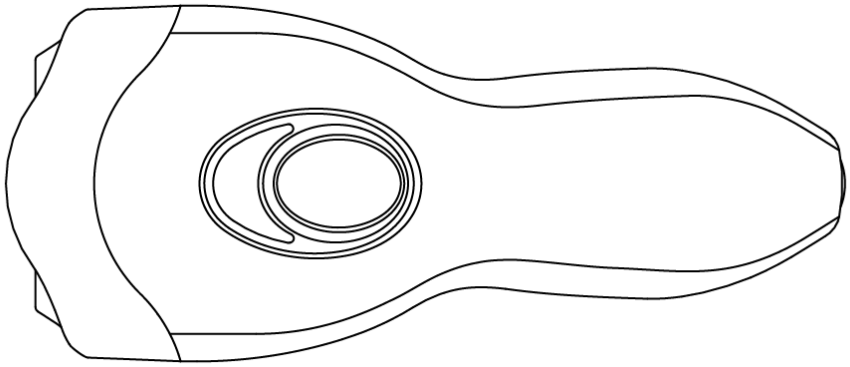
CITIZEN

SCN01-Z1D

Handheld Scanner

Programming Manual



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Default Parameters

This table gives the default settings of all the programmable parameters. The default settings would be restored whenever the laser scanner reads the "Reset" programming label in programming mode. If you wish to change any setting, scan the appropriate barcodes below.

Scanner Operation

Parameter	Default
Same code delay	500msec
Beeping frequency	Medium
Beeping duration	50msec
LED/Beep before data transmission	On
Scan mode	Trigger mode
Header and trailer	None
Inter message delay	0msec
Inter character delay	0msec

Interface Communication

Parameter	Default
USB VCOM Interface	
Terminator	<CR><LF>
HID USB Interface	
Keyboard	US keyboard
Terminator	Enter

Symbologies

Parameter	Default
Decoder Selection	
EAN/UPC	Enable
Code 39	Enable
Code 32	Disable
Codabar	Enable
ITF 2 of 5	Enable
MSI	Disable
Chinese Post Code	Disable
Code 93	Enable
Code 128	Enable
EAN-128	Disable
Telepen	Disable
Code 11	Disable
Standard 2 of 5	Disable
Industrial 2 of 5	Disable
Matrix 2 of 5	Disable
GS1 DataBar	Disable
Code Identifiers	
Identifier code as factory standard	Disable
Identifier code as AIM standard	Disable
Code 39 identifier code	M
ITF 2 of 5 identifier code	I
Chinese post code identifier code	H
UPC-A identifier code	A
UPC-E identifier code	E

EAN-13 identifier code		F
EAN-8 identifier code		FF
Codabar identifier code		N
Code 128 identifier code		K
Code 93 identifier code		L
MSI identifier code		P
Code 11 identifier code		O
Standard 2 of 5 identifier code		S
Industrial 2 of 5 identifier code		D
Matrix 2 of 5 identifier code		G
GS1 DataBar identifier code		RS
GS1 DataBar Limited identifier code		RL
GS1 DataBar Expanded identifier code		RX
Barcode Length		
Codabar Code 11 Standard 2 of 5 Industrial 2 of 5 Matrix 2 of 5	maximum	32
	minimum	6
Code 39 Code 93 Code 128	maximum	62
	minimum	3
Chinese Post Code	maximum	16
	minimum	10
MSI ITF 2 of 5	maximum	32
	minimum	4
GS1 DataBar GS1 DataBar Limited	maximum	14
	minimum	14
GS1 DataBar Expanded	maximum	48
	minimum	6

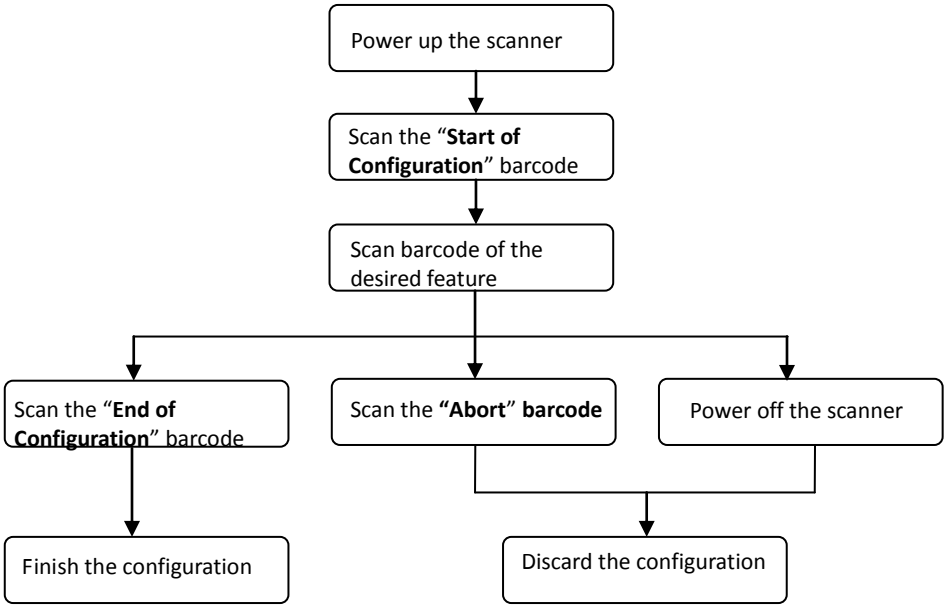
Data Formating

Code	Message Format
EAN-13	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12 D13
EAN-8	D1 D2 D3 D4 D5 D6 D7 D8
UPC-A	D1 D2 D3 D4 D5 D6 D7 D8 D9 D10 D11 D12
UPC-E	D1 D2 D3 D4 D5 D6 D7 D8
Code 128	D1-Dx (default 3~62)
EAN-128	C1 D1-Dx (default 3~62)
Code 39	D1-Dx (default 3~62)
Codabar	D1-Dx (default 6~32)
ITF 2 of 5	D1-Dx (default 6~32)
Chinese Post Code	D1-Dx (default 8~32)
Code 93	D1-Dx (default 3~32)
MSI	D1-Dx (default 6~32)

Programming Procedure

Below is the programming procedure by using barcodes in this guide.

