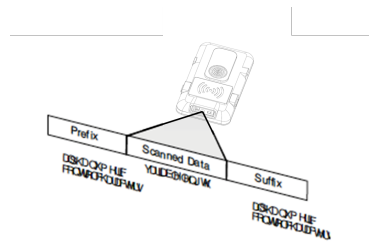


2. Data Editing

2.1. Prefix/Suffix Overview

When a bar code is scanned, additional information is sent to the application along with the bar code data. This group of bar code data and additional, user-defined data is called a “message string.” The selections in this section are used to build the user-defined data into the message string.

Prefix and Suffix characters are data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. The following illustration shows the breakdown of a message string:



Points to Keep In Mind

- It is not necessary to build a message string. The selections in this chapter are only used if you wish to alter the default settings. Default prefix = None. Default suffix = None.
- A prefix or suffix may be added or cleared from one symbology or all symbologies.
- You can add any prefix or suffix from the [ASCII Conversion Chart](#), beginning on page 78, plus Code I.D. and AIM I.D.
- You can string together several entries for several symbologies at one time.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.
- When setting up for specific symbologies (as opposed to all symbologies), the specific symbology ID value counts as an added prefix or suffix character.
- The maximum size of a prefix or suffix configuration is 200 characters, which includes header information.

To Add a Prefix or Suffix:

- Step 1. Scan the Add Prefix or Add Suffix symbol ([page 25](#)).
- Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the [Symbology Charts](#), beginning on page 76) for the symbology to which you want to apply the prefix or suffix. For example, for Code 128, Code ID is “j” and Hex ID is “6A”.
- Step 3. Scan the 2 hex digits from the [Programming Chart](#) inside the back cover of this manual or scan 9, 9 for all symbologies.
- Step 4. Determine the hex value from the [ASCII Conversion Chart](#), beginning on page 78, for the prefix or suffix you wish to enter.
Note: To add the Code I.D., scan 5, C, 8, 0.
To add AIM I.D., scan 5, C, 8, 1.
To add a backslash (\), scan 5, C, 5, C.
To add a backslash (\), you must scan 5C twice – once to create the leading backslash and then to create the backslash itself.
- Step 5. Scan the 2 digit hex value from the Programming Chart inside the back cover of this manual.
- Step 6. Repeat Steps 4 and 5 for every prefix or suffix character.
- Step 7. Scan Save to exit and save, or scan Discard to exit without saving.
Repeat Steps 1-6 to add a prefix or suffix for another symbology.

Example: Add a Tab Suffix to All Symbologies

- Step 1. Scan Add Suffix.
 - Step 2. Scan 9, 9 from the Programming Chart inside the back cover of this manual to apply this suffix to all symbologies.
 - Step 3. Scan 0, 9 from the Programming Chart inside the back cover of this manual. This corresponds with the hex value for a horizontal tab, shown in the [ASCII Conversion Chart](#), beginning on page 78.
- Scan Save, or scan Discard to exit without saving.

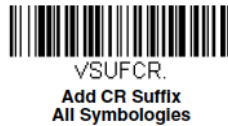
To Clear One or All Prefixes or Suffixes

You can clear a single prefix or suffix, or clear all prefixes/suffixes for a symbology. If you have been entering prefixes and suffixes for single symbologies, you can use Clear One Prefix (Suffix) to delete a specific character from a symbology. When you Clear All Prefixes (Suffixes), all the prefixes or suffixes for a symbology are deleted.

- Step 1. Scan the Clear One Prefix or Clear One Suffix symbol.
- Step 2. Determine the 2 digit Hex value from the Symbology Chart (included in the Symbology Charts, beginning on page 76) for the symbology from which you want to clear the prefix or suffix.
- Step 3. Scan the 2 digit hex value from the Programming Chart inside the back cover of this manual or scan 9, 9 for all symbologies.
- Step 4. Your change is automatically saved.

To Add a Carriage Return Suffix to All Symbologies

Scan the following bar code if you wish to add a carriage return suffix to all symbologies at once. This action first clears all current suffixes, then programs a carriage return suffix for all symbologies.



2.2. Prefix Selections



2.3. Suffix Selections

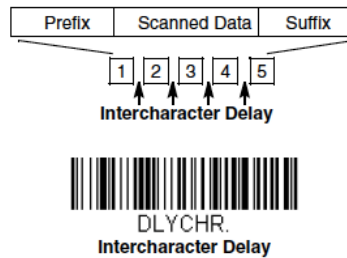


2.4. Intercharacter, Interfunction, and Intermessage Delays

Some terminals drop information (characters) if data comes through too quickly. Intercharacter, interfunction, and intermessage delays slow the transmission of data, increasing data integrity.

Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each character of scanned data. Scan the Intercharacter Delay bar code below, then scan the number of 5ms delays, and the Save bar code using the [Programming Chart](#) inside the back cover of this manual.



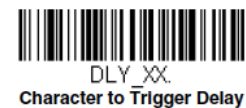
To remove this delay, scan the Intercharacter Delay bar code, then set the number of delays to 0. Scan the Save bar code using the [Programming Chart](#) inside the back cover of this manual.

Note: Intercharacter delays are not supported in USB serial emulation.

User Specified Intercharacter Delay

An intercharacter delay of up to 5000 milliseconds (in 5ms increments) may be placed after the transmission of a particular character of scanned data. Scan the Delay Length bar code below, then scan the number of 5ms delays, and the Save bar code using the [Programming Chart](#) inside the back cover of this manual.

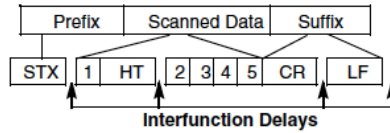
Next, scan the Character to Trigger Delay bar code, then the 2-digit hex value for the ASCII character that will trigger the delay [ASCII Conversion Chart](#), beginning on page 78.



To remove this delay, scan the Delay Length bar code, and set the number of delays to 0. Scan the Save bar code using the [Programming Chart](#) inside the back cover of this manual.

Interfunction Delay

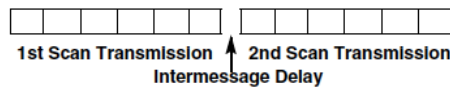
An interfunction delay of up to 5000 milliseconds (in 5ms increments) may be placed between the transmission of each control character in the message string. Scan the Interfunction Delay bar code below, then scan the number of 5ms delays, and the Save bar code using the [Programming Chart](#) inside the back cover of this manual.



To remove this delay, scan the Interfunction Delay bar code, then set the number of delays to 0. Scan the Save bar code using the [Programming Chart](#) inside the back cover of this manual.

