

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 CENTENTS

Introduction.....	1
Default Parameters.....	2
Program Procedure	5
System Setting	6

General Configuration

Scanning Mode Selection.....	9
Inter- Message Delay.....	10
Inter- Character Delay	11
Message/ Block Mode Selection.....	11
Beeper Tone Selection.....	12

Interface Configuration

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

The Symbologies

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/ Plessy parameters setting	39
Italian Pharmacy Parameters Setting	40
Barcode Length Setting	41
ISBN/ ISSN Conversion.....	42

Data Editing

Header and Trailer	43
Barcode Identifier Code Selection	44
Barcode Identifier Code Setting	45
Truncate Header/ Trailer Character	47

Appendixes

Appendix A

Code 39 Full ASCII Code Table.....	49
------------------------------------	----

Appendix B

Code 39 Full ASCII Bar Code Table	52
---	----

Appendix C

Barcode Sa mples	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

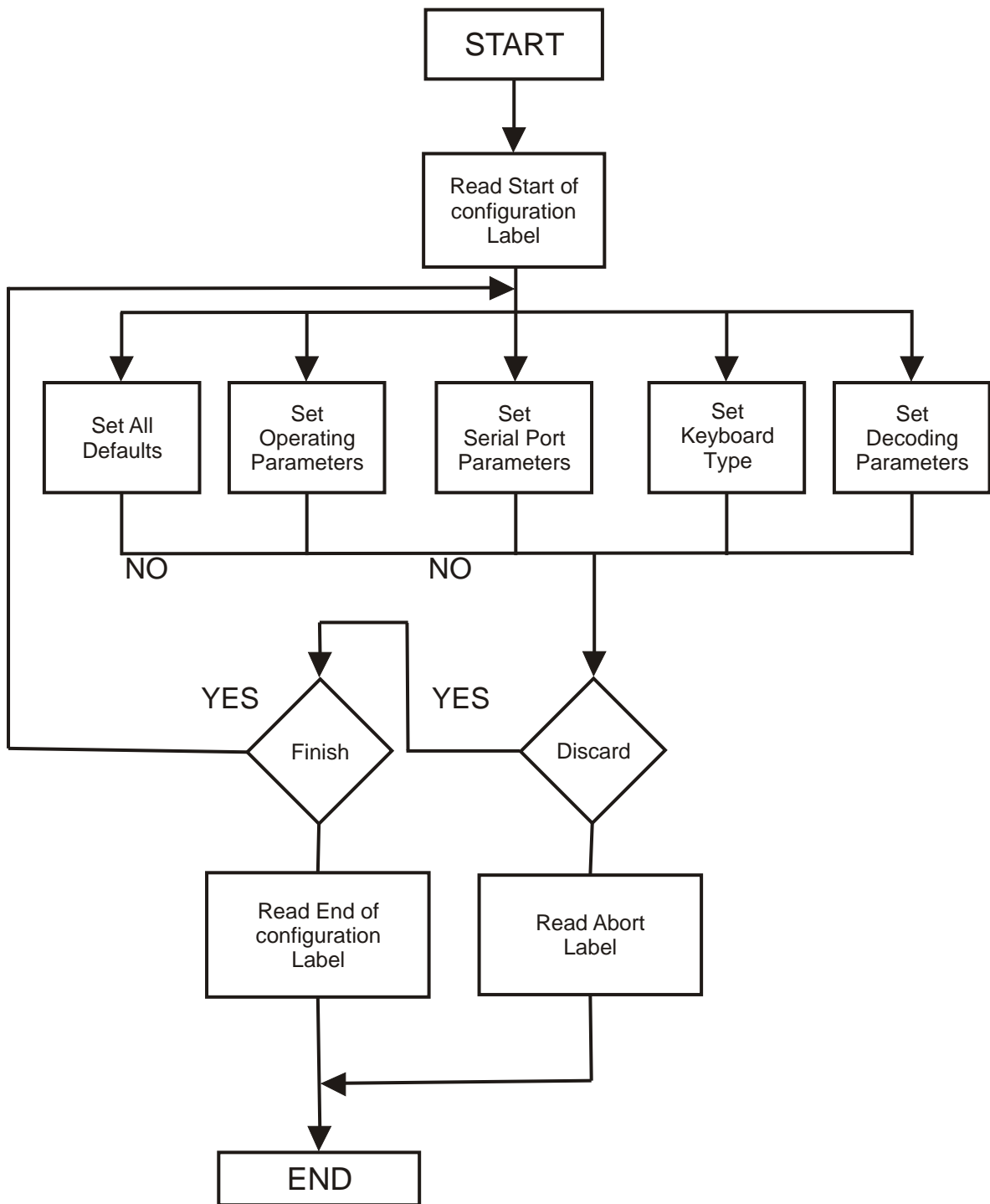
	Function	Default Values
※	Keyboard Type	US Keyboard
※	Message Terminator	Enter

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
	Code128	Enable
	Code 93	Enable
	※ ITAT	Disable
	※ EAN-128	Disable
	※ MATRIX 25	Disable
	※ Italian Pharmacy	Disable
	ISSN/ ISBN	Disable
Code 39	Codes	Standard
	Start/stop characters	Not transmitting
	Check digit	Disabled
	Concatenation	Off
Interleaved Leng 2 of 5	Length	6-32 digits
	Check digit	Disable
Chinese Post Code	Length	10~16 digits
	Check digit	Transmit
UPC/EAN/JAN	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	6~32digits
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
	Checkdigit	Disable

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

4. PROGRAM PROCEDURE USING BARCODE MENUS



SYSTEM SETTING

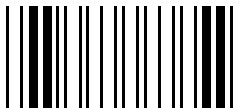


Start of Configuration



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
-



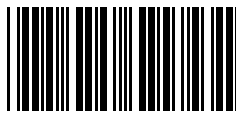
ABORT

- 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.

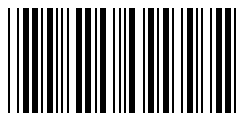


PC/AT

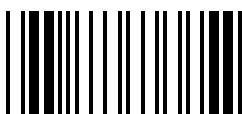
- The reading of the "SHOW VERSION" label will be show firmware version.



USB



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.



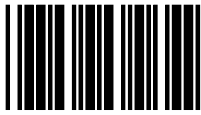
This scanner will light up when press the scanner trigger switch once. And, the scanner will turn off for next pressing.



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

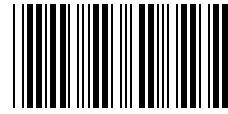


End of Configuration

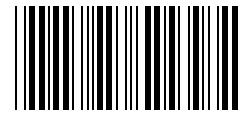


DATA REDUNDANT CHECK

The option allows you to set decoder data redundant check.