1. Power up the scanner.
2. Scan the **Start of Configuration** barcode.
3. Scan the barcode for the desired feature. Multiple features can be enabled/disabled before scanning the **End of Configuration** barcode.
4. Scan the **End of Configuration** barcode and save the new configuration.
5. To give up a configuration change, power off the scanner before scanning the **End of Configuration** barcode or scan the **Abort** barcode.
6. For some parameter setting, such as barcode length and identifier code, it is required to scan the **Set** barcode to save the configuration.



Default values are highlighted in gray background.

Parameter Setting

Start Of Configuration

Scanner Operation

1. System Function Setting

Barcode Value	Barcode Label	Description
--		Reset (return to factory default)
%/		Display firmware version
++		Abort :exit programming mode with no update
KE94		Return to customer default
KE95		Save as customer default

End Of Configuration

Start Of Configuration

2. Interface Setting

Barcode Value	Barcode Label	Description
KE97		Return to USB default
KE87		Enable USB virtual COM **(Virtual COM driver required. For installation steps refer to Appendix 1.)**

End Of Configuration

Start Of Configuration

3. General Scan Mode Setting

Handheld Operation

Barcode Value	Barcode Label	Description
SM01		Trigger Mode • The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.
SM02		Auto Scan Mode • The scanner is still active after the data is transmitted but the successive transmission of the same barcode is not allowed when the trigger switch is pressed again.
SM04		Pulse Mode • The scanner will light up and blink when press the scanner trigger switch once and the scanner will turn off after next pressing. The laser remains on for approximately 3 to 10 seconds after the pulse light is on.
SM05		Repeat Mode • This mode is similar to Auto Scan Mode but with scanner switch functional when enabled. **(Not available for Handheld High-Speed Laser Scanner.)**
SM06		Momentary mode • The scanner will light up only when the trigger switch is pressed. The scanner will turn off when the trigger switch is released. **(Not available for Handheld High-Speed Laser Scanner.)**

End Of Configuration

4. Operation Function Setting

Good Read Beeper Tone Selection

Barcode Value	Barcode Label	Description
GR02		Low beeper tone
GR01		Medium beeper tone
GR03		High beeper tone
GR05		Speaker disable

Beeper Sound Selection

Barcode Value	Barcode Label	Description
GR13		Very short (5 msec)
GR12		Short (20 msec)
GR11		Medium (50 msec)
GR10		Long (100 msec)
GR14		Very Long (200 msec)
GR15		Ultra long (500 msec)

Start Of Configuration

Beeper Volume Selection

Barcode Value	Barcode Label	Description
GR20		Loud
GR21		Medium
GR22		Slight

Beeper Timing Selection

Barcode Value	Barcode Label	Description
LB00		LED/Beep after transmission • Use this barcode to indicate a "good read" after a barcode has been successfully decoded.
LB01		LED/Beep before transmission • Use this barcode to indicate a “good read" before successfully transmitting the barcode data to the host.
LB03		Power-on tone enable
LB04		Power-on tone disable

End Of Configuration

Start Of Configuration

Inter Message Delay

Barcode Value	Barcode Label	Description
IM01		0 ms
IM02		100 ms
IM03		500 ms
IM04		1000 ms

Inter Character Delay

Barcode Value	Barcode Label	Description
IC01		0ms
IC00		5ms
IC02		10ms
IC03		20ms
IC04		50ms
IC05		2ms

End Of Configuration

Start Of Configuration

Same Code Delay

Barcode Value	Barcode Label	Description
SD01		Same code delay time 50msec
SD02		Same code delay time 100msec
SD03		Same code delay time 200msec
SD04		Same code delay time 300msec
SD05		Same code delay time 400msec
SD06		Same code delay time 500msec
SD07		Same code delay time 600msec
SD08		Same code delay time 700msec
SD09		Same code delay time 800msec
SD10		Same code delay time 900msec
SD11		Same code delay time 1000msec
SD12		Same code delay time Infinite

End Of Configuration

Blink Mode Selection

(Only available in Auto Scan mode; barcode value SM02)

Barcode Value	Barcode Label	Description
LS00		Blink mode off. Module never enters blink mode
LS01		Blink mode timer 5s
LS02		Blink mode timer 10s
LS03		Blink mode timer 15s
LS04		Blink mode timer 20s
LS05		Blink mode timer 30s
LS06		Blink mode timer 60s

***Blink mode**: After the scanner has been inactive for a period of time, the light beam would automatically start blinking. To stop the scanner from blinking, simply present an object close to the scanner window. The Blink mode is included to reduce power consumption and to extend scanner life. Scan barcodes to set the time for switching to blink mode when the scanner is idle.

Interface Configuration

5. USB VCOM Setting

Message Terminator

Barcode Value	Barcode Label	Description
DT11		message terminator—none
DT12		message terminator—CR/LF
DT13		message terminator—CR
DT14		message terminator—LF
DT15		message terminator—H-tab
DT16		message terminator—STX/ETX
DT17		message terminator—EOT

6. HID USB Setting

Language Support

Barcode Value	Barcode Label	Description
KL00		International Keyboard mode (ALT mode)
KL01		Keyboard language support—USA
KL02		Keyboard language support—UK
KL03		Keyboard language support—Germany
KL04		Keyboard language support—French
KL05		Keyboard language support—Spanish
KL06		Keyboard language support—Italian
KL07		Keyboard language support—Switzerland
KL08		Keyboard language support—Sweden
KL09		Keyboard language support—Belgium
KL10		Keyboard language support—Portugal
KL11		Keyboard language support—Turkish
KL15		Keyboard language support—Japanese

