



**MK-2800BT**

**Bluetooth Linear Imager Scanner**

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**Configuration Guide**

# RELEASE NOTE

Version	Date	Notes
V3.21 (CCD v/s: V-3.1-CR)	2010/8/1	<ul style="list-style-type: none"><li>◆ Adding function : 3.8 Code 128 - FIELD SEPARATOR DEFINED (on page 32)</li><li>◆ Adding function : 3.17 GS1 Data Bar (RSS) - APPLICATION ID TRANSMISSIONFIELD (on page 50)</li><li>◆ Adding function : 3.17 GS1 Data Bar (RSS) / CHECKSUM TRANSMISSION (on page 50)</li></ul>

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# Chapter 1 - System Information

## 1.1 About this manual

This User's Guide provides detailed programming instructions. Barcode scanners are factory programmed for the most common communication setting. If you need to change these settings, programming is accomplished by scanning the bar codes in this guide.

### 1.2 How to set up the parameter -I

- (1) Scan Start Configuration
- (2) Scan all necessary labels for parameters that meet your applications.
- (3) Scan End Configuration to end the programming.



Start configuration



End configuration



Default setting



Check Version

An asterisk (\*) next to an option indicate the default setting.

## 1.2 Pairing Cradle

1. Scan "setting configuration"



2. Scan "open SPP "



3. Scan "disconnect previous pairing"



4. Scan "Cradle bottom BT address barcode"

5. Scan "Repairing"



6. Scan "Save BT SPP setting"



7. Scan " End BT SPP setting "



Apple device needs enable transmission, others need to disable



Enable iOS transmission



Disable iOS transmission

## 1.3 Pairing Smart Phone ,Table PC

1. Scan "setting configuration"



2. Scan " Open HID connection "



3. Scan " Disconnection previous pairing "



4. Scan " BT visible setting "



5. Scan " Save BT HID configuration "



6. Scan " End BT HID configuration "



Apple device needs enable transmission, others need to disable



Enable iOS transmission



Disable iOS transmission

**Enable BT function in iPad or smart phone and then search BT (NVC\_MD\_CS45) to pair.**

## 1.4 Sleeping time and Buzzer setting



5 min



10 min



30 min



Always ON

## Buzzer



High



Low



Off

# 1.5 USB Country Keyboard Types

Keyboard layouts vary from country to country. The default setting is 1-U.S. keyboard.



USA



Germany



Italy



France



Spain



Japan



Czech



Denmark



Belgium



Finland



Dutch



Hungary



Finlan

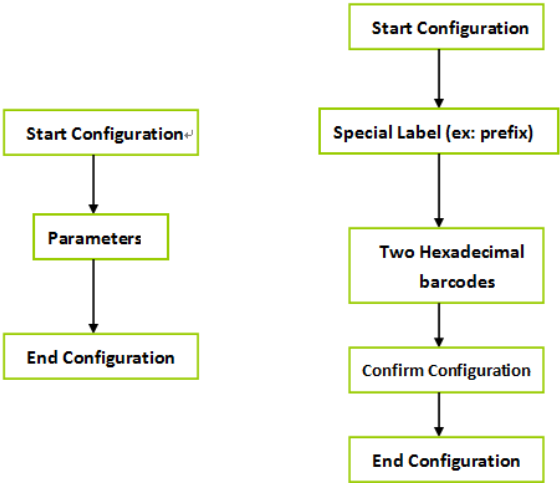


# 1.6 How to set up the parameter - II

Most of time the scanner only requests one read of parameters when changing to new values. You will hear two beeps when you successfully set to the new values. But for some special parameters, multiple reads are needed to complete the configuration. When use these special parameters. In some cases, you might need to read one or more barcodes, such as:

- ☐ Hexadecimal barcodes. For example: prefix, suffix, etc.
- ☐ Numeric barcodes. For example: inter-character delay, max/min length

To complete the change of setting you will need to read the “Confirm” barcode after you read the parameter. Below is the flow chart to explain two different configurations.



