

Omnidirectional Barcode Scanner User's Manual

V3.0.0

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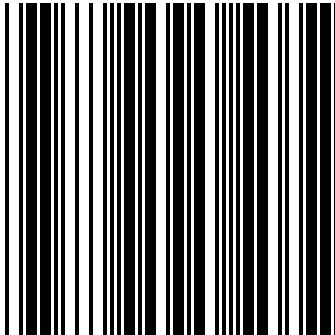
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Enter/Exit Programming Mode

1. Introduction

1.1 Statement

This is an advanced programming guide for omnidirectional laser barcode scanner. This guide contains serial of programming barcode Labels, and by scanning these codes, it can make configurations of the scanner. 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, other than specified in this guide for any special function or specification, please contact your dealer for detail.

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 computer, power will be drawn from the keyboard port, therefore no external power adapter is required. If keyboard emulation type scanner is used with any other non IBM PC compatible computer, an external power may be required.

Under the programming mode, the scanner will acknowledge a good and valid reading with 3 short beep. It will give long beeps for either an invalid or bad reading.

1.2 Features

The device is a multi-line laser scanning platform, can scan a variety of standard barcode, with high speed, long depth of field and high precision scanning ability. This device is particularly optimized according to commodity barcode, at the meantime can read some level of damaged codes.

Its main working principle is using laser to scan barcodes. The barcode reflected light is picked up by the device, after photoelectric conversion, analog circuit shaping processing, analog to digital signals, and ultimately use the product inside decoder to decode as a character signal. The character signal is transmitted to the upper computer via the cable. This scanner supports a variety of function settings, and matches a variety of software application.

1.3 Getting Started

Installing keyboard wedge scanner

1. Make sure that the scanner has the correct cable for your system.
2. Turn off the power of the system. (or PC)
3. Unplug the keyboard from the system.
4. Connect Y cable to the system and keyboard.
5. Turn on the power of the system.
6. If the indicator LED lights up, buzzer sound, the scanner is ready for reading.

Installing the RS-232 interface scanner

1. Make sure there is power supply for the scanner.
2. Connect the cable to the RS-232C port of the device.
3. Make sure the host device have communication program (Xcom, program, yperterminal) before transmitting data.

USB cable installation

- 1.Connect the cable with barcode scanner.
- 2.Plug the cable USB terminal into a computer or other device.
- 3.The device acquires the scanner USB information to complete the initialization.
- 4.If the connection is correct, the barcode scanner buzzer and LED will be prompted.

1.4 Setup Procedure

The general procedure to program is as follows.

1. Scan the command barcode “ Enter programming Mode ”.
2. Scan one or more parameters.
3. Scan the command barcode “ Exit programming Mode ” to finish procedure.

Example1. To set the RS232 parameters to 9600,8,0,1.

1. Scan the barcode “ Enter programming Mode ”.
2. Scan “ 9600 ” “ 8 bit ”, “ None ”, “ 1 bit ”.
3. Scan the barcode “ Exit programming Mode ”.

Example2. To set additional digit for UPC/EAN.

1. Scan the barcode “ Enter programming Mode ”.
2. Scan “ Addenda 5 digit Enable ”.
3. Scan the barcode “ Exit programming Mode ”.

Remak:

1. “Reserved” is reserved for firmware.
2. This manual is subjected to change without notice.

1.5 Default function settings table

List	Project Name	Description	Default
1	Scan mode		Manual scan
2	Interface setting		*Automatic
3	KB/USB	Keyboard language	US
4		Function keyboard	ON
5		Enable digital keypad	Disable
6		Cap lock Ignore	Not ignore
7		KB clock	10K(slow)
8		RS-232	Baud rate
9	Data bits		8
10	Parity		None
11	Stop bits		1
12	Communication handshake		None
13	Allow COM settings		No
14	COM trigger		Disable
15	COM beep		Disable
16	Data editing		Terminator
17		Caps lock	Original data
18		Data inversion	Disable
19		CODE ID	OFF
20		Data interception	All output
21		Overall Prefix and Suffix	None
22		Overall decoding length limitation	None
23		Character delay	None
24		String delay	None
25	Beeper settings	Successful decoding sound tips	Middle tone, Long duration
26		Starting sound tips	ON
27	Other functions	Repeated	None
28		Inverse barcode decoding	OFF
29		Automatic induction	ON

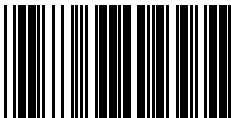
Remark: for USB-HID cable, KB cable, and RS232 cable, they can be detected automatically. If using virtual serial port, must configure to "RS232 / USB virtual serial port" (page 3).

1.6 Default barcode settings table

TYPES	Read	Verify check	Transmit checking digit	Minimum length	Maximum length	ID
Industrial 2 of 5	N	N	N	4	64	I
Standard 2 of 5	N	N	N	4	64	S
MatriX 2 of 5	N	N	N	6	64	M
Chinese Postal 2 of 5	N	N	N	6	64	H
Interleave 2 of 5	YES	N	N	6	64	I
Code 11	N	YES	N	4	64	C
Codabar	YES	N	N	4	64	N
Code MSI	N	YES	N	4	64	S
Code UK	N	YES	N	1	64	U
Code39	YES	N	N	1	64	M
Code32	N	N	N	8	8	M
Code93	YES	YES	N	1	64	L
EAN-13	YES	YES	N	13	13	F
UPC-A	YES	YES	YES	12	12	A
EAN-8	YES	YES	YES	8	8	N
UPC-E	YES	YES	YES	7	7	E
Code128	YES	YES	N	1	100	K
RSS Truncated	N	N	N	14	14	R
RSS Limited	N	N	N	14	14	R
RSS Expanded	N	N	N	1	74	R
The gray area represents a fixed value						

2. Basic settings

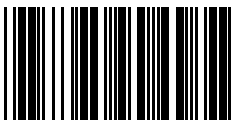
2.1 Default settings



Reset (Return to factory default)

"*"denoted default setting

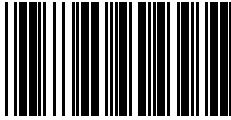
2.2 Interface Selection



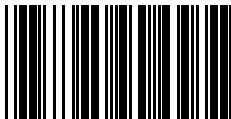
*ATUO



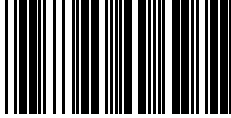
KB/USB+HID



RS233/USB Virtual port
(driver is needed for virtual seial port)