Start Of Configuration

Keyboard Setting

Barcode Value	Barcode Label	Description
CP00		Capital lock on
CP01		Capital lock off
CP05		Function key emulation enable
CP06		Function key emulation disable
CP18		Send number as normal data
CP19		Send number as keypad data
CP20		Alphabet follow as keyboard
CP21		Alphabet always upper case
CP22		Alphabet always Lower case

Message Terminator

Barcode Value	Barcode Label	Description
DT01		Keyboard terminator---none
DT02		Keyboard terminator---Enter
DT03		Keyboard terminator---H-TAB

End Of Configuration

The Symbologies

7. Codabar Parameter Setting

Barcode Value	Barcode Label	Description
RC02		Codabar enable
RD02		Codabar disable
CB05		Codabar start/stop character transmission—none
CB06		Codabar start/stop character transmission—A,B,C,D
CB07		Codabar start/stop character transmission—DC1~DC4
CB08		Codabar start/stop character transmission—a/t,b/n,c/*,d/e
CB09		Codabar maximum length setting
CB10		Codabar minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
CB11		Codabar concatenation disable
CB12		Codabar concatenation enable

Barcode Value	Barcode Label	Description
CB13		No check character
CB14		Validate modulo 16,but don’t transmit
CB15		Validate modulo 16 and transmit
DC50		Codabar data redundant check=off
DC51		Codabar data redundant check=1
DC52		Codabar data redundant check=2
DC53		Codabar data redundant check=3

Start Of Configuration

8. Code 39 Parameter Setting

Barcode Value	Barcode Label	Description
RC01		Code 39 enable
RD01		Code 39 disable
RC13		Code 32 enable
RD13		Code 32 disable
DC00		Code 39 data redundant check=off
DC01		Code 39 data redundant check=1
DC02		Code 39 data redundant check=2
DC03		Code 39 data redundant check=3
3901		Standard code 39
3902		Full ASCII code 39
3903		Code 39 start/stop character transmission
3904		Code 39 start/stop character without transmission

End Of Configuration

Start Of Configuration

Barcode Value	Barcode Label	Description
3905		Code 39 check digit calculate and transmit
3906		Code 39 check digit calculate but without transmit
3907		No check character
3908		Code 39 maximum length setting
3909		Code 39 minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
3910		Code 39 concatenation enable
3911		Code 39 concatenation disable
3912		Code 32 (Italian pharmacy) transmit “A” character
3913		Code 32 (Italian pharmacy) without transmit ”A” character

End Of Configuration

Start Of Configuration

9. Code 93 Parameter Setting

Barcode Value	Barcode Label	Description
RC08		Code 93 enable
RD08		Code 93 disable
DC30		Code 93 data redundant check=off
DC31		Code 93 data redundant check=1
DC32		Code 93 data redundant check=2
DC33		Code 93 data redundant check=3
9301		Code 93 maximum length setting
9302		Code 93 minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
9303		Code 93 check digit calculate but without transmit
9304		Code 93 check digit not calculate and without transmit
9305		Code 93 check digit calculate and transmit

End Of Configuration

Start Of Configuration

10. Code 128 Parameter Setting

Barcode Value	Barcode Label	Description
RC06		Code 128 enable
RD06		Code 128 disable
RC10		EAN-128 enable
RD10		EAN-128 disable
DC40		Code 128 data redundant check=off
DC41		Code 128 data redundant check=1
DC42		Code 128 data redundant check=2
DC43		Code 128 data redundant check=3
1801		Code128 FNC2 concatenation enable
1802		Code128 FNC2 concatenation disable
1803		No check character
1804		Calculate but not transmitted
1805		Calculate and transmit
1806		Code 128 maximum length setting
1807		Code 128 minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

End Of Configuration

Start Of Configuration

11. Chinese Post Code Parameter Setting

Barcode Value	Barcode Label	Description
RC05		Chinese post code enable
RD05		Chinese post code disable
DC60		Chinese post code data redundant check=off
DC61		Chinese post code data redundant check=1
DC62		Chinese post code data redundant check=2
DC63		Chinese post code data redundant check=3
SZ01		Chinese post code maximum length setting
SZ02		Chinese post code minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

End Of Configuration

Start Of Configuration

12. MSI/Plessy Parameter Setting

Barcode Value	Barcode Label	Description
RC14		MSI enable
RD14		MSI disable
DC70		MSI data redundant check= off
DC71		MSI data redundant check=1
DC72		MSI data redundant check=2
DC73		MSI data redundant check=3
MS01		MSI/Plessy maximum length setting
MS02		MSI/Plessy minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
MS03		MSI/Plessy double check digit calculate but not transmit
MS04		MSI/Plessy double check digit without calculate and transmit
MS05		MSI/Plessy double check digit calculate but only first digit transmit
MS06		MSI/Plessy double check digit calculate and both transmit
MS07		MSI/Plessy single check digit calculate but without transmit
MS08		MSI/Plessy single check digit calculate and transmit

End Of Configuration

Start Of Configuration

13. Code 11 Interface Setting

Barcode Value	Barcode Label	Description
RC07		Code 11 enable
RD07		Code 11 disable
1101		Code 11 maximum length setting
1102		Code 11 minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
1103		Code 11 one check digit verification
1104		Code 11 two check digit verification
1105		Two Check for Code 11 check digit if code length is longer than 10 characters
1106		Disable verification
1107		Code 11 check digit transmitted
1108		Code 11 check digit not transmitted

End Of Configuration

Start Of Configuration

14. ITF 2 of 5 Parameter Setting

Barcode Value	Barcode Label	Description
RC04		ITF 2 of 5 enable
RD04		ITF 2 of 5 disable
RC09		IATA code enable
RD09		IATA disable
DC80		ITF 2 of 5 data redundant check=off
DC81		ITF 2 of 5 data redundant check=1
DC82		ITF 2 of 5 data redundant check=2
DC83		ITF 2 of 5 data redundant check=3
IT03		ITF 2 of 5 no check character
IT04		ITF 2 of 5 check digit calculate and transmit
IT05		ITF 2 of 5 check digit calculate but without transmit

