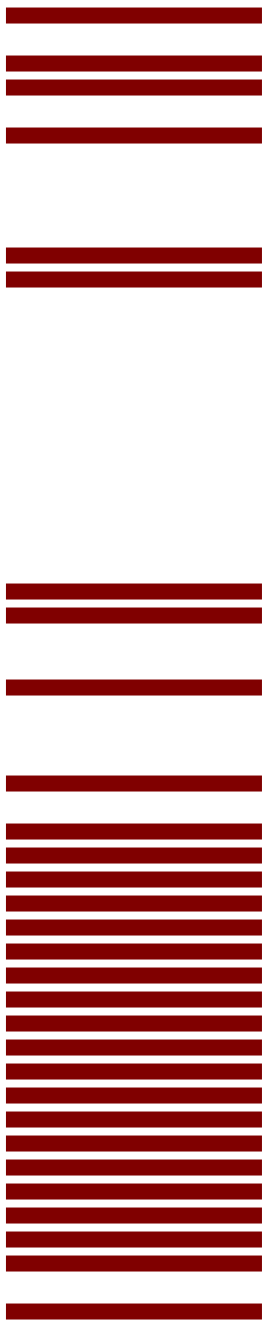


# PROGRAMMING GUIDE



ZBX00030301  
P/N : MUL-53221-07

# **PROGRAMMING GUIDE**

for

**BARCODE  
SCANNERS**

The guide can be used as keyboard emulation, RS- 232C serial interface, and CMOS serial interface and wand emulation.

## IMPORTANT NOTICE

This is a general guide for various scanners, and not all functions will perform in every scanner. Other than specified in this guide, for any special functions or specifications, please contact your dealer for details.

Every effort is made to ensure the accuracy of our product information; however, we accept no responsibility for errors or omissions including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. We shall not be liable for errors contained herein or for incidental consequential damages in connection with the furnishing, performance, or use of this material.

Specification or version may be subject to change without notice. The actual specification and version are based on the product delivered.

PRINTED IN DECEMBER 2001

## TABLE OF CONTENTS

Introduction .....	1
Default Parameters.....	2
Program Procedure .....	5
System Setting .....	6
<b>General Configuration</b>	
Scanning Mode Selection .....	9
Inter- Message Delay.....	10
Inter- Character Delay .....	11
Message/ Block Mode Selection.....	11
Beeper Tone Selection.....	12
<b>Interface Configuration</b>	
RS-232C Serial Communication Parameters Setting	
Handshaking Protocol .....	15
ACK/ NAK Response Time Setting .....	16
Baud Rate .....	16
Data Bit .....	17
Stop Bit.....	17
Parity Setting.....	17
Message Terminator.....	18
Keyboard Emulation Parameters Setting.....	19
Keyboard Type Selection .....	19
Language Selection .....	21
Message Terminator.....	22
Function Key Emulation .....	23
Capital Lock Setting .....	23
Wand Emulation Parameters Setting.....	24
Emulation Data Output Selection .....	25
Wand Emulation Narrow/Wide Ratio .....	25
Cursor Pad Work at Numlock.....	25
USB Interface Parameters Setting.....	26
Keyboard Type .....	26
Message Terminator.....	26
<b>The Symbolologies</b>	
Reading Code Selection .....	28
Code 39 Parameters Setting .....	30
Interleaved 2 Of 5 Parameters Setting.....	31

Chinese Post Code Parameters Setting .....	32
UPC/ EAN/ JAN Parameters Setting .....	33
Coda bar/ Monarch Parameters Setting .....	37
Code 128 Parameters Setting.....	37
MATRIX 25 Parameters setting .....	38
MSI/Plessey parameters setting .....	39
Italian Pharmacy Parameters Setting .....	40
Barcode Length Setting .....	41
ISBN/ ISSN Conversion .....	42
<b>Data Editing</b>	
Header and Trailer .....	43
Barcode Identifier Code Selection .....	44
Barcode Identifier Code Setting .....	45
Truncate Header/Trailer Character .....	47
<b>Appendixes</b>	
Appendix A	
Code 39 Full ASCII Code Table.....	49
Appendix B	
Code 39 Full ASCII Bar Code Table .....	52
Appendix C	
Barcode Samples .....	62
Appendix D	
Quick Settings .....	63

## **1. INTRODUCTION**

Scanning a series of programming bar code labels can configure the series scanners. This allows decoding options and interface protocols to be tailored to a specific application. The configuration is stored in non-volatile memory and will not be lost by removing power from the scanner.