Intermessage Delay

An intermessage delay of up to 5000 milliseconds (in 5ms increments) may be placed between each scan transmission. Scan the Intermesssage Delay bar code below, then scan the number of 5ms delays, and the Save bar code using the [Programming Chart](#) inside the back cover of this manual.



To remove this delay, scan the Intermesssage Delay bar code, then set the number of delays to 0. Scan the Save bar code using the [Programming Chart](#) inside the back cover of this manual.

3. Symbologies

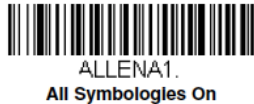
This programming section contains the following menu selections. Refer to Chapter 9 for settings and defaults.

- All Symbologies
- Aztec Code
- China Post (Hong Kong 2 of 5)
- Chinese Sensible (Han Xin) Code
- Codabar
- Codablock A
- Codablock F
- Code 11
- Code 128
- Code 32 Pharmaceutical (PARAF)
- Code 39
- Code 93
- Data Matrix
- EAN/JAN-13
- EAN/JAN-8
- GS1 Composite Codes
- GS1 DataBar Expanded
- GS1 DataBar Limited
- GS1 DataBar Omnidirectional
- GS1 Emulation
- GS1-128
- Interleaved 2 of 5
- Korea Post
- Matrix 2 of 5
- MaxiCode
- MicroPDF417
- MSI
- NEC 2 of 5
- Postal Codes - 2D
- Postal Codes - Linear
- PDF417
- GS1 DataBar Omnidirectional
- QR Code
- Straight 2 of 5 IATA (two-bar start/stop)
- Straight 2 of 5 Industrial (three-bar start/stop)
- TCIF Linked Code 39 (TLC39)
- Telepen
- Trioptic Code
- UPC-A
- UPC-A/EAN-13 with Extended Coupon Code
- UPC-E0
- UPC-E1

3.1. All Symbologies

If you want to decode all the symbologies allowable for your scanner, scan the All Symbologies On code. If on the other hand, you want to decode only a particular symbology, scan All Symbologies Off followed by the On symbol for that particular symbology.

Note: AsReader performance may reduce by scanning All Symbologies On. Only scan All Symbologies On when needed.



Note: When All Symbologies On is scanned, 2D Postal Codes are not enabled. 2D Postal Codes must be enabled separately.

3.2. Message Length Description

You can set the valid reading length of some of the bar code symbologies. You may wish to set the same value for minimum and maximum length to force AsReader to read fixed length bar code data. This helps reduce the chances of a misread.

EXAMPLE: Decode only those bar codes with a count of 9-20 characters.
Min. length = 09Max. length = 20

EXAMPLE: Decode only those bar codes with a count of 15 characters.
Min. length = 15Max. length = 15

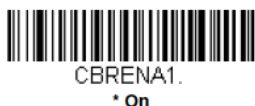
For a value other than the minimum and maximum message length defaults, scan the bar codes included in the explanation of the symbology, then scan the digit value of the message length and Save bar codes on the [Programming Chart](#) inside the back cover of this manual. The minimum and maximum lengths and the defaults are included with the respective symbologies.

3.3. Codabar

<Default All Codabar Settings>



Codabar On/Off



Codabar Start/Stop Characters

Start/Stop characters identify the leading and trailing ends of the bar code. You may either transmit, or not transmit Start/Stop characters. Default = Don't Transmit.



Codabar Check Character

Codabar check characters are created using different "modulos." You can program AsReader to read only Codabar barcodes with Modulo 16 check characters. Default = No Check Character.

No Check Character indicates that AsReader reads and transmits bar code data with or without a check character.

When Check Character is set to Validate and Transmit, AsReader will only read Codabar bar codes printed with a check character, and will transmit this character at the end of the scanned data.

When Check Character is set to Validate, but Don't Transmit, the unit will only read Codabar bar codes printed with a check character, but will not transmit the check character with the scanned data.



CBRCK20.

* No Check Character



CBRCK21.

Validate Modulo 16, but
Don't Transmit



CBRCK22.

Validate Modulo 16
and Transmit

Codabar Concatenation

Codabar supports symbol concatenation. When you enable concatenation, AsReader looks for a Codabar symbol having a "D" start character, adjacent to a symbol having a "D" stop character. In this case the two messages are concatenated into one with the "D" characters omitted.



Select Require to prevent AsReader from decoding a single "D" Codabar symbol without its companion. This selection has no effect on Codabar symbols without Stop/Start D characters.



CBRCT1.

On



CBRCT0.

* Off



CBRCT2.

Require

Codabar Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 2-60. Minimum Default = 4, Maximum Default = 60.



CBRMIN.

Minimum Message Length



CBRMAX.

Maximum Message Length

3.4. Code 39

< Default All Code 39 Settings >



Code 39 On/Off



Code 39 Start/Stop Characters

Start/Stop characters identify the leading and trailing ends of the bar code. You may either transmit, or not transmit Start/Stop characters. Default = Don't Transmit.



Code 39 Check Character

No Check Character indicates that AsReader reads and transmits bar code data with or without a check character.

When Check Character is set to Validate, but Don't Transmit, the unit only reads Code 39 bar codes printed with a check character, but will not transmit the check character with the scanned data.

When Check Character is set to Validate and Transmit, AsReader only reads Code 39 bar codes printed with a check character, and will transmit this character at the end of the scanned data. Default = No Check Character.



Code 39 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 0-48. Minimum Default = 0, Maximum Default = 48.



C39MIN.
Minimum Message Length



C39MAX.
Maximum Message Length

Code 39 Append

This function allows AsReader to append the data from several Code 39 bar codes together before transmitting them to the application. When AsReader encounters a Code 39 bar code with the append trigger character(s), it buffers Code39 bar codes until it reads a Code 39 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO). Default = Off.



C39APP1.
On



C39APP0.
* Off

Code 32 Pharmaceutical (PARAF)

Code 32 Pharmaceutical is a form of the Code 39 symbology used by Italian pharmacies. This symbology is also known as PARAF.

Note: Trioptic Code (page 56) must be turned off while scanning Code 32 Pharmaceutical codes.



C39B321.
On



C39B320.
* Off

Full ASCII

If Full ASCII Code 39 decoding is enabled, certain character pairs within the bar code symbol will be interpreted as a single character. For example: \$V will be decoded as the ASCII character SYN, and /C will be decoded as the ASCII character #.

Default = Off.