Reserved 1

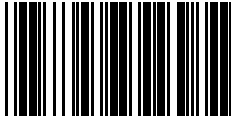


Reserved 2

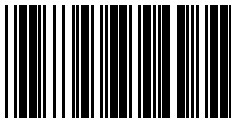
2.3 Keyboard Settings

2.3.1 Function code selection

Function keyboard



*Function keyboard ON

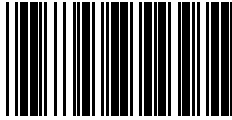


Function keyboard OFF

Number Lock

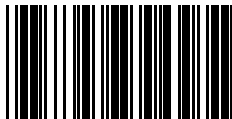


Number lock ON



* Number lock OFF

System uppercase ignore state

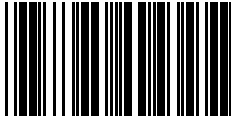


Caps lock ignore ON

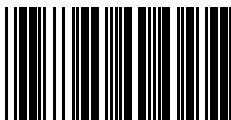


*Caps lock ignore OFF

2.3.2 Language



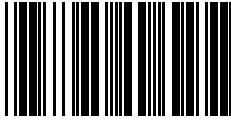
*US



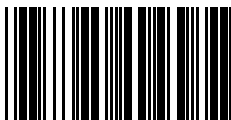
French



German



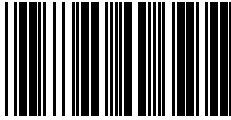
English



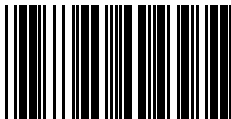
Turkey-Q



Danish



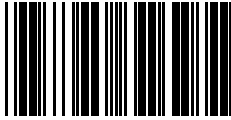
Japanese



Spanish(International)

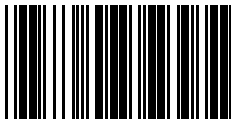


Italian



Universal language

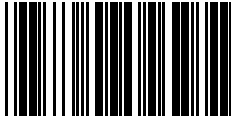
2.3.3 KB clock



*10 K



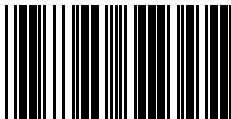
20 K



30 K

2.4 RS-232 Interface

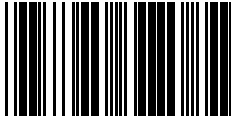
2.4.1 Baud Rate



1200



2400



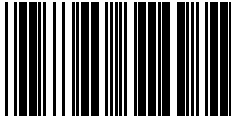
4800



*9600



14400



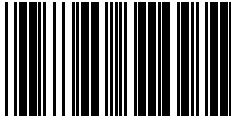
19200



28800



38400

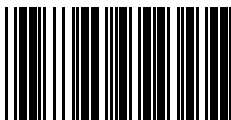


57600

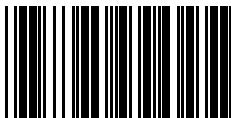


115200

2.4.2 Data bits



7 bit



*8 bit

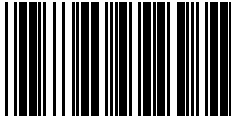
2.4.3 Parity



*None



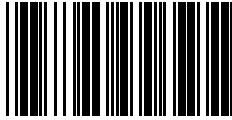
Odd



Even

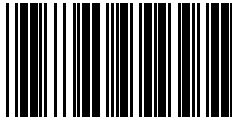


Reserved 1

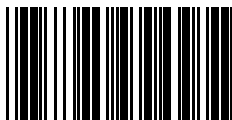


Reserved 2

2.4.4 Stop bits



*1 bit



2 bit

2.4.5 NAK/ACK Hand shaking



NAK/ACK ON

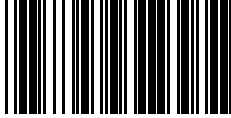


*NAK/ACK OFF

XON/XOFF Hand shaking

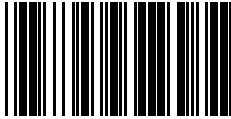


XON/XOFF ON

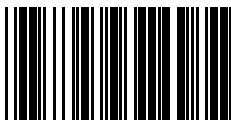


*XON/XOFF OFF

Hardware flow control CTS/RTS

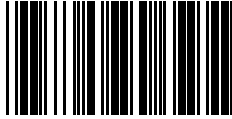


CTS/RTS ON



*CTS/RTS OFF

ACK/NAK Response Delay



Repeat scan delay(1-255)

Example: If scanner needs 150ms of delay

Delay time $T=N*10$

$150\text{ms}=N*10$

$N=15$

So scan: "Enter Programming Mode" "Repeat scan delay" "0" "1" "5" "Exit Programming Mode".

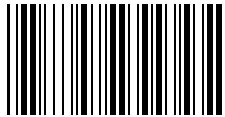
XON: 0X11

XOFF: 0X13

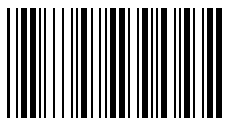
ACK: 0X06

NAK: 0X15

2.4.6 COM command

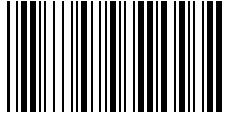


* ON

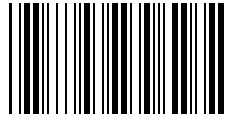


OFF

2.4.7 COM trigger



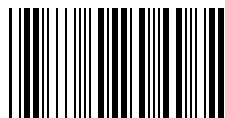
*COM trigger ON



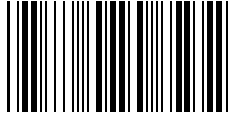
COM trigger OFF

2.5 Reading performance

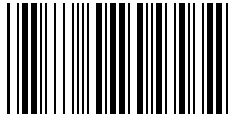
Note: This function is required to restart



Accurate reading



* Normal reading

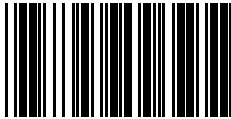


High speed reading

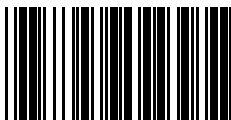
3. Function settings

3.1 Sound settings

3.1.1 Start up beeper

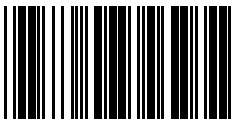


*ON

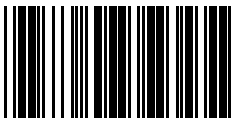


OFF

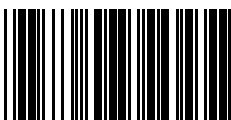
3.1.2 Beeper length setting



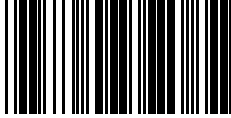
Short



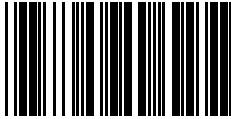
*Medium



Long



Set to custom sound duration



Customize sound duration settings
(0.01~2.55s)

For example: Setting the custom sound duration of 200ms. $T=N*10$ $T=200=20*10$ So $N=20$

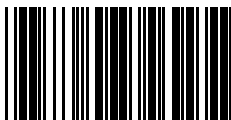
Scan Step: “Enter programming mode”,

“Set to custom sound duration”,

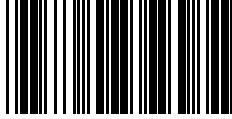
“Customize sound duration settings”,

“0”, “2”, “0”, “Exit programming mode”.

