

A vertical rectangular graphic with a grey background. At the top, the words "Barcode Scanner" are written vertically in a white, serif font. Below the text is a black barcode with several vertical bars of varying widths.

Barcode Scanner

User Manual

32B

Introduction:

This Barcode Scanner provides an accurate, easy and fast completely solutions of data entry and storage for computer information systems.

Our company has another technique of infrared rays with auto-sensor mode.

The product has manual and auto-sensor two working modes.

The product offers integrated interfaces ways to any host computer systems, interfaces are as below:

Keyboard

RS-232

USBHID

VCOM

All the operating parameters are programmed by scanning the setting bar codes and stored in EEPROM, which can retain the settings after the device is power off.

For the functions which are not listed in this menu, please consult your supplier for more details.

All rights, including the right of final interpretation is reserved by the company.

Table of Contents

1. Barcode Scanner's Basic Settings.....	3	2.6	CODE39.....	16
1.1 Reset Configuration to Defaults.....	3	2.7	CODE128.....	18
1.2 Output Firmware Version.....	3	2.8	CODE-93.....	19
1.3 Speaker Mode.....	3	2.9	Interleaved 25.....	19
1.4 Transmission Mode.....	4	2.10	Other 25 Code.....	20
1.5 Reading Mode.....	4	2.11	Matrix 25.....	21
1.6 LED Options.....	4	2.12	Code Bar.....	22
1.7 Laser on Trigger.....	5	2.13	MSI.....	24
1.8 Auto-Sensor Mode Option.....	5	2.14	CODE 11.....	24
1.9 Setting On/Off.....	6	2.15	RSS Code.....	25
1.10 Continuous Scan Interval.....	6	3. Advanced Settings.....		26
1.11 Reading Safety Class.....	7	3.1 EAN、UPC Appendix Setting.....		26
1.12 Code ID Identification Option.....	7	3.2 Code ID Setting.....		26
1.13 Keyboard Language.....	8	3.3 Specific or Global Setting.....		27
1.14 Transmit Speed.....	9	Appendix A.....		34
1.15 UART Option.....	9	Appendix B.....		39
1.16 Caps Lock.....	11			
1.17 Ignore Chinese Input.....	11			
1.18 Enable Normal and Inverse Data.....	11			
2. Different Type of BarCode Setting.....	12			
2.1 UPC-A Code.....	12			
2.2 EAN-13 Code.....	13			
2.3 EAN-8 Code.....	13			
2.4 UPC-E0 Code.....	14			
2.5 UPC-E1 Code.....	15			

1.Bar code Scanners' Basic Settings

1.1 Reset Configuration to Defaults

Scanning the 0B barcode, scanner parameters are return to factory default. Detail Parameters please see appendix A.

Reset Configuration to Defaults



0B

Output Firmware Version



0A

1.2 Output Firmware Version

Scanning the 0A as above, the software version will be showed on the PC.

1.3 Speaker Mode

(1) Speaker On and Off

Scanning 0B142 , speaker turns on. Scanning 014200 as below, speaker turns off.

Speaker On



0B142

Speaker Off



014200

(2) Speaker Volume

Scanning 014301 as below, volume is adjusted by each scan.

Speaker Volume



014301

1.4 Transmission Mode

USBHID



000600

UART



000602

PS/2



000601

VCOM



000603

1.5 Reading Mode

Level Trigger Mode



013300

Pulse Trigger Mode



013301

Level Trigger Continuous Scan



013302

Pulse Trigger Continuous Scan



013303

Continuous Scan



013304

Blink Mode



013305

1.6 LED Option

(1) LED On and Off

LED is turned on while good read.

LED On



01500

LED Off



0B150

(2) LED On Time Adjustment

LED is on for 20ms after scanning 01510002 as below; LED is on for 2s after scanning 01510200; LED is on more 10ms when the last number of bar code 01510002 plus 1, the longest time is 2s.



1.7 Laser on Trigger

When the last number of bar code 01111111 plus 1, the laser will last for 1s more, the longest time is 9s.



1.8 Auto-Sensor Mode Option

(1) Auto-Sensor On and Off

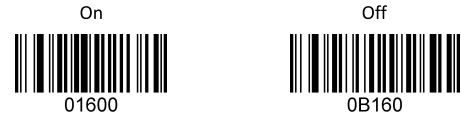


(2) Auto Sensitivity Adjustment



1.9 Setting On and Off

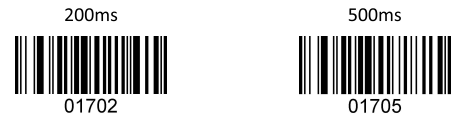
The function is on which can start the related settings, when the function is off, bar code will be output as normal way.