NUL %U	DLE \$P	SP SPACE	0 0	@ %V	P P	' %W	p +P
SOH \$A	DC1 \$Q	! /A	1 1	A A	Q Q	a +A	q +Q
STX \$B	DC2 \$R	" /B	2 2	B B	R R	b +B	r +R
ETX \$C	DC3 \$S	# /C	3 3	C C	S S	c +C	s +S
EOT \$D	DC4 \$T	\$ /D	4 4	D D	T T	d +D	t +T
ENQ \$E	NAK \$U	% /E	5 5	E E	U U	e +E	u +U
ACK \$F	SYN \$V	& /F	6 6	F F	V V	f +F	v +V
BEL \$G	ETB \$W	' /G	7 7	G G	W W	g +G	w +W
BS \$H	CAN \$X	(/H	8 8	H H	X X	h +H	x +X
HT \$I	EM \$Y	) /I	9 9	I I	Y Y	i +I	y +Y
LF \$J	SUB \$Z	* /J	: /Z	J J	Z Z	j +J	z +Z
VT \$K	ESC %A	+ /K	; %F	K K	[%K	k +K	{ %P
FF \$L	FS %B	, /L	< %G	L L	\ %L	l +L	| %Q
CR \$M	GS %C	- -	= %H	M M	] %M	m +M	} %R
SO \$N	RS %D	. .	> %I	N N	^ %N	n +N	~ %S
SI \$O	US %E	/ /O	? %J	O O	_ %O	o +O	DEL %T

Character pairs /M and /N decode as a minus sign and period respectively.

Character pairs /P through /Y decode as 0 through 9.



C39ASCII.
Full ASCII On



C39ASCII.
* Full ASCII Off

3.5. Interleaved 2 of 5

< Default All Interleaved 2 of 5 Settings >



I25DFT.

Interleaved 2 of 5 On/Off



I25ENA1.
* On



I25ENAD.
Off

Check Digit

No Check Digit indicates that AsReader reads and transmits bar code data with or without a check digit. When Check Digit is set to Validate, but Don't Transmit, the unit only reads Interleaved 2 of 5 bar codes printed with a check digit, but will not transmit the check digit with the scanned data. When Check Digit is set to Validate and Transmit, AsReader only reads Interleaved 2 of 5 bar

codes printed with a check digit, and will transmit this digit at the end of the scanned data. Default = No Check Digit.



Interleaved 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 29) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 80.



3.6. NEC 2 of 5

< Default All NEC 2 of 5 Settings >



NEC 2 of 5 On/Off



Check Digit

No Check Digit indicates that AsReader reads and transmits bar code data with or without a check digit.

When Check Digit is set to Validate, but Don't Transmit, the unit only reads NEC 2 of 5 bar codes printed with a check digit, but will not transmit the check digit with the scanned data.

When Check Digit is set to Validate and Transmit, AsReader only reads NEC 2 of 5 bar codes printed with a check digit, and will transmit this digit at the end of the scanned data. Default = No Check Digit.



NEC 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 80.



3.7. Code 93

< Default All Code 93 Settings >



Code 93 On/Off



Code 93 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 0-80. Minimum Default = 0, Maximum Default = 80.



Code 93 Append

This function allows AsReader to append the data from several Code 93 bar codes together before transmitting them to the application. When this function is enabled, AsReader stores those Code 93 bar codes that start with a space (excluding the start and stop symbols), and does not immediately transmit the data. AsReader stores the data in the order in which the bar codes are read, deleting the first space from each. AsReader transmits the appended data when it reads a Code 93 bar code that starts with a character other than a space. Default = Off.



Code 93 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



3.8. Straight 2 of 5 Industrial (three-bar start/stop)

<Default All Straight 2 of 5 Industrial Settings>



Straight 2 of 5 Industrial On/Off



Straight 2 of 5 Industrial Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-48. Minimum Default = 4, Maximum Default = 48.



3.9. Straight 2 of 5 IATA (two-bar start/stop)

<Default All Straight 2 of 5 IATA Settings>



Straight 2 of 5 IATA On/Off



Straight 2 of 5 IATA Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-48. Minimum Default = 4, Maximum Default = 48.



3.10. Matrix 2 of 5

<Default All Matrix 2 of 5 Settings>



Matrix 2 of 5 On/Off



Matrix 2 of 5 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 4, Maximum Default = 80.



3.11. Code 11

<Default All Code 11 Settings>



Code 11 On/Off



Check Digits Required

This option sets whether 1 or 2 check digits are required with Code 11 bar codes. Default = Two Check Digits.



Code 11 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 4, Maximum Default = 80.



3.12. Code 128

<Default All Code 128 Settings>



Code 128 On/Off



ISBT 128 Concatenation

In 1994 the International Society of Blood Transfusion (ISBT) ratified a standard for communicating critical blood information in a uniform manner. The use of ISBT formats requires a paid license. The ISBT 128 Application Specification

describes 1) the critical data elements for labeling blood products, 2) the current recommendation to use Code 128 due to its high degree of security and its space-efficient design, 3) a variation of Code 128 that supports concatenation of neighboring symbols, and 4) the standard layout for bar codes on a blood product label. Use the bar codes below to turn concatenation on or off. Default =Off.



Code 128 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 0-80. Minimum Default = 0, Maximum Default = 80.



Code 128 Append

This function allows AsReader to append the data from several Code 128 bar codes together before transmitting them to the application. When AsReader encounters a Code 128 bar code with the append trigger character(s), it buffers Code 128 bar codes until it reads a Code 128 bar code that does not have the append trigger. The data is then transmitted in the order in which the bar codes were read (FIFO). Default = On.



Code 128 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



3.13. GS1-128

<Default All GS1-128 Settings>



GS1-128 On/Off



GS1-128 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-80. Minimum Default = 1, Maximum Default = 80.



Telepen

<Default All Telepen Settings>



Telepen On/Off



Telepen Output

Using AIM Telepen Output, AsReader reads symbols with start/stop pattern 1 and decodes them as standard full ASCII (start/stop pattern 1). When Original Telepen Output is selected, AsReader reads symbols with start/stop pattern 1 and decodes them as compressed numeric with optional full ASCII (start/stop pattern 2). Default = AIM Telepen Output.



Telepen Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-60. Minimum Default = 1, Maximum Default = 60.



3.14. UPC-A

<Default All UPC-A Settings>



UPC-A On/Off



UPC-A Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default = On.



UPC-A Number System

The numeric system digit of a U.P.C. symbol is normally transmitted at the beginning of the scanned data, but the unit can be programmed so it will not transmit it. Default = On.



UPC-A Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-A data.

Default = Off for both 2 Digit and 5 Digit Addenda.