Chapter 2 - System setup








Start configuration



End configuration

2.1 Terminator

ITEM	OPTION
Output Characters	 None
	 *CR+LF
	 CR
	 LF
	 Tab

## 2.2 String Options (Prefix & Suffix)

This section describes the alterations which can be made to the format of the transmitted data string. A prefix and suffix of maximum 20 direct input may be included in front and at the end of scanned barcode.

### Format

{Prefix} {Code ID} {Bar Code} {Suffix}

### How to set up a prefix?

To configure “##” as prefix

- (1) Scan Start Configuration barcode
- (2) Scan Preamble bar code
- (3) Scan ‘#’ twice from FULL ASCII table
- (4) Scan Confirm configuration barcode
- (5) Scan End Configuration barcode.

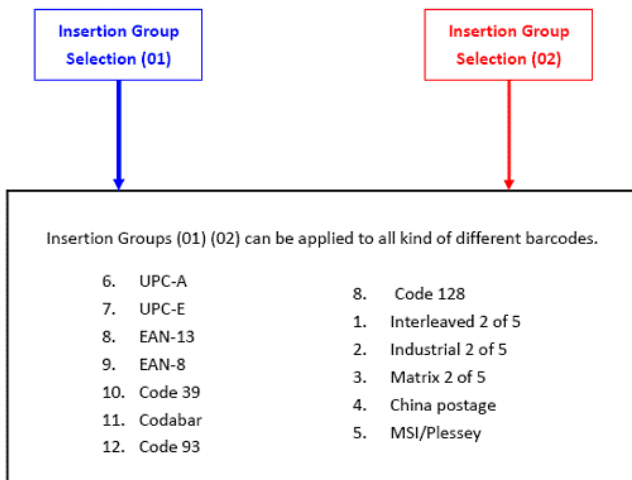
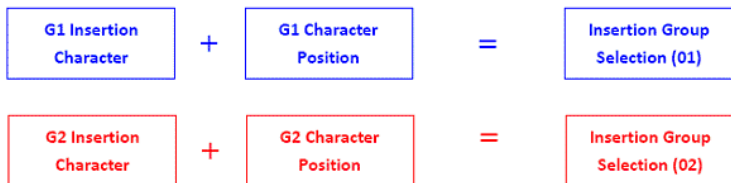
### How to set up a suffix?

To configure “\$\$” as suffix

- (1) Start configuration barcode
- (2) Scan Postamble barcode
- (3) Scan ‘\$’ twice from FULL ASCII table
- (4) Scan Confirm configuration barcode
- (5) Scan End configuration barcode.

## 2.3 Setup Insertion

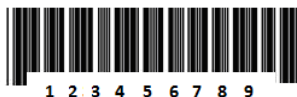
This section describes how to setup the insertion of output.



### NOTE :

- ☐ Max. 10 charters can be inserted each time
- ☐ Max. Insertion group is only two.
- ☐ Insertion group (01) or (02) can be used in different kinds of barcodes at the same time

### Example:



:

To insert character “A” before the third digit(3)

Make the decoded data: 12A3456789

### How to set up a character you want to insert

- (1) Scan Start Configuration barcode
- (2) Scan “G1 Insertion character”
- (3) Scan “4” and “1” from FULL ASCII Table
- (4) Scan Confirm configuration barcode
- (5) Scan End configuration barcode

### How to set up position you wish to place the character

- (6) Scan Start Configuration barcode
- (7) Scan “G1 Character Position”
- (8) Scan “0” and “3” from FULL ASCII Table (which presents the position)
- (9) Scan Confirm configuration barcode
- (10) Scan End configuration barcode

### How to set up insertion for code 39

Go to chapter 3.5 (code 39)