The scanner must be properly powered before programming. For RS-232C type scanners, an external power adapter must be used to supply DC power to the scanner. If a keyboard emulation type scanner is used with an IBM PC/XT/AT, PS/2 or any fully compatible computers, power will be drawn from the keyboard port. No external power adapter is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computers, an external power adapter may be needed.

During the programming mode, the laser scanner will acknowledge a good and valid reading with a short beep. It will give long beeps for either an invalid or bad reading.

## **2. PROGRAMMING OPTIONS**

Programmable options are divided into four groups. The first group includes the options that show the general behavior of the laser scanner. The second group of options governs the operation of RS-232C type serial ports. The third group selects the keyboard type that the keyboard emulation type will be emulated. The last group sets the decoding parameters for each barcode symbology.

### 3. DEFAULT PARAMETERS

This table gives the default settings of all the programmable parameters. The default settings will be restored whenever the "Reset" programming label is scanned and the laser scanner is in programming mode.

### DEFAULT VALUES OF OPERATING PARAMETERS

Function	Default Values
Scanning Mode Selection	Trigger mode
Header and trailer	None
Inter-Message delay	Normal
Inter-Character delay	Normal
Message/Block mode selection	Message
Send command in block mode communication	Disable
Good read beeper tone selection	Medium
Code identifier transmitting	Disable

### PREDEFINED BARCODE IDENTIFIERS\*

Code 39 barcode identifier code	M
ITF 2 of 5 barcode identifier code	I
Chinese post code identifier code	H
UPC-E barcode identifier code	E
UPC-A barcode identifier code	A
EAN-13 barcode identifier code	F
EAN-8 barcode identifier code	FF
Codabar barcode identifier code	N
Code 128 barcode identifier code	K
Code 93 barcode identifier code	L
MSI barcode identifier code	P
MATRIX 25 barcode identifier code	G

### DEFAULT VALUES OF KEYBOARD EMULATION PARAMETERS SETTING

Function	Default Values
Keyboard type selection	IBM PC/AT USA
Message terminator	Enter/ carriage Return

### DEFAULT VALUES OF RS-232C SERIAL COMMUNICATION PARAMETERS

Function	Default Values
Handshaking protocol	None
ACK/NAK response time setting	300 msec
Baud rate	9600
Data bit	8
Stop bit	1
Parity	Mark
Message terminator selection	CR/LF

### DEFAULT VALUES OF WAND EMULATION PARAMETERS

Function	Default Values
Wand emulation speed	Normal
Wand emulation output	Black = High

Note: For wand emulation, the configuration is only effective for the items with asterisk ( \* ).

### DEFAULT VALUES OF USB EMULATION PARAMETERS

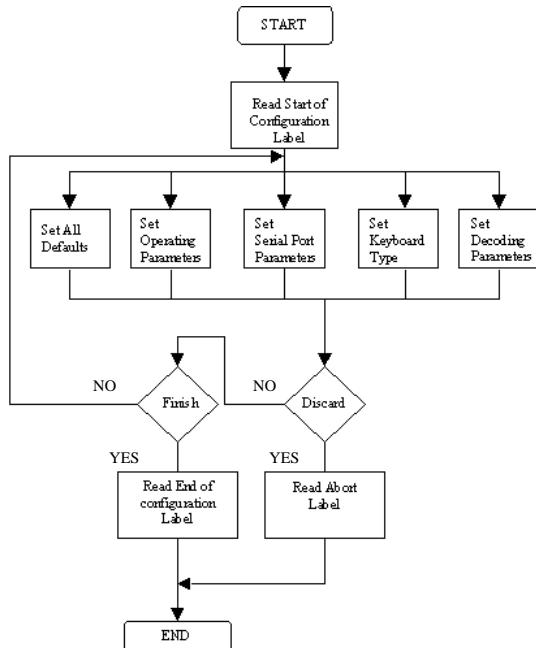
Function	Default Values
Keyboard Type	US Keyboard
Message Terminator	Enter