UPAAD21.
2 Digit Addenda On



UPAAD20.
*** 2 Digit Addenda Off**



UPAAD51.
5 Digit Addenda On



UPAAD50.
*** 5 Digit Addenda Off**

UPC-A Addenda Required

When Required is scanned, AsReader will only read UPC-A bar codes that have addenda. You must then turn on a 2 or 5 digit addenda listed on [page 46](#). Default = Not Required.



UPAARQ1.
Required



UPAARQ0.
*** Not Required**

Addenda Timeout

You can set a time during which AsReader looks for an addenda. If an addenda is not found within this time period, the data can be either transmitted or discarded, based on the setting you are using for [UPC-A Addenda Required](#) (page46).

Set the length (in milliseconds) for this timeout by scanning the bar code below, then setting the timeout (from 0-65535 milliseconds) by scanning digits from the [Programming Chart](#), then scanning Save. Default = 100.



DLYADD.
Addenda Timeout

UPC-A Addenda Separator

When this feature is on, there is a space between the data from the bar code and the data from the addenda. When turned off, there is no space. Default = On.



UPAADS1.
*** On**



UPAADS0.
Off

3.15. UPC-A/EAN-13 with Extended Coupon Code

Use the following codes to enable or disable UPC-A and EAN-13 with Extended Coupon Code. When left on the default setting (Off), AsReader treats Coupon Codes and Extended Coupon Codes as single bar codes.

If you scan the Allow Concatenation code, when AsReader sees the coupon code and the extended coupon code in a single scan, it transmits both as one symbologies. Otherwise, it transmits the first coupon code it reads.

If you scan the Require Concatenation code, AsReader must see and read the coupon code and extended coupon code in a single read to transmit the data. No data is output unless both codes are read. Default = Off.



3.16. Coupon GS1 DataBar Output

If you scan coupons that have both UPC and GS1 DataBar codes, you may wish to scan and output only the data from the GS1 DataBar code. Scan the GS1 Output On code below to scan and output only the GS1 DataBar code data. Default = GS1 Output Off.



3.17. UPC-E0

<Default All UPC-E Settings>



UPC-E0 On/Off

Most U.P.C. bar codes lead with the 0 number system. To read these codes, use the UPC-E0 On selection. If you need to read codes that lead with the 1 number system, use [UPC-E1](#) (page 50). Default = On.



UPC-E0 Expand

UPC-E Expand expands the UPC-E code to the 12 digit, UPC-A format. Default = Off.



UPC-E0 Addenda Required

When Required is scanned, AsReader will only read UPC-E bar codes that have addenda. Default = Not Required.



UPC-E0 Addenda Separator

When this feature is On, there is a space between the data from the bar code and the data from the addenda. When turned Off, there is no space. Default = On.



UPC-E0 Check Digit

Check Digit specifies whether the check digit should be transmitted at the end of the scanned data or not. Default = On.



UPC-E0 Leading Zero

This feature allows the transmission of a leading zero (0) at the beginning of scanned data. To prevent transmission, scan Off. Default = On.



UPC-E0 Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-E data. Default = Off for both 2 Digit and 5 Digit Addenda.



3.18. UPC-E1

Most U.P.C. bar codes lead with the 0 number system. For these codes, use [UPC-E0](#). If you need to read codes that lead with the 1 number system, use the UPC-E1 On selection. Default = Off.



3.19. EAN/JAN-13

<Default All EAN/JAN Settings>



EAN/JAN-13 On/Off



Convert UPC-A to EAN-13

When UPC-A Converted to EAN-13 is selected, UPC-A bar codes are converted to 13 digit EAN-13 codes by adding a zero to the front. When Do not Convert UPC-A is selected, UPC-A codes are read as UPC-A.



EAN/JAN-13 Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default = On.



EAN/JAN-13 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-13 data. Default = Off for both 2 Digit and 5 Digit Addenda.



EAN/JAN-13 Addenda Required

When Required is scanned, AsReader will only read EAN/JAN-13 bar codes that have addenda. Default = Not Required.



EAN/JAN-13 Addenda Separator

When this feature is On, there is a space between the data from the bar code and the data from the addenda. When turned Off, there is no space. Default = On.



Note: If you want to enable or disable EAN13 with Extended Coupon Code, refer to [UPC-A/EAN-13 with Extended Coupon Code](#).

ISBN Translate

When On is scanned, EAN-13 Bookland symbols are translated into their equivalent ISBN number format. Default = Off.



3.20. EAN/JAN-8

<Default All EAN/JAN-8 Settings>



EAN/JAN-8 On/Off



EAN/JAN-8 Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default = On.



EAN/JAN-8 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN/JAN-8 data. Default = Off for both 2 Digit Addenda and 5 Digit Addenda.



EAN/JAN-8 Addenda Required

When Required is scanned, AsReader will only read EAN/JAN-8 bar codes that have addenda. Default = Not Required.



EAN/JAN-8 Addenda Separator

When this feature is On, there is a space between the data from the bar code and the data from the addenda. When turned Off, there is no space. Default = On.



3.21. MSI

<Default All MSI Settings>



MSI On/Off



MSI Check Character

Different types of check characters are used with MSI bar codes. You can program AsReader to read MSI bar codes with Type 10 check characters. Default = Validate Type 10, but Don't Transmit.

When Check Character is set to Validate Type 10/11 and Transmit, AsReader will only read MSI bar codes printed with the specified type check character(s), and will transmit the character(s) at the end of the scanned data.

When Check Character is set to Validate Type 10/11, but Don't Transmit, the unit will only read MSI bar codes printed with the specified type check character(s), but will not transmit the check character(s) with the scanned data.



MSI Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 4-48. Minimum Default = 4, Maximum Default = 48.



Minimum Message Length



Maximum Message Length

3.22. GS1 DataBar Omnidirectional

< Default All GS1 DataBar Omnidirectional Settings >



GS1 DataBar Omnidirectional On/Off



**RSSENA1.
* On**



**RSSENA0.
Off**

3.23. GS1 DataBar Limited

< Default All GS1 DataBar Limited Settings >



RSLDFT.

GS1 DataBar Limited On/Off



**RSENA1.
* On**



**RSENA0.
Off**

3.24. GS1 DataBar Expanded

< Default All GS1 DataBar Expanded Settings >



GS1 DataBar Expanded On/Off



GS1 DataBar Expanded Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (29) for additional information. Minimum and Maximum lengths = 4-74. Minimum Default = 4, Maximum Default = 74.



3.25. Trioptic Code

Note: If you are going to scan Code 32 Pharmaceutical codes, Trioptic Code must be off.

Trioptic Code is used for labeling magnetic storage media.



3.26. Codablock A

<Default All Codablock A Settings>



Codablock A On/Off



Codablock A Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-600. Minimum Default = 1, Maximum Default = 600.