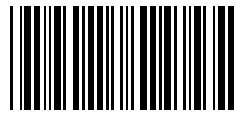
Enable



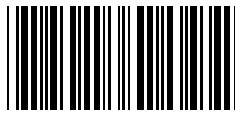
Disable

INTER-MESSAGE DELAY

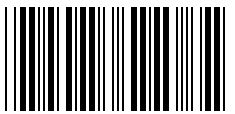
These series of scanners allow you to add a delay between two consecutive messages. This delay will be added before each data transmission.



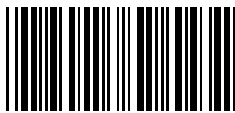
None



100 msec



500 msec



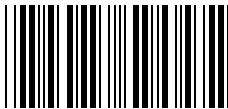
1 second

INTER-CHARACTER DELAY

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



None



10 msec



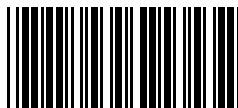
20 msec



50 msec

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.



Message



Block



End of Configuration

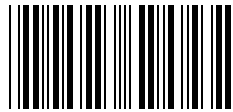


SEND COMMAND IN BLOCK MODE COMMUNICATION

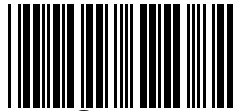
You can use this option to set your own “Send” command used in block mode communication.



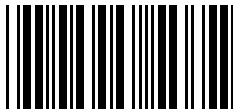
Enable



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

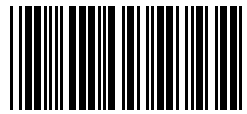


Disable

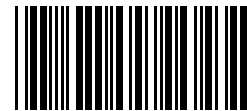
SOUND DURATION



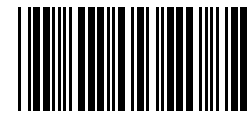
long(120 ms)



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

INTERFACE CONFIGURATION



1. RS-232C SERIAL COMMUNICATION PARAMETERS SETTINGS

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



None



RTS/CTS



ACK/NAK



Xon/Xoff

ACK/NAK RESPONSE TIME SETTING



300 msec



2 sec



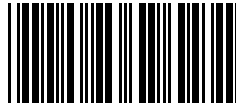
500 msec



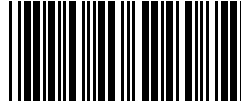


Start of Configuration

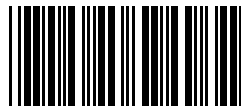
ACK/NAK RESPONSE TIME SETTING (Cont'd)



3 sec

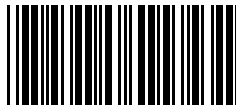


1 sec

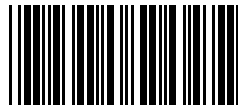


5 sec

BAUD RATE



19200



9600



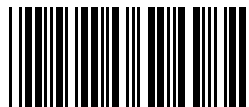
4800



2400

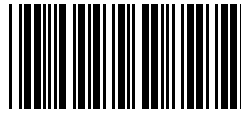


1200



600

DATA BIT

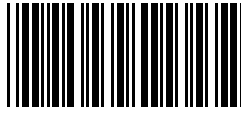


7

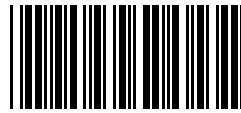


8

STOP BIT

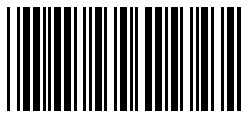


1



2

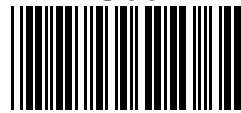
PARITY



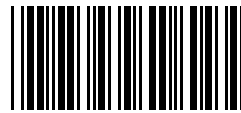
Even



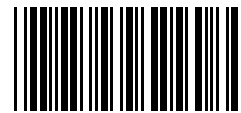
Odd



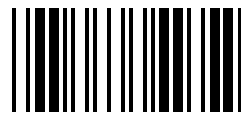
Mark



Space



None



End of Configuration

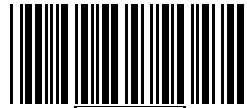


Start of Configuration

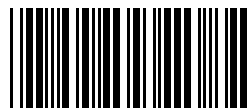
MESSAGE TERMINATOR (FOR RS-232C TYPE ONLY)



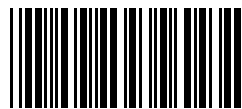
None



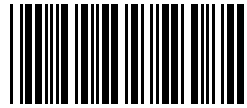
CR/LF



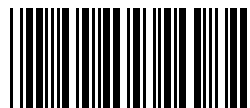
CR



LF



H Tab



STX/ETX



EOT

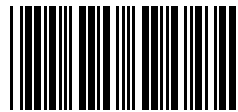
2. KEYBOARD EMULATION PARAMETERS SETTING

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



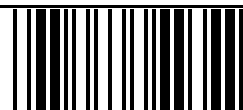
IBM XT



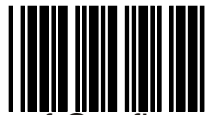
IBM 5530-SC



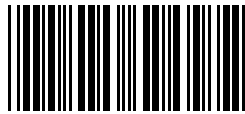
IBM 5530-ZC



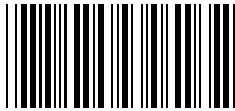
End of Configuration



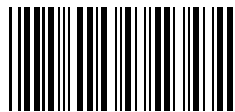
KEYBOARD TYPE SELECTION (Cont'd)



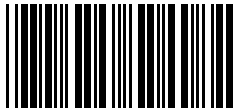
NEC 9801



IBM 3196 Terminal



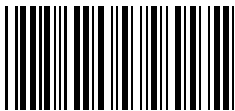
APPLE MAC II (※)



IBM 3477/3472 Terminal



PS2/30/56



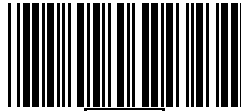
IBM 3477 Terminal
(Without break code)



NEC 5200(※)

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

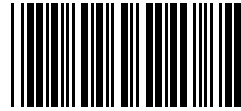
KEYBOARD LANGUAGE SELECTION



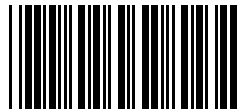
USA



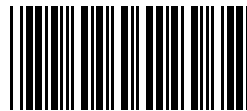
UK



Germany



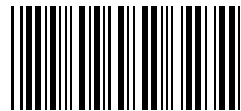
French



Spanish



Italian



Swiss



Swedish

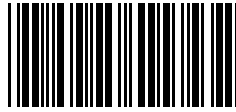


End of Configuration

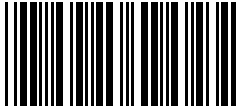


Start of Configuration

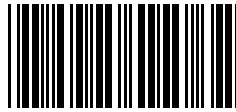
MESSAGE TERMINATOR (FOR KEYBOARD WEDGE USE)



None



Return /Enter

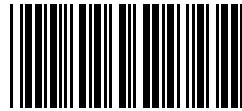


Hor. TAB



Execute

KEYBOARD TYPE SELECTION



Scan Code Mode



Alt mode

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



ON



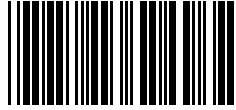
OFF

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.