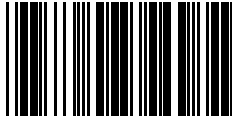
3.1.3 Tone



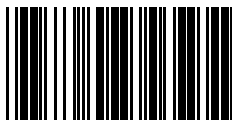
Low frequency



*Medium frequency



High frequency



Set a custom frequency



Customize frequency settings (0.01~2.55Khz)

For example: Setting the custom length of 1200HZ.

$F=1200=N*10$, $N=120$

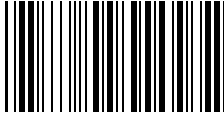
Scan Step: “Enter programming mode”,

“Set to custom frequency”,

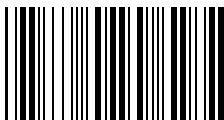
“Customize frequency settings”, “1”, “2”, “0”,

“Exit programming mode”.

3.1.4 Volume



Low

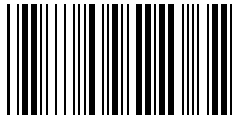


Medium



* Loud

3.1.5 Transmission ring order

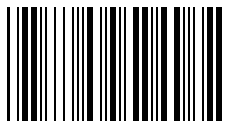


* Ringing first

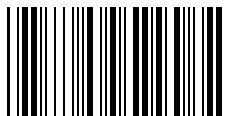


Transmission first

3.1.6 BEL ringing



ON

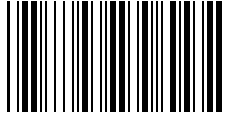


*OFF

3.1.7 Setting beeper



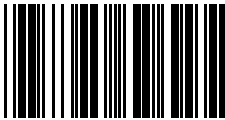
*ON



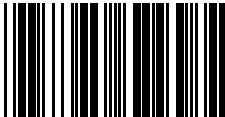
OFF

3.2 Data editing

3.2.1 Prefixes and suffixes



Overall prefix



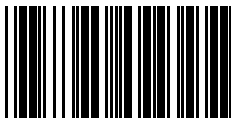
Overall suffix

For example: set the data global prefix add "SN".
Scan Step: "Enter programming mode",
"Global prefix", "S", "N", "Global prefix",
"Exit programming mode".

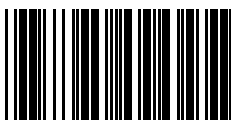
3.2.2 Terminator character



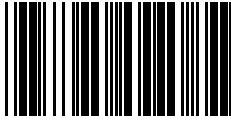
None



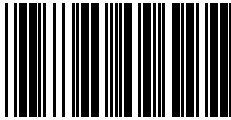
Tab(0X0D+0X0A)



*Enter(0X0D)

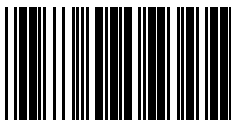


Space(0X20)

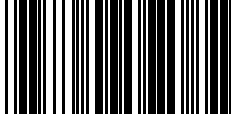


Return(0X0A)

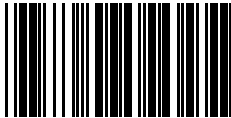
3.2.3 Data interception



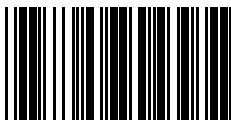
* Not intercept



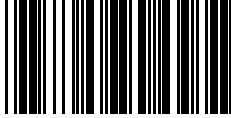
Intercept from left to right



Intercept from right to left



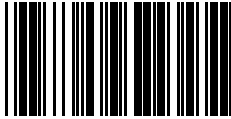
Data interception
starting digit



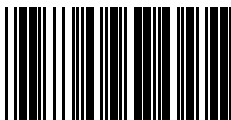
Data interception ending digit

Example: barcode “0123456”, need to intercept
“234”. Scan “Enter Programming Mode”
“Data interception starting digit” “0” “0” “3”
“data intercept ending digit” “0” “0” “5”
“Intercept from left to right”
“Exit Programming Mode”.

3.2.4 Set the barcode length as prefix(2 digits)

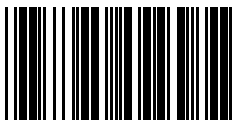


ON

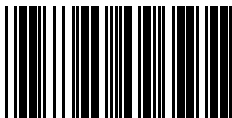


*OFF

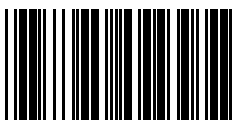
3.2.5 Caps lock



*Original data



Upper case compulsive

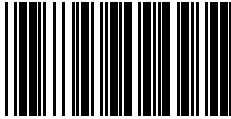


Lower case compulsive



Upper and Lower case
convert compulsive

3.2.6 Data inversion

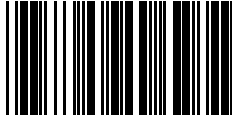


ON

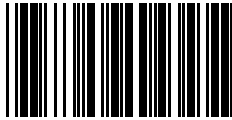


*OFF

3.2.7 Reading length setting for all codes



Minimum length for all codes

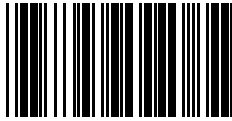


Maximum length for all codes

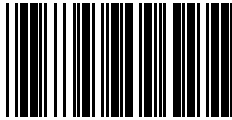
Reading length setting for all codes is used to limit the barcode length that can be read (is subjected to the data length).

For example: set the reading length as 5-10 digit.
Scan: "Enter Programming Mode" "Minimum length for all codes" "0" "0" "5" "Maximum length for all codes" "0" "1" "0" "Exit Programming Mode". After that, any barcodes shorter than 5 digits or longer than "10" digits can not be read successfully.

