



# **Programming**

## **User's Manual**

# **SC2100B**

**Ver1.00**

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## Chap.1 System Information



Set All default



S/W Version

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## Chap.2 System Installation

### 2.1 Interface Selection

If you change the interface from others to USB, the program needs to restart plug the installation.



<Keyboard>



RS-232



USB

---

### 2.2.1 Keyboard Terminal Type



<PC/AT,PS/2>



IBM XT



IBM PS/2 30-80



IBM 5550



PS/2 25, 30



NEC 9801

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### 2.2.2 Language



<U.S.A>



Italian



Spanish



French



Germany



Japan

---

### 2.2.3 Keyboard Wedge function Function Key Emulation



<OFF>



ON

KB Emulation(For NB)



<OFF>



ON

ALT Mode



<OFF>



ON

---

Caps Lock



ON





<OFF>

**Num Lock**



<OFF>



ON

---

### 2.2.4 Inter-character Delay (Default:00)



Appendix A (00H – 64H)

---

### 2.2.5 Inter-message Delay(Default:00)



Appendix A(00H–0AH)

**Delay time=set up data\*100(ms)**

---

### 2.2.6 Keyboard Speed(Default:00)



Appendix A(00H–08H)

### 2.2.7 Message Terminator



None



<CR>



Tab



ESC



CR + LF



Start Configuration



---

### 2.3.1 RS-232 Parameters

#### BAUD Rate



1200



4800



19200



2400



<9600>



38400

---

#### Data bits



7



<8>

#### Stop Bit



<1>



2

---

End Configuration





**Parity**



<None>



Odd



Even



Mark



Space

**RS-232 Function Installation  
Handshaking Protocol Delay  
Inter-character Delay (Default:  
00)**



Appendix A (00H-64H)

Delay time=set up  
data\*1(ms)  
Inter-message Delay  
(Default:00)



Appendix A (00H-0AH)

Delay time=set up data\*100(ms)  
**Handshaking Protocol Delay (De-  
fault:00)**



Appendix A (00H-0AH)

**Handshaking Protocol**



<None>



RTS/CTS



ACK/NAK



Xon/Xoff

**2.4 Scan Mode**

Time out set up





1. Scan the barcode of "Continuous/Timeout OFF"
2. Scan 2 digits of the ASCII code of the Appendix A
3. Scan the "End" of the Appendix A
4. Scan the End Configuration to end the procedure
5. The settings unit is a second. Ex:0\*40 stands for 1 minute

The Timeout Default is 0\*B4, about 3 minutes



Trigger On/Off



<Trigger On/Good read off>



Continuous/Trigger Off



Testing



Continuous/LED always On



Continuous/Timeout Off



Flash On



Continuous/No Trigger

## 2.5 Buzzer Set-up

You can pitch the buzzer tone and adjust the buzzer time. Besides, you can set the voice of boot and decoding..

**Frequency (Default: 0AH)**



Appendix A(00-10H)

**Adjust Buzzer  
Tone (Default: 05H)**



Appendix A(00-10H)

**Power On Tone**





ON

Good read Beep



&lt;ON&gt;



OFF



OFF

## 2.6 Character Installation

The preamble and postamble character: You can put 10 ASCII at most in front of the barcode data. When the installation is "0" that means you don't need to add the first and last character. Please find the format as below:

Preamble Character	Barcode	Postamble Character
--------------------	---------	---------------------

The process for adding the first and last character to the barcode:

1. Scan the barcode of "Start Configuration" and "The Preamble Character Installation".
2. Check the ASCII table to get the ASCII code of the first and last character.
3. Scan the barcode of ASCII in the Appendix.
4. Scan the "End Configuration".

G1/G2 character Insertion: You can put 10 ASCII at most in front of the barcode data. When the installation is "0" that means you don't need to add the first and last character.

1. Scan the barcode of the "Start Configuration" and "G1 Insert Character".
2. Check the ASCII table to get the ASCII code of the first and last character.
3. Scan the barcode of ASCII in the Appendix.
4. Scan the "End Configuration".
5. Repeat the same process to the G2 insertion.
6. Scan the "End Configuration".