3.27. Codablock F

<Default All Codablock F Settings>



Codablock F On/Off



Codablock F Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-2048. Minimum Default = 1, Maximum Default = 2048.



3.28. Label Code

The standard Label Code is used in libraries. Default = Off.



3.29. PDF417

< Default All PDF417 Settings >



PDF417 On/Off



PDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page 29) for additional information. Minimum and Maximum lengths = 1-2750. Minimum Default = 1, Maximum Default = 2750.



PDF417 Code Page

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.

3.30. MacroPDF417

MacroPDF417 is an implementation of PDF417 capable of encoding very large amounts of data into multiple PDF417 bar codes. When this selection is enabled, these multiple bar codes are assembled into a single data string. Default = On.



3.31. MicroPDF417

< Default All MicroPDF417 Settings >



MicroPDF417 On/Off



MicroPDF417 Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-366. Minimum Default = 1, Maximum Default = 366.



3.32. GS1 Composite Codes

Linear codes are combined with a unique 2D composite component to form a new class called GS1 Composite symbology. GS1 Composite symbologies allow for the co-existence of symbologies already in use. Default = Off.



UPC/EAN Version

Scan the UPC/EAN Version On bar code to decode GS1 Composite symbols that have a U.P.C. or an EAN linear component. (This does not affect GS1 Composite symbols with a GS1-128 or GS1 linear component.) Default = UPC/EAN Version Off.



Note: If you scan coupons that have both UPC and GS1 DataBar codes, you may wish to scan and output only the data from the GS1 DataBar code. See [Coupon GS1 DataBar Output](#) (page47) for further information.

GS1 Composite Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-2435. Minimum Default = 1, Maximum Default = 2435.



3.33. GS1 Emulation

AsReader can automatically format the output from any GS1 data carrier to emulate what would be encoded in an equivalent GS1-128 or GS1 DataBar symbol. GS1 data carriers include UPC-A and UPC-E, EAN-8, EAN-13, ITF-14, GS1-128, and GS1-128 DataBar and GS1 Composites. (Any application that accepts GS1 data can be simplified since it only needs to recognize one data carrier type.)

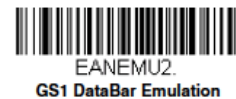
If GS1-128 Emulation is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, Jc1 (see [Symbology Charts](#) on page 76).

If GS1 DataBar Emulation is scanned, all retail codes (U.P.C., UPC-E, EAN8, EAN13) are expanded out to 16 digits. If the AIM ID is enabled, the value will be the GS1-DataBar AIM ID, Jem (see [Symbology Charts](#) on page 76).

If GS1 Code Expansion Off is scanned, retail code expansion is disabled, and UPC-E expansion is controlled by the [UPC-E0 Expand](#) (page 48) setting. If the AIM ID is enabled, the value will be the GS1-128 AIM ID, Jc1 (see [Symbology Charts](#) on page 76).

If EAN8 to EAN13 Conversion is scanned, all EAN8 bar codes are converted to EAN13 format.

Default = GS1 Emulation Off.



3.34. TCIF Linked Code 39 (TLC39)

This code is a composite code since it has a Code 39 linear component and a MicroPDF417 stacked code component. All bar code readers are capable of reading the Code 39 linear component. The MicroPDF417 component can only be decoded if TLC39 On is selected. The linear component may be decoded as Code 39 even if TLC39 is off. Default = Off.



3.35. QR Code

< Default All QR Code Settings >



QR Code On/Off

This selection applies to both QR Code and Micro QR Code.



QR Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-7089. Minimum Default = 1, Maximum Default = 7089.



QR Code Append

This function allows AsReader to append the data from several QR Code bar codes together before transmitting them to the application. When AsReader encounters a QR Code bar code with the append trigger character(s), it buffers AsReader of QR Code bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. Default = On.



QR Code Page

QR Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



3.36. Data Matrix

< Default All Data Matrix Settings >



Data Matrix On/Off



Data Matrix Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-3116. Minimum Default = 1, Maximum Default = 3116.



Data Matrix Append

This function allows AsReader to append the data from several Data Matrix bar codes together before transmitting them to the application. When AsReader encounters an Data Matrix bar code with the append trigger character(s), it buffers the number of Data Matrix bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. Default = On.



Data Matrix Code Page

Data Matrix Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the bar codes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.



3.37. MaxiCode

< Default All MaxiCode Settings >



MaxiCode On/Off



MaxiCode Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-150. Minimum Default = 1, Maximum Default = 150.



3.38. Aztec Code

< *Default All Aztec Code Settings* >



Aztec Code On/Off



Aztec Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-3832. Minimum Default = 1, Maximum Default = 3832.



Aztec Append

This function allows AsReader to append the data from several Aztec bar codes together before transmitting them to the application. When AsReader encounters an Aztec bar code with the append trigger character(s), it buffers the number of Aztec bar codes determined by information encoded in those bar codes. Once the proper number of codes is reached, the data is output in the order specified in the bar codes. Default = On.



Aztec Code Page

Aztec Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, scan the bar code below, select the code page with which the barcodes were created (see [ISO 2022/ISO 646 Character Replacements](#) on page 82), and scan the value and the Save bar code from the [Programming Chart](#) on the inside the back cover of this manual. The data characters should then appear properly.

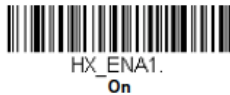


3.39. Chinese Sensible (Han Xin) Code

< Default All Han Xin Settings >



Han Xin Code On/Off



Han Xin Code Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 1-7833. Minimum Default = 1, Maximum Default = 7833.



3.40. Postal Codes - 2D

The following lists the possible 2D postal codes, and 2D postal code combinations that are allowed. Only one 2D postal code selection can be active at a time. If you scan a second 2D postal code selection, the first selection is overwritten. Default = 2D Postal Codes Off.



Single 2D Postal Codes:



Combination 2D Postal Codes:





Planet Code Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of Planet Code data. Default = Don't Transmit.



Postnet Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of Postnet data. Default = Don't Transmit.



Australian Post Interpretation

This option controls what interpretation is applied to customer fields in Australian 4-State symbols. Bar Output lists the bar patterns in "0123" format.

Numeric N Table causes that field to be interpreted as numeric data using the N Table.

Alphanumeric C Table causes the field to be interpreted as alphanumeric data using the C Table. Refer to the Australian Post Specification Tables.

Combination C and N Tables causes the field to be interpreted using either the C or N Tables.



3.41. Postal Codes - Linear

The following lists linear postal codes. Any combination of linear postal code selections can be active at a time.