3.2.8 Code ID



ON



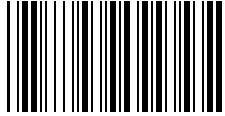
* OFF

Note:Barcode ID character reference appendix table

3.2.9 AIM Function

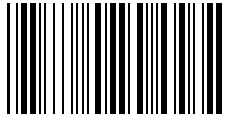


* OFF

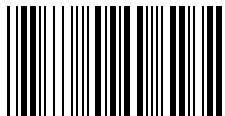


ON

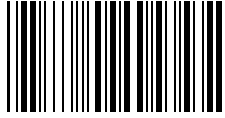
3.2.10 AUX Function



*AUX OFF



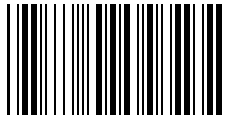
Embed data



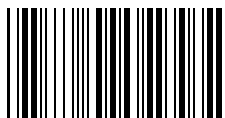
Transparent data

3.3 Sleep function

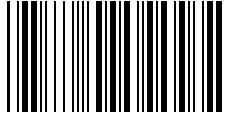
3.3.1 Laser sleep



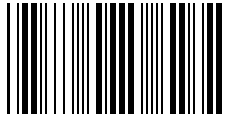
*Do not sleep



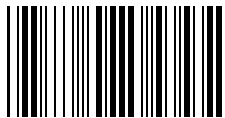
1 minute



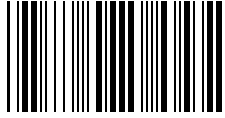
*10 minutes



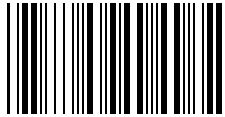
30 minutes



1 hour

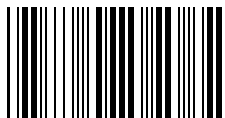


User settings (1-255s)

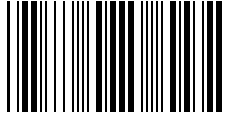


Set up

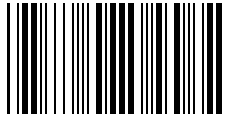
3.3.2 Motor sleep



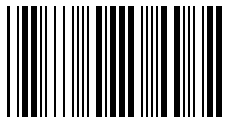
* Do not sleep



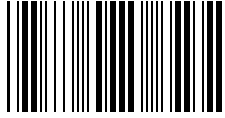
1 minutes



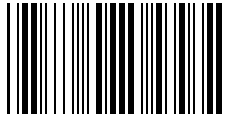
10 minutes



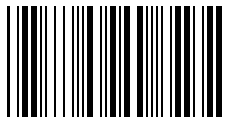
*30 minutes



1 hour



User settings (1-255s)

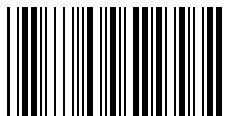


Set up

3.3.3 Sleep indicator tone



ON



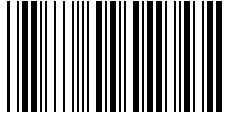
*OFF

3.4 Delay settings

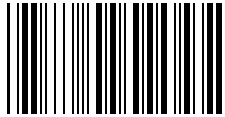
3.4.1 Same barcode scanning delay



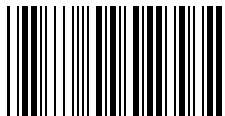
300 milliseconds



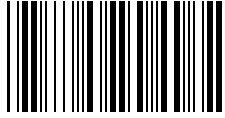
*600 milliseconds



900 milliseconds

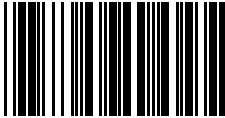


User settings (1-255s)



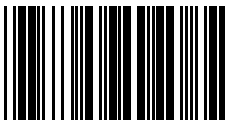
Setting

3.4.2 Inter-character delay



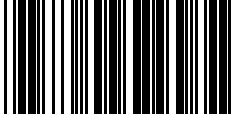
Inter-character delay ($T=N$)
(1~255ms)

3.4.3 Between strings delay

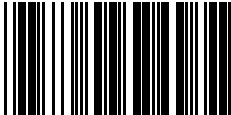


Between code delay ($T=10*N$)
(10~2550ms)