Setting bar code: choose code128, add “^3” before data source.

1.10 Continuous Scan Interval

When in continuous scan mode, scan bar code like 01702, the interval recognized time of the same bar code will be 200ms. When the last number of 01702 plus 2, interval will be more 200ms, the longest time is 5s.





1.11 Reading Safety Class

Some bar code need to be confirmed more than once before output for low decoding error. The lower reading class, decode speed will be higher, the decoding error rate will be higher as well. The higher reading class, decode speed will be lower, the decoding error rate will be lower as well.



1.12 Code ID Identification Option

Bar code identification represented by one letter after scanning the setting as below.



1.13 Keyboard Language

Support 23 keyboard languages , details see the table 1 below. The US, Germany, France and reset layout as below setting.

Table 1

S/N	Language	Setting	S/N	Language	Setting
1	USA	0005000	13	Holland	0005012
2	Belgium	0005001	14	Norway	0005013
3	Brazil	0005002	15	Portugal	0005014
4	Canada	0005003	16	Sweden, Finland	0005015
5	Czech	0005004	17	Switzerland	0005016
6	Denmark	0005005	18	Spain	0005017
7	Finland	0005006	19	Russian	0005018
8	France	0005007	20	Turkey 1	0005019
9	Germany, Austria	0005008	21	Turkey 2	0005020
10	Greece	0005009	22	England	0005021
11	Hungary	0005010	23	Japan	0005022
12	Italy	0005011			

1.14 Transmit Speed

The transmit speed between characters of bar code is 10ms after scan the bar code 0000001. When the last number plus 1, the transmit speed will be more 10ms, the longest time is 250ms.



1.15 UART Option

(1) Baud Rate

Related setting of baud rate 1200, 4800, 9600 and 115200 is as below:



Related setting of baud rate 2400, 19200, 38400 is separated to be 000703、000706、000707。

(2) Hand Shake



(3) Data Bits



(4) Stop Bit



(5) Check Digit



(6) Baud Rate Adjustment

After setting the Middle baud rate, device will face reading problem or data output mistake as timing deviation of machine. User can scan the setting as below to adjust the baud rate to the right point.



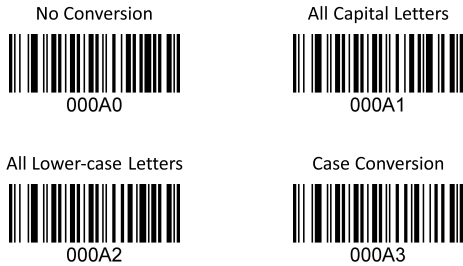
(7) Reset UART

Scan the setting as below, reset UART to "9600. N.8.1" and no hand shake. Setting as below:



1.16 Caps Lock

The setting is used to convert the capital letter and small letter.



1.17 Ignore Chinese Input

Under the condition of Chinese Input, data could not be uploaded if data carried with letter. Scanning the setting as below could ignore Chinese input.



1.18 Enable Normal and Inverse Data

Most normal code is black bar code with white background. Some bar code is inverse to be white bar code with black background.



2. Different Type of Bar Code Settings

2.1 UPC-A

(1) Read UPC-A on and off as below:



(2) Check UPC-A on and off as below:



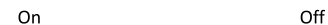
(3) Check digit transmission on and off as below:



(4) Converts UPC - A to EAN 13 on and off as below:



(5) UPC - A system character transmission on and off.





003A1



003A0

2.2 EAN-13

- (1) Read EAN-13 on and off as below:

On



00361

Off



00360

- (2) Check EAN-13 on and off as below:

On



003D1

Off



003D0

- (3) Check digit transmission on and off as below:

On



003E1

Off



003E0

- (4) Convert EAN-13 to ISBN/ISSN on and off as below:

On



00481

Off



00480

2.3 EAN-8

- (1) Read EAN-8 on and off as below:

On



00371

Off



00370

- (2) Check EAN-8 on and off as below:

On



004A1

Off



004A0

- (3) Check digit transmission on and off as below:

On



004B1

Off



004B0

- (4) Convert EAN-8 to EAN-13 on and off as below:

On



004C1

Off



004C0

2.4 UPC-E0

- (1) Read UPC-E0 on and off as below:

On



00351

Off



00350

- (2) Check UPC-E0 on and off as below:

On



004E1

Off



004E0

- (3) Check digit transmission on and off as below:

On



004F1

Off



004F0

(4) Convert UPC-E0 to EAN-13 on and off as below:.



