




## Configuration Commands

**START** 


To begin the configuration procedures

**End** 

To Finish the configuration prodecures and save new parameters in memory

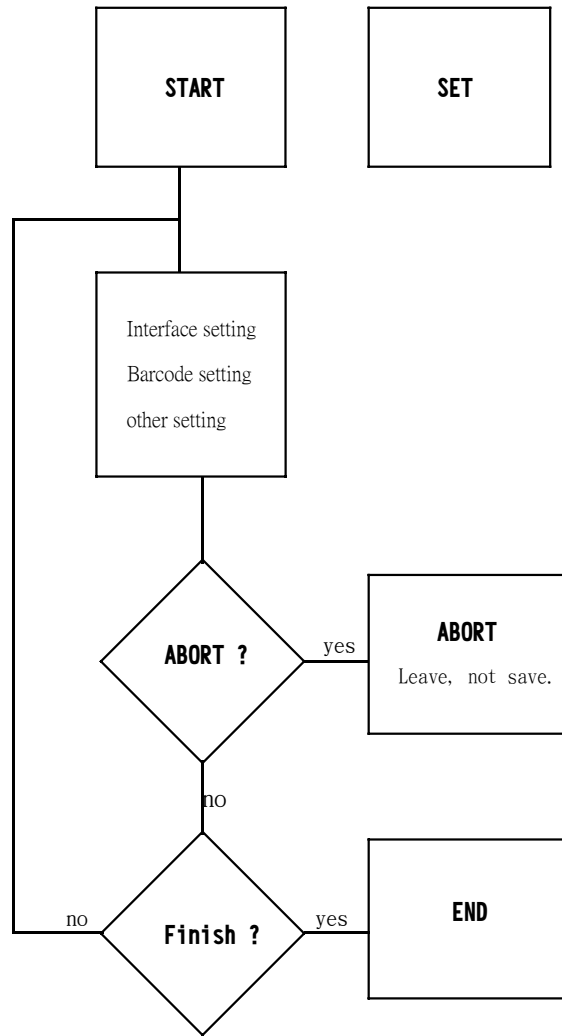
**ABORT** 

To give up all parameters you've just selected.

**SET** 

To make all parameters back to default settings with \* in this manual.

## Configuration Procedures flow path



## Notice

Thank you for purchasing the scanner. Inside each packaging box, you may find the scanner, the interface cable and user's guide. Configuration manual might be optional for some users. If you can configure the scanner by yourself, please contact your dealer for the configuration manual.

To avoid any misuse or confusion, we highly recommend that the configuration manual must be used by an authorized dealer or experienced PC user for the proper custom setup.

## Information

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## Safety Requirements

The scanner passes and complies with the following tests and regulations.

- A) Emission: EN55022 Class B
- B) Emission: EN55022 Class B which includes
  - 1) IEC801-2 (ESD) Class B
  - 2) IEC801-3 (RS) Class A
  - 3) IEC801-4 (EFT) Class B
- C) CDRH class II and IEC class 2 laser product
- D) UL, CSA and TUV

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## CHAPTER 1 Using the CCD SCANNER

The CCD scanner can be easily interfaced to a keyboard or a serial port to your computer. Now follow the procedures below for a proper installation.

### *To install the scanner as keyboard wedge:*

On your first time installation, it is necessary to select a compatible computer type. (See the configuration manual for the correct type.)

- 1) Plug the phone jack of scanner cable into your CCD scanner.
- 2) Turn off your computer.
- 3) Remove the keyboard plug from our computer, plug it into the Din-5P or PS/2 female connector of scanner cable, and then connect the Din-5P or PS/2 make connector to the keyboard port of your computer.
- 4) Turn on the power of computer, the red LED indicator will light and the CCD scanner will beep to indicate a correct installation.

### *To install the scanner as a RS-232C device:*

- 1) Plug the phone jack of scanner cable into your CCD scanner.
- 2) Turn off your computer.
- 3) Plug the DB-9P female connector of serial cable into RS-232C port on your computer.
- 4) If it is necessary, plug another end of DC jack to the adapter.
- 5) Turn on the power of computer, the red LED indicator will light and the CCD scanner will beep to indicate a correct installation.

## Troubleshooting List






The CCD scanner automatically executes a self-test when the power is on. If the CCD scanner does not read a barcode label, please check the following list first.

- If the barcode label is smeared or rough.
- If the interface cable is firmly connected.
- If the power is applied.
- If the LED light is on.
- If the buzzer tone is set to none.
- If the barcode label is wider than the sperture of CCD scanner.
- Remove any visible dirt from the window of the aperture with a soft damp cloth.
- Be sure the configuration parameters of the barcode labels, communication interface, and other options are properly selected.

## CHAPTER 2 Interface Setting

There are 3 interfaces for this scanner to use, the default interface is setting at Keyboard. The user could set any interface that you want. Please note, only the setting of interface and your terminal interface plug is the same, the data could be read.







Interface setting

<p><b>Keyboard Wedge</b></p> 	<p><b>Notebook Keyboard Wedge</b></p> 
<p><b>RS-232</b></p> 	<p><b>USB emulate PS2</b></p> 
<p><b>USB emulate RS232</b></p> 	

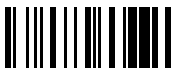







### 2.1 Keyboard Wedge interface

Choosing the type that scanner connect with terminal.






Computer Type

<p><b>*PC/AT &amp; PS/2-50/60/80</b></p> 	<p><b>PC/XT</b></p> 
<p><b>Apple Macintosh</b></p> 	<p><b>IBM 5550</b></p> 
<p><b>NEC 9800</b></p> 	<p><b>ACER 7300</b></p> 

2. Keyboard Layout


<p><b>* US</b></p> 	<p><b>Hong Kong</b></p> 
<p><b>German</b></p> 	<p><b>French</b></p> 
<p><b>Spanish</b></p> 	<p><b>Italy</b></p> 
<p><b>Swiss</b></p> 	<p><b>Swedish</b></p> 

3. Keyboard Upper/Lower Case


<p><b>* Use ALT(0-127)</b></p> 	<p><b>Upper</b></p> 
<p><b>Lower</b></p> 	<p><b>Lock at Upper</b></p> 
<p><b>Lock at Lower</b></p> 	

4. Keyboard Data terminator


\* Enter



None




Tab



## 2.2 RS-232C Interface

The scanner also provides RS-232C interface to meet your application. Scan the label below for RS-232C interface.

