

Manual

Bar code reader installation

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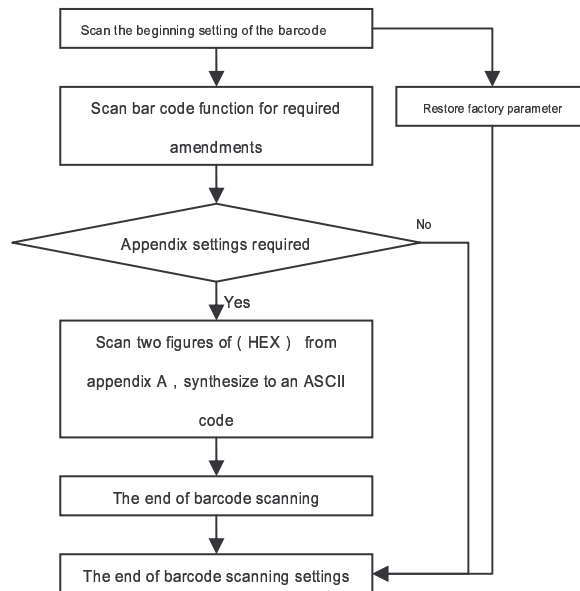
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Flow chart of bar code reader setting



Remark:

Display software version number, direct bar code scanning software version number.

Display product serial number , direct bar code scanning product serial number.

Chapter 1 System information

1.1 Restoration of initial value

System setting will be reset and restored to factory initial state through bar code scanning.

1.2 Software version display

Display software version number through bar code scanning.

1.3 Product serial number display

Display product serial number through bar code scanning.

Set begin



Restore the factory parameter



Software version number



Reserved (product serial number)

Set end



Chapter 2 System setting

2.1 Interface type selection

This type of bar code reader can support 3 kinds of interface. User can reset according to their needs. It is to be noted that the bar code reader can only read data into the mainframe if the on-line access to the interface is consistent with the settings.

USB protocol used HID type of keyboard, so related-settings of keyboard also apply to USB interface.

If applying to other interface lines upon the USB interface has set, feature setting still can be carried on, but not the transmission of data, or else it will result to shut down.

If the interface from other settings applied to USB interface, procedures need to be restarted when the set ended, scanner should re-plug the electric.

Prior to scan, it is critical to ensure that the equipment is complete.

Set begin



Option	Item
 Keyboard (default)	Interface selection
 RS-232	
 USB	









Set end



2.1.1 Keyboard interface parameters

Keyboard protocol type: Select the type of host to connect the keyboard. Select bar code interface according to the host interface cable.











Option	Item
 IBM AT(default)	Protocol type keyboard
 IBM XT	
 IBM PS/2 30-80	
 IBM 5550	
 PS/2 25, 30	
 NEC 9801	
 Reserved	
 Reserved	
 Reserved	



Keyboard language selection: It doesn't only support American-style keyboard, but also a variety of languages.



Option	Item
 America (default)	Language option
 Italy	
 Italy	
 France	
 Germany	
 Japan	
 Reserved	
 Reserved	



Function key emulation (IBMAT): When the bar code contains 01 to 1F of the ASCII code value, if it is set to “ON”, bar code reader outputs corresponding code, it is equal to pressing a function key. Direct scanning of bar codes in Appendix B can also implement function key simulation.

Keyboard simulation: It is suggested to turn on this function in order to start the PC normally, even if the keyboard hasn't installed yet.

ALT mode: ALT mode simulation.



Option	Item
 OFF (default)	Function key
 ON	
 OFF(default)	Keyboard emulation
 ON	
 OFF(default)	ALT mode
 ON	








Caps Lock key: This function key is related to the Caps lock key of the keyboard function, upon switched on, it is equal to pressing the Caps Lock key。

Num Lock key: This function can only be effective to PC/ AT, upon switched on, it is equal to pressing the Num lock key of the keyboard。

Inter-character delay(for the keyboard interface): Upon sending a character, it inserts a delay, delay time=set of data*1(ms)。



Option	Item
 OFF(default)	Caps Lock key
 ON	
 OFF(default)	Num Lock key
 ON	
 See appendix A (00—64H)	Inter-character delay(default: 00)










Keyboard data end mark (for the keyboard interface): Keyboard interface of the bottom of the output data.