End Of Configuration

Start Of Configuration

Barcode Value	Barcode Label	Description
IT01		ITF 2 of 5 code maximum length setting
IT02		ITF 2 of 5 code minimum length setting
IT06		ITF 2 of 5 one fixed length setting
IT07		ITF 2 of 5 two fixed length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
IT08		ITF 2 of 5 length variable **(Only available for Handheld High-Speed Laser Scanner)**

End Of Configuration

Start Of Configuration

15. Standard 2 of 5 Parameter Setting

Barcode Value	Barcode Label	Description
RC22		Standard 2 of 5 code enable
RD22		Standard 2 of 5 code disable
D051		Standard 2 of 5 code maximum length setting
D052		Standard 2 of 5 code minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
D053		Standard 2 of 5 code no check character
D054		Standard 2 of 5 code check digit calculate and transmit
D055		Standard 2 of 5 code check digit calculate but without transmit

End Of Configuration

Start Of Configuration

16. Industrial 2 of 5 Parameter Setting

Barcode Value	Barcode Label	Description
RC21		Industrial 2 of 5 code enable
RD21		Industrial 2 of 5 code disable
D251		Industrial 2 of 5 code maximum length setting
D252		Industrial 2 of 5 code minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
D253		Industrial 2 of 5 code no check character
D254		Industrial 2 of 5 code check digit calculate and transmit
D255		Industrial 2 of 5 code check digit calculate but without transmission

End Of Configuration

17. UPC/EAN/JAN Parameter Setting

Barcode Value	Barcode Label	Description
RC11		EAN convert to ISSN/ISBN enable
RD11		EAN convert to ISSN/ISBN disable
RC03		UPC/EAN/JAN enable
RD03		UPC/EAN/JAN disable
UE01		UPC/EAN/JAN all enable
UE02		EAN-8 or EAN-13 enable
UE03		UPC-A and EAN-13 enable
UE04		UPC-A and UPC-E enable
UE05		UPC-A enable
UE06		UPC-E enable
UE07		EAN-13 enable
UE08		EAN-8 enable
UE09		UPC/EAN Addendum disable

Barcode Value	Barcode Label	Description
UE10		Add on 5 only
UE11		Add on 2 only
UE12		Add on 2 or 5
UE13		Force UPC-E to UPC-A format enable
UE14		Force UPC-E to UPC-A format disable
UE15		Force UPC-A to EAN-13 format enable
UE16		Force UPC-A to EAN-13 format disable
UE44		Force EAN-8 to EAN-13 format enable
UE45		Force EAN-8 to EAN-13 format disable
UE17		Transmit UPC-A check digit enable
UE18		Transmit UPC-A check digit disable
UE19		Transmit UPC-E leading character enable
UE20		Transmit UPC-E leading character disable
UE21		Transmit UPC-E check digit enable
UE22		Transmit UPC-E check digit disable

Barcode Value	Barcode Label	Description
UE23		Transmit EAN-8 check digit enable
UE24		Transmit EAN-8 check digit disable
UE25		Transmit EAN-13 check digit enable
UE26		Transmit EAN-13 check digit disable
UE27		Transmit UPC-A leading character enable
UE28		Transmit UPC-A leading character disable
UE30		Add-on format with separator
UE31		Add-on format without separator
UE60		EAN-13 country code first “0” can transmitted
UE61		EAN-13 country code first:”0” can’t transmitted
UE66		EAN-13 with first 0 ID code same as “UPC-A”
UE67		EAN-13 with first 0 ID code same as “EAN-13”
DC10		UPC-A data redundant check=off
DC11		UPC-A data redundant check=1

Barcode Value	Barcode Label	Description
DC12		UPC-A data redundant check=2
DC13		UPC-A data redundant check=3
DC14		UPC-E data redundant check=off
DC15		UPC-E data redundant check=1
DC16		UPC-E data redundant check=2
DC17		UPC-E data redundant check=3
DC20		EAN-13 data redundant check=off
DC21		EAN-13 data redundant check=1
DC22		EAN-13 data redundant check=2
DC23		EAN-13 data redundant check=3
DC24		EAN-8 data redundant check=off
DC25		EAN-8 data redundant check=1
DC26		EAN-8 data redundant check=2
DC27		EAN-8 data redundant check=3
UE32		EAN/UPC +add-on (none mandatory)
UE33		EAN/UPC +add-on (mandatory)

Start Of Configuration

UE35 EAN/UPC +add-on mandatory for 978⁄977 bookland **(Supplement requirement, not sent for other)**

UE38 EAN/UPC +addon mandatory for 978⁄977 bookland **(Supplement requirement, optionally for other)**

UE42 EAN/UPC +addon mandatory for 491 Japanese bookland **(Supplement requirement, not sent for other)**

UE43 EAN/UPC +addon mandatory 491 Japanese bookland **(Supplement requirement, optionally for other)**

End Of Configuration

18. Telepen Parameter Setting

Barcode Value	Barcode Label	Description
RC25		Telepen enable
RD25		Telepen disable
TE03		Telepen numeric mode enable
TE04		AIM Telepen enable

Start Of Configuration

19. Matrix 2 of 5 Parameter Setting

Barcode Value	Barcode Label	Description
RC12		Matrix 2 of 5 enable
RD12		Matrix 2 of 5 disable
D151		Matrix 2 of 5 maximum length setting
D152		Matrix 2 of 5 minimum length setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)
D153		Matrix 2 of 5 no check character
D154		Matrix 2 of 5 check digit calculate and transmit
D155		Matrix 2 of 5 check digit calculate but without transmission

End Of Configuration

Start Of Configuration

20. GS1 DataBar Parameter Setting

There are 7 kinds of barcodes in the GS1 DataBar family and they are categorized into three groups. Barcode types in the same group use the same barcodes for setting.