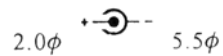
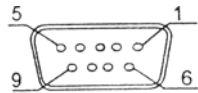
RS-232C



### RS-232 Pin Assignment:

#### DUSB-9P Female

- 1 \_\_\_\_\_N/C (=no connection)
- 2 \_\_\_\_\_TXD
- 5 \_\_\_\_\_GND
- 7 \_\_\_\_\_CTS
- 8 \_\_\_\_\_RTS
- 9 \_\_\_\_\_VCC (+5V)



DC Adapter  
+5v +- 10%  
150mA (min.)

RS-232C parameters include:

1. Baud rate
2. Data bits
3. Parity
4. Handshaking protocol
5. Character delay
6. Data terminator

1. Baud Rate

\*9600bps



2400 bps



4800 bps



19200 bps



38400 bps



57600 bps



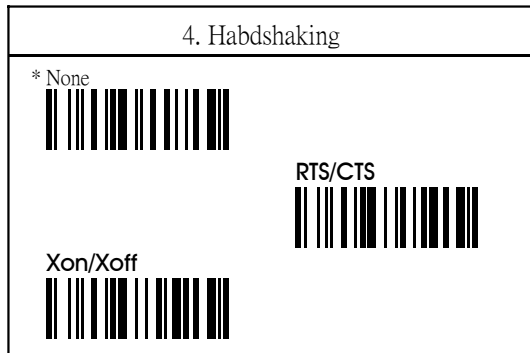
2. Data bit

\* 8 bits



7 bits



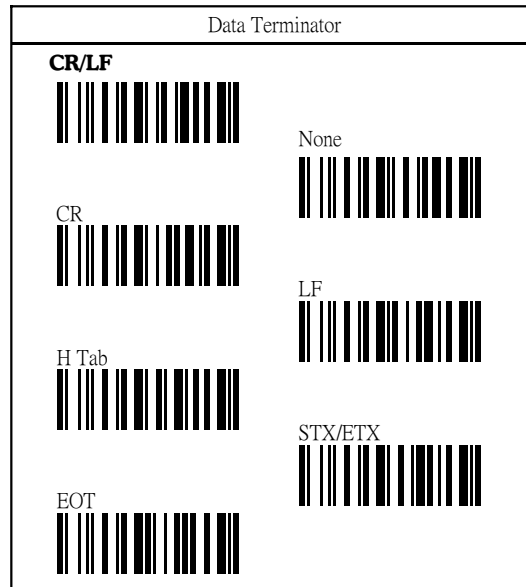


Scanner ready: The scanner will activate RTS signal right after power is on, and will transmit data upon receipt of CTS signal.

Data Ready : The scanner will activate RTS signal to indicate a good read and will transmit data when receiving CTS signal.

Inv. data ready: Same as scanner ready mentioned above but the RTS logic is reserved.

Remark: ACK/NAK and Xon/Xoff are optional.



## CHAPTER 3 Other Optional Parameters

This section allows your scanner to set other optional parameters. These options include scanner reading modes, scanner delay times, scanner flash mode, scanner stop mode, scanner scan, LED indicator.

### 3.1 Reading Modes Parameters

#### Mode 1 Normal Reading Mode

Pushing the keytop, the LED is keeping on. Off the keytop or while the scanner has a good read, the LED is off. When the LED is off by losing the keytop, the LED will be On again while we pushing the keytop again and ready to read decoding code.

#### Mode 2 -Continuous/LED always on

LED is always on. The barcode put in front of scanner only decode once. Change another barcode will decode another time. If you want to re-scan the same barcode, you have to move the barcode away and put it in front of the scanner window side, will do the second decode.

#### Mode 3 - Continuous/ trigger off

LED is turned on by pressing the trigger, when the barcode put in front of the scanner will decode, but only decode once, won't read continuously. The read mode will be the same like Mode 2. And when you pressing the trigger again, the LED will off and won't read the code again. And press the 3rd time, the light will be ON again will repeat the decode again.

#### Mode 4 - Smart Reading mode

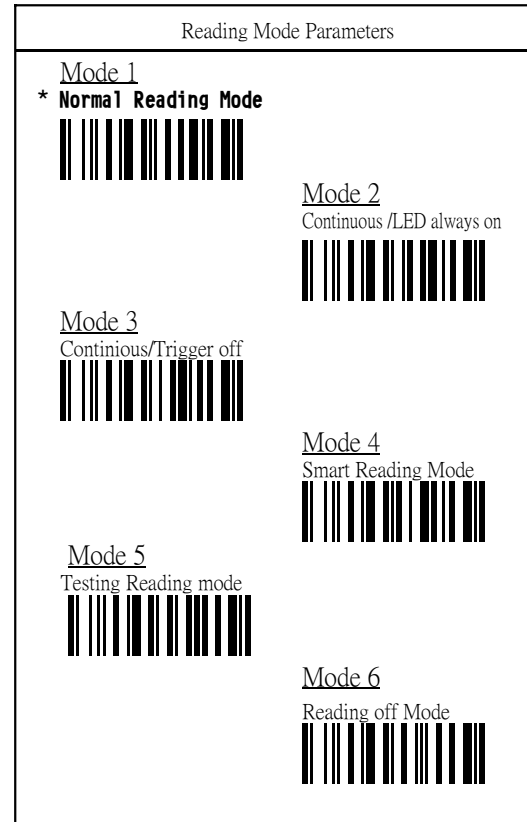
Connect the power, pushing the trigger, and LED will be ON 5 sec continuously, if there is no decoding during these 5 sec the LED will be off. And during this 5 sec while the scanner read successfully, the LED will be off as well.