Delay after each data transfer section(for the keyboard interface):

Delay timer, which is an output of each bar code data. This feature is generally used to send frequent short bar code data or to transmit multi- bar codes at once, delay time = data set*100(ms)

Keyboard speed: select the host which matches its speed.



Option	Item
 None	Data at the end of the keyboard
 CR(default)	
 Tab	
 ESC	
 CR + LF	
 After each data transfer delay (default: 00)	
See appendix A (00—0AH)	Keyboard speed (default: 00, High clock)
 See appendix A (00—08H)	



2.1.2 RS-232 Interface setting

RS-232 Basic setting of communication protocols, including baud rate, data bit, stop bit, calibration, etc.

Set begin



Option	Item
 1200bps	Data bit
 2400bps	
 4800bps	
 9600bps(default)	
 19200bps	
 38400bps	
 7digits	Transmission baud rate
 8digits(default)	

Set end





Option	Item
 1digit(default)	Stop bits
 2digits	
 None(default)	Check setting
 Odd parity	
 Dual check	
 Mark check	
 Space check	










RS-232 function setting: At RS-232 interface mode, the client can proceed the following aspects according to own requirements (including the suffix data, flow control protocol in response to delay, etc.).
 Inter-character delay(for RS-232): Each data time delay between output characters。 Delay time=data set*1(ms)

Delay after each data transmission(for RS-232):Each bar code data output a delay timer. This feature is generally used to send frequent short bar code data or transmission of multiple bar codes simultaneously, the delay time set data = * 100 (ms)

Protocol response delay: Wait for host handshake signal time, delay time = set data * 100 (ms)

Set begin 

Option	Item
	Inter-character delay (default: 00)
Appendix A (00—64H)	
	Delay after each data transfer (default: 00)
See appendix A (00—0AH)	Protocol response delay (default: 00)
	
See appendix A (00—0AH)	Flow control
	
None(default)	
	
RTS/CTS	
	
ACK/NAK	
	
Xon/Xoff	

Set end 

Set begin



Option	Item
 None	Data suffix
 CR+LF (default)	
 CR	
 LF	
 Tab	
 STX/ETX	
 EOT	

Set end





Option	Item
 None(default)	Flow control
 RTS/CTS	
 ACK/NAK	
 Xon/Xoff	



2.2 Scan mode setting

Button switch mode:

Hold down the trigger to begin scanning, scanning would be completed upon the trigger released or when the scan decoding is successful. When it is successful, release the trigger, then hold it down again, will begin the next decoder.

Turn OFF mode after identification:

Hold down the trigger and start scanning, when the scanning duration time is up or bar code scanning is finished, scanning process will come to an end.

Continuous/Button clearance mode:

Hold down the trigger and start continuous scanning, can continuous scan different bar code, but same bar code will only be read once, yet the same bar code

could be re-read after the light disappeared. Hold down the trigger to stop the continuous scanning.

Test mode: Hold down the trigger to start testing, continuous scanning the barcode, hold down the trigger again to stop the testing.

Each time the trigger has been held down, it only read once; it only could be changed to another way through scan mode to exit.

Continuous recognition/Timeout Off:

Scan mode and continuous / key clearance model, as provided for the Timeout time, in the absence of a successful scan, exit and turn off the light, once again press the trigger, to restart scanning.

Timeout time setting mode:

Scan “continuous reading/Timeout Off” bar code.

Scan two hexadecimal digits as a time value from appendix A.









Scan “OFF” bar code from appendix A.