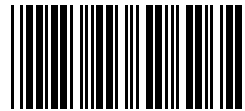
ON



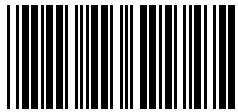
OFF

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



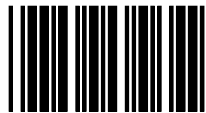
OFF



ON



End of Configuration



Start of Configuration

00H~1FH ASCII Code defined



Alt-mode code



Ctrl+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 benefit the external decoder.



Black = High



Black = low

WAND EMULATION NARROW/WIDE RATIO



1:2



1:3

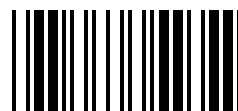
CURSOR PAD WORK AT NUMLOCK



ON



OFF



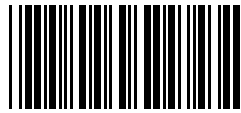
End of Configuration



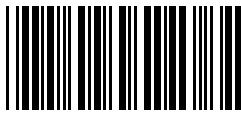
4. USB INTERFACE PARAMETERS SETTING

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

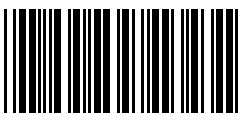


US Keyboard

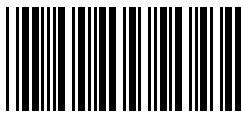


International Keyboard

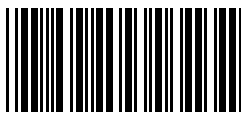
MESSAGE TERMINATOR



None



Enter



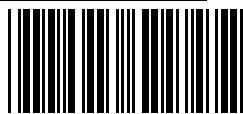
H Tab



THE SYMBOLOGIES



READING CODE SELECTION



Code39 Enable



Code39 Disable



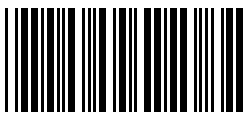
Coda bar Enable



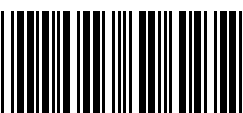
Coda bar Disable



UPC/ EAN/ JAN Enable



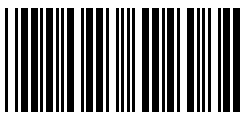
UPC/ EAN/ JAN Disable



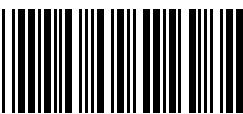
ITF 2 of 5 Enable



ITF 2 of 5 Disable



Chinese PostCode Enable



Chinese PostCode Disable



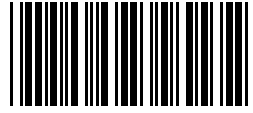
Code 128 Enable



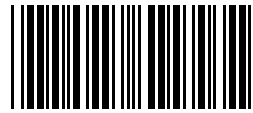
Code 128 Disable



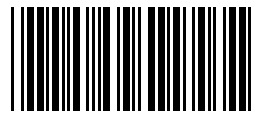
MSI Enable



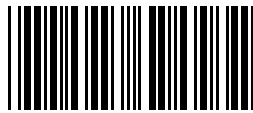
MSI Disable



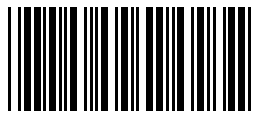
Code 93 Enable



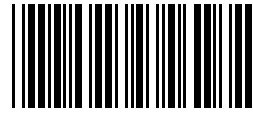
Code 93 Disable



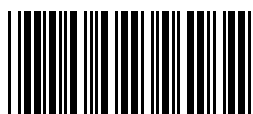
IATA Enable



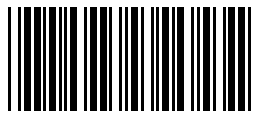
IATA Disable



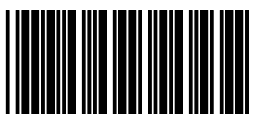
EAN-128 Enable



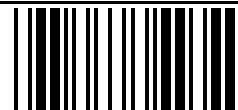
EAN-128 Disable



MATRIX 25 Enable



MATRIX Disable



End of Configuration

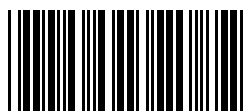


Start of Configuration

READNIG 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

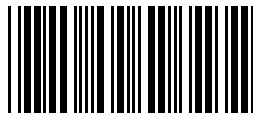
CHECK DIGIT



Calculate and Transmit

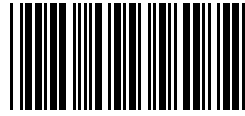


Calculate but not Transmit

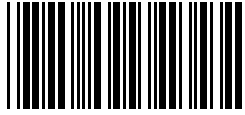


NO

CONCATENATION



Enable

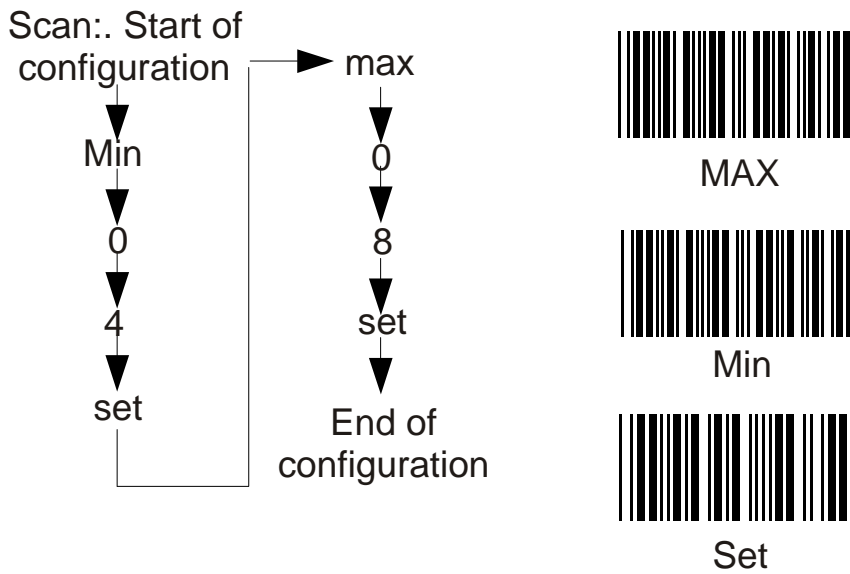


Disable

INTERLEAVED 2 OF 5 PARAMENTERS SETTING

Examples: Felting length 4 to 8 digits

LENTGTH

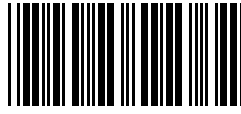


End of Configuration



Start of Configuration

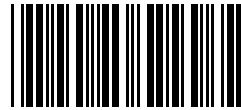