(5) Convert UPC-E0 to UPC-A on and off as below:



(6) UPC - E0 system character transmission on and off.



2.5 UPC-E1

(1) Read UPC-E1 on and off as below:



(2) Check UPC-E1 on and off as below:



(3) Check digit transmission on and off as below:



(4) Convert UPC-E1 to EAN-13 on and off as below:



(5) Convert UPC-E1 to UPC-A on and off as below:



(6) UPC - E01system character transmission on and off.



2.6 CODE39

(1) Read Code39 on and off as below:



(2) Check Code39 on and off as below:



(3) Check digit transmission on and off as below:



(4) Read All ASCII characters on and off as below:



(5) Read start character on and off as below:



(6) Convert CODE39 to CODE32 on and off as below:



(7) Read start character of CODE32 on and off as below:



(8) Read Trioptic 39 on and off as below:



(9) Read start character of Trioptic39 on and off as below:



(10) CODE39 Maximum Length

CODE39 maximum length is from 12 to 249 codes, the last three number of code is the maximum length.

12 codes



249 codes



(11) CODE39 Minimum Length

CODE39 minimum length is from 1 to 9 codes, the last number of code is the minimum length.

1 code



9 codes



2.7 CODE128 Setting

(1) Read Code 128 on and off as below:



(2) Check code128 on and off as below:



(3) Check digit transmission on and off as below:



(4) Read UCCEAN128 on and off as below:



(5) Read ISBT-128 on and off as below:



2.8 CODE-93

(1) Read Code-93 on and off as below:



(2) Check code-93 on and off as below:



(3) Check digit transmission on and off as below:



2.9 Interleaved 25

(1) Read interleaved 25 on and off as below:



(2) Check interleaved 25 on and off as below:



(3) Check digit transmission on and off as below:



(4) Interleaved 25 Maximum Length

Interleaved 25 maximum length is from 12 to 249 codes, the last three number of code is the maximum length as below:



(5) Interleaved 25 Minimum Length

Interleaved 25 minimum length is from 1 to 9 codes, the last number of code is the minimum length as below:



2.10 Other 25 Code Settings

(1) Read Industrial 25 on and off as below:



(2) Read China post 25 on and off as below:



(3) Read standard 25 on and off as below:



(4) Other Code 25 Maximum Length

Other code 25 maximum length is from 12 to 249 codes, the last three number of code is maximum length as below:



(5) Other Code 25 Minimum Length

Other Code 25 minimum length is from 1 to 9 codes, the last number of code is the minimum length as below:



2.11 Matrix 25

(1) Read Matrix 25 on and off as below:



(2) Check Matrix25 on and off as below:



(3) Check digit transmission on and off as below:



(4) Matrix 25 Maximum Length

Matrix 25 maximum length is from 12 to 129 codes, the last three number of code is the maximum length as below:



(5) Matrix 25 Minimum Length

Matrix 25 minimum length is from 1 to 9 codes, the last number of code is the minimum length as below:



2.12 Code Bar Settings

(1) Read code bar on and off as below:



(2) Check code bar on and off as below:





008A1



008A0

(3) Check digit transmission on and off as below:

On



008B1

Off



008B0

(4) Read start character on and off as below:

On



008C1

Off



008C0

(5) Read when same start/end character on and off as below:

On



008D1

Off



008D0

(6) Code Bar Maximum Length

Code Bar maximum length is from 12 to 249 codes, the last three number of code is the maximum length as below:

12 Codes



008F012

249 Codes



008F249

(7) Code Bar Minimum Length

Code bar minimum length is from 1 to 9 codes, the last number of code is the minimum length as below:

1 Code



008G001

9 Codes



008G009

2.13 MSI Settings

(1) Read MSI on and off as below:

On



01151

Off



01150

(2) Check MSI on and off as below:

On



011A1

Off



011A0

(3) Read MSI-Plessey on and off as below:

On



011B1

Off



011B0

(4) MSI check mode

None



011D0

Mode 10 Check



011D1

Mode 11 Check



011D2

Mode 10 then Mode 10 Check



011D3

Mode 11 then Mode 10 Check



011D4

2.14 CODE 11

(1) Read Code 11 on and off as below:



(2) Check digit transmission on and off as below:



(3) Check CODE 11 Mode



2.15 RSS Code

(1) Read Standard RSS code on and off as below:



(2) Read RSS-limited code on and off as below:



(3) Read RSS-expanded code on and off as below:



3. Advanced Settings

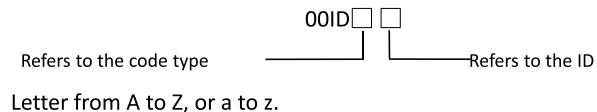
3.1 EAN、UPC Appendix Settings

EAN、UPC supplements could be 2 or 5 digits.



3.2 Code ID Settings

(1) All types of codes could be identified by a letter.



(2) Table 2: Default code type's matching letters

Code Type	Pair	Code Type	Pair	Code Type	Pair
EAN-13	A	Industrial 25	I	CODE-32	Q
EAN-8	B	MSI	J	China Post	R
UPC-E	C	CODE11	K	Standard 25	S
CODE128	D	UPC-A	L	Matrix-25	T
CODE93	E	ISBN	M	Limited RSS	U
CODE39	F	Standard RSS	N	Expanding RSS	V

Code Bar	G	UPC-E1	O		
Interleaved 25	H	Tropic-39	P		

Table 2

3.3 Specific or Global Settings

Edit the bar code before data output like add, delete or insert letters in the front or back of bar code, etc.

Specific Setting: Edit for specific bar codes, details see following table 3.

Code Type	Pair	Code Type	Pair	Code Type	Pair	Code Type	Pair
UPC-A	01	EAN-13	02	EAN-8	03	UPC-E	04
CODE39	05	CODE128	06	CODE93	07	Interleaved 25	08
Matrix25	10	Code Bar	11	CODE11	13		
MSI (including MSI-Plessey)			12				
Other Code 25 (Including Industrial, Standard and China Post)					09		
RSS (Including Standard, Expanding and Limited RSS)					14		

Table 3

Global Setting: Setting apply to all code types with 00.

When barcode output, it will output according to the user's specific or global setting, judgment as below:

If some settings (like adding letter before bar code) is for specific setting, and also for global code types, then the output will follow the specific setting only.

If setting is not for specific code, but for all code types, then the output will follow all global setting. Such as CODE128, if decoding is 1234, detail output as below table 4.

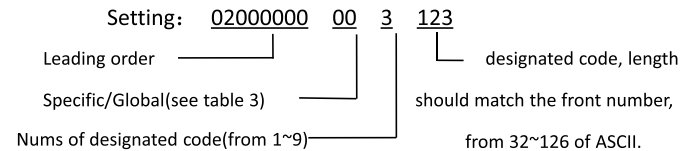
Global	Specific	Output
Add A before Code	No	A1234
Add A before Code	Add B before Code	B1234
No	No	1234
No	Add B before Code	B1234

Table 4

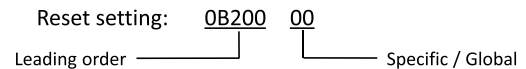
There are 9 kinds of setting here below:

(1) Delete codes before designated letters

For Example: Decoding data is ABC1234DEFG, designated code is 1234, then the letters before the code is deleted, output is 1234DEFG.

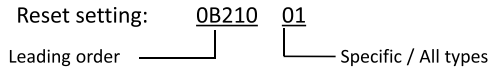
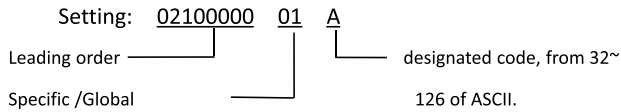


Creating a setting with barcode generator, code type is CODE128, data source is ^302000000003123 .



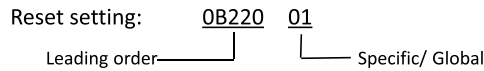
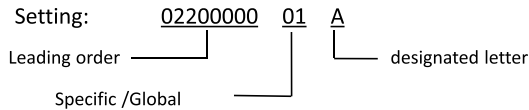
(2) Delete the same Characters before code

For Example: code is AAA1234, designated letter is A, then output is 1234.



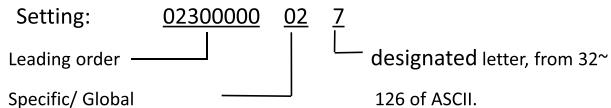
(3) Delete the same letters after the code

The function is as same as number (2), but delete the letters from the last digit.