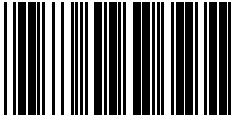
3.5 Data redundant check



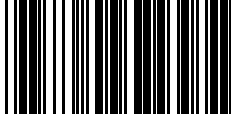
*None



2 Times

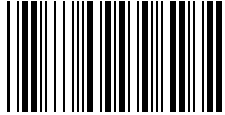


3 Times

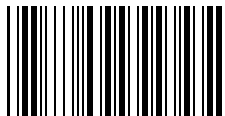


4 Times

3.6 Enable/Disable all code



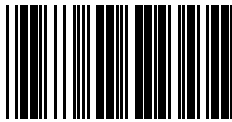
Enable all code



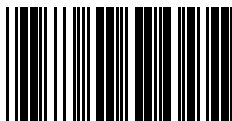
Disable all code

4. Barcode Settings

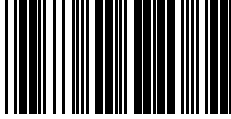
4.1 Industrial 2 of 5



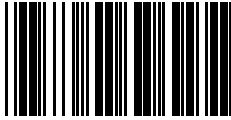
Industrial 2 of 5 enable



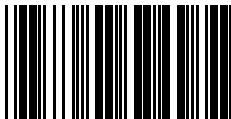
*Industrial 2 of 5 disable



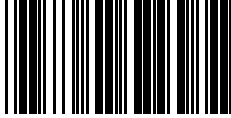
Verify check



* Not verify check

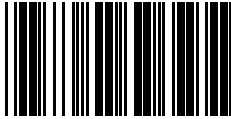


Verify check transmit



*Verify check not transmit

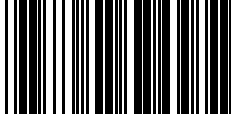
4.2 Industrial 2 of 5



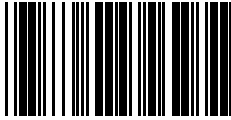
Standard 2 of 5 enable



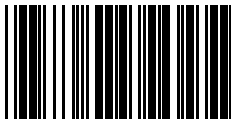
*Standard 2 of 5 disable



Verify check



* Not verify check

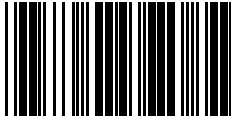


Verify check transmit



*Verify check not transmit

4.3 Chinese postal 2 of 5



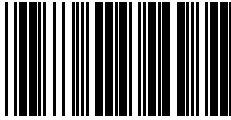
Chinese postal 2 of enable



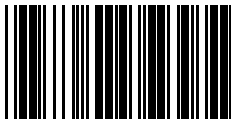
* Chinese postal 2 of disable



Verify check



* Not verify check

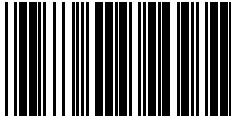


Verify check transmit

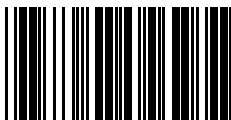


*Verify check not transmit

4.4 Interleaved 2 of 5



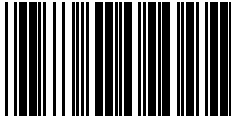
*Interleaved 2 of 5 enable



Interleaved 2 of 5 disable



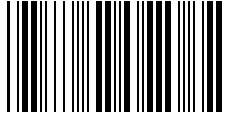
Verify check



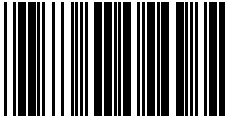
* Not verify check



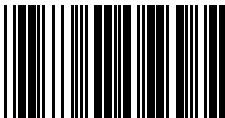
Verify check transmit



*Verify check not transmit

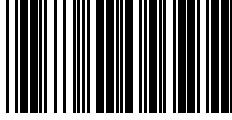


*Transmit the first "0"

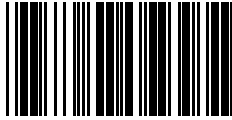


Not transmit the first "0"