#### Mode 5 - Testing Mode

Pushing the trigger no matter you release the keytop the LED light will be on for a while and off again. During the light timing, if the scanner is successfully read and LED will off.


#### Mode 6 - Reading off Mode

Pushing the trigger no matter you release the keytop the LED light will be on for a while and off again. During the light timing, if the scanner is successfully read and LED will off.




### 3.2 Buzzer sound's frequency


Low frequency




Lower frequency



\* Normal frequency




High frequency




### 3.3 The length of Buzzer sound


Quiet




\* Short



Middle



Longer




### 3.4 Pre-amble and Post-able Data

At all decoded barcode you can add 10 FULL TEST ASCII Pre-amble or Post-able at most.


1. Choose "Pre-able" or "Post-able" and scan the parameters.
2. from the APPENDIX scan the FULL TEST you want to add for your own setting for Pre-able or Post-able data.

### 3.4 Pre-amble and Post-able data


Setting Pre-able code




\* None



Setting Post-able code




\* None



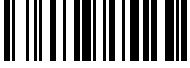
### 3.5 Character Delay & ACK/NAK/CTS Time

#### Character Delay


\* 0 MMSEC




10 MMSEC



50 MMSEC




100 MMSEC




#### ACK/NAK/CTS/Time


\* 0 sec




0.5 sec



1 sec



5 sec



## CHAPTER 4 BARCODE Setting

### 4.1.1 CodeMark Setting

How to set the CodeMark: :







For example, if you want to set Code 128 is CodeMark A, here is the setting steps:

1. Scan the START barcode at the cover.
2. Scan the Code 128 barcode of CodeMark I.D..
3. Scan the A barcode at APPENDIX A.
4. Scan the "END" barcode at the cover to complete your setting.

And then you will see the Code 128 barcodes you scan will show up A in front of the data.

If you want to cancelation the CodeMark I.D. setting you can do the steps as follow:











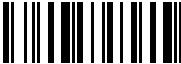





1. Scan the "START" barcode.
  2. Scan the CANCEL single CodeMark set barcode of CodeMark I.D.
  3. Scan "END" barcode to complete your setting.
- Then while you scan the barcode, it will be back to normal data while it used to be.

Code mark (I.D.)	
<b>EAN-13</b> 	
<b>UPC-A</b> 	
<b>EAN-8</b> 	<div style="border: 1px solid black; padding: 5px;">                     Cancel single CodeMark setting   </div>
<b>UPC-E</b> 	
Code Mark setting back to default 	

(Code Mark continued)	
<b>Code 39</b> 	
<b>Code 128</b> 	
<b>Codabar</b> 	
<b>Interleave 2/5</b> 	
<b>Industrial 2/5</b> 	
<b>Matrix 2/5</b> 	
<b>China Postage 2/5</b> 	
<b>Code 93</b> 	
<b>Standard 2 of 5 (ATA)</b> 	<div style="border: 1px solid black; padding: 5px;">                     Cancel single CodeMark setting   </div>
<b>MSI/Plessey</b> 	
<b>Code 11</b> 	
Cancel all the Code Mark setting 	




UPC-A code	* ON  OFF 
UPC-E CODE	* ON  OFF 
EAN-13 code	* ON  OFF 
EAN-8 CODE	* ON  OFF 
Code-39 CODE	* ON  OFF 
Codabar CODE	* ON  OFF 
China Postage	ON  * OFF 
Code 4 CODE	ON  * OFF 
Code 11 CODE	ON  * OFF 

Code 93CODE	* ON  OFF 
Code 128Code	* ON  OFF 
Interleaved 2 of 5 Code	* ON  OFF 
Industrial 2 of 5 Code	* ON  OFF 
Standard 2 of 5 (IATA) Code	* ON  OFF 
Matrix 2 of 5 Code	ON  * OFF 
MSI/Plessey Code	ON  * OFF 
RSS Code	ON  * OFF 


## 4.2 UPC-A Code setting

4.2.1. UPC-A Transmit Check digit

OFF




\* ON




4.2.2 UPC-A First digit suppressed

OFF




\* ON




## 4.3 UPC-E Code setting

4.3.1. UPC-E Transmit Check digit

OFF




\* ON




4.2.2 UPC-E First digit Suppressed

OFF




\* On




## 4.4 EAN-13 Code setting

4.4.1. EAN-13 Transmit Check digit

OFF




\* ON




4.4.2. EAN-13=ISBN/ISSN

\* OFF




ON




## 4.5 EAN-8 Code setting

4.5.1. EAN-8 Transmit check digit

OFF





\* ON





### 4.6 UPC/EAN Supplemental

**4.6.1. UPC-A=EAN-13**

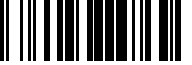

\* Disable  Enable 



**4.6.2 UPC-E=UPC-A**

\* Disable  Enable 



### 4.7 UPC/EAN Supplemental

UPC/EAN Supplemental

\* Add 2/5 OFF  2 or 5 on 

Add 2 only  Add 5 only 

Add 2/5 Lock



\* On  Off 

### 4.8 Code 39 Code setting



Code 39 includes as follow:

1. Barcode Type.
2. START/Stop Character.
3. Check Digit.
4. Code Length
5. Transmit check digit
6. Front/Back digit Suppressed