CHECK DIGIT



NO



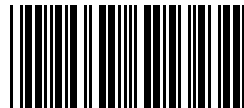
Calculate and Transmit



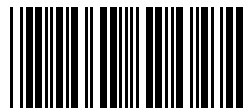
Calculate but not Transmit

CHINESE POST CODE PARAMETERS SETTING

LENGTH



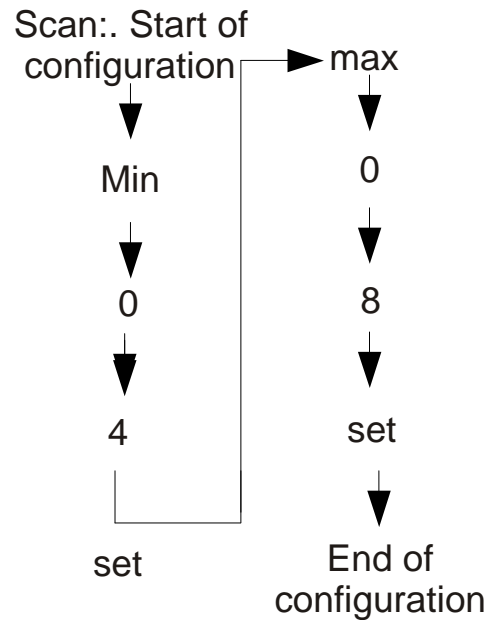
MAX



MIN

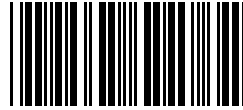


Set

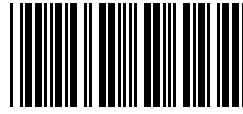


End of Configuration

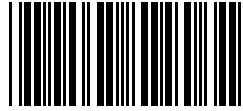
CHECK DIGIT



NO



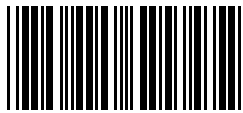
Calculate and Transmit



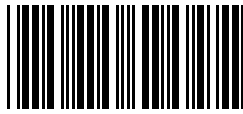
Calculate but not Transmit

UPC/EAN/JAN PARAMETERS SETTING

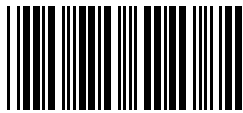
FORMAT



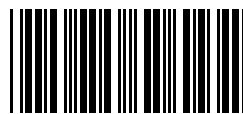
All



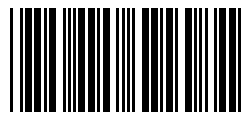
EAN-8 or EAN-13



UPC-A and EAN-13



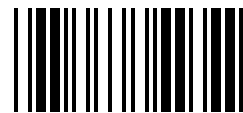
UPC-A and UPC-E



UPC-A



UPC-E



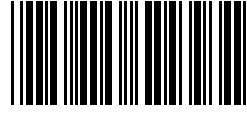
End of Configuration



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

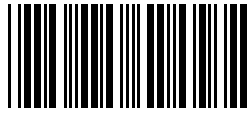


EAN-13

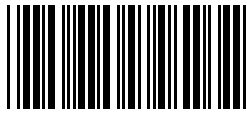


EAN-8

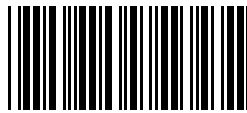
ADDENDUM



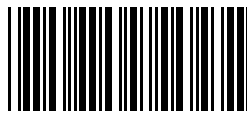
NO



5 Characters

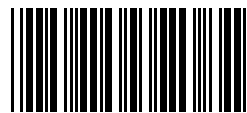


2 Characters



2 or 5 Characters

FORCE UPC-E TO UPC-A FORMAT

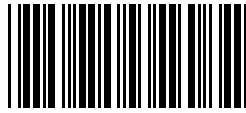


Yes



No

FORCE UPC-A TO EAN-13 FORMAT

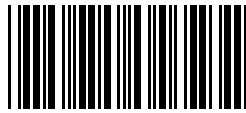


Yes

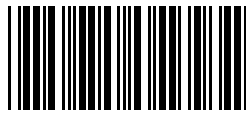


No

TRANSMIT UPC-A LEADING CHARACTER

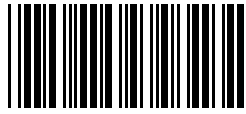


Yes

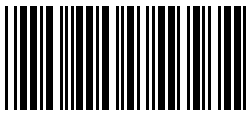


No

TRANSMIT UPC-A CHECK DIGIT

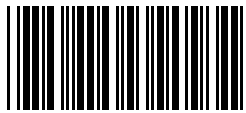


Yes



No

TRANSMIT UPC-E LEADING CHARACTER



Yes



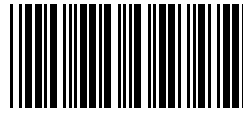
No



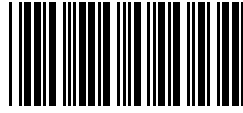
End of Configuration



TRANSMIT UPC-E CHECK DIGIT

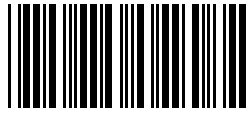


Yes

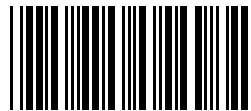


No

TARNSMIT EAN-13 CHECK DIGIT



Yes

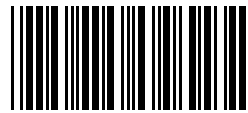


No

TRANSMIT EAN-8 CHECK DIGIT



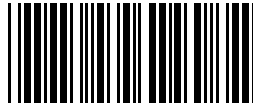
Yes



No

CODABAR/ MONARCH PARAMETERS SETTING

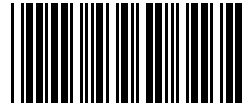
START/ STOP CHARACTER TRANSMISSION



No



A, B, C, D

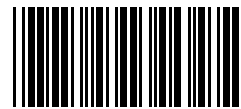


DC1~DC4

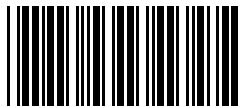


a/ t, b/ n, c/ *, d/ e

CONCATENATION



Enable



Disable

CODE 128 PARAMETERS SETTING

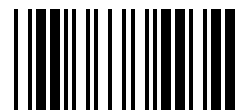
FNC 2 CONCATENATION



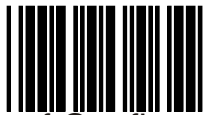
Enable



Disable



End of Configuration



Start of Configuration

CODE 128 PARAMETERS SETTING (Cont'd)