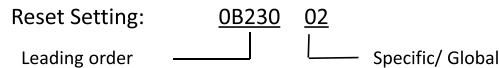


(4) Disable transmit the designated letter

If there is designated letter within the bar code, the letter will be deleted. For example: Decoding data is A12A34AA56789A, designated letter is A, then output is 123456789.



The setting means deleting the letter 7 for code EAN-13.

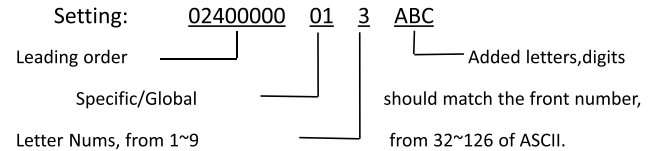


(5) Adding Letters

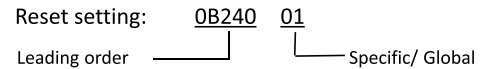
Three parts for adding letters: from the front side, middle side and back side of code.

(a) From the front side: adding letters from the front of bar code.

For example: Code is 1234, added letter is ABC, then output is ABC1234.

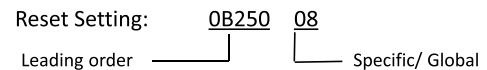
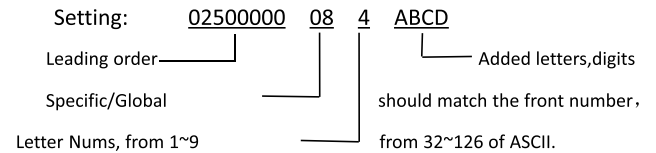


The above setting means adding 3 letters “ABC” in front of code UPC-A.



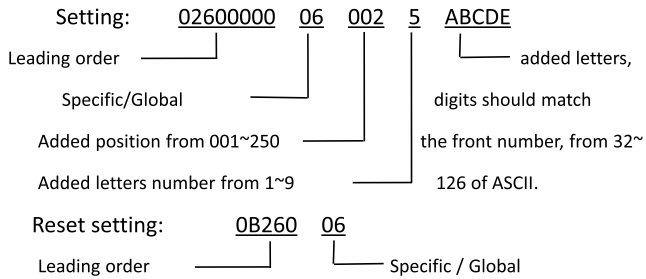
(b) From the back side of bar code

Setting way is similar as the above, but adding letters from the back side.



(c) From the middle side of bar code

The setting is to add letter within any position of bar code. For example: code is 1234, added position is 1, added letters are ABC, then output is 1ABC234.



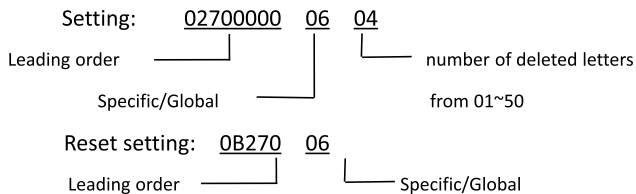
(6) Delete letters

Three parts for deleting letters: from the front side, from the middle side and from the back side of bar code.

(a) From the front side of bar code

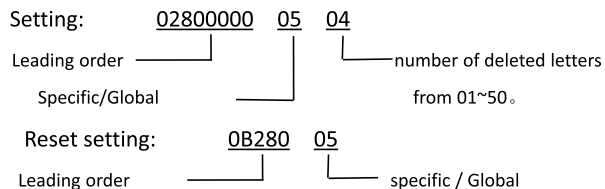
From the front side of bar code, delete the number of letters.

For example, code is ABCD1234, want to delete 4 letters, then output is 1234.



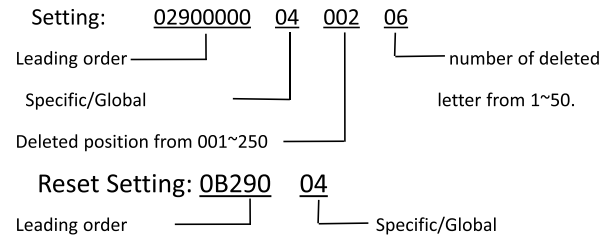
(b) From the back side of bar code

The setting way is same as the above, just delete the letters from the back side of bar code.