**1. Code Type**

\* Standard Code  Full ASCII Code 


**2. Transmit Start/Stop Character**



\* Not Transmitted  Transmitted 

**3. Verify Check Digit**



\* OFF  ON 

**4. Code Length**


Min Length  \* Default (0~64) Min=0 ; Max=64


Max Length  

**5. Transmit Check Digit**



\* OFF  ON 



**6. Front / Back Digit Suppressed**

Front Stop Character  \* 0, no stop Character



Back Stop Character  




## 4.9 Codabar Code Setting

Verify Check Digit	
※OFF 	ON 

Transmit Check Digit	
※OFF 	ON 

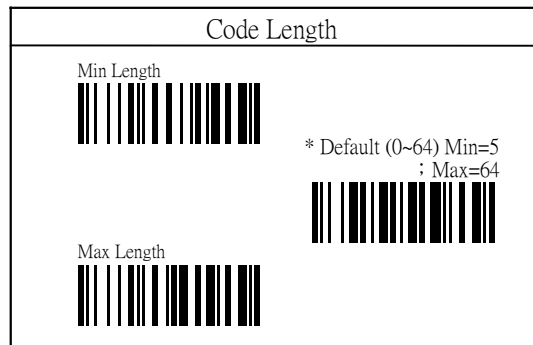
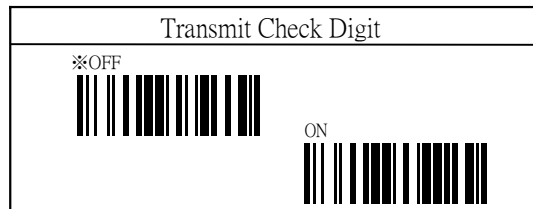
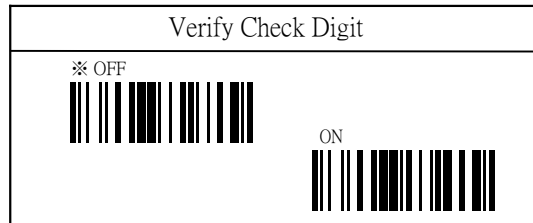
Format of Start/Stop Transmission	
※ ABCD/ABCD 	abcd/abcd 
abcd/tn*e 	

Start/Stop Transmission	
※Disable 	Enable 

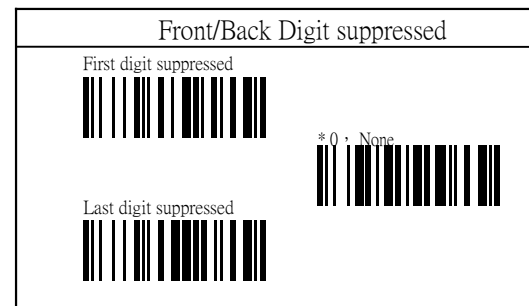
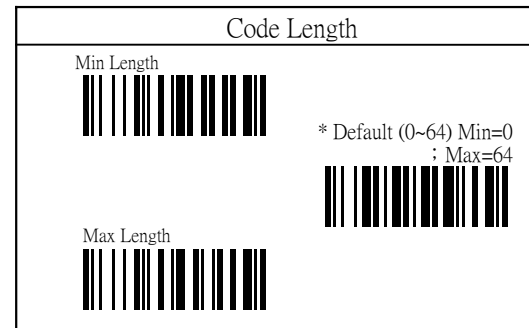
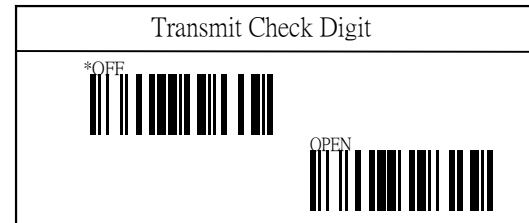
Code Length	
Min Length 	* Default (0~64) Min =5 ; Max=64
Max Length 	

Front/Back Digit suppressed	
Front Digit 	* 0 , None 
Back Digit 	

## 4.10 Code 93 Code Setting





## 4.11 Code 128 Code Setting



### 4.12 Code 2 of 5 Code Setting



#### 1. Interleaved 2 of 5

Verify Check Digit

\* OFF  


ON


Transmit Check Digit

\* OFF  

ON

Code Length

Min Length  \* Default (5~64) Min Length=5 ; Max Length=64

Max Length 


Front/Back Digit Suppressed


Front digit suppressed  \* 0 , no digit suppressed

Back digit suppressed 

#### 2. Industrial 2 of 5

Code Length

Min Length  \* Default (5~64) Min =5 ; Max=64

Max Length 


Front/Back Digit Suppressed


Front digit suppressed  \* 0 , Default, no digit suppressed

Back digit suppressed 


#### 3. Standard 2 of 5 (IATA Code)


Code Length

Min Length  \* Default (5~64) Min Length=5 ; Max Length=64

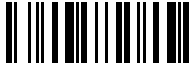

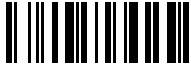

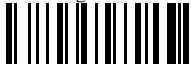





Max Length 

Front/Back Digit Suppressed

Front digit suppressed  \* 0 , no digit suppressed

Back digit suppressed 

## 4. Matrix 2 of 5


Verify Check Digit	
* OFF 	ON 
Transmit check digit	
* OFF 	ON 
Code Length	
Min Length 	* Default (5~64) Min=5 ; Max=64 
Max Length 	
Front/Back Digit Suppressed	
Front Digit Suppressed 	* 0 , no digit suppressed 
Back digit Suppressed 	



## 4.13. China Postage Code

Verify Check Digit	
* OFF 	ON 
Transmit check digit	
* OFF 	ON 
Code Length	
Min Length 	* Default (5~64) Min=5 ; Max=64 
Max Length 	
Front/Back Digit Suppressed	
Front Digit Suppressed 	* 0 , no digit suppressed 
Back digit suppressed 	