## DEFAULT VALUES OF DECODING PARAMETERS

Function	Code	Default Value
Reading codes Selection	Code 39	Enable
	ITF 2 of 5	Enable
	Chinese Post Code	Disable
	UPC/EAN/JAN	Enable
	Coda bar	Enable
	MSI	Disable
	Code 128	Enable
	Code 93	Enable
	ITAT	Disable
	EAN-128	Disable
	MATRIX 25	Disable
	Italian Pharmacy	Disable
Code 39	ISSN/ ISBN	Disable
	Codes	Standard
	Start/stop characters	Not transmitting
	Check digit	Disabled
Interleaved 2 of 5	Concatenation	Off
	Length	6-32 digits
Chinese Post Code	Check digit	Disable
	Length	10~16 digits
UPC/EAN/JAN	Check digit	Transmit
	Format	All
	Addendum	Disable
	UPC-E=UPC-A	Disabled
	UPC-A leading digit	Transmit
	UPC-A check digit	Transmit
	UPC-E leading digit	Transmit
UPC-E check digit	Transmit	
Coda bar	Type	Standard
	Start/stop characters	A, B, C, D
	Length	6~32 digits
Code 128	FNC 2 append	Disable
	Check digit	Disable
MSI	Length	Variable
	Check digit	Transmit
Italian Pharmacy	Transmit "A" Character	Not transmitting
MATRIX 25	Length	Fix 10 digits
	Check digit	Disable

Note: The configuration of the items with asterisk ( ) is effective when being appointed in advance.

## 4. PROGRAM PROCEDURE USING BARCODE MENUS



# SYSTEM SETTING



Start of Configuration

---



RESET

- The reading of the "RESET" label turns all the parameters back to default values.
- When you intend to turn your scanner back to default parameter, please scans the "Start of configuration" label first, then scan "RESET" label



ABORT

- The reading of the "ABORT" label discards all the parameters read prior to the "End of configuration".



RS-232C

- The scanner remains in the last interface mode when the scanner is reset. The label below should be scanned if the scanner is configured the first time.



PC/AT



USB

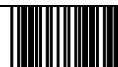
- The reading of the "SHOW VERSION" label will be show firmware version.



WAND EMULATION



SHOW VERSION



End of Configuration

# GENERAL CONFIGURATION



Start of Configuration

---

## **SCANNING MODE SELECTION (for laser scanner)**

For series laser scanners, there are 3 scanning modes to suit your application requirements.



The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.



The scanner will light up when press the pulse mode trigger switch once. And, the scanner will turn off for next pressing.

## **SCANNING MODE SELECTION (For CCD scanner)**

The scanner becomes inactive as soon as the data is transmitted. It must be triggered to become active again.



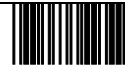
In auto scan mode, the scanner is still active after the data is transmitted, but the successive transmission of the same bar code is not allowed when the trigger switch is pressed again.



This scanner will light up when press the scanner trigger switch once. And, the scanner will turn off for next pressing.



This mode is similar to Auto scan mode, but double reading for the same barcode is prohibited if the scanner switch is pressed.



End of Configuration





### DATA REDUNDANT CHECK

The option allows you to set decoder data redundant check.



### INTER-MESSAGE DELAY

These series of scanners allow you to add a delay between two consecutive messages. This delay will be added before each data transmission.



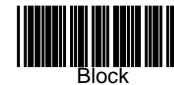
### INTER-CHARACTER DELAY

This option governs delay time between consecutive characters. Scanning the following labels can alter the delay time.



### MESSAGE/BLOCK MODE SELECTION

This option allows you to treat scanned data as either an independent message or a block message. In the message mode, the data scanned will be transmitted immediately. In block mode, the data scanned will be appended to the message buffer if the scanner is programmed in block mode. A block of message will only be transmitted after a "Send" command is entered. This mode is only available when the scanner is working with code 39 labels. You are free to choose any character as the "Send" command.