Scan “Set end” bar code to finish the setting.

Timeout setting uses seconds as a unit, for example, 0x40 expresses one minute, Timeout value for the initial 0xB4, around 3 minutes.

Set begin



Option	Item
 Button switch mode	Scan mode
 turn OFF mode after identification(default)	
 Continuous recognition/ Guan mode key	
 Test reading mode	
 Continuous recognition/LED ON	
 Continuous recognition/Timeout off	
 Scintillation	
 Continuous recognition/No Trigger	

Set end









2.3 Sound setting

You can adjust the level of buzz and beep tone regulation time. It is allowed to set the boot sound, as well as decode it.

Set begin



Option	Item
	Audio setting (duration: 0AH)
See appendix A(00-10H)	
	Duration setting (default: 05H)
See appendix A(00-10H)	
 ON (default)	Boot voice prompts
 OFF	
 ON (default)	Sound prompts
 OFF	

Set end



2.4 String (character) setting

Prefix、suffix string setting: A max. of 10 ASCII characters could be added before or after the bar code data. No action can be done if it is set to 0.

Format as follow:

Prefix string character	Bar code data	Suffix string character
-------------------------	---------------	-------------------------

Steps for adding Prefix/ Suffix to all bar code symbols:

Scan start set up and set prefix string bar code.

See table of ASCII code, find the prefix / suffix ASCII value.

Scan the ASCII value of the bar code through appendix.

Bar code scan ends.

Bar code scan setting ends.

Insert the G1/G2 group of characters: Each group can add a max. of 10 ASCII, characters can't be inserted when it is set to 0.

Steps in inserting characters:

Scan set up start and insert character barcode to G1.

Check the table of ASCII, look for the ASCII value of the character.

Scan the bar code of ASCII value through the appendix.

Scan the end bar code through the appendix.

Repeat the same steps for inserting the G2 group characters.

Scan end set up bar code.

Insert character location to G1/G2 group: Choose a group of character and insert to the location of bar code, when it is set to 0, although you do not set up to group of 0 characters, still can not be inserted to bar code data.

Scan start set up and insert character location bar code to G1.

Check the table of ASCII, Look for the ASCII value of the corresponding insert location.

Scan the end bar code through appendix A.

Repeat the same steps for inserting G2 group character location.

Scan end set up

Send barcode: If your application needs to send code (bar code type of ID), you must set the format ON : ID + barcode information.

Set begin



Option	Item
	Set prefix characters (default: 00)
See appendix A	
	Set suffix characters (default: 00)
See appendix A	
	(default: 00) G1Insert character
See appendix A	
	G2Insert character (default: 00)
See appendix A	
	G1Insert character location (default: 00)
See appendix A	
	G1Insert character location (default: 00)
See appendix A	
 ON	Send code
 OFF (default)	

Set end









2.5 Other setting

Scan accuracy: Can be set to scan once or twice then transmit bar code, it could be set to twice in order to reduce errors.

Bar level setting: Input level to set up through the bar signals, noted that level must match in order to decode. This setting resolves when the anti-white bar code occurs and the decoder cannot decode.



Option	Item
 Scan once then transmit (default)	Scan accuracy
 Scan twice then transmit	
 Bar = HIGH (default)	Bar level setting
 Bar = LOW	
 ON(default)	Laser Data Accelerate reader
 OFF	



Chapter 3 Bar code option

Read: When the selection is on, such bar code can be decode, as well as transmitted, or couldn't be read nor transmitted.

Set code: Necessary type of barcode ID could be set, the "send code" project must set to open, in order to send the ID.

Set code steps:

Scan setting and set barcode.

Check the table of ASCII, find the code you want to set in correspond to ASCII code.

Scan end barcodes of appendix.

Scan end set.

Calculation of parity bit: Calculate barcode checksum value, check the accuracy of decoding.

Send parity bit: Send the bar code checksum value, which can be set to open and close.