4.14. MSI/ Plessey

Code Length

Min Length  \* Default (5~64) Min=5 ; Max=64


Max Length  


Front/Back Digit Suppressed


Front Digit Suppressed  \* 0 , No digit suppressed


Back Digit Suppressed  


Verify Check digit


\* No Verify check 


Mode10 Transmit 0 digit 


Mode10 Transmit 1 digit 

Mode11 Transmit 0 digit 

Mode11 Transmit 1 digit 


Mode11 Transmit 2 digits 



Mode10/ Mode 11 Transmit both 

Mode10/ Mode 11 No transmit 

4.15. Code 4

Code Length

Min Length  \* Default (0~64) Min =5 ; Max =64

Max Length  


Front/Back Digit Suppressed



Front Digit Suppressed  \* 0 , No Digit Suppressed

Back Digit Suppressed  

4.16. RSS

Code Length

Min Length  \* Default (5~64) Min =5 ; Max =64

Max Length  




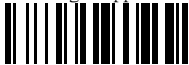






Front/Back Digit Suppressed

Front Digit Suppressed  \* 0 , No digit suppressed

Back Digit Suppressed  



## 4.17. Code 11

Code Length	
Min 	* Default (0~64) Min =5 : Max=64 
Max 	
Front / Back Digit Suppressed	
Front digit suppressed 	* 0 : no digit suppressed 
Back digit suppressed 	
Verify Check Digit	
* 1 digit Check 	2 digits check 
Transmit Check Digit	
* OFF 	ON 



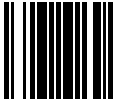
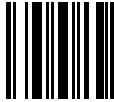



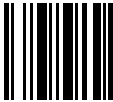

## APPENDIX A. FULL ASCII TABLE & DECIMAL TABLE



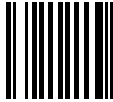
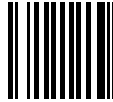
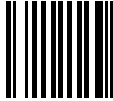


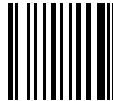
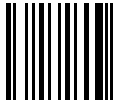
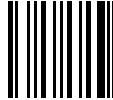
The following table contains both full ASCII and decimal codes.

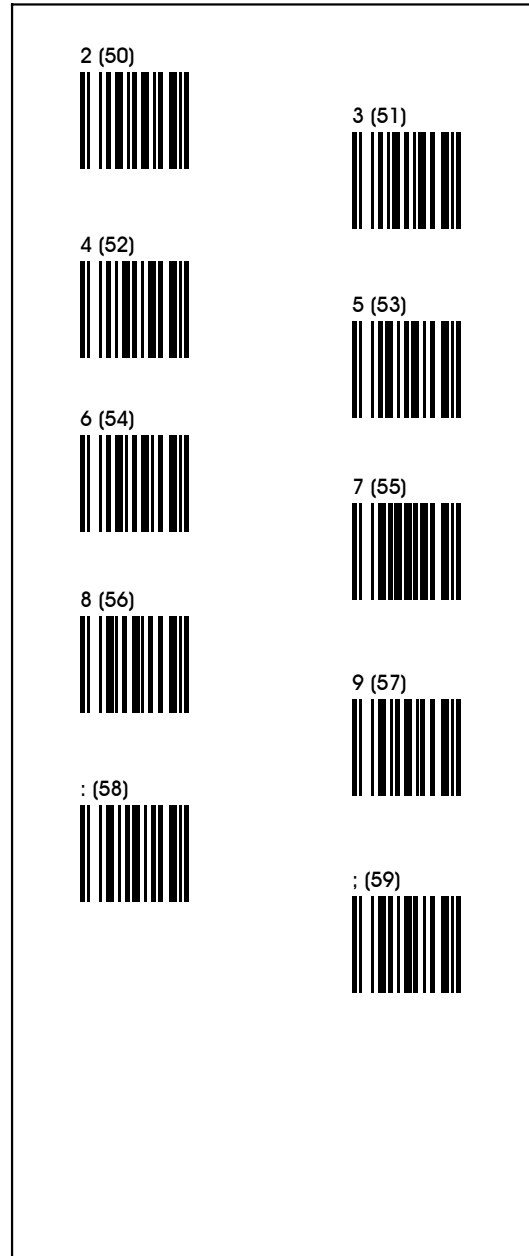
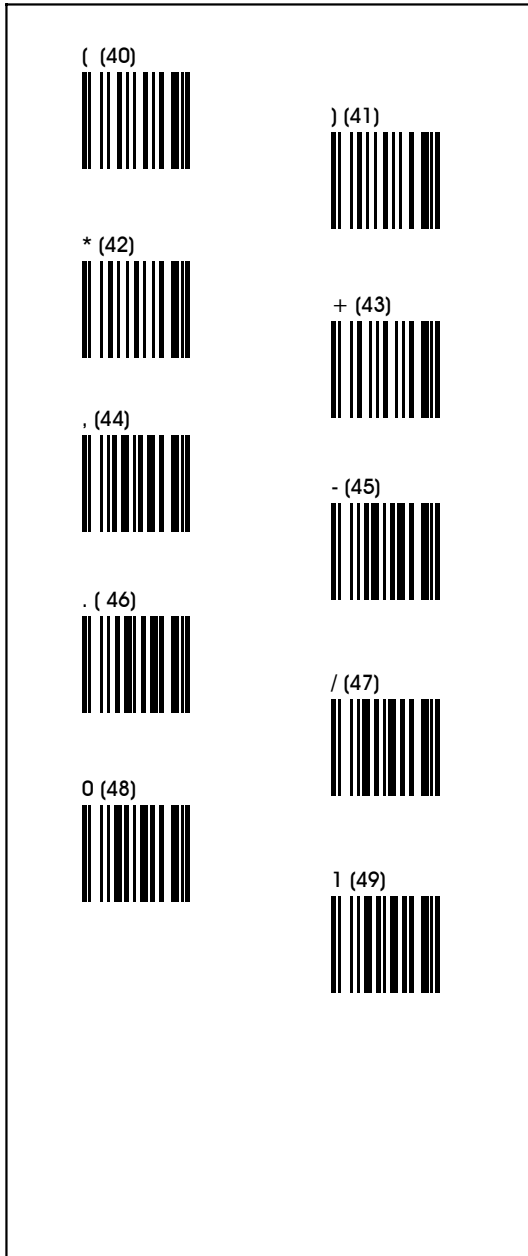
The decimal codes are parenthesized right next to each ASCII code. This will make the configuration very easy to fit user's application since some configurations can be done by just scanning one code only. The decoding software of the scanner can discriminate your setting(s) automatically no matter it's for a text or a digit.