(c) From the middle side of bar code

The setting is to delete the letters from the pointed digit. For example: code is 12345ABC, pointed digit is 001, number of deleted letters is 4, then output is 1ABC.

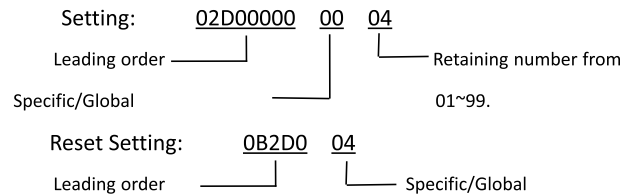


(7) Retain the digits of bar code

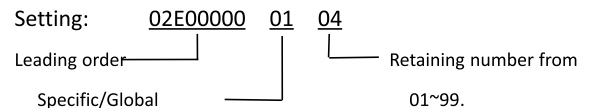
No matter how many digits of the bar code, the setting is to keep part of the digits. Setting is from the front side and from the back side two parts.

(a) Retain N digits from the front side

No matter how many digits of the bar code, retain the first 4 digits once the digits of code is more than 4.



(b) Retain N digits from the back side



Reset setting: 0B2E0 04
 Leading order _____ Specific/Global

(8) Replacement

The setting is to replace the letters as needed letters. For example: code is 1234ABCD90, to replace ABCD as 5678, then output is 1234567890.

Setting: 02A00000 05 4 ABCD 5 56789
 Leading order _____ needed letters,digits
 Specific/Global _____ should match the front no.
 Replaced letter number _____ number of needed letter
 from 1~9. _____ replaced letters , digits
 _____ should match the front number

The above setting is to replace ABCD as 56789 of CODE-39.

Reset Setting: 0B2A0 05
 Leading order _____ Specific / Global

(9) Add prefix/suffix

Prefix/suffix means those function that will not show as letter like ENTER, TAB, F2, F3,etc. Maxumun enable 6 prefix and 7 suffix , specific letter and corresponding function see below appendix.

(a) Prefix

Setting: 02B00000 00 \$ 0D \$ 0A \$ 81
 Leading order _____ prefix/suffix, details see
 Specific / Global _____ appendix B.
 _____ Prefix/suffix indicator

The above setting is to enable prefix of ENTER, TAB, F2 in order.

Reset Setting: 0B2B0 00
 Leading order _____ Specific / Global

(b) Suffix

Setting: 02C00000 00 \$ AB \$ 1B \$ B3
 Leading order _____ prefix/suffix, details see
 Specific / Global _____ appendix B.
 _____ Prefix/suffix indicator

The above setting is to enable suffix Ctrl+Esc for all type codes.

Reset setting: 0B2C0 00
 Leading order _____ Specific / Global

Appendix A

Classification number	Parameters	Default
Speaker Option		
1	Speaker On / Off	Speaker On
2	Speaker Volume	2K
Transmit Mode		USB-HID
Laser Trigger Mode		Button Pressing
LED Option		
1	LED On /Off After Decoding	On
2	Timing of LED On	500ms
Laser Time on Trigger Mode		3S

Auto-Senor Mode		
1	Auto-Sensor On/Off	Off
2	Auto Sensitive distance	100mm
Setting On / Off		On
Continuous Scan Interval		1S
Code ID on and off Option		
1	Enable ID before Code	Off
2	Enable IF after Code	Off
Keyboard Languages		USA layout
Character Transmission Interval		No
Serial Option		
1	Baud Rate	9600bps
2	Data Bit	8
3	Stop Bit	1
4	Check Digit	No
5	Hand Shake	No
Data Normal and Inverse		Normal
UPC-A		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Convert UPC-A to EAN-13	Off
5	Read System Character	Enable

EAN-13		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Convert EAN-13 to ISBN/ISSN	Off
EAN-8		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Convert EAN-8 to EAN-13	Off
UPC-E0		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Convert UPC-E0 to EAN-13	Off
5	Convert UPC-E0 to UPC-A	Off
6	Read System Character	Enable
UPC-E1		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Convert UPC-E1 to EAN-13	Off
5	Convert UPC-E1 to UPC-A	Off
6	Read System Character	Enable
CODE-39		
1	Decode	On