Before the median cut-off: when set to 0, it won't delete the bar code in front of the data, set up the steps to the steps to set up code.

After the median cut-off: when set to 0, it won't delete the bar code behind the data, set up the steps to the steps to set up code.

Select insert group: Set the range of 0-2, characters can't be inserted when it set to 0; Set up characters from "G1/G2 insert character" set up, insert location from "G1/G2 character location" set up. Set up the steps according to set up code.

Min. length: Set a minimum length of a barcode, it can't be decoded if the barcode is less than this length. Set up the steps according to set up code.

Max. length: Set the maximum length of a barcode, it can't be decoded if the barcode is greater than this length. Set up the steps according to set up code.

If the maximum length is equal to minimum length, the length of the bar code is a fixed number.








Supplementary code reader: EAN code has 2 or 5

supplementary code , you need to select setting according to the type of supplementary code needed.
Truncate pre-0 : delete the bar code before the 0.

3.1UPC-A Parameter setting

UPC-A convert to EAN-13: To convert UPC-A to EAN-13, add 0 in front of the bar code data



Option	Item
 OFF	Read
 ON (default)	
 See appendix A(20-7EH)	Set code (default: F)
 OFF (default)	UPC-A convert toEAN-13
 ON	
 OFF	Send parity bit
 ON(default)	



Set begin



Option	Item
 OFF (default)	Truncate pre-0
 ON	
 See appendix A(00-0DH)	Before median cut-off (default:00)
 See appendix A(00-0DH)	After median cut-off (default:00)
 See appendix A (00-02H)	Insert group selection (default:00)
 None (default)	Supplementary code reader
 2digits	
 5 digits	
 2 or 5digits	









End set up



3.2UPC-E Parameter setting

UPC-E convert to UPC-A: converting 8-digits UPC-E to 12-digits UPC-A









Set begin

Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default: G)
 OFF(default)	UPC-E convert to UPC-A
 ON	
 OFF	Send check
 ON(default)	
 See appendix A(00-08H)	Before median cut-off (default:00)

Set end

Set begin










Option	Item
	After median cut-off (default:00)
See appendix A(00-08H)	
	Insert group selection (default:00)
See appendix A(00-02H)	
 OFF	Truncate pre-0
 ON(default)	
 None(default)	Supplementary code reader
 2digits	
 5digits	
 2 or 5 digits	

Set end



3.3 EAN-13 Parameter setting



Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default:H)
 OFF	Send check code
 ON(default)	
 See appendix A(00-0DH)	Before median cut-off (default:00)
 See appendix A(00-0DH)	After median cut-off (default:00)



Set begin









Option	Item
 None(default)	Supplementary code reader
 2digits	
 5digits	
 2 or 5digits	ISBN/ISSN conversion
 OFF (default)	
 ON	
 See appendix A(00-02H)	Insert group selection (default:00)

Set end



3.4 EAN-8 Parameter setting









Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default:I)
 OFF	Send checksum characters
 ON(default)	
 See appendix A(00-08H)	Before median cut-off (Default:00)



Set begin










Option	Item
	(default:00)
See appendix A(00-08H)	After median cut-off digit
 None(default)	Supplementary code reader
 2digits	
 5digits	
 2 or 5digits	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end



3.5 Code39 Parameter setting



Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default:J)
 OFF(default)	Check
 ON	
 OFF	Send checksum characters
 ON(default)	









Data tandem:

Code39 Format: The whole ASCII Code39 are enhanced Code39 code, which included a total of 128 characters, corresponding to 128 ASCII code.