- (11) Scan Start Configuration barcode
- (12) Scan “Insert group selection” bar code
- (13) scan “0” and “1” from FULL ASCII Table  
(which presents the group- 01 you just set up previously)
- (14) Scan Confirm configuration bar code
- (15) Scan End configuration barcode









Start configuration



End configuration



Confirm configuration

ITEM	OPTION
Preamble (Default : 00)	 Ref: Appendix
Postamble (Default : 00)	 Ref: Appendix
G1 Insertion character (Default : 00)	 Ref: Appendix
G2 Insertion character (Default : 00)	 Ref: Appendix
G1 Character Position to be inserted (Default : 00)	 Ref: Appendix
G2 Character Position to be inserted (Default : 00)	 Ref: Appendix



Start configuration



End configuration

ITEM

OPTION

Bar Code ID

\*Disable



Enable

Accuracy

\* Read 1 Time Read



2 Times Negative

Positive and negative bar codes

bar codes



\*Positive bar codes

Code Type	ID	Code Type	ID
UPC-A	F	Interleaved 25	N
UPC-E	G	Industrial 25	O
EAN-13	H	Matrix 25	P
EAN-8	I	China Postal Code	Q
Code 39	J	MSI/Plessey	R
Codabar	K	Code 32	S
Code 93	L	Code 11	T
Code 128	M	Telepen	V

## Chapter 3 - Bar Code parameters setting

### How to set up a Code ID?

- (1) Scan Start configuration bar code
- (2) Go to the ASCII Table and scan label that represent the desired characters to be inserted.
- (3) Scan Confirm configuration bar code
- (4) Scan End configuration bar code.



Start configuration






End configuration



Confirm configuration

### 3.1 UPC-A

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID Setting (Default : F )	
	Ref: Appendix (20-7EH)











Start configuration



End configuration


ITEM	OPTION
	
UPC-A Expand to EAN-13	* Disable
	
	Enable
	
Check Digit Send	Disable
	
	* Enable
	
Truncate Leading Zero	* Disable
	
	Enable
Truncate Leading (Default:00)	
	Ref: Appendix (00-0DH)
Truncate Ending (Default:00) Insert	
	Ref: Appendix (00-0DH)
group selection	
	Ref: Appendix (00-02H)



Start configuration



End configuration

ITEM	OPTION
Supplement digits	
	* NONE
	
	2 digits
	
	5 digits
	
	2 or 5digits
	
	Auto-discriminate Supplement




3.2 UPC-E



Start configuration



End configuration

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : G)	
	Ref: Appendix (20-7EH)



Start configuration



End configuration

ITEM	OPTION
UPC-E Expand to UPC-A	
	* Disable
Check Digit Send	Enable
	Disable
Truncate Leading (Default:00)	
	* Enable
Truncate Ending (Default:00)	Ref: Appendix (00-08H)
	Ref: Appendix (00-08H)
Insert group selection (Default:00)	
	Ref: Appendix (00-02H)
	Ref: Appendix (00-02H)



Start configuration



End configuration

ITEM	OPTION
Truncate Leading Zero	
	*Disable
Supplement digits	Enable
	* None
	2 digits
	5 digits
	2 or 5 digits
	Auto-discriminate Supplement

3.3 EAN-13

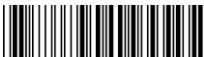





	
Start configuration	End configuration
<hr/>	
ITEM	OPTION
<hr/>	
Read	
	Disable
	<hr/>
	
	* Enable
<hr/>	
Code ID setting (Default: H)	
	Ref: Appendix (20-7EH)
<hr/>	
Check Digit Send	
	Disable
	<hr/>
	
	* Enable
<hr/>	
Truncate Leading (Default: 00 )	
	Ref: Appendix (00-0DH)
<hr/>	
Truncate Ending (Default: 00 )	
	Ref: Appendix (00-0DH)
<hr/>	