Start of Configuration

---

### **SEND COMMAND IN BLOCK MODE COMMUNICATION**

You can use this option to set your own "Send" command used in block mode communication.



Enable



Disable



Store



Set

---

### **GOOD READ BEEPER TONE SELECTION**

You can use this option to set frequency and / or duration of the buzzer after successful reading.



Medium



Low



High



Disable

### **SOUND DURATION**



long(120 ms)



Medium(50 ms)

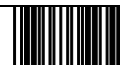


Short(20 ms)



Very short(5 ms)

\*For Alpha-70 and SC-2070 Series only Medium and disable setting available, it's hardware beeper control.



End of Configuration



Start of Configuration

---

## **1. RS-232C SERIAL COMMUNICATION PARAMETERS SETTING**

The RS-232C scanner supports four handshaking protocols. With these options of communication protocol, you can tailor the scanner to meet the requirement of most systems

### HANDSHAKING PROTOCOL



### ACK/NAK RESPONSE TIME SETTING



End of Configuration

# INTERFACE CONFIGURATION



Start of Configuration

---

### ACK/NAK RESPONSE TIME SETTING (Cont'd)



3 sec



1 sec



5 sec

### BAUD RATE



19200



9600



4800



2400



1200



600

### DATA BIT



7



8

### STOP BIT



1



2

### PARITY



Even



Odd



Mark



Space



None





Start of Configuration

**MESSAGE TERMINATOR (FOR RS-232C TYPE ONLY)**



None



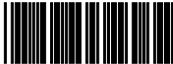
CR/LF



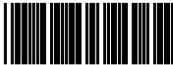
CR



LF



H Tab



STX/ETX



EOT

**2. KEYBOARD EMULATION PARAMETERS SETTING**

**KEYBOARD TYPE SELECTION**

The keyboard emulation scanners can emulate a number of personal computers keyboard and a number of terminal keyboard. Keyboard emulation is activated whenever you have selected the type of keyboard for which the scanner is going to emulate. Choose the appropriate type of keyboard emulation by scanning the labels under the following labels.



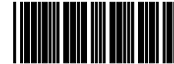
IBM AT



PS/2 30-80



IBM 5550



IBM 5295 Terminal



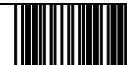
IBM XT



IBM 5530-SC



IBM 5530-ZC



End of Configuration



Start of Configuration

---

**KEYBOARD TYPE SELECTION (Cont'd)**



NEC 9801



IBM 3196 Terminal



APPLE MAC II( )



IBM 3477/3472 Terminal



PS2/30/56



IBM 3477 Terminal  
(Without break code)



NEC 5200( )

Note: The configuration of the items with asterisk ( ) is optional.

**KEYBOARD LANGUAGE SELECTION**



USA



UK



Germany



French



Spanish



Italian



Swiss



Swedish



End of Configuration



Start of Configuration

---

**MESSAGE TERMINATOR (FOR KEYBOARD WEDGE USE)**



None



Return /Enter



Hor. TAB



Execute

**KEYBOARD TYPE SELECTION**



Scan Code Mode



Alt mode

**BREAK CODE ON/ OFF SETTING (FOR IBM Terminals 31xx, 34xx, 37xx USE)**

To select the interface for these IBM terminals, read the correct key transmission code.



ON



OFF

**FUNCTION KEY ACTIVE ON/ OFF (FOR IBM AT USE)**

Function keys can be concatenated with input data as header and/or trailer. See table on page 40.



ON



OFF

**CAPITAL LOCK ON/ OFF**

Select the suitable code to match your keyboard caps lock status.



ON



OFF

**Function key emulation (only for PC/AT)**

**Numlock on/off**



OFF



ON



End of Configuration



Start of Configuration

---

**00H~1FH ASCII Code defined**



Alt-mode code



CrtI+code

**3. WAND EMULATION PARAMETERS SETTING**

**EMULATION SPEED SELECTION**



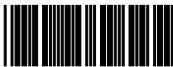
Low



Medium



Normal



High



Higher

**EMULATION DATA OUTPUT SELECTION**

The decoded data output logic level can be set to befit the external decoder.



