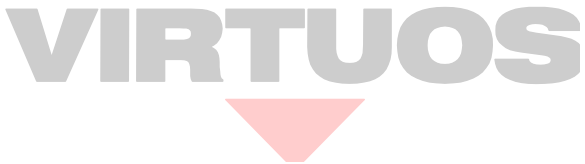




Programming User's Manual

For Virtuos HT-310

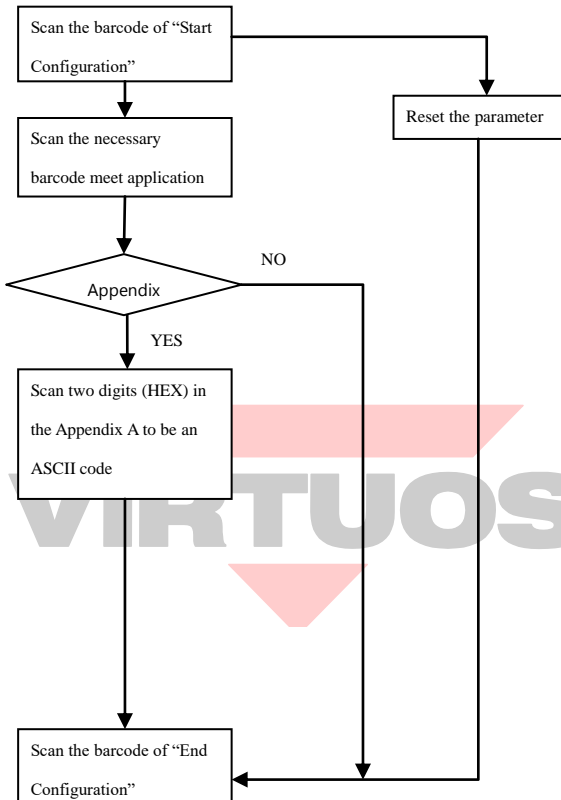


Ver:3.2.2a

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Barcode Scanner Install Flow Chart



Remark:

- ◆ Scan "Software Version" to get the software version number.
- ◆ Scan "Serial Number" to get the serial number.



—: Systems Information

1.1 Default

1.2 Version Information。



Start Configuration

Set All Default
 ((+M%4D))
Version
 ((+M%4V))



End Configuration



Start Configuration

二: Systems Setting

2.1 Interfaces:

Interface Selection

(Keyboard) ((A1A))

RS-232 ((A1B))

USB HID keyboard ((A1C))

USB Virtual COM ((A1D))



End configuration



Start Configuration

2.1.1 Keyboard Wedge Setting












Languages
 (US) ((B2A))
 Italian ((B2B))
 Spanish ((B2C))
 French ((B2D))
 Germany ((B2E))
 Japan ((B2F))
 Portugal ((B2G))
 Hungary ((B2H))
 Swedish ((B2I))



End Configuration



Start Configuration

Languages	
	Norwegian ((B2J))
	Denmark ((B2K))
	Netherlands ((B2L))
	Turkey ((B2M))
	UK ((B2N))
	Belgium ((B2O))
	Česko((B2P))
Function Key Emulation	
	
(OFF) ((B3A))	ON ((B3B))
Keyboard Emulation	
	
(OFF) ((B4A))	ON ((B4B))



End Configuration



Start Configuration

ALT mode	
(OFF) ((BCB))	ON ((BCA))
Keyboard Terminator	
None ((B9A))	
(CR) ((B9B))	
Tab ((B9C))	
ESC ((B9D))	
Caps Lock	
(OFF) ((B5A))	ON ((B5B))
Num Lock	
(OFF) ((B6A))	ON ((B6B))
Inter-character delay	
00H (00-64H*1 (ms)) ((B7A))	










End Configuration



Start Configuration

2.1.2 RS-232 Communication Parameters













Baud Rate
 2400 ((C8B))
 4800 ((C8C))
 (9600) ((C8D))
 19200 ((C8E))
 38400 ((C8F))
 57600 ((C8G))
 115200 ((C8H))