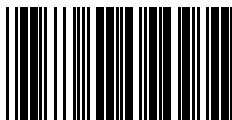
4.5 Matrix 2 of 5



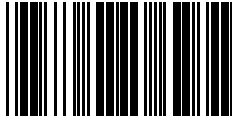
Matrix 2 of 5 enable



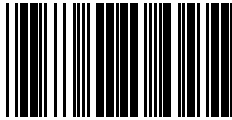
* Matrix 2 of 5 disable



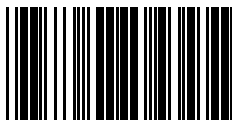
Verify check



* Not verify check

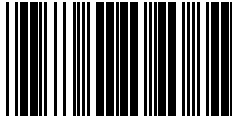


Verify check transmit

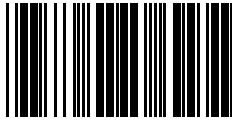


*Verify check not transmit

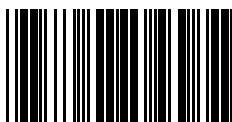
4.6 Codabar



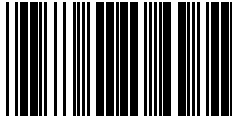
* Codabar enable



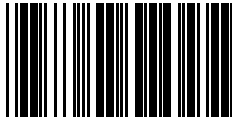
Codabar Disable



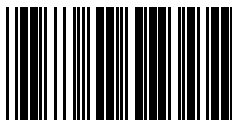
Verify check



* Not verify check



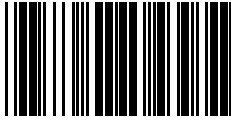
Verify check transmit



*Verify check not transmit



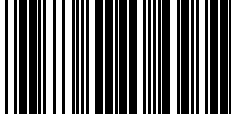
Transmit start & stop digit



*Not transmit start & stop digit

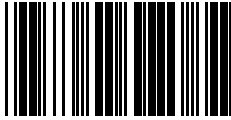


*Transmit start & stop
ABCD/ABCD



Transmit start & stop
ABCD/TN*E

4.7 MSI



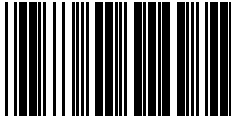
Code MSI enable



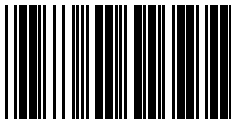
*Code MSI disable



Verify check



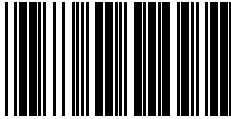
* Not verify check



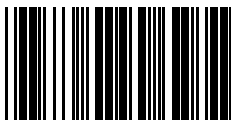
* Verify the second check digit



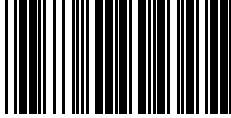
Not verify the second
check digit



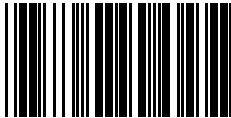
Verify the first check
digit MOD11



* Verify the first check
digit MOD10



Verify the second check
digit MOD11



* Verify the second check
digit MOD10

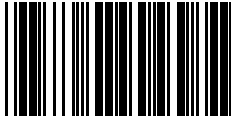


Verify check transmit

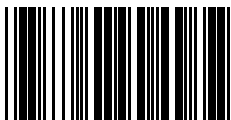


*Verify check not transmit

4.8 UK



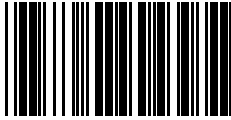
* Code UK enable



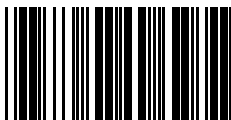
Code UK disable



* Verify check



Not verify check

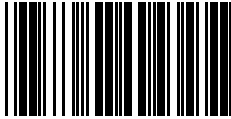


Verify check transmit

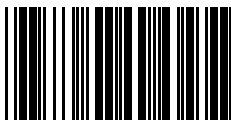


*Verify check not transmit

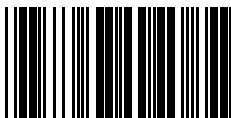
4.9 Code 11



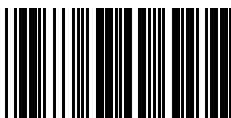
Code 11 enable



*Code 11 disable



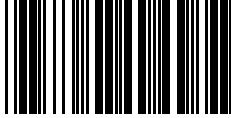
Verify check



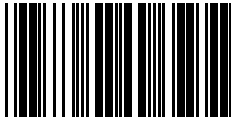
* Not verify check



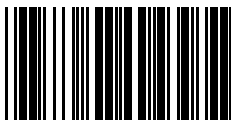
* Verify the second check digit



Not verify the second
check digit



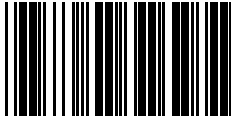
Verify the first check
digit MOD09



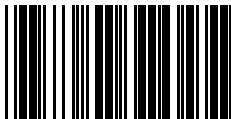
* Verify the first check
digit MOD10



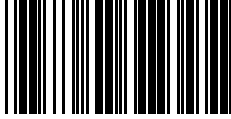
Verify the second check
digit MOD09



* Verify the second check
digit MOD10

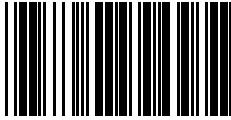


Verify check transmit

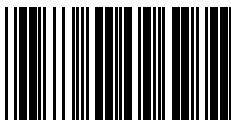


*Verify check not transmit

4.10 Code 93



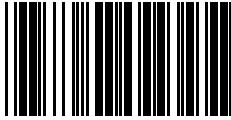
* Code 93 enable



Code 93 disable

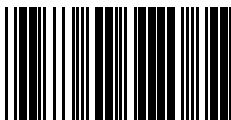


Verify check



* Not verify check

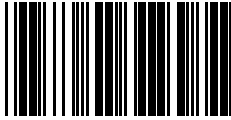
4.11 Code 39



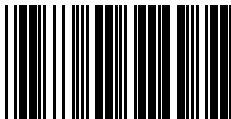
* Code 39 enable



Code 39 disable



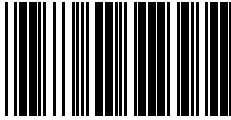
Verify check



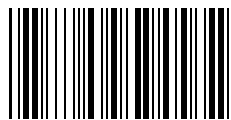
* Not verify check



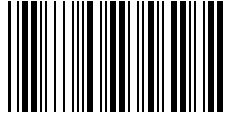
* Full ASCII 39



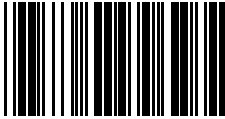
Standard 39



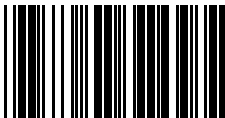
Tropic 39 enable



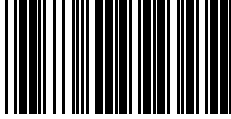
* Tropic 39 disable



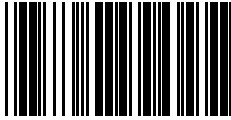
Verify check transmit



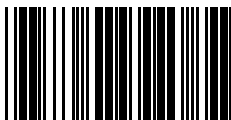
*Verify check not transmit



* Transmit start & stop



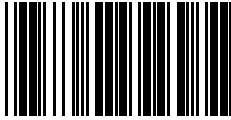
* Not transmit start & stop



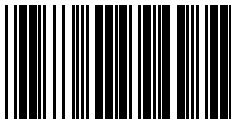
Code 32 enable



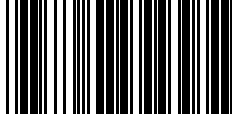
*Code 32 disable



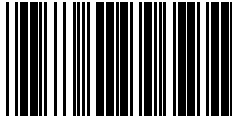
Transmit code 32 prefix A



* Not transmit code 32 prefix A

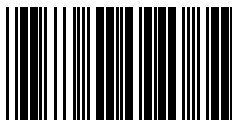


Transmit code 32
checking digit



* Not transmit code 32
checking digit

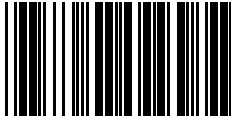
4.12 Supplements +2/+5



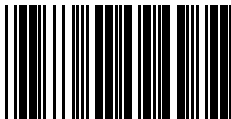
Addenda 2 digit enable



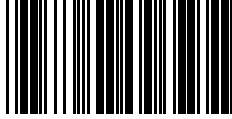
* Addenda 2 digit disable



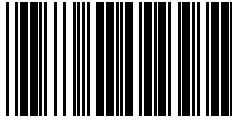
Addenda 5 digit enable



* Addenda 5 digit disable

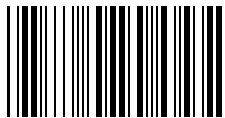


Space Separator enable

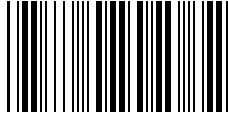


* Space Separator disable

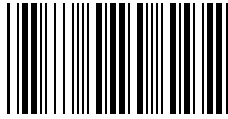
Supplements additional reading time



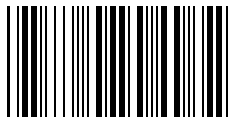
* None



100 milliseconds



200 milliseconds

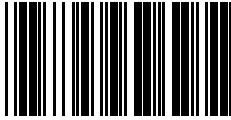


400 milliseconds

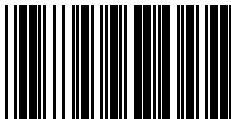
4.13 UPC-A



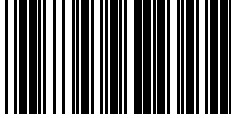
* UPC-A enable



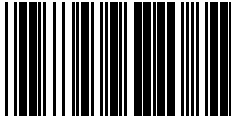
UPC-A disable



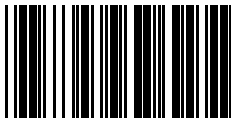
* Transmit leading digit



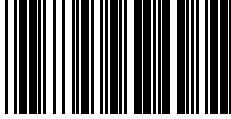
Not transmit leading digit



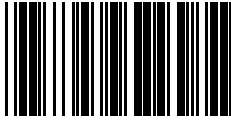
Convert to EAN-13



* Not convert to EAN-13



* Transmit checking digit

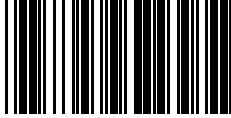


Not transmit checking digit

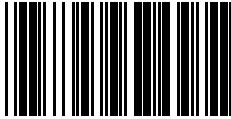
4.14 UPC-E



* UPC-E enable



UPC-E disable



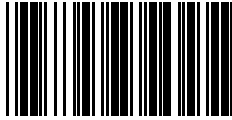
* Transmit leading digit "0"



* Not transmit leading digit "0"



Convert to UPC-A



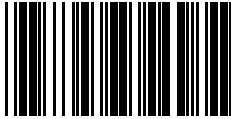
* Not convert to UPC-A



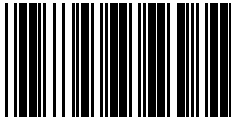
Convert to EAN-13



* Not convert to EAN-13



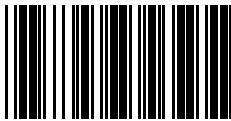
* Transmit checking digit



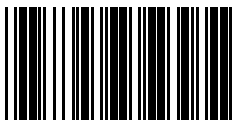
Not transmit checking digit

Remark: if “Covert to UPC-A” and “Convert to EAN-13” are enabled both, in actuality convert to EAN-13.