CODE 32 Read: Open to read CODE 32








Option	Item
 OFF(default)	Data tandem
 ON	
 See appendix A(00-32H)	Min. length (default:00)
 See appendix A(00-32H)	Max. length (default:32H)
 Standard Code39 (default)	Format
 Multi-featured Code39	



Set begin











Option	Item
 OFF (default)	Send start / End character
 ON	
 See appendix A(00-32H)	Before median cut-off (default:00)
 See appendix A(00-32H)	After median cut-off (default:00)
 See appendix A(00-02H)	Insert group selection (default:00)

End set up



3.6 Codabar Parameter setting













Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code(default :K)
 OFF	Check
 ON(default)	
 OFF(default)	Send checksum character
 ON	
 OFF(default)	Data tandem
 ON	



Set begin








Option	Item
	Before median cut-off (default:00)
See appendix A(00-7EH)	
	After median cut-off (default:00)
See appendix A(00-7EH)	
 ABCD/ABCD(default)	Send start / End character
 abcd/abcd	
 abcd/tn*e	
 OFF(default)	Send start / End character
 ON	
	Min. length(default:00)
See appendix A(00-3CH)	
	Max. length(default: 3CH)
See appendix A(00-3CH)	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end 









3.7 Code93 Parameter setting

Set begin 

Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default:L)
 OFF	Check
 ON (default)	

Set end 









Set begin 

Option	Item
 OFF(default)	Send checksum characters
 ON	
 See appendix A(00-50H)	Min. length (default :00)
 See appendix A(00-50H)	
 See appendix A(00-7EH)	Before median cut-off (default :00)
 See appendix A(00-7EH)	
 See appendix A(00-02H)	Insert group selection
 See appendix A(00-02H)	

Set end 

3.8Code 128 Parameter setting













Option	Item
 OFF	Read
 ON (default)	
 See appendix A(20-7EH)	Set code (default :M)
 OFF	Check
 ON(default)	
 OFF(default)	Send checksum characters
 ON	
 See appendix A(00-02H)	Insert group selection (default :00)



Set begin










Option	Item
 OFF(default)	FNC2 tandem
 ON	
 OFF(default)	UCC/EAN128
 ON	
 OFF(default)	Send FNC1
 ON	
 See appendix A(00-7FH)	Before median cut-off (default :00)
 See appendix A(00-7FH)	After median cut-off (default :00)
 See appendix A(00-7FH)	Min. length (default :00)
 See appendix A(00-7FH)	Max. length (default:7FH)

Set end 






3.9 Interleaved 2 of 5



Option	Item
 OFF	Read
 ON(default)	
 See appendix A(20-7EH)	Set code (default:N)
 OFF(default)	check
 ON	
 OFF	Send checksum characters
 ON(default)	



Set begin 






Option	Item
	Before median cut-off (default:00)
See appendix A(00-7EH)	
	After median cut-off (default:00)
See appendix A(00-7EH)	
	Min. length (default:00)
See appendix A(00-7FH)	
	Max. length (default:7FH)
See appendix A(00-7FH)	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end 

3.10










Industrial 2 of 5 Parameter setting

Option	Item
 OFF(default)	Read
 ON	
 See appendix A(20-7EH)	Set code (default:O)
 See appendix A(00-32H)	Min. length (default:00)
 See appendix A(00-32H)	Max. length (default:32H)



Set begin








Option	Item
	Before median cut-off (default:00)
See appendix A(00-32H)	
	After median cut-off (default:00)
See appendix A(00-32H)	
 OFF(default)	Check
 ON	
 OFF(default)	Send checksum characters
 ON	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end



3.11 Matrix 2 of 5 Parameter setting










Option	Item
 OFF (default)	Read
 ON	
 See appendix A(20-7EH)	Set code (default:P)
 OFF (default)	Check
 ON	



Set begin



Option	Item
 OFF	Send checksum characters
 ON(default)	
 See appendix A(00-50H)	Before median cut-off (default:00)
 See appendix A(00-50H)	After median cut-off (default:00)
 See appendix A(00-50H)	Min. length (default:00)
 See appendix A(00-50H)	Max. length (default:50H)
 See appendix A(00-02H)	Insert group selection