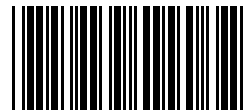
CHECK DIGIT



No



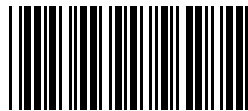
Calculate but not Transmit



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

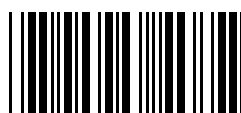
Examples: Felting length 4 to 8 characters



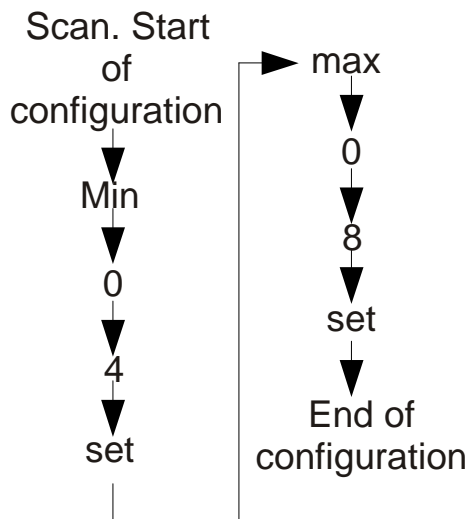
MAX



MIN

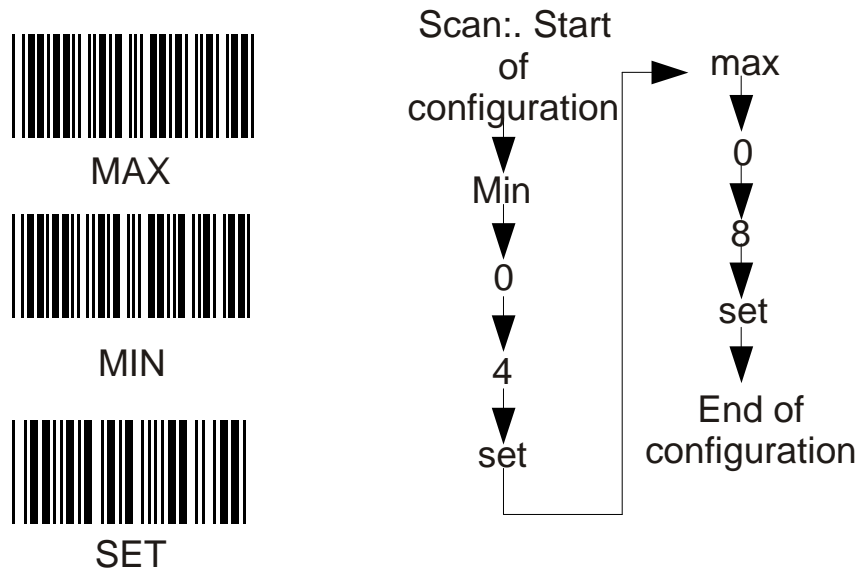


Set

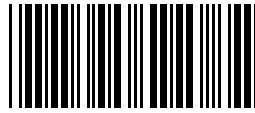


MSI/PLESSY PARAMETERS SETTING

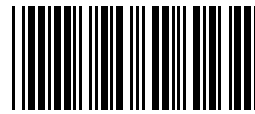
Examples: Felting length 4 to 8 characters



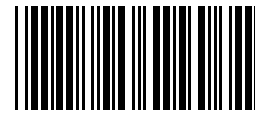
Double Check digit



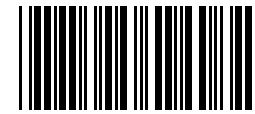
Calculate but not Transmitted



No

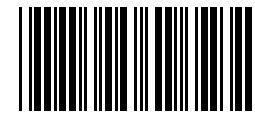


Calculate but only first one Transmitted



Calculated and both Transmitted

Single Check digit



Calculated but not Transmitted



Calculated and transmitted



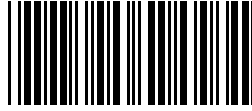
End of Configuration



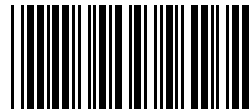
Start of Configuration

MSI/PLESSY PARAMETERS SETTING (Cont'd)

PLESSY CODE SETTING

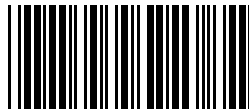


Calculated and transmitted

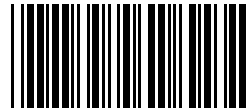


Calculate but not transmitted

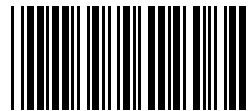
CHECK DIGIT



No



Calculate and Transmit



Calculate but not Transmit

ITALIAN PHARMACY PARAMETERS SETTING

TRANSMIT "A" CHARACTER



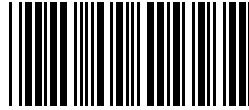
Yes



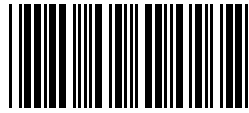
No

BARCODE LENGTH SETTING

CODE 39 LENGTH SETTING

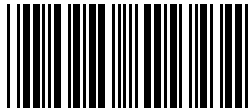


MAX

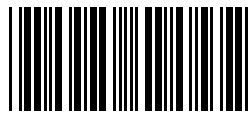


MIN

CODE 93 LENGTH SETTING

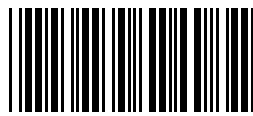


MAX



MIN

CODE 128 LENGTH SETTING



MAX

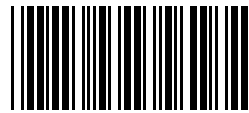


MIN

CODABAR LENGTH SETTING



MAX



MIN



SET



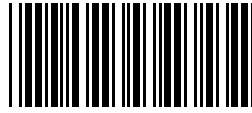
End of Configuration



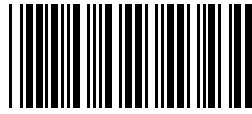
Start of Configuration

ISBN/ ISSN CONVERSION

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



ACTIVE ISBN/ ISSN

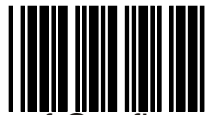


INACTIVE ISBN/ ISSN



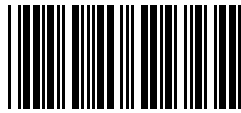
End of Configuration

DATA EDITING



HEADER AND TRAILER

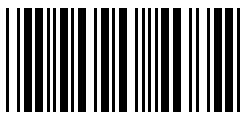
This option allows you to append a header and/or a trailer to every message transmitted via the serial ports or the keyboard port. There is no restriction in selecting header or trailer characters as far as the sum of the lengths of header and trailer is not greater than 10 digits.