2	Check	Off
3	Check Digit Transmission	Off
4	Read all ASCII Characters	Off
5	Start/End Character Transmission	Off
6	Convert CODE-39 to CODE-32	Off
7	Read Start Character of CODE-32	Off
8	Read Trioptic-39	On
9	Read Start Digit of Trioptic-39	Off
10	CODE-39 Maximum Length	250
11	CODE-39 Minimum Length	1
CODE-128		
1	Decode	On
2	Check	On
3	Check Digit Transmission	On
4	Read UCC_EAN128	On
5	Read ISBT	On
CODE-93		
1	Decode	On
2	Check	On
3	Check Digit Transmission	Off
Interleaved 25		
1	Decode	On
2	Check	Off
3	Check Digit Transmission	On
4	Interleaved 25 Maximum Length	250
5	Interleaved 25 Minimum Length	1

Other Code 25		
1	Read Industrial 25	Off
2	Read China Post Code	Off
3	Read Standard 25	Off
4	Other Code25 Maximum Length	250
5	Other Code25 Minimum Length	1
Matrix 25		
1	Decode	Off
2	Check	On
3	Check Digit Transmission	On
4	Matrix 25 Longest Length	250
5	Matrix 25 Shortest Length	1
Code Bar		
1	Decode	On
2	Check	Off
3	Check Digit Transmission	Off
4	Read Start Character	Off
5	Read Same Start Character	Off
4	Code Bar Longest Length	250
5	Code Bar Shortest Length	1
MSI		
1	Decode	On
2	Check Digit Transmission	Off
3	MSI Check Mode	MOD 10
4	Read PLESSEY	On
5	MSI Longest Length	250

6	MSI Shortest Length	1
CODE-11		
1	Decode	Off
2	Check Digit Transmission	On
3	CODE-11 Check Mode	None
4	MSI Longest Length	250
5	MSI Shortest Length	1
RSS		
1	Read Standard RSS	Off
2	Read Limited RSS	Off
3	Read Expanded RSS	Off
Data Output Layout		Enable CR Suffix

0x08	BackSpace	0x87	F8	0xA7	KP 9
0x09	TAB	0x88	F9	0xA8	KP 0
0x0A	Ctrl+J	0x89	F10	0xA9	KP .
0x0B	Ctrl+K	0x8A	F11	0xAA	Caps LK
0x0C	Ctrl+L	0x8B	F12	0xAB	Left Ctrl Make
0x0D	Enter	0x8C	Print Screen	0xAC	Left Shift Make
0x0E	Ctrl+N	0x8D	Scroll Lock	0xAD	Left Alt Make
0x0F	Ctrl+O	0x8E	Break Pause	0xAE	Left GUI
0x10	Ctrl+P	0x8F	Insert	0xAF	Right Ctrl Make

Appendix B

ASCII	Control Character	ASCII	Control Character	ASCII	Control Character
0x00	Ctrl+2	0x7F	DEL	0x9F	KP 1
0x01	Ctrl+A	0x80	F1	0xA0	KP 2
0x02	Ctrl+B	0x81	F2	0xA1	KP 3
0x03	Ctrl+C	0x82	F3	0xA2	KP 4
0x04	Ctrl+D	0x83	F4	0xA3	KP 5
0x05	Ctrl+E	0x84	F5	0xA4	KP 6
0x06	Ctrl+F	0x85	F6	0xA5	KP 7
0x07	Ctrl+G	0x86	F7	0xA6	KP 8

ASCII	Control Character	ASCII	Control Character	ASCII	Control Character
0x11	Ctrl+Q	0x90	Home	0xB0	Right Shift Make
0x12	Ctrl+R	0x91	Page Up	0xB1	Right Alt Make
0x13	Ctrl+S	0x92	Delete	0xB2	Right GUI
0x14	Ctrl+T	0x93	End	0xB3	Left Ctrl Break
0x15	Ctrl+U	0x94	Page	0xB4	Left Shift

			Down		Break
0x16	Ctrl+V	0x95	Right Arrow	0xB5	Left Alt Break
0x17	Ctrl+W	0x96	Left Arrow	0xB6	Right Ctrl Break
0x18	Ctrl+X	0x97	Down Arrow	0xB7	Right Shift Break
0x19	Ctrl+Y	0x98	Up Arrow	0xB8	Right Alt Break
0x1A	Ctrl+Z	0x99	Num Lock		
0x1B	ESC	0x9A	KP /		
0x1C	Ctrl+/	0x9B	KP *		
0x1D	Ctrl+]	0x9C	KP -		
0x1E	Ctrl+6	0x9D	KP +		
0x1F	Ctrl+-	0x9E	KP Enter		