End Configuration



Start Configuration

Data Bits	
 7 ((C7B))	 (8) ((C7A))
Data Stop	
 (1) ((C6A))	 2 ((C6B))
Parity	
 (None) ((C5A))	 Even ((C5B))
 Odd ((C5C))	
Inter-Character Delay	
 (00-64H*1(ms)) ((C2A))	
Handshaking	
 (None) ((C1A))	 RTS/CTS ((C1B))
 ACK/NAK ((C1C))	 Xon/Xoff ((C1D))



End Configuration



Start Configuration

Character Parameter
 None ((C9A))
 (CR+LF) ((C9B))
 CR ((C9C))
 LF ((C9D))
 Tab ((C9E))
 STX/ETX ((C9F))
 EOT ((C9G))



End Configuration

2.2 Scan Mode

Trigger Mode

Press the trigger and start to scan. The scan will be end once you loose the trigger or decode the barcode. Repeat the action to start the next decodes.

Auto Power off Mode

Press the trigger and start to scan. The scan will be end once the time is up or decode the barcode.

Continuous/Trigger OFF Mode

Press the trigger and start the continuous scan. This mode can scan the different barcode continuously and you just scan the same barcode for one time. Remove the light; you can re-scan the same barcode. Press the trigger again; you can end the Continued Power on Mode.

Test Mode

Press the trigger and start to test. Scan the barcode continuously and press the trigger to end the test.

Continuous/LED ON Mode

Press the trigger and start the continuous scan. The light is always on and you can press the trigger to read it. This mode will be end when you choose the other scan mode.

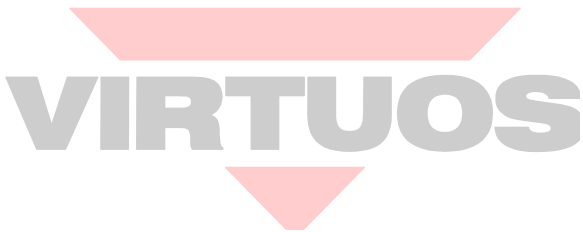
Continuous/Timeout OFF Mode

The scanning method is the same as the Continuous/Trigger OFF mode but you have to scan it within the compulsory time, otherwise the mode will be end. You can press the trigger to start the next scan

Timeout Set-Up

1. Scan the barcode of “Continuous/Timeout OFF Mode”
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





Start Configuration

Scan Mode
 Trigger On/Off ((E1A))
 (Trigger On/Good read off) ((E1B))
 Continuous/Trigger Off ((E1C))
 Testing ((E1D))
 Continuous/LED always On ((E1E))
 Continuous/Timeout Off ((E1F))
 Flash On ((E1G))
 Continuous/No Trigger ((E1H))
 Auto Scan((+E1J))



End Configuration



Start Configuration

2.3 Beep Setting

Buzzer Frequency	
09H(00-10H) ((E2A))	
Buzzer Beep Tone	
04H(00-10H) ((E3A))	
Power Up Tone	
(ON) ((EBA))	OFF ((EBB))
Good read Beep	
(ON) ((ECA))	OFF ((ECB))



End Configuration

2.4 Character Installation

The first and last 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:

The First Character	Barcode	The Last Character
---------------------	---------	--------------------

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

1. Scan the barcode of “Start Configuration” and “The First 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.

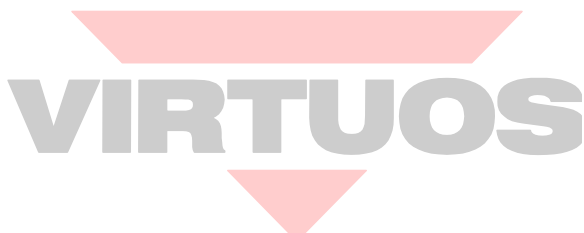
1. Scan the barcode of the “Start Configuration” and “G1 Insert Character”.
2. Check the ASCII table to get the ASCII code of the first and last character.
3. Scan the barcode of ASCII in the Appendix.
4. Scan the “End Configuration”.
5. Repeat the same process to the G2 insertion.
6. Scan the “End Configuration”.

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”

Scan the barcode of the “Start Configuration” and “G1 character insertion position”

-
1. Check the ASCII table to get the corresponding ASCII code of the insertion position.
 2. Scan the “End Configuration”.
 3. Repeat the same process to the G2 character insertion position.
 4. 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.