Start configuration



End configuration

ITEM	OPTION
Supplement digits	
	* None
	
	2 digits
	
	5 digits
ISBN/ISSN Conversion	
	2 or 5 digits
	
	Auto-discriminate Supplement
Insert group selection (Default : 00 )	
	* Disable
	
	Enable
	
	Ref: Appendix (00-02H)


3.4 EAN-8



Start configuration



End configuration

ITEM	OPTION	
Read		
	Disable	
		
		* Enable
Code ID setting (Default : I)		
	Ref: Appendix (20-7EH)	
Check Digit Send		
	Disable	
		
		* Enable
Truncate Leading (Default : 00)		
	Ref: Appendix (00-08H)	












Start configuration



End configuration

ITEM	OPTION
Truncate Ending (Default : 00)	 Ref: Appendix (00-08H)
Supplement digits	 * None
	 2 digits
	 5 digits
	 2 or 5 digits
	 Auto-discriminate Supplement
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)








3.5 Code39



Start configuration



End configuration







ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : J)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
	
	Enable
Check-sum transmission	
	Disable
	
	* Enable



Start configuration



End configuration






ITEM	OPTION
Append	
	* Disable
	
Min. code length (Default: 00)	Enable
	
	Ref: Appendix (00-32H)
Max. code length (Default: 32H)	
	Ref: Appendix (00-32H)
Format	
	* Standard Code39
	
	Code 39 Full ASCII



Start configuration



End configuration

ITEM	OPTION
Transmit Start/End Character	
	* Disable
	
	Enable
Truncate Leading (Default: 00)	 Ref: Appendix (00-32H)
Truncate Ending (Default: 00)	 Ref: Appendix (00-32H)
Insert group selection (Default: 00)	 Ref: Appendix (00-02H)




3.6 Codabar



Start configuration



End configuration






ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : K)	
	Ref: Appendix (20-7EH)



Start configuration



End configuration








ITEM	OPTION
Check-sum verification	
	* Disable
	
Check-sum transmission	Enable
	
	* Disable
Append	
	Enable
	* Disable
Truncate Leading (Default:00)	
	Enable
	* Disable
	Ref: Appendix (00-7EH)



Start configuration



End configuration



ITEM	OPTION
Truncate Ending (Default:00)	 Ref: Appendix (00-7EH)
Start/End type	 * ABCD/ABCD
	 abcd/abcd
	 abcd/tn*e
Start/End transmission	 * Disable
	 Enable
Min. code length (Default: 05)	 Ref: Appendix (00-3CH)



Start configuration



End configuration

ITEM	OPTION
Max. code length (Default: 3CH)	 Ref: Appendix (00-3CH)
Insert group selection (Default: 00)	 Ref: Appendix (00-02H)







3.7 Code93



Start configuration- 33 -



End configuration

ITEM	OPTION
Read	
	Disable
	
	* Enable
Code ID setting (Default : L)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
	
	* Enable



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
Min. code length (Default: 00)	
	Ref: Appendix (0-50H)
Max. code length (Default: 50H)	
	Ref: Appendix (0-50H)
Truncate Leading (Default: 00)	
	Ref: Appendix (00-7EH)
Truncate Ending (Default: 00)	
	Ref: Appendix (00-7EH)
Insert group selection	
	Ref: Appendix (00-02H)


3.8 Code 128



Start configuration



End configuration

ITEM	OPTION	
Read		
	Disable	
		
		* Enable
Code ID setting (Default : M)		
	Ref: Appendix (20-7EH)	
Check-sum verification		
	Disable	
		
		* Enable



Start configuration



End configuration







ITEM	OPTION
Check-sum transmission	
	* Disable
	Enable
FNC2 Append	
	* Disable
	Enable
UCC/EAN128	
	* Disable
	Enable
FNC1 transmission	
	* Disable
	Enable