The position of G1/G2 character insertion: To select a character insert to the barcode. You can't insert any character while the installation is "0"

1. Scan the barcode of the "Start Configuration" and "G1 character insertion position"
2. Check the ASCII table to get the corresponding ASCII code of the insertion position.







3. Scan the “End Configuration”.
4. Repeat the same process to the G2 character insertion position.
5. Scan the “End Configuration”.

Code Transmission: If your application needs to transmit the code (barcode type ID), you have to set “ON” for this feature and the format is ID + Barcode data.

#### **The Preamble Installation (Default:00)**



Appendix A

#### **The Postamble Installation (Default:00)**



Appendix A

#### **G1 Character Insertion (Default:00)**



Appendix A

#### **G2 Character Insertion (Default:00)**



Appendix A

#### **G1 Character Insertion Position(Default:00)**



Appendix A

#### **G2 Character Insertion Position(Default:00)**



Appendix A

#### **Code ID Transmission**



ON



<OFF>

## **2.5 Other Installation**

Scanning Precision: You can set to scan once or twice and then transfer the bar code data. The twice will reduce the error reading.

Bar Reverse Output Installation: This feature can read the highlight barcode.



Start Configuration



---

**Scanning Verify**



<Single>



Double

---

**Bar / Space Setting**



<Bar = High>



Bar = Low

---

**Laser Data Speed Up**



<ON>



OFF

---

**Chap.3 BAR-CODE INSTALLATION**

**3.1 UPC-A**

**Reading**



OFF



<ON>

**Code ID (Default: F)**



<20H-7EH>

**UPC-A convert to EAN-13**



<OFF>



ON

**Transmit Check Character**



OFF



<ON>

**Truncate Leading Zero**



<OFF>

---

End Configuration



Start Configuration



ON

---

**Truncate Leading Digit(Default:00)**



<00H-0DH>

---

**Truncate Last Digit(Default:00)**



<00H-0DH>

---

**Select Insertion(Default:00)**



<00H-02H>

---

**3.1 UPC-A**

**Add-On 2/5**



<None>



2 digit



5 digit



2 or 5 digit

---

End Configuration





---

### 3.2 UPC-E

#### Reading



OFF



&lt;ON&gt;

#### Code ID (Default: G)



&lt;20H-7EH&gt;

#### UPC-E Convert to UPC-A



&lt;OFF&gt;



ON

#### Transmit Check Character



OFF



&lt;ON&gt;

#### Truncate Leading Zero



OFF



&lt;ON&gt;

---

#### Truncate Leading Digit(Default:00)



&lt;00H-08H&gt;

---

#### Truncate Last Digit(Default:00)



&lt;00H-08H&gt;

---

#### Select Insertion(Default:00)



&lt;00H-02H&gt;



Start Configuration



---

### 3.2 UPC-E

#### Add-On 2/5



<None>



2digit



5digit



2 or 5 digit

---

### 3.3 EAN-13

#### Reading



OFF



<ON>

#### Code ID (Default::H)



---

End Configuration



Start Configuration



---

<20H-7EH>

**Transmit Check Character**



OFF



<ON>

---

**Truncate Leading Digit(Default:00)**



<00H-0DH>

---

**Truncate Last Digit(Default:00)**



<00H-0DH>

---

**Select Insertion Default:oo**



<00H-02H>

---

**Add-On 2/5**



<None>



2 Digit



5 Digit



2 or 5 Digit

---

**ISBN/ISSN Convert**



<OFF>

---

End Configuration



Start Configuration



ON

---

**3.4 EAN-8  
Reading**



OFF

**Code ID (Default::1)**

---



<ON>

End Configuration



Start Configuration



<20H-7EH>



<ON>

**Transmit Check Character**



OFF

---

**Truncate Leading Digit(Default:00)**



<00H-08H>

---

**Truncate Last Digit(Default:00)**



<00H-08H>

---

**Select Insertion(Default:00)**



<00H-02H>

---

**Add-On 2/5**



<None>



2 digit



5 digit



2 or 5 digit

---

**3.5 Code 39**

**Reading**



OFF



<ON>

**Code ID (Default::J)**



(20H-7EH)