Start Configuration

Preamble Setting	
(00)((E4A))	
Postamble Setting	
(00)((E5A))	
Character Insertion	
G1(00) ((E6A))	G2(00) ((E7A))
Character Insertion Position	
G1(00) ((E8A))	G2(00) ((E9A))
Code ID Transmission	
ON ((EAA))	(OFF) ((EAB))

2.5 Others Setting

Verify Scanning	
(Single) ((EDA))	Double ((EDB))
Bar Space Setting	
(Bar High) ((EEA))	Bar Low ((EEB))



End Configuration



Start Configuration

3.1 UPC-A

Reading	
OFF ((F1A))	(ON) ((F1B))
Code ID	
46H (20-7EH) ((F2A))	
UPC-A Convertor to EAN-13	
(OFF) ((F3A))	ON ((F3A))
Transmit Check Char.	
OFF ((F4A))	(ON) ((F4B))
Truncate Leading Zero	
(OFF)(F5A))	ON((F5B))



End Configuration



Start Configuration

UPC-A

Truncate Leading Digit	
00H (00-0DH) ((F6A))	
Truncate Last Digit	
00H (00-0DH) ((F7A))	
Select Insertion Code	
00H (00-02H) ((F9A))	
Add-on 2/5	
(None) ((F8A))	2 ((F8B))
5 ((F8C))	2/5 ((F8D))
Auto ((F8E))	












End Configuration



Start Configuration

3.2 UPC-E

Reading	
 OFF ((G1A))	 (ON) ((G1B))
Code ID	
 47H (20-7EH) ((G2A))	
UPC-E Convertor to UPC-A	
 (OFF) ((G3A))	 ON ((G3B))
Transmit Check Char.	
 OFF ((G4A))	 (ON) ((G4B))
Truncate Leading Zero	
 (OFF) ((G7A))	 ON ((G7B))



End Configuration



Start Configuration

UPC-E

Truncate Leading Digit	
00H (00-08H) ((G5A))	
Truncate Last Digit	
00H (00-08H) ((G6A))	
Select Insertion Code	
00H (00-02H) ((G9A))	
Add-on 2/5	
(None) ((G8A))	2 ((G8B))
5 ((G8C))	2/5 ((G8D))
Auto ((G8E))	











End Configuration



Start Configuration

3.3 EAN-13

Reading	
	
OFF ((H1A))	(ON) ((H1B))
Code ID	
	
48H (20-7EH) ((H2A))	
Transmit Check Char.	
	
OFF ((H3A))	(ON) ((H3B))
Truncate Leading Digit	
	
00H (00-0DH) ((H4A))	
Truncate Last Digit	
	
00H (00-0DH) ((H5A))	
Select Insertion Code	
	
00H (00-02H) ((H8A))	










End Configuration



Start Configuration

EAN-13

Add-on 2/5	
 (None) ((H6A))	 2 ((H6B))
 5 ((H6C))	 2/5 ((H6D))
 Auto ((H6E))	
ISBN/ISSN Convert	
 (OFF) ((H7A))	 ON ((H7B))



End Configuration



Start Configuration

3.4 EAN-8

Reading	
OFF ((I1A))	(ON) ((I1B))
Code ID	
49H (20-7EH) ((I2A))	
Transmit Check Char.	
OFF ((I3A))	(ON) ((I3B))
Truncate Leading Digit	
00H (00-08H) ((I4A))	
Truncate Last Digit	
00H (00-08H) ((I5A))	
Select Insertion Code	
00H (00-02H) ((I7A))	



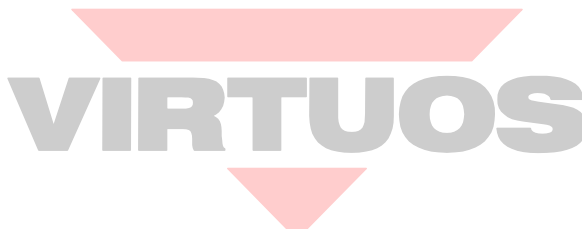
End Configuration



Start Configuration

EAN-8

Add-on 2/5	
 (None) ((I6A))	 2 ((I6B))
 5 ((I6C))	 2/5 ((I6D))
 Auto ((I6E))	