Black = High



Black = Low

**WAND EMULATION NARROW/WIDE RATIO**



1:2



1:3

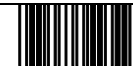
**CURSOR PAD WORK AT NUMLOCK**



ON



OFF



End of Configuration





Start of Configuration

---

#### **4. USB INTERFACE PARAMETERS SETTING**

The USB mode is effectively a keyboard emulator that works with hosts that USB-compatible operating system and USB ports. USB compatible operating systems are Windows 98, Windows NT 5.0 and later, no additional software is needed since the USB driver support is built into this operating system.

##### **KEYBOARD TYPE**

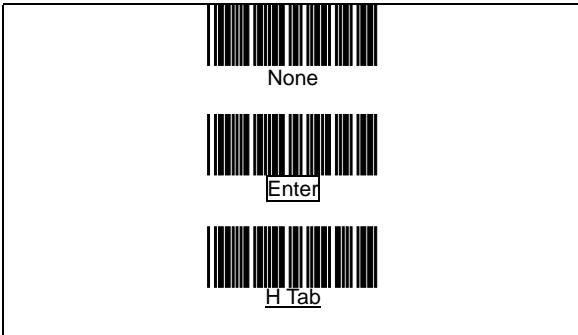


US Keyboard



International Keyboard

##### **MESSAGE TERMINATOR**



End of Configuration

## THE SYMBOLOGIES



Start of Configuration

---

**READING CODE SELECTION**



Code 39 Enable



Code 39 Disable



Coda bar Enable



Coda bar Disable



UPC/ EAN/ JAN Enable



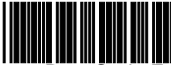
UPC/ EAN/ JAN Disable



ITF 2 of 5 Enable



ITF 2 of 5 Disable



Chinese Post Code Enable



Chinese Post Code Disable



Code 128 Enable



Code 128 Disable



MSI Enable



MSI Disable



Code 93 Enable



Code 93 Disable



IATA Enable



IATA Disable



EAN-128 Enable



EAN-128 Disable



MATRIX 25 Enable



MATRIX Disable



End of Configuration



Start of Configuration

### READING CODE SELECTION (Cont'd)



Italian Pharmacy Enable



Italian Pharmacy Disable

### CODE 39 PARAMETERS SETTING

#### CHARACTER SET



Standard Code 39



Full ASCII Code 39

#### START/STOP CHARACTER TRANSMISSION



Yes



No

#### CHECK DIGIT



Calculate and Transmit



Calculate but not Transmit



NO

#### CONCATENATION



Enable



Disable

### INTERLEAVED 2 OF 5 PARAMETERS SETTING

Examples: Felting length 4 to 8 digits

#### LENTGTH

Scan: Start of configuration

Min

0

4

set

max

0

8

set

End of configuration



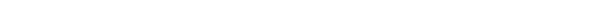
MAX



Min



Set



End of Configuration



Start of Configuration

CHECK DIGIT



Calculate and Transmit

Calculate but not Transmit

CHECK DIGIT



Calculate and Transmit

Calculate but not Transmit

### CHINESE POST CODE PARAMETERS SETTING

LENGTH



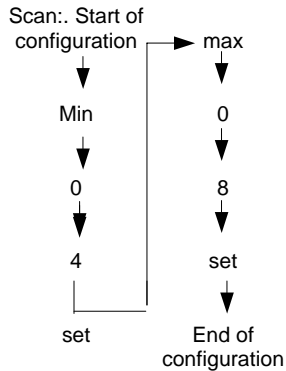
MAX



MIN



Set



### UPC/EAN/JAN PARAMETERS SETTING

FORMAT



All

EAN-8 or EAN-13

UPC-A and EAN-13

UPC-A and UPC-E

UPC-A

UPC-E



End of Configuration



Start of Configuration

---

**UPC/EAN/JAN PARAMETERS SETTING (Cont'd)**



EAN-13



EAN-8

ADDENDUM



NO



5 Characters



2 Characters



2 or 5 Characters

FORCE UPC-E TO UPC-A FORMAT



Yes



No

FORCE UPC-A TO EAN-13 FORMAT



Yes



No

TRANSMIT UPC-A LEADING CHARACTER



Yes

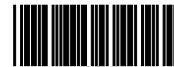


No

TRANSMIT UPC-A CHECK DIGIT



Yes



No

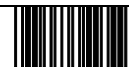
TRANSMIT UPC-E LEADING CHARACTER



Yes