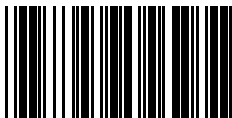
4.15 EAN13



* EAN-13 enable



EAN-13 disable



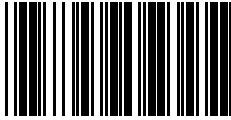
* Transmit checking digit



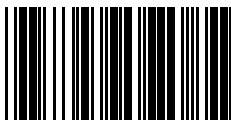
Not transmit leading digit



* Transmit second digit



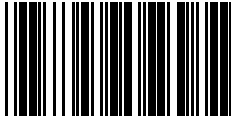
Not transmit second digit



ISBN enable



*ISBN disable



ISSN enable



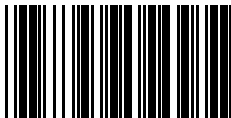
*ISSN disable



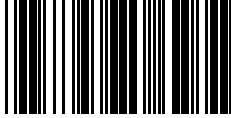
Addendum mandatory
for 378_379



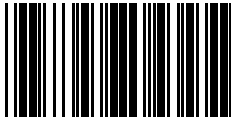
* Not addendum mandatory
for 378_379



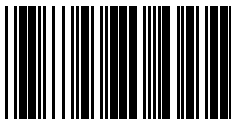
Addendum mandatory
for 978_977



* Not addendum mandatory
for 978_977

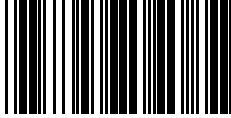


Addendum mandatory
for 434_439

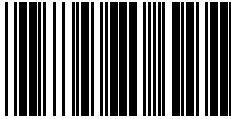


* Not addendum mandatory
for 434_439

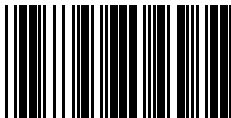
Note: To use the “978_977 forced additional” function,
need to enable the “4.12” additional code function first



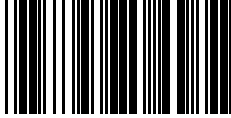
Addendum mandatory
for 419_414



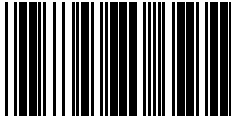
* Not addendum mandatory
for 419_414



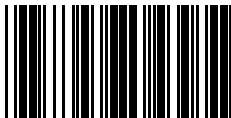
Addendum mandatory for 491



*Not addendum mandatory
for 491



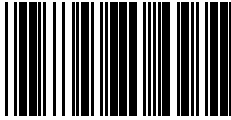
Addendum mandatory
for 978_192



* Not addendum mandatory
for 978_192



* Transmit checking digit

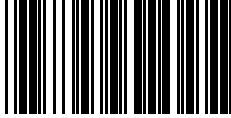


Not transmit checking digit

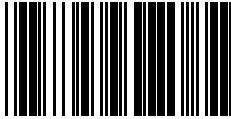
4.16 EAN8



* EAN-8 enable



EAN-8 disable



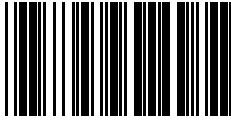
Transmit leading digit “0”



*Not transmit leading digit “0”



Convert to UPC-A



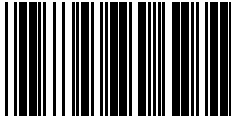
*Not convert to UPC-A



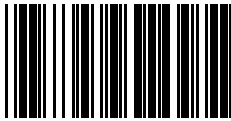
Convert to EAN-13



*Not convert to EAN-13



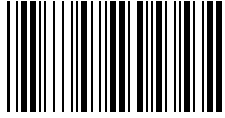
* Transmit checking digit



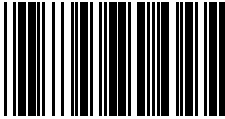
Not transmit checking digit

Remark: if “Covert to UPC-A” and “Convert t EAN-13” are enabled both, in actuality convert to EAN-13.

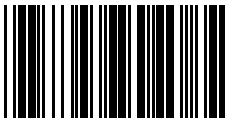
4.17 Code 128



* Code 128 enable



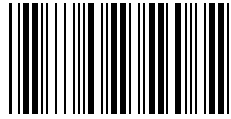
Code 128 disable



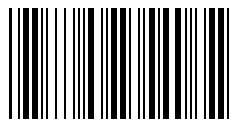
UCC 128 enable



*UCC 128 disable



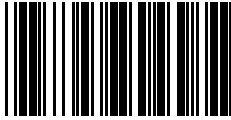
ISBT enable



*ISBT disable

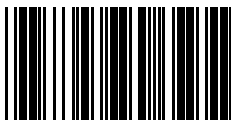


* Transmit checking digit



Not transmit checking digit

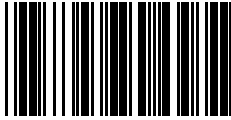
4.18 GS1



* GS1 enable



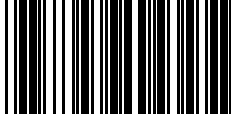
GS1 disable



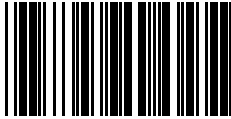
*RSS14 enable



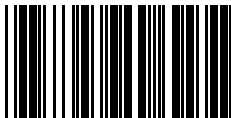
RSS14 disable



*AI_RSS 14 enable



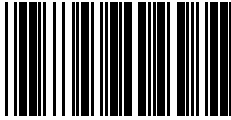
AI_RSS 14 disable



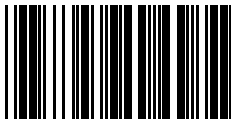
Transmit RSS 14 checking digit



Not transmit RSS 14
checking digit



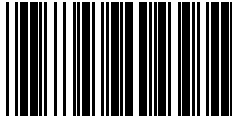
* RSS Limited enable



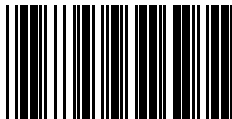
RSS Limited disable



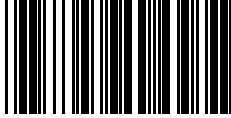
AI Limited disable



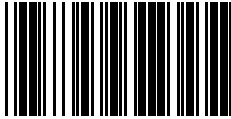
Transmit RSS Limited
checking digit



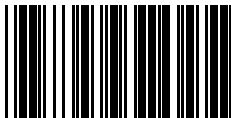
*Transmission Limite check



Not transmit RSS Limited
checking digit

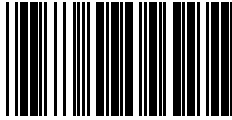


* RSS expanded enable

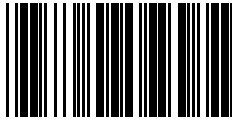


RSS expanded disable

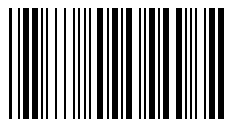
4.19 Black and white inverse code



Inverse code reading on
(Row type codes can not be read)