End Configuration



Start Configuration

3.5 Code 39

Reading	
OFF ((J1A))	(ON) ((J1B))
Code ID	
4AH (20-7EH) ((J2A))	
Verify Checksum	
(OFF) ((J3A))	ON ((J3B))
Transmit Check Char.	
OFF ((J4A))	(ON) ((J4B))
Format	
(Standard) ((J9A))	Full ASCII ((J9B))
Transmit Start/End Char.	
(OFF) ((JDA))	ON ((JDB))



End Configuration



Start Configuration

Code 39

Min. Length	
00H (01-50H) ((J6A))	
Max. Length	
50H (01-50H) ((J7A))	
Code 39 Concatenation	
ON ((JFB))	OFF ((JFA))
Truncate Leading Digit	
00H (00-50H) ((JAA))	
Truncate Last Digit	
00H (00-50H) ((JBA))	
Select Insertion Code	
00H (00-02H) ((JCA))	



End Configuration



Start Configuration

3.6 Codabar

Reading	
OFF ((K1A))	(ON) ((K1B))
Code ID	
4BH (20-7EH) ((K2A))	
Verify Checksum	
OFF ((K3A))	(ON) ((K3B))
Transmit Check Character	
(OFF) ((K4A))	ON ((K4B))
Transmit Start/End Character	
(ABCD/ABCD) ((K8A))	abcd/abcd ((K8B))
abcd/tn*e ((K8C))	
Transmit Start/End Character	
OFF ((K9A))	(ON) ((K9B))








End Configuration



Start Configuration

Codabar

Truncate Leading Digit
 00H (01-50H) ((K6A))
Truncate Last Digit
 00H (01-50H) ((K7A))
Select Insertion Code
 00H (00-02H) ((KCA))
Min. Length
 06H (01-50H) ((KAA))
Max. Length
 50H (01-50H) ((KBA))



End Configuration



Start Configuration

3.7 Code 93

Reading	
OFF ((L1A))	(ON) ((L1B))
Code ID	
4CH (20-7EH) ((L2A))	
Verify Checksum	
OFF ((L3A))	(ON) ((L3B))
Transmit Check Character	
(OFF) ((L4A))	ON ((L4B))
Min. Length	
03H (06-50H) ((L5A))	
Max. Length	
50H (06-50H) ((L6A))	






End Configuration



Start Configuration

Code 93

Truncate Leading Digit
 00H (00-50H) ((L7A))
Truncate Last Digit
 00H (00-50H) ((L8A))
Select Insertion Code
 00H (00-02H) ((L9A))

VIRTUOS



End Configuration



Start Configuration

3.8 Code 128

Reading	
OFF ((M1A))	(ON) ((M1B))
Code ID	
4DH (20-7EH) ((M2A))	
Verify Checksum	
OFF ((M3A))	(ON) ((M3B))
Transmit Check Character	
(OFF) ((M4A))	ON ((M4B))
Min. Length	
03H (01-50H) ((MAA))	
Max. Length	
50H (01-50H) ((MBA))	












End Configuration



Start Configuration

Code 128

FNC2 Concatenation	
 (OFF) ((M5A))	 ON ((M5B))
UCC/EAN128	
 (OFF) ((M6A))	 ON ((M6B))
FNC1 Transmit	
 (OFF) ((M7A))	 ON ((M7B))
Truncate Leading Digit	
 00H (00-50H) ((M8A))	
Truncate Last Digit	
 00H (00-50H) ((M9A))	
Select Insertion Code	
 00H (00-02H) ((MCA))	



End Configuration



Start Configuration

3.9 Interleaved 2 of 5

Reading	
OFF ((N1A))	(ON) ((N1B))
Code ID	
4EH (20-7EH) ((N2A))	
Verify Checksum	
(OFF) ((N3A))	ON ((N3B))
Transmit Check Character	
OFF ((N4A))	(ON) ((N4B))
Min. Length	
06H (00-50H) ((N7A))	
Max. Length	
50H (00-50H) ((N8A))	






End Configuration



Start Configuration

Interleaved 2/5

Truncate Leading Digit
 00H (00-50H) ((N5A))
Truncate Last Digit
 00H (00-50H) ((N6A))
Select Insertion Code
 00H (00-02H) ((N9A))