Group	Representative	Contents
Group 1	GS1 DataBar Omnidirectional **(Formally RSS-14)**	GS1 DataBar Omnidirectional GS1 DataBar Truncated GS1 DataBar Stacked GS1 DataBar Stacked Omnidirectional
Group 2	GS1 DataBar Limited **(Formally RSS Limited)**	GS1 DataBar Limited
Group 3	GS1 DataBar Expanded **(Formally RSS Expanded)**	GS1 DataBar Expanded GS1 DataBar Expanded Stacked

GS1 DataBar Omnidirectional (Formally RSS-14)

Barcode Value	Barcode Label	Description
RC15		GS1 DataBar Omnidirectional enable
RD15		GS1 DataBar Omnidirectional disable
SS00		Transmit GS1 DataBar Omnidirectional check digit
SS01		Do not transmit GS1 DataBar Omnidirectional check digit
SS02		Transmit GS1 DataBar Omnidirectional application ID (01)
SS03		Do not transmit GS1 DataBar Omnidirectional application ID (01)
SS05		GS1 DataBar Omnidirectional /EAN-128 emulation enable
SS04		GS1 DataBar Omnidirectional /EAN-128 emulation disable

End Of Configuration

GS1 DataBar Limited (Formally RSS Limited)

Barcode Value	Barcode Label	Description
RC16		GS1 DataBar Limited enable
RD16		GS1 DataBar Limited disable
SS10		Transmit GS1 DataBar Limited check digit
SS11		Don’t transmit GS1 DataBar Limited check digit
SS12		Transmit GS1 DataBar limited application ID (01)
SS13		Do not transmit GS1 DataBar limited application ID

GS1 DataBar Expanded (Formally RSS Expanded)

Barcode Value	Barcode Label	Description
RC17		GS1 DataBar Expanded enable
RD17		GS1 DataBar Expanded disable
SS07		GS1 DataBar Expanded/EAN-128 emulation enable
SS06		GS1 DataBar Expanded/EAN-128 emulation disable
SS08		GS1 DataBar Expanded check digital enable
SS09		GS1 DataBar Expanded check digital disable
SS16		Transmit GS1 DataBar Expanded application ID (01)
SS17		Do not transmit GS1 DataBar Expanded application ID

Data Editing

21. Identifier Code

Barcode Value	Barcode Label	Description
IS00		Disable identifier code
IS01		Enable identifier code table as factory standard
IS03		Enable identifier code table as AIM standard.
CI01		Code 39 identifier code setting
CI02		ITF 2 of 5 identifier code setting
CI03		Chinese Post Code identifier code setting
CI04		UPC-E identifier code setting
CI05		UPC-A identifier code setting
CI06		EAN-13 identifier code setting
CI07		EAN-8 identifier code setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

Start Of Configuration

Barcode Value	Barcode Label	Description
CI08		Codabar identifier code setting
CI09		Code 128 identifier code setting
CI10		Code 93 identifier code setting
CI11		MSI identifier code setting
CI12		GS1 DataBar Omnidirectional identifier code setting
CI13		GS1 DataBar Limited identifier code setting
CI14		GS1 DataBar expanded identifier code setting
CI15		Industrial 2 of 5 identifier code setting
CI16		Code 11 Identifier code setting
CI17		Standard 2 of 5 identifier code setting
CI18		Matrix 2 of 5 identifier code setting
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

End Of Configuration

Start Of Configuration

22. Header and Trailer

Barcode Value	Barcode Label	Description
CP11		Add code length as header enable (2 digits)
CP12		Add code length as header disable (2 digits)
HT01		Header (Preamble)
HT02		Trailer (Postamble)
HT03		Truncate header character
HT04		Truncate trailer character
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

Note: "SET" must be used to save any Full ASCII settings. When a function key is being programmed, "(CP05) Function key emulation enable" must also be scanned for the setting to function properly.
Please see Appendix 5: Header And Trailer for more details.

End Of Configuration

Start Of Configuration

23. Multi-Barcode Editing

Refer to Appendix 3 for detail setup steps.

Function Setting

Barcode Value	Barcode Label	Description
MC00		Start to edit multi-barcode
MC01		Multi-barcode enable
MC02		Multi-barcode disable
MC03		Apply output sequence • In this mode, the scanner would retain the barcode data until it reads all the conditioned barcodes and transmit the data all together. It the scanner reads a barcode not compliant with programmed format, it would consider it a normal barcode and transmit this data.
MC04		Enforce output sequence • In this mode, every barcode must follow the programmed format; otherwise no data would be transmitted.
MC05		Enable terminator
MC06		Disable terminator
SET		Confirm to save this setting (required for reading full ASCII table and length setting)

End Of Configuration

Barcode Type Setting

Barcode Value	Barcode Label	Description
$Q		Code39
$A		Codabar
$B		ITF2 of 5
$C		Code128
$F		Code 93
$G		MSI
$E		Chinese Post Code
4		EAN-8
D		EAN-13
/D		UPC-A
$T		UPC-E
$U		GS1 DataBar Standard
$V		GS1 DataBar Expanded
$W		GS1 DataBar Limited

Appendix 1: USB Virtual COM Driver(for Windows) Installation

Contact your distributor to get the driver and follow the steps below to enable USB virtual COM port.

1. Connect the handheld scanner and the host (e.g. a PC) with a USB interface cable.
2. Enable USB virtual COM port with programming barcodes on page 8.
3. After the programming, the host would request driver installation. Browse your files to locate the driver and start installation.
4. The USB virtual COM port is ready for use after driver installation.