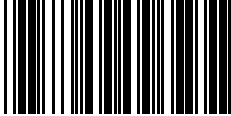


*Inverse code reading off

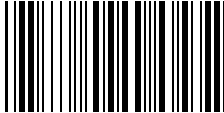


Reserved

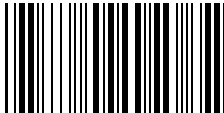
5. Version



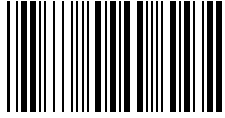
Version information



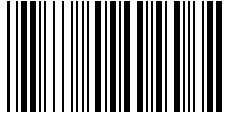
Reserved 1



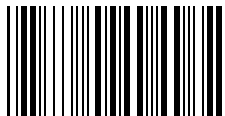
Reserved 2



Reserved 3



Reserved 4



Reserved 5

6. Appendix

6.1 ASCII table

ASCII	HEX	DEC	ASCII	HEX	DEC
NUL	00	0	SP	20	32
SOH	01	1	!	21	33
STX	02	2	"	22	34
ETX	03	3	#	23	35
EOT	04	4	\$	24	36
ENQ	05	5	%	25	37
ACK	06	6	&	26	38
BEL	07	7	'	27	39
BS	08	8	(28	40
HT	09	9)	29	41
LF	0A	10	*	2A	42
VT	0B	11	+	2B	43
FF	0C	12	,	2C	44
CR	0D	13	-	2D	45
SO	0E	14	.	2E	46
SI	0F	15	/	2F	47
DLE	10	16	0	30	48
DC1	11	17	1	31	49
DC2	12	18	2	32	50
DC3	13	19	3	33	51
DC4	14	20	4	34	52
NAK	15	21	5	35	53
SYN	16	22	6	36	54
ETB	17	23	7	37	55
CAN	18	24	8	38	56
EM	19	25	9	39	57
SUB	1A	26	:	3A	58
ESC	1B	27	;	3B	59
FS	1C	28	<	3C	60
GS	1D	29	=	3D	61
RS	1E	30	>	3E	62
US	1F	31	?	3F	63

ASCII	HEX	DEC	ASCII	HEX	DEC
@	40	64	`	60	96
A	41	65	a	61	97
B	42	66	b	62	98
C	43	67	c	63	99
D	44	68	d	64	100
E	45	69	e	65	101
F	46	70	f	66	102
G	47	71	g	67	103
H	48	72	h	68	104
I	49	73	i	69	105
J	4A	74	j	6A	106
K	4B	75	k	6B	107
L	4C	76	l	6C	108
M	4D	77	m	6D	109
N	4E	78	n	6E	110
O	4F	79	o	6F	111
P	50	80	p	70	112
Q	51	81	q	71	113
R	52	82	r	72	114
S	53	83	s	73	115
T	54	84	t	74	116
U	55	85	u	75	117
V	56	86	v	76	118
W	57	87	w	77	119
X	58	88	x	78	120
Y	59	89	y	79	121
Z	5A	90	z	7A	122
[5B	91	{	7B	123
\	5C	92		7C	124
]	5D	93	}	7D	125
^	5E	94	~	7E	126
-	5F	95	DEL	7F	127

6.2 ASCII barcode setting



SOH



ACK



STX



BEL



ETX



BS



EOT



HT



ENQ



LF



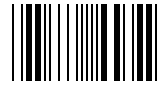
VT



DLE



FF



DC1



CR



DC2



SO



DC3



SI



DC4



NAK



SUB



SYN



ESC



ETB



FS



CAN



GS



EM



RS



US



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SPACE



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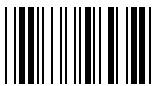
/



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0



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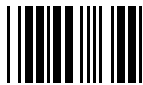
1



-



2



3



8



4



9



5



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6



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7



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=



B



>



C



?



D



@



E



A



F



G



L



H



M



I



N



J



O



K



P



Q



V



R



W



S



X



T



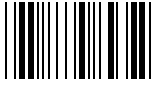
Y



U



Z



[



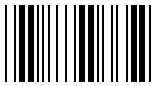
\



^



a



]



b



^



c



-



d



e



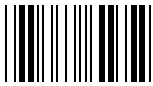
j



f



k



g



l



h



m



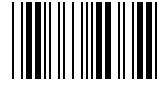
i



n



o



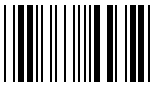
t



p



u



q



v



r



w



s



x



y



l



z



}



{



~

6.3 Function keyboard barcode setting



F1(@A)



F3(@C)



F2(@B)



F4(@D)



F5(@E)



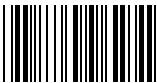
F10(@J)



F6(@F)



F11(@K)



F7(@G)



F12(@L)



F8(@H)



HOME(&A)



F9(@I)



END(&B)



Cursor Right(&C)



PgDn(&H)



Cursor Left(&D)



TAB(&I)



Cursor Up(&E)



Back TAB(&J)



Cursor Down(&F)



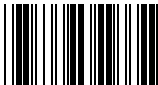
ESC(&K)



PgUp(&G)



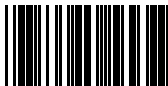
ENTER(&L)



Insert(&M)



ALT ON(&R)



Delet(&N)



ALT OFF(&S)



Return(&O)



SHIFT ON(&T)



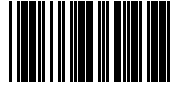
CTRL ON(&P)



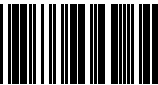
SHIFT OFF(&U)



CTRL OFF(&Q)



WIN (&V)



HOME (&W)



END (&X)

6.4 Digital barcode



0



5



1



6



2



7



3



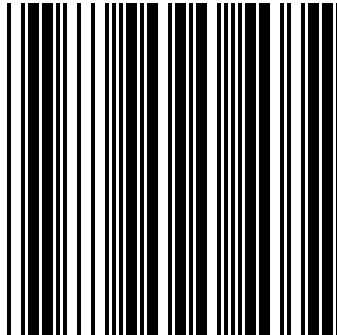
8



4



9



Enter/Exit Programming Mode