Start configuration



End configuration

ITEM	OPTION
FIELD SEPARATOR DEFINED (GS CHARACTER)	 Enable Field Separator Ref: Appendix
Truncate Leading (Default: 00)	 Ref: Appendix (00-7FH)
Truncate Ending (Default: 00)	 Ref: Appendix (00-7FH)
Min. code length (Default: 00)	 Ref: Appendix (00-7FH)
Max. code length (Default: 7FH)	 Ref: Appendix (00-7FH)
Insert group selection (Default: 00)	 Ref: Appendix (00-02H)

3.9 Interleaved 2 of 5



Start configuration



End configuration






ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default : N)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
Enable	
Check-sum transmission	
	Disable
* Enable	



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-7EH)
Truncate Ending (Default : 00)	 Ref: Appendix (00-7EH)
Min. code length (Default : 04)	 Ref: Appendix (04-7FH)
Max. code length (Default : 7FH)	 Ref: Appendix (00-7FH)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.10 Industrial 2 of 5



Start configuration



End configuration

ITEM	OPTICON
Read	
	* Disable
	Enable
Code ID setting (Default : 0)	 Ref: Appendix (20-7EH)
Min. code length (Default : 00)	 Ref: Appendix (00-32H)
Max. code length (Default : 32H)	 Ref: Appendix (00-32H)












Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-32H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-32H)
Check-sum verification	 * Disable  Enable
Check-sum transmission	 Disable  * Enable
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.11 Matrix 2 of 5



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default : P)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
Enable	



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	Disable
	
	* Enable
Truncate Leading (Default : 00)	 Ref: Appendix (00-50H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-50H)
Min. code length (Default : 0B)	 Ref: Appendix (00-50H)
Max. code length (Default : 50H)	 Ref: Appendix (00-50H)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.12 CHINA POSTAL CODE



Start configuration



End configuration



ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default : Q)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
Enable	
Check-sum transmission	
	Disable
* Enable	



Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-50H)
Truncate Ending (Default : 00)	 Ref: Appendix (00-50H)
Min.code length (Default : 00)	 Ref: Appendix (00-50H)
Max.code length (Default : 50H)	 Ref: Appendix (00-50H)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)


3.13 MSI/Plessey



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
	
	Enable
Code ID setting (Default : R)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	* Disable
	
	MOD 10
	
	MOD 10/10
	
	MOD 11/10



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	Disable
	
Truncate Leading (Default : 00)	
	Ref: Appendix (00-3CH)
Truncate Ending (Default : 00)	
	Ref: Appendix (00-3CH)
Min. code length (Default : 00)	
	Ref: Appendix (00-3CH)
Max. code length (Default : 3CH)	
	Ref: Appendix (00-3CH)
Insert group selection (Default : 00)	
	Ref: Appendix (00-02H)

3.14 CODE 32



Start configuration



End configuration

ITEM	OPTION
Read	
	* Disable
Code ID Setting (Default: S)	
	Ref: Appendix (20-7EH)
Check-sum verification	Disable
	* Enable
Check-sum transmission	
	Disable
	* Enable








Start configuration



End configuration

ITEM	OPTION
Truncate Leading (Default : 00)	 Ref: Appendix (00-0AH)
Truncate Ending (Default : 00)	 Ref: Appendix (00-0AH)
Insert group selection (Default : 00)	 Ref: Appendix (00-02H)

3.15 CODE 11



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Enable	
Code ID setting (Default: T)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
* Enable	



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
	
Truncate Leading (Default : 00)	Enable
	
Truncate Ending (Default : 00)	Ref: Appendix (00-50H)
	
Min. code length (Default : 00)	Ref: Appendix (00-50H)
	
Max. code length (Default : 50H)	Ref: Appendix (00-50H)
	
Insert group selection (Default : 00)	Ref: Appendix (00-02H)
	

3.16 Telepen



Start configuration



End configuration








ITEM	OPTION
Read	
	* Disable
Code ID setting (Default: V)	
	Ref: Appendix (20-7EH)
Check-sum verification	
	Disable
Data Format	
	Only Numnic
	*Full ASCII