No



End of Configuration



Start of Configuration

---

TRANSMIT UPC-E CHECK DIGIT



Yes



No

TRANSMIT EAN-13 CHECK DIGIT



Yes



No

TRANSMIT EAN-8 CHECK DIGIT



Yes



No

---

## CODABAR/ MONARCH PARAMETERS SETTING

START/ STOP CHARACTER TRANSMISSION



No



A, B, C, D



DC1-DC4



a/ t, b/ n, c/ \*, d/ e

CONCATENATION



Enable



Disable

## CODE 128 PARAMETERS SETTING

FNC 2 CONCATENATION



Enable



Disable



End of Configuration



Start of Configuration

### CODE 128 PARAMETERS SETTING (Cont'd)

CHECK DIGIT



No



Calculate but not Transmit



Calculate and Transmit

### UCC/EAN128 PARAMETERS SETTING

The character FNC1 can be transmitted or not using these codes.



FNC1 Character Transmitted



FNC1 not Transmitted

### MATRIX 25 PARAMETERS SETTING

Examples: Felting length 4 to 8 characters



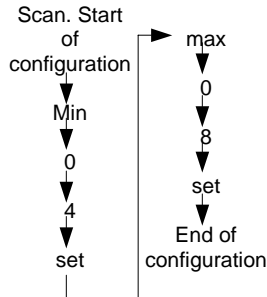
MAX



MIN



Set



### MSI/PLESSY PARAMETERS SETTING

Examples: Felting length 4 to 8 characters



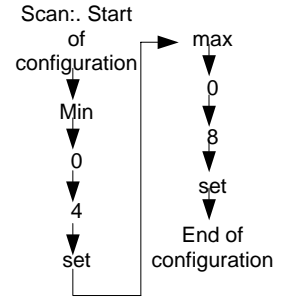
MAX



MIN



SET



Double Check digit



Calculate but not Transmitted



No



Calculate but only first one Transmitted



Calculated and both Transmitted



Single Check digit



Calculated but not Transmitted



Calculated and transmitted

End of Configuration



Start of Configuration

**MSI/PLESSY PARAMETERS SETTING (Cont'd)**

PLESSY CODE SETTING



Calculated and transmitted



Calculate but not transmitted

CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmit

**ITALIAN PHARMACY PARAMETERS SETTING**

TRANSMIT "A" CHARACTER



Yes



No

**BARCODE LENGTH SETTING**

CODE 39 LENGTH SETTING



MAX



MIN

CODE 93 LENGTH SETTING



MAX



MIN

CODE 128 LENGTH SETTING



MAX



MIN

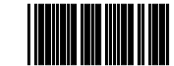
CODABAR LENGTH SETTING



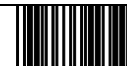
MAX



MIN



SET



End of Configuration





Start of Configuration

---

### **ISBN/ ISSN CONVERSION**

The function converts the UPC/EAN codes appearing on books and magazine not ISBN/ISSN format.



ACTIVE ISBN/ ISSN



INACTIVE ISBN/ ISSN

## **DATA EDITING**



End of Configuration



Start of Configuration

---

### **HEADER AND TRAILER**

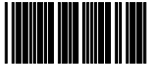
This option allows you to append a header and/or a trailer to every message transmitted via the serial ports or the keyboard port. There is no restriction in selecting header or trailer characters as far as the sum of the lengths of header and trailer is not greater than 10 digits.



Header



Trailer



Set

1. Select either header or trailer you are going to program by scanning the corresponding label
2. Scan the character(s) you want from the enclosed ASCII table to set as header or trailer (be sure to enable full ASCII code 39 option before you start).
3. Read the "Set" label to set your choice into memory.