Header



Trailer



Set

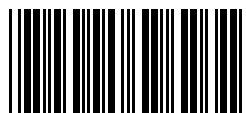
1. Select either header or trailer you are going to program by scanning the corresponding label
2. Scan the character(s) you want from the enclosed ASCII table to set as header or trailer (be sure to enable full ASCII code 39 option before you start).
3. Read the "Set" label to set your choice into memory.

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



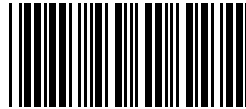
Disable

BARCODE IDENTIFIER CODE SETTING

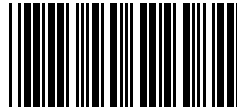
Each of the series type scanners can set max.2 digits as barcode identifier code according to different barcode.

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



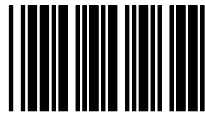
Chinese post code



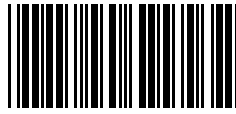
ITF 2 OF 5



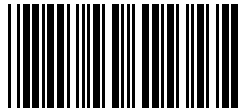
End of Configuration



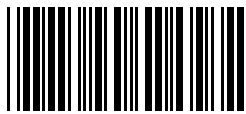
BARCODE IDENTIFIER CODE SETTING (Cont'd)



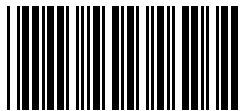
Coda bar



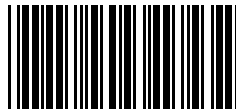
Code 39



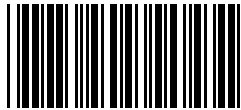
Code 128



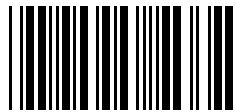
Code 93



MSI



MATRIX 25

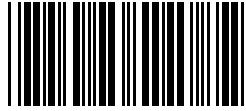


Set

Truncate Header/Trailer Character

(Version az1.24, dz1.05, ac1.01, dz1.05,pl1.39 Or higher is required)

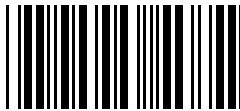
You can truncate a number header or trailer for a symbology. When you do, the specific character you select is deleted from the symbology you want.



Truncate header character



Truncate leader character



set

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"

4. Scan" set" barcode

5. end of configuration



End of Configuration

APPENDIXES

APPENDIX A'

CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEUR HEXA.
NUL	%U	00
SOH	\$A	01
STX	\$B	02
ETX	\$C	03
EOT	\$D	04
ENQ	\$E	05
ACK	\$F	06
BEL	\$G	07
BS	\$H	08
HT	\$I	09
LF	\$J	0A
VT	\$K	0B
FF	\$L	0C
CR	\$M	0D
SO	\$N	0E
SI	\$O	0F
DLE	\$P	10
DC1	\$Q	11
DC2	\$R	12
DC3	\$S	13
DC4	\$T	14
NAK	\$U	15
SYN	\$V	16
ETB	\$W	17
CAN	\$X	18
EM	\$Y	19
SUB	\$Z	1A
ESC	%A	1B
FS	%B	1C
GS	%C	1D
RS	%D	1E
US	%E	1F
SP	SP	20
!	/A	21
"	/B	22
#	/C	23
\$	/D	24

ASCII	CODE 39	VALEUR HEXA.
%	/E	25
&	/F	26
'	/G	27
(/H	28
)	/I	29
*	/J	2A
+	/K	2B
,	/L	2C
-	-	2D
.	.	2E
/	/	2F
0	0	30
1	1	31
2	2	32
3	3	33
4	4	34
5	5	35
6	6	36
7	7	37
8	8	38
9	9	39
:	/Z	3A
;	%F	3B
<	%G	3C
=	%H	3D
>	%I	3E
?	%J	3F
@	%V	40
A	A	41
B	B	42
C	C	43
D	D	44
E	E	45
F	F	46
G	G	47
H	H	48
I	I	49

APPENDIX A'

CODE 39 FULL ASCII CODE TABLE

ASCII	CODE 39	VALEUR HEXA.
J	J	4A
K	K	4B
L	L	4C
M	M	4D
N	N	4E
O	O	4F
P	P	50
Q	Q	51
R	R	52
S	S	53
T	T	54
U	U	55
V	V	56
W	W	57
X	X	58
Y	Y	59
Z	Z	5A
[%K	5B
\	%L	5C
]	%M	5D
^	%N	5E
-	%O	5F
`	%W	60
a	+A	61
b	+B	62
c	+C	63
d	+D	64

ASCII	CODE 39	VALEUR HEXA.
e	+E	65
f	+F	66
g	+G	67
h	+H	68
i	+I	69
j	+J	6A
k	+K	6B
l	+L	6C
m	+M	6D
n	+N	6E
o	+O	6F
p	+P	70
q	+Q	71
r	+R	72
s	+S	73
t	+T	74
u	+U	75
v	+V	76
w	+W	77
x	+X	78
y	+Y	79
z	+Z	7A
{	%P	7B
	%Q	7C
}	%R	7D
~	%S	7E
DEL	%T	7F

APPENDIX A'**FUNCTION KEY EMULATION**

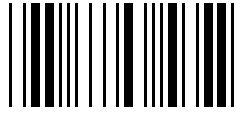
FUNCTION KEY	CODE 39	VALEUR HEXA.	FUNCTION KEY	CODE 39	VALEUR HEXA.
Ins	\$A	01	F1	\$Q	11
Del	\$B	02	F2	\$R	12
Home	\$C	03	F3	\$S	13
End	\$D	04	F4	\$T	14
Up	\$E	05	F5	\$U	15
Down	\$F	06	F6	\$V	16
Left	\$G	07	F7	\$W	17
Backspace	\$H	08	F8	\$X	18
TAB	\$I	09	F9	\$Y	19
Enter(num)	\$J	0A	F10	\$Z	1A
Right	\$K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