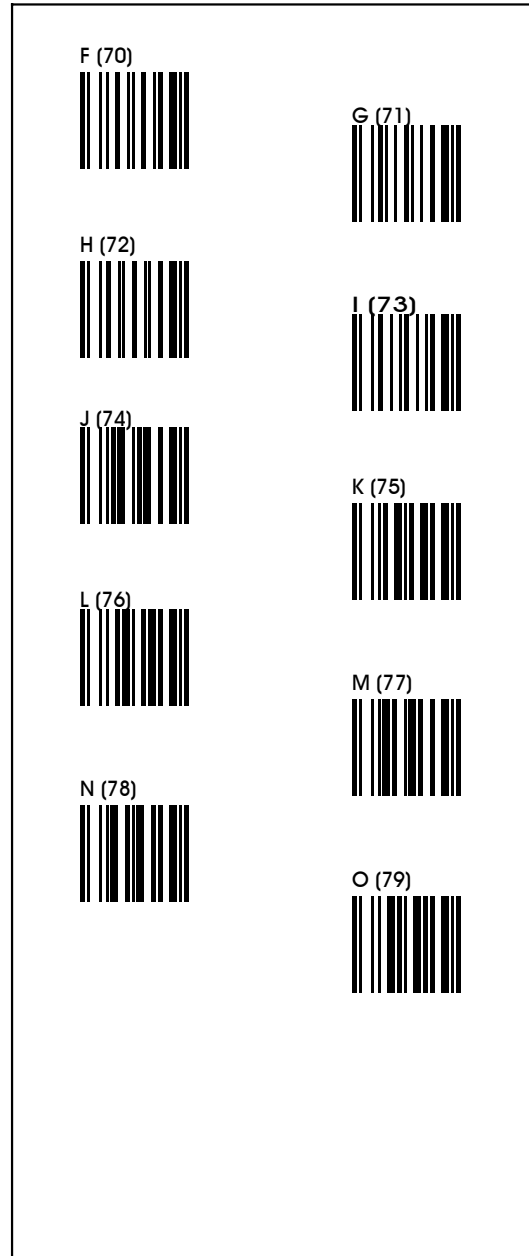
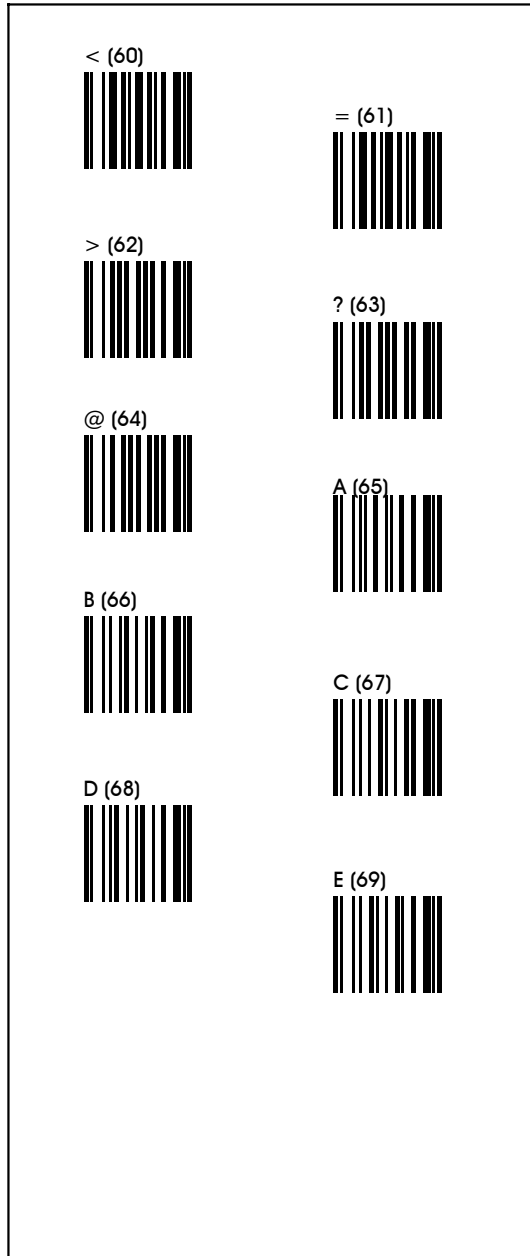
NUL (0)	SOH (1)
STX (2)	ETX (3)
EOT (4)	ENQ (5)
ACK (6)	BEL (7)
BS (8)	HT (9)