---

**Verification**

End Configuration





Start Configuration



<OFF>

**Transmit Check Character**



OFF

**Checksum**



<OFF>

**Min. Length (Default:00)**



<00H-32H>



ON



<ON>



ON

**Max. Length  
(Default:32H)**



<00H-32H>

**3.5 Code 39**

**Format**



<Standard Code39>



Full-featured Code39

**Transfer Start / End Character**



<OFF>



ON

**Truncate Leading Digit(Default:00)**



<00H-32H>

**Truncate Last Digit(Default:00)**



End Configuration





---

<00H-32H>

Select Insertion(Default:00)



<00H-02H>

---

### 3.6 Codabar

Reading



OFF



<ON>

Code ID (Default::K)



<20H-7EH>

Verification



OFF



<ON>

Transmit Check Character



<OFF>



ON

---

Checksum



Start Configuration



<OFF>



ON

**Truncate Leading Digit(Default:00)**



<00H-7EH>

**Truncate Last Digit(Default:00)**



<00H-7EH>

**Select Insertion (Default:00)**



<00H-02H>

**3.6 Codabar**

**Start / End Character Type**



<ABCD/ABCD>



abcd/abcd



abcd/tn\*e

End Configuration



Start Configuration



---

**Transmit Start / End Character**



<OFF>



ON

**Min. Length (Default:00)**



<00H-3CH>

**Max. Length**



<00H-3CH>

---

**3.7 Code93**

**Reading**



OFF



<ON>

**Code ID Default:(L)**



<20H-7EH>

---

End Configuration



Start Configuration



---

**Verification**



OFF



<ON>

**Transmit Check Character**



<OFF>



ON

---

**Select Insertion (Default:00)**



<00H-02H>

---

**Truncate Leading Digit (Default:00)**



<00H-7EH>

---

**Truncate Last Digit (Default:00)**



<00H-7EH>

---

**Min. Length(Default:00)**



<00H-50H>

**Max. Length(Default:00)**



<00H-50H>

---

**3.8 Code 128**

**Reading**



OFF



<ON>

**Code ID (Default::M)**



<20H-7EH>

**Verification**



OFF



<ON>

**Transmit Check Character**

---

End Configuration



Start Configuration



<OFF>



ON

---

**Truncate Leading Digit(Default:00)**



<00H-7FH>

---

**Truncate Last Digit(Default:00)**



<00H-7FH>

---

**Select Insertion Defaule:00**



<00H-02H>

---

**Min. Length(Default:00)**



<00H-7FH>

**Max. Length(Default:7FH)**



<00H-7FH>

---

End Configuration



Start Configuration



---

**UCC/EAN128**



<OFF>

**FNC1 Transmit**



<OFF>

**FNC2 Checksum**



<OFF>



ON



ON



ON

---

End Configuration





---

**3.9 Interleaved 2 of 5****Reading**

OFF

**Code ID (Default: N)**

&lt;20H-7EH&gt;

&lt;ON&gt;

**Verification**

&lt;OFF&gt;

**Transmit Check Character**

OFF

ON



&lt;ON&gt;

---

**Truncate Leading Digit(Default:00)**

&lt;00H-7EH&gt;

---

**Truncate Last Digit(Default:00)**

&lt;00H-7EH&gt;

---

**Select Insertion(Default:00H)**

&lt;00H-02H&gt;

---

**Min. Length(Default:00)**

&lt;00H-7FH&gt;

**Max. Length(Default:7FH)**

&lt;00H-7FH&gt;

---

**3.10 Industrial 2 of 5****Reading**

&lt;OFF&gt;