Appendix 2: Barcode Length Setting

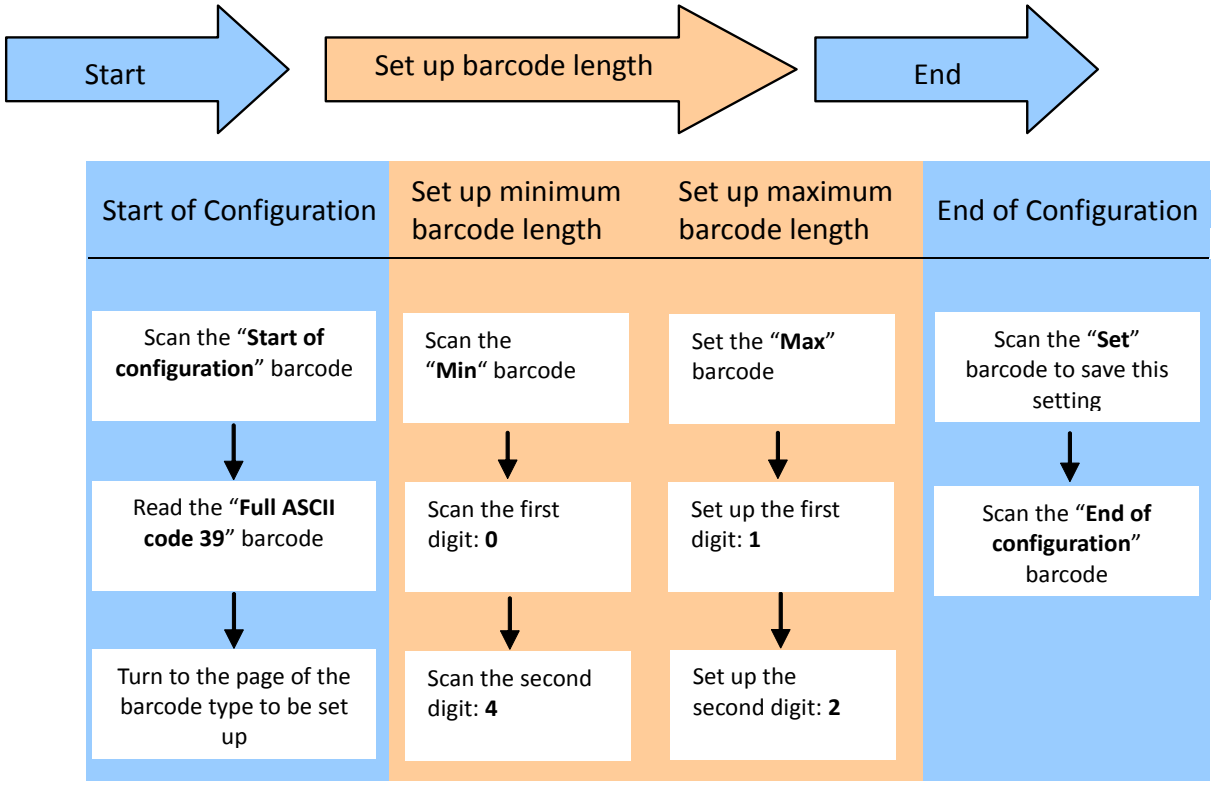
Introduction

The length of a barcode is the number of characters it contains, including check digits. As listed in the Default Parameters section, each barcode type has different default length. You may change the setting by the following procedure.

To set up barcode length, the paramours to be determined are barcode type and the desired barcode length. Barcode length is consisted of 2 digits. For numbers smaller than 10, you need to add a “0” in the front.

Example

If the barcode length is 4 to 12 digits, the steps would be as below:



Use the ASCII table (Appendix 4) to set up barcode length. Be sure to enable the full ASCII code 39 option before you start and read the “Set” label to set your choice into memory.

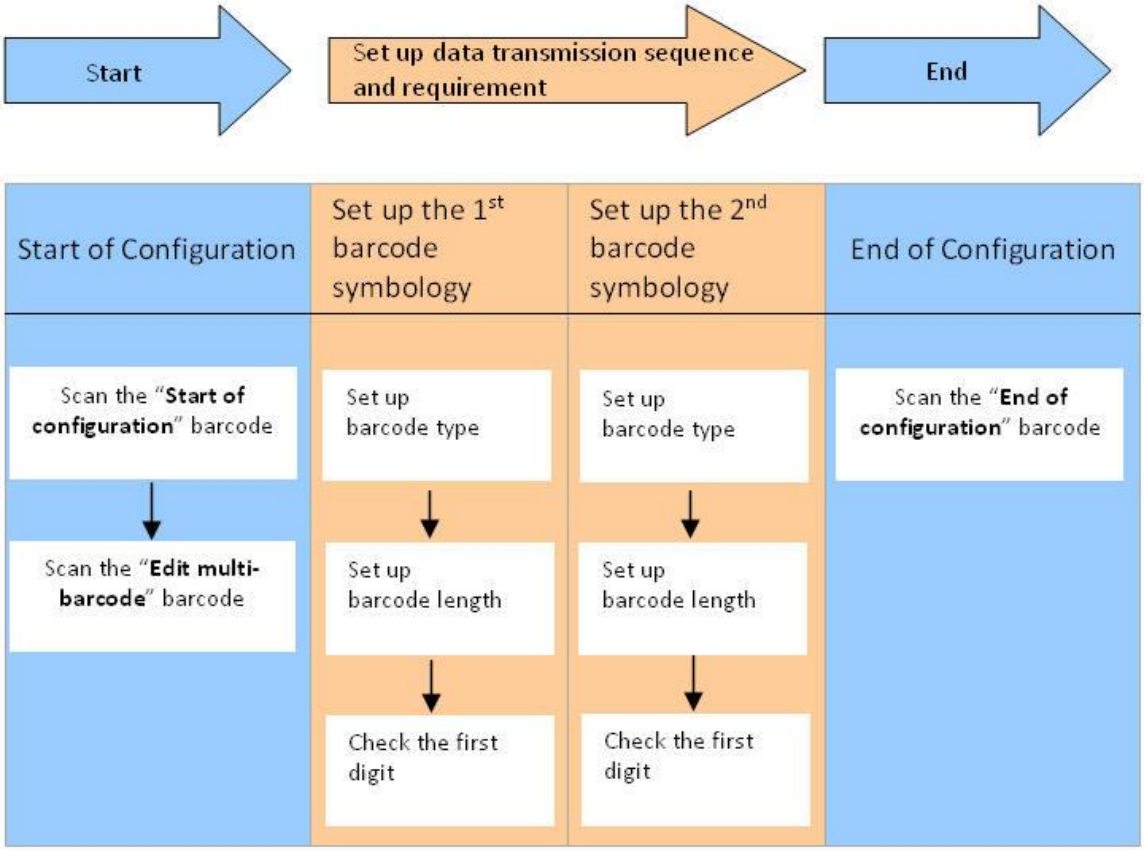
Appendix 3: Multi-Barcode Editor

Introduction

The multi-barcode editor function allows users to set up the sequence of barcode data transmission. After the configuration, the scanner would transmit data in the pre-programmed sequence even if the user doesn't scan barcodes in the correct order. Users can set up the sequence of up to 5 pieces of barcode data.