### **BARCODE IDENTIFIER CODE SELECTION**

The series of scanners can transmit max.2-digit barcode identifier code for different types of barcodes. Use the labels to choose transmit or not transmit predefined barcode identifier code (ID's are listed on page 2):



Enable



Disable

---

### **BARCODE IDENTIFIER CODE SETTING**

Each of the series type scanners can set max.2 digits as barcode identifier code according to different barcode.

The procedure is as follows:

1. Scan "Start of configuration" label
2. Scan "Barcode identifier setting code" label.
3. Scan the new code mark from ASCII table (max. two digits). For example, if one "AB" want for code mark then scan "A" and "B".
4. Scan "Set" label.
5. Scan " End of configuration" label.



UPC-E



UPC-A



EAN-13



EAN-8



Chinese post code



ITF 2 OF 5



End of Configuration



**BARCODE IDENTIFIER CODE SETTING (Cont'd)**



Coda bar



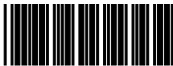
Code 39



Code 128



Code 93



MSI



MATRIX 25



Set

**Truncate Header/Trailer Character**

**(Version az1.24, dz1.05, ac1.01, dz1.05,p11.39 Or higher is required)**

You can truncate a number header or trailer for a symbology. When you do, the specific character you select is deleted from the symbology you want.



Truncate header character



Truncate trailer character



set

4. Scan "set" barcode
5. end of configuration

- 1.scan"start of configuration"
- 2.select"truncate header or truncate trailer"
- 3.scan two barcode value from the full ASCII code table( 0~9) For example, if 2 number header you want clear then scan "0" and "2"



**APPENDIX A**

**CODE 39 FULL ASCII CODE TABLE**

**APPENDIXES**

ASCII	CODE 39	VALEUR HEXA.	ASCII	CODE 39	VALEUR HEXA.
NUL	%U	00	%	/E	25
SOH	\$A	01	&	/F	26
STX	\$B	02	'	/G	27
ETX	\$C	03	(	/H	28
EOT	\$D	04	)	/I	29
ENQ	\$E	05	*	/J	2A
ACK	\$F	06	+	/K	2B
BEL	\$G	07	,	/L	2C
BS	\$H	08	-	-	2D
HT	\$I	09	.	.	2E
LF	\$J	0A	/	/	2F
VT	\$K	0B	0	0	30
FF	\$L	0C	1	1	31
CR	\$M	0D	2	2	32
SO	\$N	0E	3	3	33
SI	\$O	0F	4	4	34
DLE	\$P	10	5	5	35
DC1	\$Q	11	6	6	36
DC2	\$R	12	7	7	37
DC3	\$S	13	8	8	38
DC4	\$T	14	9	9	39
NAK	\$U	15	:	/Z	3A
SYN	\$V	16	;	%F	3B
ETB	\$W	17	<	%G	3C
CAN	\$X	18	=	%H	3D
EM	\$Y	19	>	%I	3E
SUB	\$Z	1A	?	%J	3F
ESC	%A	1B	@	%V	40
FS	%B	1C	A	A	41
GS	%C	1D	B	B	42
RS	%D	1E	C	C	43
US	%E	1F	D	D	44
SP	SP	20	E	E	45
!	/A	21	F	F	46
"	/B	22	G	G	47
#	/C	23	H	H	48
\$	/D	24	I	I	49

**APPENDIX A**
**CODE 39 FULL ASCII CODE TABLE**

ASCII	CODE 39	VALEUR HEXA.	ASCII	CODE 39	VALEUR HEXA.
J	J	4A	e	+E	65
K	K	4B	f	+F	66
L	L	4C	g	+G	67
M	M	4D	h	+H	68
N	N	4E	i	+I	69
O	O	4F	j	+J	6A
P	P	50	k	+K	6B
Q	Q	51	l	+L	6C
R	R	52	m	+M	6D
S	S	53	n	+N	6E
T	T	54	o	+O	6F
U	U	55	p	+P	70
V	V	56	q	+Q	71
W	W	57	r	+R	72
X	X	58	s	+S	73
Y	Y	59	t	+T	74
Z	Z	5A	u	+U	75
[	%K	5B	v	+V	76
\	%L	5C	w	+W	77
]	%M	5D	x	+X	78
^	%N	5E	y	+Y	79
_	%O	5F	z	+Z	7A
`	%W	60	{	%P	7B
a	+A	61		%Q	7C
b	+B	62	}	%R	7D
c	+C	63	~	%S	7E
d	+D	64	DEL	%T	7F