ON

**Code ID (Default:: O)**



Start Configuration



<00H-7EH>

**Verification**



<OFF>



ON

**Transmit Check Character**



<OFF>



ON

---

**Truncate Leading Digit(Default:00)**



<00H-32H>

---

**Truncate Last Digit(Default:00)**



<00H-32H>

---

**Select Insertion (Default:00)**



<00H-02H>

---

**Min. Length Default:0**



<00H-32H>

**Max. Length Default:32H**



<00H-32H>

---

**3.11 Matrix 2 of 5**

**Reading**



<OFF>



ON

**Code ID (Default: P)**



<20H-7EH>

**Verification**



---

End Configuration



Start Configuration



<OFF>



Transmit Check Character

ON



OFF



<ON>

Truncate Leading Digit(Default:00)



<00H-50H>

Truncate Last Digit(Default:00)



<00H-50H>

Select Insertion



<00H-02H>

Min. Length(Default:00)



<00H-50H>

Max. Length(Default:50H)



<00H-50H>

3.12 China Post Code

Reading



<OFF>



Code ID (Default: Q)

ON



<20H-7EH>

Verification



<OFF>



Transmit Check Character

ON



<OFF>



End Configuration



Start Configuration



ON

**Truncate Leading Digit(Default:00)**



<00H-50H>

**Truncate Last Digit(Default:00)**



<00H-50H>

**Select Insertion Default:00**



<<00H-02H>

**Min. Length(Default:00)**



<00H-50H>

**Max. Length(Default:50H)**



<00H-50H>

**3.13 MSI / Plessey  
Reading**



<OFF>



ON

**Code ID (Default: R)**



<20H-7EH>

**Verification**



<OFF>



MOD 11/10



MOD 10



MOD 10/10

**Transmit Check Character**



OFF



End Configuration



Start Configuration



---

<ON>

---

**Truncate Leading Digit (Default:00)**



<00H-3CH>

---

**Truncate Last Digit (Default:00)**



<00H-3CH>

---

**Select Insertion (Default:00)**



<00H-02H>

---

End Configuration



Start Configuration



---

**3.13 MSI / Plessey**

**Min. Length (Default:00)**



<00H-3CH>

**Max. Length (De-  
fault:3CH)**



<00H-3CH>

---

End Configuration





---

### 3.14 CODE32

#### Reading



<OFF>



ON

#### Code ID (Default: S)



<20H-7FH>

#### Verification



<OFF>



ON

#### Transmit Check Character



<OFF>



ON

---

#### Truncate Leading Digit( Default:00)



<00H-0AH>

---

#### Truncate Last Digit(Default:00)



<00H-0AH>

---

#### Select Insertion (Defaule:00)



<00-02H>





---

**3.15 Code 11****Reading**

&lt;OFF&gt;

**Code ID (Default: T )**

&lt;20H-7EH&gt;

ON

**Verification**

&lt;OFF&gt;

**Transmit Check Character**

&lt;OFF&gt;

ON



ON

---

**Truncate Leading Digit (Default:00)**

&lt;00H-50H&gt;

---

**Truncate Last Digit (Default:00)**

&lt;00H-50H&gt;

---

**Select Insertion**

&lt;00H-02H&gt;

---

**Min. Length (Default:00)**

&lt;00H-50H&gt;

**Max. Length (Default:50H)**

&lt;00H-50H&gt;





## APPENDIX A -- ASCII CODE



0



A



1



B



2



C



3



D



4



E



5



F



6



Y



7



N



8

**Confirm**

9







## ASCII Table

	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 -- Function Key Table

	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 Code

Before scanning, please turn on the CODE 39.



UP(\$A)



F5(\$U)



F10(\$Z)

DELETE(\$  
O)

F1(\$Q)

PAGE  
DOWN(\$F)

HOME(\$K)

ENTER(\$M  
)

DOWN(\$B)



F2(\$R)



F6(\$V)



ESC(%A)



END(\$L)



LEFT(\$C)



F7(\$W)



F11(%B)



F3(\$S)



BS(\$H)



F12(%C)



RIGHT(\$D)



F8(\$X)



F13(%D)



F4(\$T)



TAB(\$I)



INSERT(\$N)

PAGE  
UP(\$E)

F9(\$Y)



F14(%E)



Start Configuration



End Configuration