The three parameters to be programmed are: barcode type, barcode length and check digit.

Set up as "0" if the barcode length is not required; set up as "NUL" is there is no need to check the first digit of the barcode value.

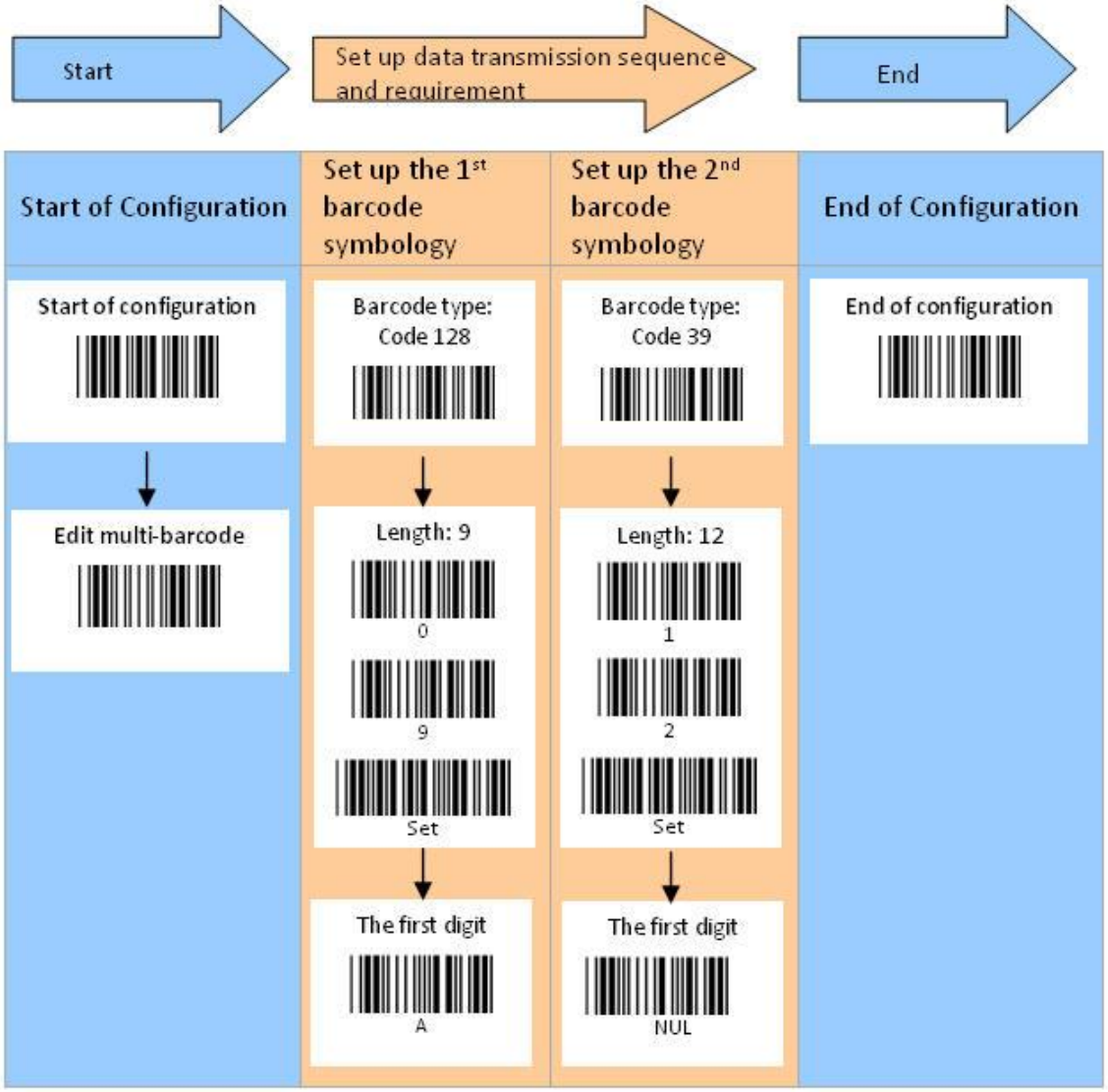


Use the ASCII table (Appendix 4) to set up barcode length and first digit checkup. Be sure to enable the full ASCII code 39 option before you start and read the "Set" label to set your choice into memory.