China Post (Hong Kong 2 of 5)

<Default All China Post (Hong Kong 2 of 5) Settings>



China Post (Hong Kong 2 of 5) On/Off



China Post (Hong Kong 2 of 5) Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 80.



3.42. Korea Post

<Default All Korea Post Settings>



Korea Post



Korea Post Message Length

Scan the bar codes below to change the message length. Refer to [Message Length Description](#) (page29) for additional information. Minimum and Maximum lengths = 2-80. Minimum Default = 4, Maximum Default = 48.



Korea Post Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data. Default = Don't Transmit.



4. Utilities

4.1. To Add a Test Code I.D. Prefix to All Symbologies

This selection allows you to turn on transmission of a Code I.D. before the decoded symbology. (See the [Symbology Charts](#), beginning on page 76) for the single character code that identifies each symbology.) This action first clears all current prefixes, then programs a Code I.D. prefix for all symbologies. This is a temporary setting that will be removed when the unit is power cycled.



4.2. Show Decoder Revision

Scan the bar code below to output the decoder revision.



4.3. Show Software Revision

Scan the bar code below to output the current software revision, unit serial number, and other product information for both AsReader and base.



4.4. Show Data Format

Scan the bar code below to show current data format settings.



4.5. Test Menu

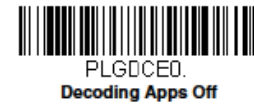
When you scan the Test Menu On code, then scan a programming code in this manual, AsReader displays the content of a programming code. The programming function will still occur, but in addition, the content of that programming code is output to the terminal.

Note: This feature should not be used during normal scan engine operation.



4.6. Application Plug-Ins (Apps)

Any apps that you are using can be turned off or on by scanning the following bar codes. Apps are stored in groups: Decoding, and Formatting. You can enable and disable these groups of apps by scanning that group's On or Off bar code below. You can also scan the List Apps bar code to output a list of all your apps.



Note: You must reset AsReader in order for the apps setting to take effect.

5. Reference Charts

5.1. Symbology Charts

Note: “m” represents the AIM modifier character. Refer to International Technical Specification, Symbology Identifiers, for AIM modifier character details.

Prefix/Suffix entries for specific symbologies override the universal (All Symbologies, 99) entry.

Linear Symbologies

Symbology	AIM		AsReader	
	ID	Possible modifiers (m)	ID	Hex
All Symbologies				99
Codabar	⌘Fm	0-1	a	61
Code 11	⌘H3		h	68
Code 128	⌘Cm	0, 1, 2, 4	j	6A
Code 32 Pharmaceutical (PARAF)	⌘X0		<	3C
Code 39 (supports Full ASCII mode)	⌘Am	0, 1, 3, 4, 5, 7	b	62
TCIF Linked Code 39 (TLC39)	⌘L2		T	54
Code 93 and 93i	⌘Gm	0-9, A-Z, a-m	i	69
EAN	⌘Em	0, 1, 3, 4	d	64
EAN-13 (including Bookland EAN)	⌘E0		d	64
EAN-13 with Add-On	⌘E3		d	64
EAN-13 with Extended Coupon Code	⌘E3		d	64
EAN-8	⌘E4		D	44
EAN-8 with Add-On	⌘E3		D	44
GS1				
GS1 DataBar	⌘em	0	y	79
GS1 DataBar Limited	⌘em		{	7B
GS1 DataBar Expanded	⌘em		}	7D
GS1-128	⌘C1		l	49
2 of 5				
China Post (Hong Kong 2 of 5)	⌘X0		Q	51
Interleaved 2 of 5	⌘lm	0, 1, 3	e	65
Matrix 2 of 5	⌘X0		m	6D
NEC 2 of 5	⌘X0		Y	59
Straight 2 of 5 IATA	⌘Rm	0, 1, 3	f	66
Straight 2 of 5 Industrial	⌘S0		f	66
MSI	⌘Mm	0, 1	g	67
Telepen	⌘Bm		t	74
UPC		0, 1, 2, 3, 8, 9, A, B, C		

Symbology	AIM		AsReader	
	ID	Possible modifiers (<i>m</i>)	ID	Hex
UPC-A	JE0		c	63
UPC-A with Add-On	JE3		c	63
UPC-A with Extended Coupon Code	JE3		c	63
UPC-E	JE0		E	45
UPC-E with Add-On	JE3		E	45
UPC-E1	JX0		E	45

Add AsReader Code ID				5C80
Add AIM Code ID				5C81
Add Backslash				5C5C
Batch mode quantity			5	35

2D Symbologies

Symbology	AIM		AsReader	
	ID	Possible modifiers (<i>m</i>)	ID	Hex
All Symbologies				99
Aztec Code	Jzm	0-9, A-C	z	7A
Chinese Sensible Code (Han Xin Code)	JX0		H	48
Codablock A	JO6	0, 1, 4, 5, 6	V	56
Codablock F	JOm	0, 1, 4, 5, 6	q	71
Code 49	JTm	0, 1, 2, 4	l	6C
Data Matrix	Jdm	0-6	w	77
GS1	Jem	0-3		
GS1 Composite	Jem	0-3	y	79
GS1 DataBar Omnidirectional	Jem		y	79
MaxiCode	JUm	0-3	x	78
PDF417	JLm	0-2	r	72
MicroPDF417	JLm	3-5	R	52
QR Code	JQm	0-6	s	73
Micro QR Code	JQm		s	73

Postal Symbolologies

Symbology	AIM		AsReader	
	ID	Possible modifiers (m)	ID	Hex
All Symbologies				99
Australian Post	⌘0		A	41
British Post	⌘0		B	42
Canadian Post	⌘0		C	43
China Post	⌘0		Q	51
InfoMail	⌘0		,	2c
Intelligent Mail Bar Code	⌘0		M	4D
Japanese Post	⌘0		J	4A
KIX (Netherlands) Post	⌘0		K	4B
Korea Post	⌘0		?	3F
Planet Code	⌘0		L	4C
Postal-4i	⌘0		N	4E
Postnet	⌘0		P	50