**APPENDIX A**
**FUNCTION KEY EMULATION**

FUNCTION KEY	ASCII	CODE 39	FUNCTION KEY	ASCII	CODE 39
Ins	\$A	01	F1	\$Q	11
Del	\$B	02	F2	\$R	12
Home	\$C	03	F3	\$S	13
End	\$D	04	F4	\$T	14
Up	\$E	05	F5	\$U	15
Down	\$F	06	F6	\$V	16
Left	\$G	07	F7	\$W	17
Backspace	\$H	08	F8	\$X	18
TAB	\$I	09	F9	\$Y	19
Enter(num)	\$J	0A	F10	\$Z	1A
Right	\$K	0B	F11	%A	1B
PgUp	\$L	0C	F12	%B	1C
Enter	\$M	0D	ESC	%C	1D
PgDn	\$N	0E	Ctl(L)	%D	1E
shift	\$O	0F	Alt(L)	%E	1F
5 (num)	\$P	10			

**APPENDIX B**

**CODE 39 FULL ASCII BARCODE TABLE**

  
Start of Configuration

---

  
NUL

  
ENQ  
(Up)

  
SOH  
(Ins)

  
ACK  
(Down)

  
STX  
(Del)

  
BEL  
(Left)

  
ETX  
(Home)

  
BS  
(Backspace)

  
EOT  
(End)

  
HT  
(TAB)

**APPENDIX B**

**CODE 39 FULL ASCII BARCODE TABLE**

  
LF  
(Enter)(num)

  
DLE  
5 (num)

  
VT  
(Right)

  
DC1  
(F1)

  
FF  
(PgUp)

  
DC2  
(F2)

  
CR  
(Enter)

  
DC3  
(F3)

  
SO  
(PgDn)

  
DC4  
(F4)

  
SI  
shift(L)
















  
NAK  
(F5)

---

  
End of Configuration
















APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
 SYN (F6)	 GS (ESC)
 ETB (F7)	 RS Ctl (L)
 CAN (F8)	 US Alt (L)
 EM (F9)	 SP
 SUB (F10)	 !
 ESC (F11)	 "
 FS (F12)	 #


















APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

 \$	 +
 %	 ,'
 &	 -
 	 .
 (	 /
 )	 0
 *	 1
 End of Configuration	
















APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
	
2	
	:
3	
	;
4	
	<
5	
	=
6	
	>
7	
	?
8	
	@
9	
	A

APPENDIX B













CODE 39 FULL ASCII BARCODE TABLE

		
B		I
		
C		J
		
D		K
		
E		L
		
F		M
		
G		N
		
H		O
		
		End of Configuration


















APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
<hr/>	
	
P	W
	
Q	X
	
R	Y
	
S	Z
	
T	[
	
U	\
	
V	]
















APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
^	e
	
_	f
	
`	g
	
a	h
	
b	i
	
c	j
	
d	k
<hr/>	
	
End of Configuration	








APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
Start of Configuration	
<hr/>	
	
l	s
	
m	t
	
n	u
	
o	v
	
p	w
	
q	x
	
r	y

APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

	
z	}
	
{	~
	
	DEL
<hr/>	
	
End of Configuration	

## APPENDIX C

### BARCODE SAMPLES

Code 39



Code 128



Interleaved 2 of 5



Coda bar(NW-7)



UPC A



EAN-13



## APPENDIX D

### QUICK SETTINGS

#### 1. Quick Settings for Keyboard Wedge Mode



Program



Reset



PC/AT



End

#### 2. Quick Settings for RS 232 Mode



Program



Reset



RS-232C



End

#### 3. Quick Settings for German Language Keyboard



Program



German Keyboard



End