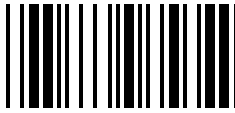
Start of Configuration



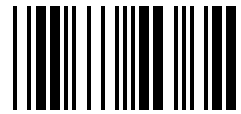
NUL



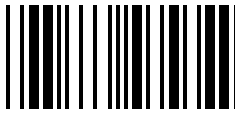
ENQ
(Up)



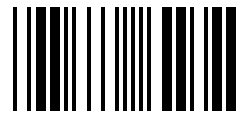
SOH
(Ins)



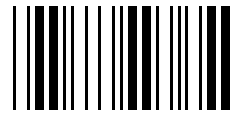
ACK
(Down)



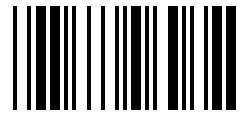
STX
(Del)



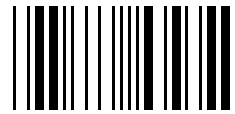
BEL
(left)



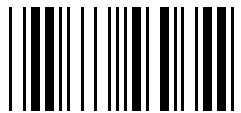
ETX
(Home)



BS
(Backspace)



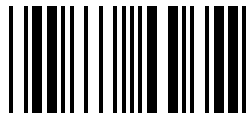
EOT
(End)



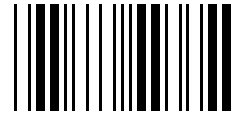
HT
(TAB)

APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE



LF
(Enter)(num)



DLE
5 (num)



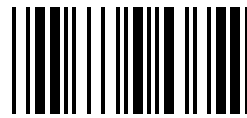
VT
(Right)



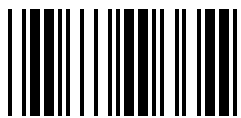
DC1
(F1)



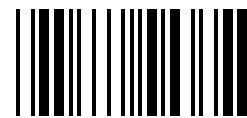
FF
(PgUp)



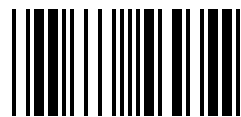
DC2
(F2)



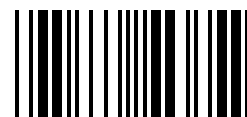
CR
(Enter)



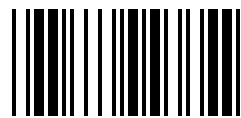
DC3
(F3)



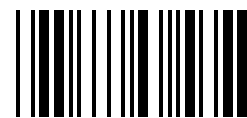
SO
(PgDn)



DC4
(F4)



SI
shift(L)



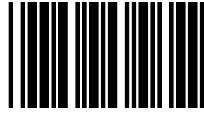
NAK
(F5)



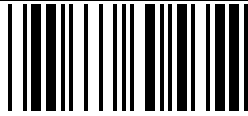
End of Configuration

APPENDIX B

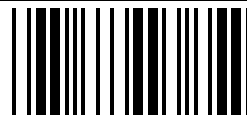
CODE 39 FULL ASCII BARCODE TABLE



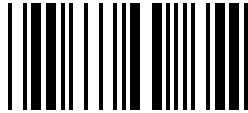
Start of Configuration



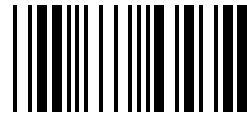
SYN
(F6)



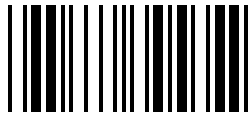
GS
(ESC)



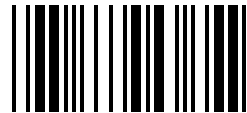
ETB
(F7)



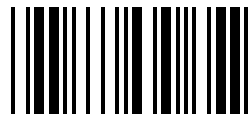
RS
Ctl (L)



CAN
(F8)



US
Alt (L)



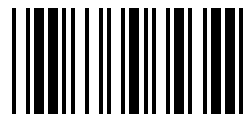
EM
(F9)



SP



SUB
(F10)



!



ESC
(F11)



“



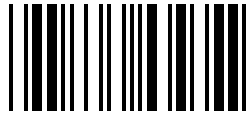
FS
(F12)



#

APPENDIX B

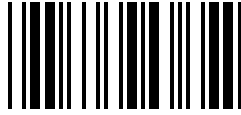
CODE 39 FULL ASCII BARCODE TABLE



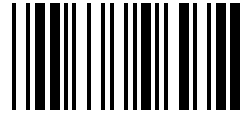
\$



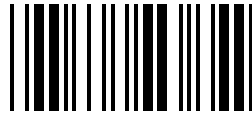
+



%



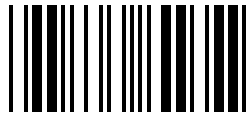
,



&



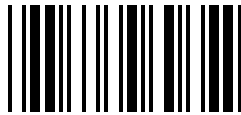
-



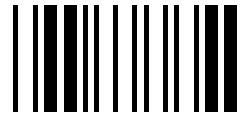
|



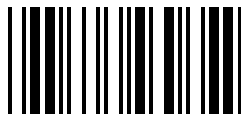
.



(



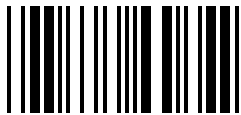
/



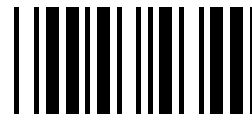
)



0



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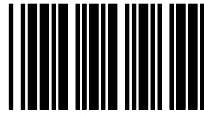
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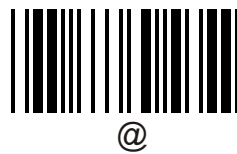
End of Configuration

APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE

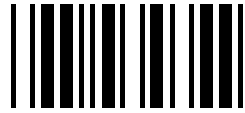


Start of Configuration



APPENDIX B

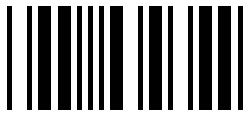
CODE 39 FULL ASCII BARCODE TABLE



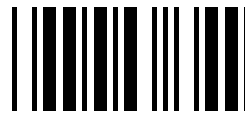
B



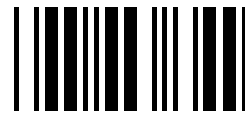
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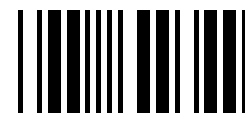
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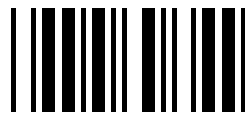
E



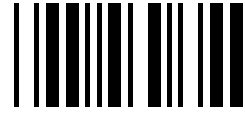
F



G



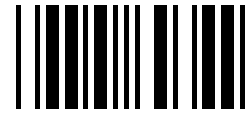
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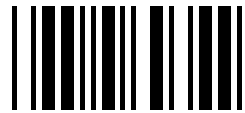
I