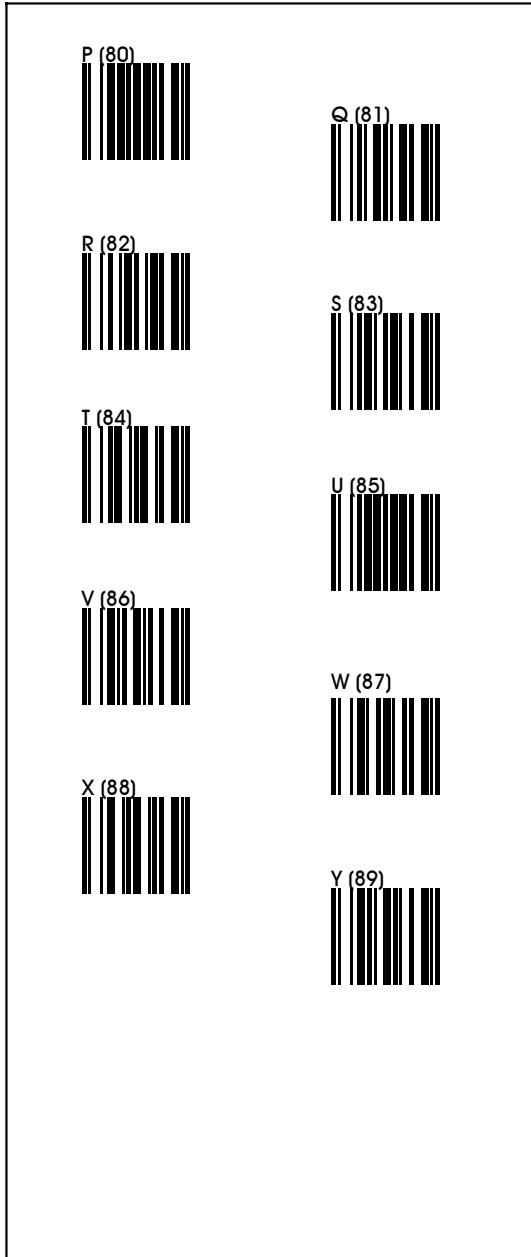
LF (10)	VT (11)
FF (12)	CR (13)
SO (14)	SI (15)
DLE (16)	DC1 (17)
DC2 (18)	DC3 (19)

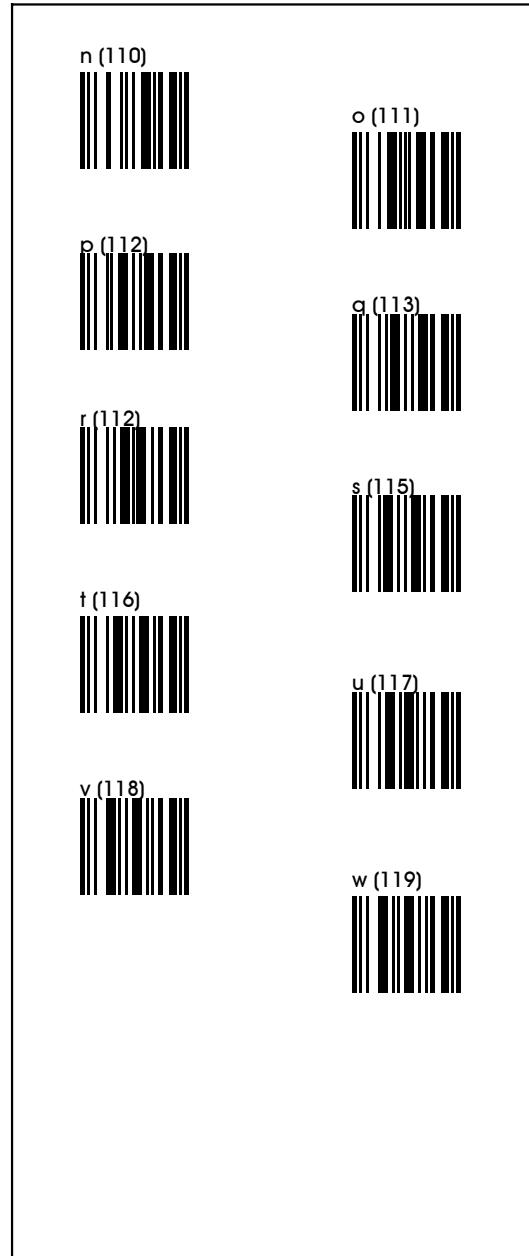
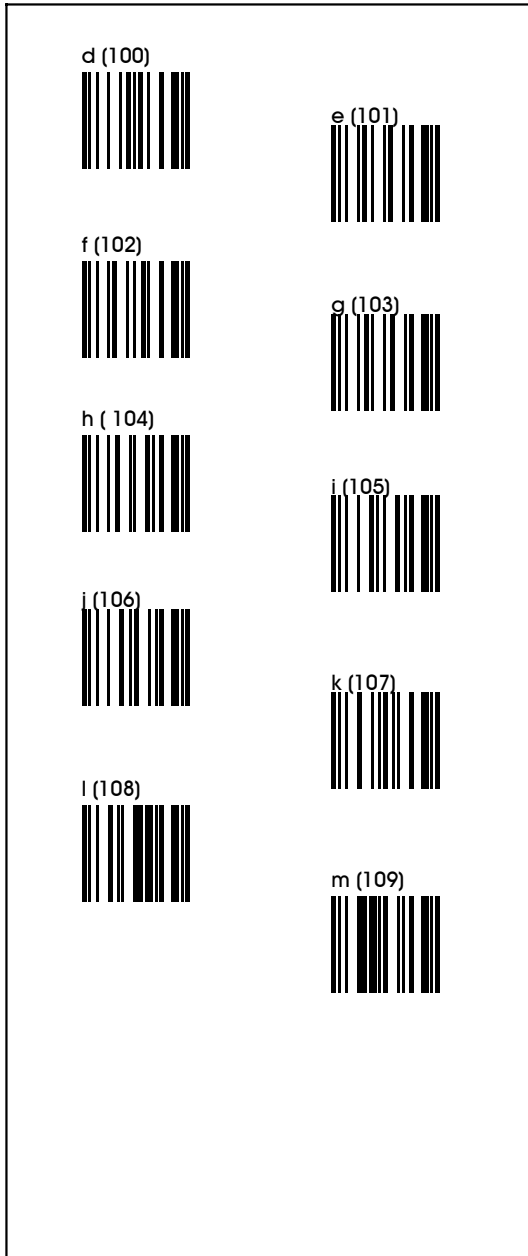
DC4 (20) 	NAK (21) 
SYN (22) 	ETB (23) 
CAN (24) 	EM (25) 
SUB (26) 	ESC (27) 
FS (28) 	GS (29) 