ASCII Conversion Chart

Non-printable ASCII control characters			Keyboard Control + ASCII (CTRL+X) Mode		
DEC	HEX	Char	Control + X Mode Off (KBDCAS0)	Windows Mode Control + X Mode On (KBDCAS2)	
				CTRL + X	CTRL + X function
0	0	NUL	Reserved	CTRL+ @	
1	1	SOH	NP Enter	CTRL+ A	Select all
2	2	STX	Caps Lock	CTRL+ B	Bold
3	3	ETX	ALT Make	CTRL+ C	Copy
4	4	EOT	ALT Break	CTRL+ D	Bookmark
5	5	ENQ	CTRL Make	CTRL+ E	Center
6	6	ACK	CTRL Break	CTRL+ F	Find
7	7	BEL	Enter / Ret	CTRL+ G	
8	8	BS	(Apple Make)	CTRL+ H	History
9	9	HT	Tab	CTRL+ I	Italic
10	0A	LF	(Apple Break)	CTRL+ J	Justify
11	0B	VT	Tab	CTRL+ K	hyperlink
12	0C	FF	Delete	CTRL+ L	list, left align
13	0D	CR	Enter / Ret	CTRL+ M	
14	0E	SO	Insert	CTRL+ N	New
15	0F	SI	ESC	CTRL+ O	Open
16	10	DLE	F11	CTRL+ P	Print
17	11	DC1	Home	CTRL+ Q	Quit
18	12	DC2	PrtScn	CTRL+ R	

Non-printable ASCII control characters			Keyboard Control + ASCII (CTRL+X) Mode		
			Control + X Mode Off (KBDCAS0)		Windows Mode Control + X Mode On (KBDCAS2)
DEC	HEX	Char			CTRL + X function
19	13	DC3	Backspace		CTRL+S Save
20	14	DC4	Back Tab		CTRL+T
21	15	NAK	F12		CTRL+U
22	16	SYN	F1		CTRL+V Paste
23	17	ETB	F2		CTRL+W
24	18	CAN	F3		CTRL+X
25	19	EM	F4		CTRL+Y
26	1A	SUB	F5		CTRL+Z
27	1B	ESC	F6		CTRL+[
28	1C	FS	F7		CTRL+¥
29	1D	GS	F8		CTRL+]
30	1E	RS	F9		CTRL+^
31	1F	US	F10		CTRL+-
127	7F	△	NP Enter		

5.2. Lower ASCII Reference Table

Printable Characters								
DEC	HEX	Character	DEC	HEX	Character	DEC	HEX	Character
32	20	<SPACE>	64	40	@	96	60	`
33	21	!	65	41	A	97	61	a
34	22	"	66	42	B	98	62	b
35	23	#	67	43	C	99	63	c
36	24	\$	68	44	D	100	64	d
37	25	%	69	45	E	101	65	e
38	26	&	70	46	F	102	66	f
39	27	'	71	47	G	103	67	g
40	28	(	72	48	H	104	68	h
41	29	)	73	49	I	105	69	i
42	2A	*	74	4A	J	106	6A	j
43	2B	+	75	4B	K	107	6B	k
44	2C	,	76	4C	L	108	6C	l
45	2D	-	77	4D	M	109	6D	m
46	2E	.	78	4E	N	110	6E	n
47	2F	/	79	4F	O	111	6F	o
48	30	0	80	50	P	112	70	p
49	31	1	81	51	Q	113	71	q
50	32	2	82	52	R	114	72	r
51	33	3	83	53	S	115	73	s
52	34	4	84	54	T	116	74	t
53	35	5	85	55	U	117	75	u
54	36	6	86	56	V	118	76	v
55	37	7	87	57	W	119	77	w
56	38	8	88	58	X	120	78	x
57	39	9	89	59	Y	121	79	y
58	3A	:	90	5A	Z	122	7A	z

Printable Characters (Continued)								
DEC	HEX	Character	DEC	HEX	Character	DEC	HEX	Character
59	3B	;	91	5B	[123	7B	{
60	3C	<	92	5C	¥	124	7C	|
61	3D	=	93	5D]	125	7D	}
62	3E	>	94	5E	^	126	7E	~
63	3F	?	95	5F	_	127	7F	△
Extended ASCII Characters								
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code			
128	80	€	Ç	up arrow ↑	0x48			
129	81		ü	down arrow ↓	0x50			
130	82	,	é	right arrow →	0x4B			
131	83	f	â	left arrow ←	0x4D			
132	84	„	ä	Insert	0x52			
133	85	...	à	Delete	0x53			
134	86	†	â	Home	0x47			
135	87	‡	ç	End	0x4F			
136	88	^	ê	Page Up	0x49			
137	89	‰	ë	Page Down	0x51			
138	8A	Š	è	Right ALT	0x38			
139	8B	‹	ï	Right CTRL	0x1D			
140	8C	Œ	î	Reserved	n/a			
141	8D		ì	Reserved	n/a			
142	8E	Ž	Ä	Numeric Keypad Enter	0x1C			
143	8F		Å	Numeric Keypad /	0x35			
144	90		É	F1	0x3B			
145	91	‘	æ	F2	0x3C			
146	92	’	Æ	F3	0x3D			
147	93	“	ô	F4	0x3E			
148	94	”	ö	F5	0x3F			
149	95	•	ò	F6	0x40			
150	96	–	ù	F7	0x41			
151	97	—	û	F8	0x42			
152	98	~	ÿ	F9	0x43			
153	99	™	Ö	F10	0x44			
154	9A	š	Ü	F11	0x57			
155	9B	›	ø	F12	0x58			
156	9C	œ	£	Numeric Keypad +	0x4E			
157	9D		¥	Numeric Keypad -	0x4A			
158	9E	ž	£	Numeric Keypad *	0x37			
159	9F	ÿ	f	Caps Lock	0x3A			
160	A0		á	Num Lock	0x45			
161	A1	¡	í	Left Alt	0x38			
162	A2	¢	ó	Left Ctrl	0x1D			
163	A3	£	ú	Left Shift	0x2A			
164	A4	¤	ñ	Right Shift	0x36			
165	A5	¥	Ñ	Print Screen	n/a			
166	A6	¦	ª	Tab	0x0F			
167	A7	§	º	Shift Tab	0x8F			
168	A8	¨	¿	Enter	0x1C			
169	A9	©	¬	Esc	0x01			
170	AA	ª	¬	Alt Make	0x36			