J



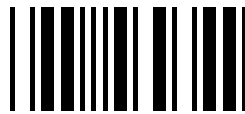
K



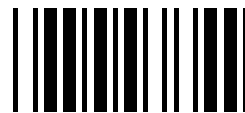
L



M



N



O



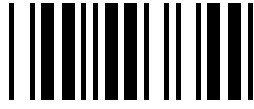
End of Configuration

APPENDIX B

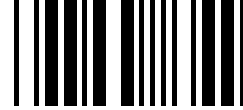
CODE 39 FULL ASCII BARCODE TABLE



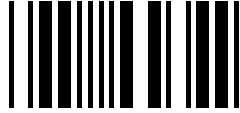
Start of Configuration



P



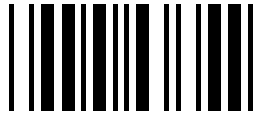
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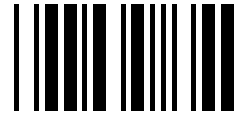
Q



X



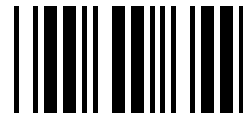
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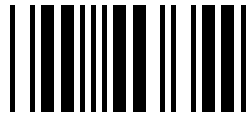
Y



S



Z



T



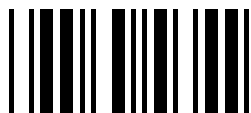
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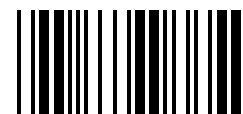
U



\



V



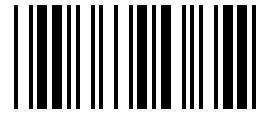
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APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE



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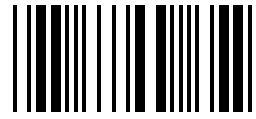
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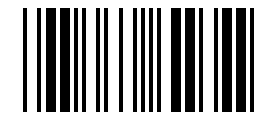
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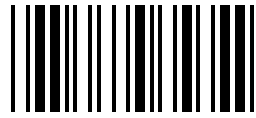
f



\



g



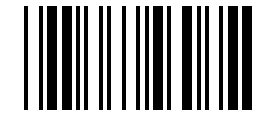
a



h



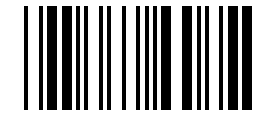
b



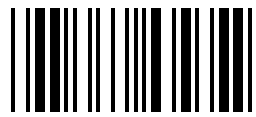
i



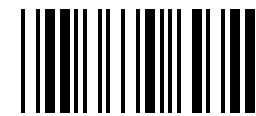
c



j



d



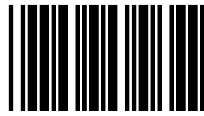
k



End of Configuration

APPENDIX B

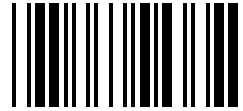
CODE 39 FULL ASCII BARCODE TABLE



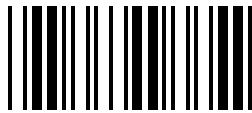
Start of Configuration



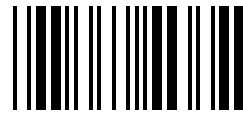
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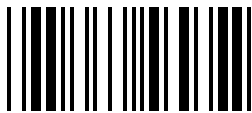
s



m



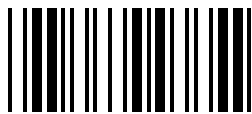
t



n



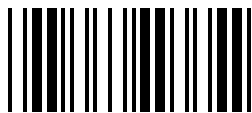
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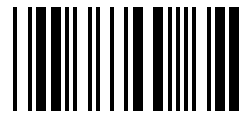
o



v



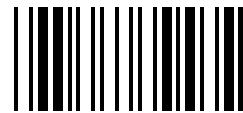
p



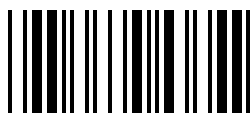
w



q



x



r



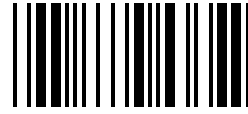
y

APPENDIX B

CODE 39 FULL ASCII BARCODE TABLE



Z



}



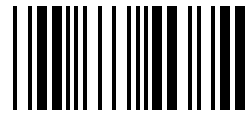
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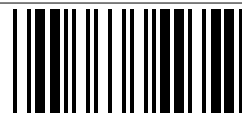
~



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DEL



End of Configuration

APPENDIX D

BARCODE SAMPLES

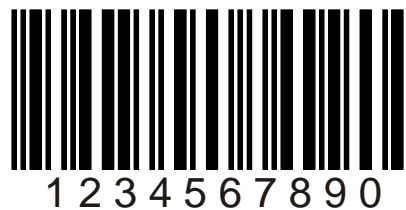
Code39



Code 128



Interleaved 2 of 2



Coda bar(NW-7)



UPC A



EAN-13



APPENDIX D

QUICK SETTING

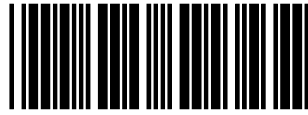
1. Quick Setting for Keyboard Wedge Mode



Program



Reset



PC/AT



End

2. Quick Setting for RS 232 Mode



Program



Reset

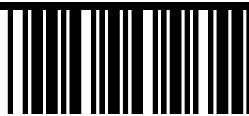


RS-232C



End

3. Quick Setting for German Language Keyboard



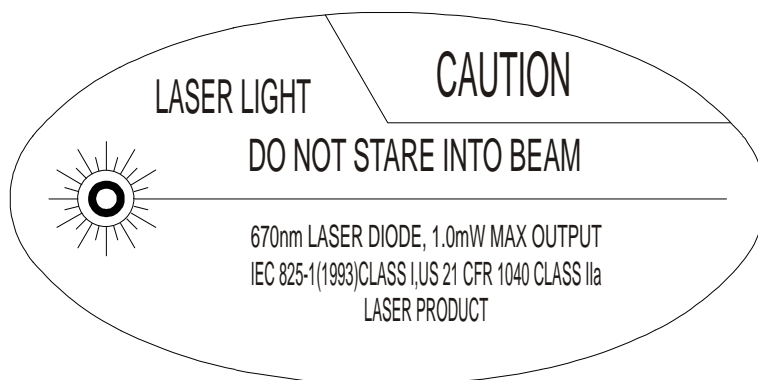
Program



German Keyboard



End



ZBX00030301
P/N : MUL-53221-06