Example

If the barcode data transmission sequence and requirements are as below:

The 1st barcode symbology		The 2nd barcode symbology	
Barcode type	Code 128	Barcode type	Code 39
Barcode length	9	Barcode length	12
First digit	A	First digit	No check on the first digit is required



Appendix 4: ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---NUL	00		Full ASCII ---SI Function key-----“Shift”	0F
	Full ASCII ---SOH Function key-----“Ins”	01		Full ASCII ---DLE Function key-----“5(num)”	10
	Full ASCII ---STX Function key-----“Del”	02		Full ASCII ---DC1 Function key-----“F1”	11
	Full ASCII ---ETX Function key-----“Home”	03		Full ASCII ---DC2 Function key-----“F2”	12
	Full ASCII ---EOT Function key-----“End”	04		Full ASCII ---DC3 Function key-----“F3”	13
	Full ASCII ---ENQ Function key-----“Up arrow”	05		Full ASCII ---DC4 Function key-----“F4”	14
	Full ASCII ---ACK Function key-----“Down arrow”	06		Full ASCII ---NAK Function key-----“F5”	15
	Full ASCII ---BEL Function key-----“Left arrow”	07		Full ASCII ---SYN Function key-----“F6”	16
	Full ASCII ---BS Function key-----“Backspace”	08		Full ASCII ---ETB Function key-----“F7”	17
	Full ASCII ---HT Function key-----“TAB”	09		Full ASCII ---CAN Function key-----“F8”	18
	Full ASCII ---LF Function key-----“Enter (alpha numeric”	0A		Full ASCII ---EN Function key-----“F9”	19
	Full ASCII ---VT Function key-----“right arrow”	0B		Full ASCII ---SUB Function key-----“F10”	1A
	Full ASCII ---FF Function key-----“PgUp”	0C		Full ASCII ---ESC Function key-----“F11”	1B
	Full ASCII ---CR Function key-----“Enetr(num.)”	0D		Full ASCII ---FS Function key-----“F12”	1C
	Full ASCII ---SO Function key-----“PgDn”	0E		Full ASCII ---GS Function key-----“ESC”	1D

Start Of Configuration

ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---RS Function key-----“CTL(L)”	1E		Full ASCII ----	2D
	Full ASCII ---US Function key-----“ALT(L)”	1F		Full ASCII ---.	2E
	Full ASCII ---SP	20		Full ASCII ---/	2F
	Full ASCII ---!	21		Full ASCII ---0	30
	Full ASCII ---“	22		Full ASCII ---1	31
	Full ASCII ---#	23		Full ASCII ---2	32
	Full ASCII ---$	24		Full ASCII ---3	33
	Full ASCII ---%	25		Full ASCII ---4	34
	Full ASCII ---&	26		Full ASCII ---5	35
	Full ASCII ---‘	27		Full ASCII ---6	36
	Full ASCII --- (	28		Full ASCII ---7	37
	Full ASCII ---)	29		Full ASCII ---8	38
	Full ASCII ---*	2A		Full ASCII ---9	39
	Full ASCII ---+	2B		Full ASCII ---:	3A
	Full ASCII ---,	2C		Full ASCII ---;	3B

End Of Configuration

ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---<	3C		Full ASCII ---K	4B
	Full ASCII ---=	3D		Full ASCII ---L	4C
	Full ASCII --->	3E		Full ASCII ---M	4D
	Full ASCII ---?	3F		Full ASCII ---N	4E
	Full ASCII ---@	40		Full ASCII ---O	4F
	Full ASCII ---A	41		Full ASCII ---P	50
	Full ASCII ---B	42		Full ASCII ---Q	51
	Full ASCII ---C	43		Full ASCII ---R	52
	Full ASCII ---D	44		Full ASCII ---S	53
	Full ASCII ---E	45		Full ASCII ---T	54
	Full ASCII ---F	46		Full ASCII ---U	55
	Full ASCII ---G	47		Full ASCII ---V	56
	Full ASCII ---H	48		Full ASCII ---W	57
	Full ASCII ---I	49		Full ASCII ---X	58
	Full ASCII ---J	4A		Full ASCII ---Y	59

ASCII Code 39 Table

Code 39	ASCII	Hexa-code	Code 39	ASCII	Hexa-code
	Full ASCII ---Z	5A		Full ASCII ---i	69
	Full ASCII ---[	5B		Full ASCII ---j	6A
	Full ASCII ---\	5C		Full ASCII ---k	6B
	Full ASCII ---]	5D		Full ASCII ---l	6C
	Full ASCII ---^	5E		Full ASCII ---m	6D
	Full ASCII ---_	5F		Full ASCII ---n	6E
	Full ASCII ---`	60		Full ASCII ---o	6F
	Full ASCII ---a	61		Full ASCII ---p	70
	Full ASCII ---b	62		Full ASCII ---q	71
	Full ASCII ---c	63		Full ASCII ---r	72
	Full ASCII ---d	64		Full ASCII ---s	73
	Full ASCII ---e	65		Full ASCII ---t	74
	Full ASCII ---f	66		Full ASCII ---u	75
	Full ASCII ---g	67		Full ASCII ---v	76
	Full ASCII ---h	68		Full ASCII ---w	77

ASCII Code 39 Table

Code 39	ASCII	Hexa-code
	Full ASCII ---x	78
	Full ASCII ---y	79
	Full ASCII ---z	7A
	Full ASCII ---{	7B
	Full ASCII ---|	7C
	Full ASCII ---}	7D
	Full ASCII ---~	7E
	Full ASCII ---DEL	7F

Appendix 5: Header And Trailer

Introduction

The Header and Trailer section allows you to append a header and/or a trailer to every message transmitted via the serial ports, USB or the keyboard port. There is no restriction in selecting header or trailer characters as far as the sum of the lengths of header and trailer is not greater than 10 digits.

1. Scan “Start of Configuration”.
2. Select either header or trailer you are going to program by scanning the corresponding label.
3. Scan the character(s) you want from the ASCII table to set as header or trailer. (Be sure to enable full ASCII code 39 option before you start)
4. Read “Set, Confirm to save this setting (required for reading full ASCII table and length setting)” to confirm your choice into memory.
5. Scan “(CP05) Function key emulation enable” if a function key is being programmed.
6. Scan “End of Configuration”.

Example

If you need to set 'TAB' and '@' as prefix, please follow the steps below.

1. Scan “Start of Configuration”.
2. Scan “(HT01) Header (Preamble)”.
3. Scan “Full ASCII ---HT Function key-----TAB”.
4. Scan “Full ASCII ---@”.
5. Scan “Set, Confirm to save this setting (required for reading full ASCII table and length setting)” to save this setting.
6. Scan “(CP05) Function key emulation enable”.
7. Scan “End of Configuration”.

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