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
171	AB	«	½	Alt Break	0xB6
172	AC	¬	¼	Control Make	0x1D
173	AD		ı	Control Break	0x9D
174	AE	®	«	Alt Sequence with 1 Character	0x36
175	AF	—	»	Ctrl Sequence with 1 Character	0x1D
176	B0	°	⋮		
177	B1	±	⋮		
178	B2	²	⋮		
179	B3	³	|		
180	B4	´	┘		
181	B5	µ	≡		
182	B6	¶	≡		
183	B7	·	⌞		
184	B8	¸	⌞		
185	B9	¹	≡		
186	BA	º	||		
187	BB	»	⌞		
188	BC	¼	≡		
189	BD	½	≡		
190	BE	¾	≡		
191	BF	¿	⌞		
192	C0	À	⌞		
193	C1	Á	┘		
194	C2	Â	⌞		
195	C3	Ã	┘		
196	C4	Ä	—		
197	C5	Å	ı		
198	C6	Æ	⌞		
199	C7	Ç	≡		
200	C8	È	⌞		
201	C9	É	≡		
202	CA	Ê	≡		
203	CB	Ë	⌞		
204	CC	ì	≡		
205	CD	í	=		
206	CE	î	≡		
207	CF	ï	±		
208	D0	Ð	≡		
209	D1	Ñ	⌞		
210	D2	Ò	≡		
211	D3	Ó	⌞		
212	D4	Ô	⌞		
213	D5	Õ	⌞		
214	D6	Ö	≡		
215	D7	×	≡		
216	D8	Ø	≡		
217	D9	Ù	┘		
218	DA	Ú	⌞		
219	DB	Û	■		
220	DC	Ü	■		
221	DD	Ý	■		
222	DE	Þ	■		

Extended ASCII Characters (Continued)					
DEC	HEX	CP 1252	ASCII	Alternate Extended	PS2 Scan Code
223	DF	ß	■		
224	E0	à	α		
225	E1	á	β		
226	E2	â	Γ		
227	E3	ã	π		
228	E4	ä	Σ		
229	E5	å	σ		
230	E6	æ	μ		
231	E7	ç	τ		
232	E8	è	Φ		
233	E9	é	Θ		
234	EA	ê	Ω		
235	EB	ë	δ		
236	EC	ì	∞		
237	ED	í	φ		
238	EE	î	ε		
239	EF	ï	∩		
240	F0	ð	≡		
241	F1	ñ	±		
242	F2	ò	≥		
243	F3	ó	≤		
244	F4	ô	∫		
245	F5	õ	∫		
246	F6	ö	+		
247	F7	+	≈		
248	F8	ø	°		
249	F9	ù	·		
250	FA	ú	·		
251	FB	û	√		
252	FC	ü	ⁿ		
253	FD	ý	²		
254	FE	þ	■		
255	FF	ÿ			

5.3. ISO 2022/ISO 646 Character Replacements

Code pages define the mapping of character codes to characters. If the data received does not display with the proper characters, it may be because the bar code being scanned was created using a code page that is different from the one the application is expecting. If this is the case, select the code page with which the bar codes were created. The data characters should then appear properly.

Code Page Selection Method/Country	Standard	Keyboard Country	AsReader Code Page Option
United States (standard ASCII)	ISO/IEC 646-IRV	n/a	1
Automatic National Character Replacement	ISO/IEC 2022	n/a	2 (default)
Binary Code page	n/a	n/a	3
<i>Default "Automatic National Character replacement" will select the below AsReader Code Page options for Code 128, Code 39 and Code 93.</i>			
United States	ISO/IEC 646-06	0	1

Code Page Selection Method/Country	Standard	Keyboard Country	AsReader Code Page Option
Canada	ISO /IEC 646-121	54	95
Canada	ISO /IEC 646-122	18	96
Japan	ISO/IEC 646-14	28	98
China	ISO/IEC 646-57	92	99
Great Britain (UK)	ISO /IEC 646-04	7	87
France	ISO /IEC 646-69	3	83
Germany	ISO/IEC 646-21	4	84
Switzerland	ISO /IEC 646-CH	6	86
Sweden / Finland (extended Annex C)	ISO/IEC 646-11	2	82
Ireland	ISO /IEC 646-207	73	97
Denmark	ISO/IEC 646-08	8	88
Norway	ISO/IEC 646-60	9	94
Italy	ISO/IEC 646-15	5	85
Portugal	ISO/IEC 646-16	13	92
Spain	ISO/IEC 646-17	10	90
Spain	ISO/IEC 646-85	51	91

Dec			35	36	64	91	92	93	94	96	123	124	125	126
Hex			23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
US	0	1	#	\$	@	[	¥	]	^	`	{	|	}	~
CA	54	95	#	\$	à	â	ç	è	î	ô	é	ù	è	û
CA	18	96	#	\$	à	â	ç	è	É	ô	é	ù	è	û
JP	28	98	#	\$	@	[	¥	]	^	`	{	|	}	-
CN	92	99	#	¥	@	[	¥	]	^	`	{	|	}	-
GB	7	87	£	\$	@	[	¥	]	^	`	{	|	}	~
FR	3	83	£	\$	à	°	ç	§	^	μ	é	ù	è	..
DE	4	84	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
CH	6	86	ù	\$	à	é	ç	è	î	ô	ä	ö	ü	û
SE/FI	2	82	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
DK	8	88	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
NO	9	94	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	..
IE	73	97	£	\$	Ó	É	Í	Ú	Á	ó	é	í	ú	á
IT	5	85	£	\$	§	°	ç	é	^	ù	à	ò	è	ì
PT	13	92	#	\$	§	Ä	Ç	Ö	^	`	ä	ç	ö	°
ES	10	90	#	\$	§	í	Ñ	¿	^	`	°	ñ	ç	~
ES	51	91	#	\$	·	í	Ñ	Ç	¿	`	·	ñ	ç	..
COUNTRY	Country Keyboard	AsReaderCodePage	ISO / IEC 646 National Character Replacements											

5.4. Sample Symbols

UPC-A



0 123456 7890

Interleaved 2 of 5



1234567890

EAN-13



9 780330 290951

Code 128



Code 128

Code 39



BC321

Codabar



A13579B

Code 93



123456-98

Code 2 of 5



123456

Matrix 2 of 5



6543210

RSS-14



(01)00123456789012

Sample Symbols

PDF417



Car Registration

Code 49



1234567890

Postnet



Zip Code

Data Matrix



Test Symbol

QR Code



Numbers

Aztec



Package Label

MaxiCode



Test Message

Micro PDF417



Test Message

OCR-A with Modulo 36
check character

532427D

OCR-A with Modulo 10
check character

5324277

5.5. Programming Chart



K0K
0



K2K
2



K4K
4



K6K
6



K8K
8



K1K
1



K3K
3



K5K
5



K7K
7



K9K
9

Programming Chart



KAK
A



KCK
C



KEK
E



MNUSAV.
Save



RESET_
Reset



KBK
B



KDK
D



KFK
F



MNUABT.
Discard

Note: If you make an error while scanning the letters or digits (before scanning Save), scan Discard, scan the correct letters or digits, and Save again.

AsReader, Inc.

385 Van Ness Avenue #110, Torrance, CA, 90501, U.S.

TEL: +1-310-294-5776

<https://asreader.com/>