Set end



3.12 China post code parameter setting

Set begin








Option	Item
 OFF (default)	Read
 ON	
 See appendix A(20-7EH)	Set code (default:Q)
 OFF(default)	Check
 ON	
 OFF(default)	Send checksum characters
 ON	

Set end



Set begin










Option	Item
	Before median cut-off (default:00)
See appendix A(00-50H)	
	After median cut-off (default:00)
See appendix A(00-50H)	
	Min. length (default:00)
See appendix A(00-50H)	
	Max. length (default:50H)
See appendix A(00-50H)	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end










3.13 MSI/Plessey Parameter setting



Option	Item
 OFF(default)	Read
 ON	
 See appendix A(20-7EH)	Set code (default:R)
 OFF (default)	Check
 MOD 10	
 MOD 10/10	
 MOD 11/10	



Set begin 

Option	Item
 OFF	Send checksum characters
 ON (default)	
 See appendix A(00-3CH)	Before median cut-off (default:00)
 See appendix A(00-3CH)	After median cut-off (default:00)
 See appendix A(00-3CH)	Min. length (default:00)
 See appendix A(00-3CH)	Max. length (default:3CH)
 See appendix A(00-02H)	Insert group selection (default:00)








Set end



3.14 CODE 32 Parameter setting

Set begin






Option	Item
 OFF (default)	Read
 ON	
 See appendix A(20-7EH)	Setting code (default :R)
 OFF	Check
 ON (default)	
 OFF	Send parity bit
 ON (default)	

Set end



Set begin








Option	Item
	Before median cut-off (default:00)
See appendix A(00-0AH)	
	After median cut-off (default:00)
See appendix A(00-0AH)	
	Insert group selection (default:00)
See appendix A(00-02H)	

Set end



3.15 Code 11 Parameter setting








Set begin 

Option	Item
 OFF(default)	Read
 ON	
 See appendix A(20-7EH)	Install code (default:T)
 OFF	check
 ON (default)	

Set end 

Set begin



Option	Option
 OFF(default)	Send checksum characters
 ON	
 See appendix A(00-50H)	Before the median cut-off (default:00)
 See appendix A(00-50H)	After the median cut-off (default:00)
 See appendix A(00-50H)	Min. length (default:00)
 See appendix A(00-50H)	Max. length (default:50H)
 See appendix A(00-02H)	Insert group selection (default:00)

Set end



Appendix A

ASCII barcode



0



1



2



3



4



5



6



7



8



9



A



B



C



D



E



F



Y



N



OFF



end set up

Table of ASCII


















	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	“	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	\$	4	D	T	d	t
5	ENQ	NAK	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	‘	7	G	W	G	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	i	y
A	LF	SUM	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	\	l	|
D	CR	GS	-	=	M	}	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	_	o	DEL







Appendix B: Table of function key emulation

	0	1
0	NULL	
1	UP	F1
2	DOWN	F2
3	LEFT	F3
4	RIGHT	F4
5	PAGE UP	F5
6	PAGE DOWN	F6
7		F7
8	BS	F8
9	TAB	F9
A		F10
B	HOME	ESC
C	END	F11
D	ENTER	F12
E	INSERT	
F	DELETE	

Function key emulation barcode:

Before scanning the barcode , turned ON the multi-featured function CODE 39!

 UP(\$A)	 F1(\$Q)
 DOWN(\$B)	 F2(\$R)
 LEFT(\$C)	 F3(\$S)
 RIGHT(\$D)	 F4(\$T)
 PAGE UP(\$E)	 F5(\$U)
 PAGE DOWN(\$F)	 F6(\$V)
	 F7(\$W)
 BS(\$H)	 F8(\$X)
 TAB(\$I)	 F9(\$Y)

	 F10(\$Z)
 HOME(\$K)	 ESC(%A)
 END(\$L)	 F11(%B)
 ENTER(\$M)	 F12(%C)
 INSERT(\$N)	 F13(%D)
 DELETE(\$O)	 F14(%E)