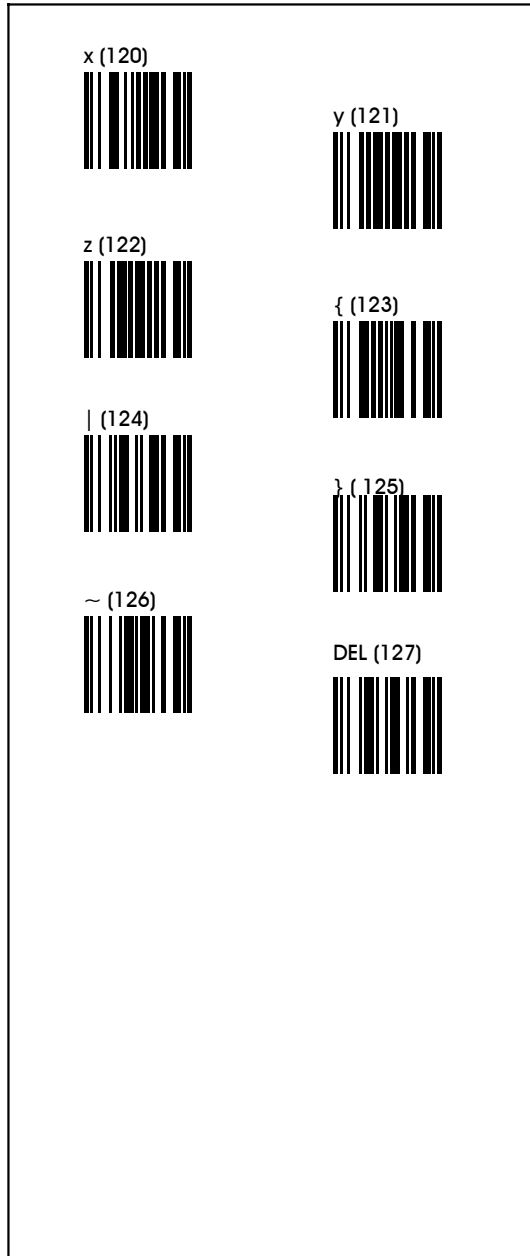
RS (30) 	US (31) 
SP (32) 	! (33) 
" (34) 	# (35) 
\$ (36) 	% (37) 
& (38) 	' (39) 











## APPENDIX B Codemark Default Remarks :

1) Default codemark for EAN-13 is `A`

Default codemark for UPC-A is `B`

Default codemark EAN-8 is `C`

Default codemark UPC-E is `D`

Default codemark Code 4 is `E`

Default codemark Code 11 is `F`

Default codemark tCode 39 is `G`

Default codemark Code 93 is `H`

Default codemark Code 128 is `I`

Default codemark Codabar(NW-7) is `J`

Default codemark Interleave 2/5 (ITF2/5) is `K`

Default codemark IND 2/5 is `L`

Default codemark MTX 2/5 is `M`

Default codemark China postage(Datalogic 2/5) is `N`

Default codemark Standard 2 of 5 (IATA) is `S`

Default codemark MSI/Plessey is `U`

2) Scan label of "Cancel All Code mark" to cancel all code marks at one time.



## APPENDIX C. The CCD Default setting

Interface		
Computer Type	PC/AT & PS/2-50/60/80	
Keyboard Layout	US	
K/B Upper/Lower Case	Use ALT (0-127)	
RS 232C		
Baud Rate	9600bps	
Data Bit	8 bits	
Parity	None	
Handshaking Protocol	None	
Stop Digit	digit	
Data Terminator	CR/LF	
Character Delay	0mm sec	
Data transmit delay	0mm sec	
Reading Mode	Mode 1. Normal Reading Mode	
The frequency of Buzzer sound	normal	
The length of Buzzer sound	short	
Pre-amble & Post-amble code	None	
Readable ON barcodes (Could set OFF)	UPC-A 、UPC-E 、EAN-13 、EAN-8 、Code -39 、Codabar 、Code 93 、Code 128 、Interleaved 2 of 5 、Industrial 2 of 5 、Standard 2 of 5	
Readable OFF barcodes (could set ON)	China Postage 、Matrix 2 of 5 、MSI/Plessey 、Code 4 、RSS 。	
UPC-A Code	Transmit check digit	ON
	Front digit suppressed	ON
UPC-E Code	Transmit check digit	ON
	Front digit suppressed	ON

EAN-13 Code	Transmit check digit	ON
	ISBN/ISSN switch	OFF
EAN-8 Code	Transmit check digit	ON
UPC=EAN	OFF	
UPC-E = UPC-A	OFF	
UPC/EAN Supplemental	Add 2/5 Off	
Code 39	Verify Check Digit	OFF
	Transmit Check Digit	OFF
	Code Type	Standard Code
	Transmit Start/Stop digit	OFF
	Min/Max Code	Min Length= 0 Max Length= 64
	Front/Back digit Suppressed	0 , None
CodaBar	Verify Check digit	OFF
	Transmit Check digit	OFF
	Format of Start/Stop Transmission	ABCD/ABCD
	Start/Stop Transmission	OFF
	Code Length	Min Length = 5 Max Length =64
	Front/Back digit Suppressed	0 , None
Code 93	Verify Check Digit	OFF
	Transmit Check digit	OFF
	Code Length	Min Length = 5 Max Length =64
	Front/Back digit suppressed	0 , None
Code 128	Transmit Check digit	OFF
	Code Length	Min Length = 0 Max Length =64
	Front/Back digit suppressed	0 , None

Interleaved 2 of 5	Verify Check Digit	OFF
	Transmit Check digit	OFF
	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
Industrial 2 of 5	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
Standard 2 of 5 (IATA)	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
China Postage	Verify Check Digit	OFF
	Transmit Check digit	OFF
	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
Matrix 2 of 5	Verify Check Digit	OFF
	Transmit Check digit	OFF
	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
MSI/Plessey	Verify Check Digit	OFF
	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
Code 4	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
RSS	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None
Code 11	Verify Check Digit	1 Verify check digit
	Transmit Check digit	OFF
	Code Length	Min = 5 Max = 64
	Front/Back digit suppressed	0 , None