Start configuration



End configuration

ITEM	OPTION
Check-sum transmission	
	* Disable
	
Truncate Leading (Default : 00)	Enable
	
Truncate Ending (Default : 00)	Ref: Appendix (00-40H)
	
Min. code length (Default : 00)	Ref: Appendix (00-40H)
	
Max. code length (Default : 40H)	Ref: Appendix (00-40H)
	
Insert group selection (Default : 00)	Ref: Appendix (00-02H)
	

3.17 GS1 Data Bar (RSS)



Start configuration



End configuration

ITEM	OPTION
RSS-14	
	Enable
	
RSS-14 LIMITED	
	Enable
	
RSS-14 EXPANDED	
	Enable
	
RSS TO UPC/EAN	
	Enable
	



Start configuration



End configuration

---

ITEM

---

OPTION

---

APPLICATION ID TRANSMISSION



---

\*Enable

---



Disable

---

CHECKSUM TRANSMISSION



---

\*Enable

---



Disable

---

## **Appendix A –**



## KBD Wedge Character Table

Hex	Char	Hex	Char	Hex	Char
80	F1	81	F2	82	F3
83	F4	84	F5	85	F6
86	F7	87	F8	88	F9
89	F10	8A	F11	8B	F12
8C	L-Ctrl	8D	L-Shift	8E	L-Alt
8F	L-GUI	90	R-Ctrl	91	R-Shift
92	R-Alt	93	R-GUI	94	Caps Lock
95	Print Screen	96	Scroll Lock	97	Pause
98	Insert	99	Delete	9A	Home
9B	End	9C	Page Up	9D	Page Down
9E	Left Arrow	9F	Right Arrow	A0	Up Arrow
A1	Down Arrow	A2	Num Lock(keypad)	A3	1(keypad)
A4	2(keypad)	A5	3(keypad)	A6	4(keypad)
A7	5(keypad)	A8	6(keypad)	A9	7(keypad)
AA	8(keypad)	AB	9(keypad)	AC	0(keypad)
AD	/(keypad)	AE	*(keypad)	AF	-(keypad)
B0	+(keypad)	B1	Enter(keypad)	B2	.(keypad)
B3	Insert(keypad)	B4	Delete(keypad)	B5	Home(keypad)
B6	End(keypad)	B7	Page Up(keypad)	B8	Page Dn(keypad)
B9	Left Arrow(keypad)	BA	Right Arrow(keypad)	BB	Up Arrow(keypad)
BC	Down Arrow(keypad)				

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

Dec	Hex	Char.	Dec	Hex	Char.
64	40	@	96	60	'
65	41	A	97	61	a
66	42	B	98	62	b
67	43	C	99	63	c
68	44	D	100	64	d
69	45	E	101	65	e
70	46	F	102	66	f
71	47	G	103	67	G
72	48	H	104	68	h
73	49	I	105	69	i
74	4A	J	106	6A	j
75	4B	K	107	6B	k
76	4C	L	108	6C	l
77	4D	M	109	6D	m
78	4E	N	110	6E	n
79	4F	O	111	6F	o
80	50	P	112	70	P
81	51	Q	113	71	q
82	52	R	114	72	r
83	53	S	115	73	s
84	54	T	116	74	t
85	55	U	117	75	u
86	56	V	118	76	v
87	57	W	119	77	w
88	58	X	120	78	x
89	59	Y	121	79	y
90	5A	Z	122	7A	z
91	5B	[	123	7B	{
92	5C	\	124	7C	
93	5D	}	125	7D	}
94	5E	^	126	7E	~
95	5F	_	127	7F	DEL

## Table-Hex    HEXADCIMAL



1



2



3



4



5



6



7



8



9



0



A



B



C



D



E



F



Confirm configuration



End Configuration