VIRTUOS












End Configuration



Start Configuration

3.10 Industrial 2 of 5

Reading	
 (OFF) ((O1A))	 ON ((O1B))
Code ID	
 4FH (20-7EH) ((O2A))	
Verify Checksum	
 (OFF) ((O7A))	 ON ((O7B))
Transmit Check Character	
 (OFF) ((O8A))	 ON ((O8B))
Min. Length	
 06H (00-50H) ((O3A))	
Max. Length	
 50H (00-50H) ((O4A))	






End Configuration



Start Configuration

Industrial 2 of 5

Truncate Leading Digit
 00H (00-50H) ((O5A))
Truncate Last Digit
 00H (00-50H) ((O6A))
Select Insertion Code
 00H (00-02H) ((O9A))

VIRTUOS












End Configuration



Start Configuration

3.11 Matrix 2 of 5

Reading	
 (OFF) ((P1A))	 ON ((P1B))
Code ID	
 50H (20-7EH) ((P2A))	
Verify Checksum	
 (OFF) ((P3A))	 ON ((P3B))
Transmit Check Character	
 OFF ((P4A))	 (ON) ((P4B))
Min. Length	
 06H (00-50H) ((P7A))	
Max. Length	
 50H (00-50H) ((P8A))	






End Configuration



Start Configuration

Matrix 2of 5

Truncate Leading Digit
 0H (00-50H) ((P5A))
Truncate Last Digit
 00H (00-50H) ((P6A))
Select Insertion Code
 00H (00-02H) ((P9A))

VIRTUOS












End Configuration



Start Configuration

3.12 China Post Code

Reading	
 (OFF) ((Q1A))	 ON ((Q1B))
Code ID	
 51H (20-7EH) ((Q2A))	
Verify Checksum	
 (OFF) ((Q3A))	 ON ((Q3B))
Transmit Check Character	
 (OFF) ((Q4A))	 ON ((Q4B))
Min. Length	
 06H (00-50H) ((Q7A))	
Max. Length	
 50H (00-50H) ((Q8A))	






End Configuration



Start Configuration

China Post Code

Truncate Leading Digit
 00H (00-50H) ((Q5A))
Truncate Last Digit
 00H (00-50H) ((Q6A))
Select Insertion Code
 00H (00-02H) ((Q9A))

VIRTUOS














End Configuration



Start Configuration

3.13 MSI/Plessey

Reading	
 (OFF) ((R1A))	 ON ((R1B))
Code ID	
 52H (20-7EH) ((R2A))	
Verify Checksum	
 (OFF) ((R3A))	 MOD 10 ((R3B))
 MOD 10/10 ((R3C))	 MOD 11/10 ((R3D))
Transmit Check Character	
 OFF ((R4A))	 (ON) ((R4B))
Min. length	
 06H (00-50H) ((R7A))	
Max. Length	
 50H (00-50H) ((R8A))	






End Configuration



Start Configuration

MSI/Plessey

Truncate Leading Digit
 00H (00-50H) ((R5A))
Truncate Last Digit
 00H (00-50H) ((R6A))
Select Insertion Code
 00H (00-02H) ((R9A))

VIRTUOS













End Configuration



Start Configuration

3.14 Code 32

Reading	
 (OFF) ((S1A))	 ON ((S1B))
Code ID	
 53H (20-7EH) ((S2A))	
Verify Checksum	
 OFF ((S3A))	 (ON) ((S3B))
Transmit Check Character	
 OFF ((S4A))	 (ON) ((S4B))
Truncate Leading Digit	
 00H (00-0AH) ((S5A))	
Truncate Last Digit	
 00H (00-0AH) ((S6A))	
Select Insertion Code	
 00H (00-02H) ((S7A))	












End Configuration



Start Configuration

3.15 Code 11

Reading	
 (OFF) ((T1A))	 ON ((T1B))
Code ID	
 54H (20-7EH) ((T2A))	
Verify Checksum	
 OFF ((T3A))	 (ON) ((T3B))
Transmit Check Character	
 (OFF) ((T4A))	 ON ((T4B))
Min length	
 06H (00-50H) ((T7A))	
Max. length	
 50H (00-50H) ((T8A))	






End Configuration



Start Configuration

Code 11

Truncate Leading Digit
 00H (00-50H) ((T5A))
Truncate Last Digit
 00H (00-50H) ((T6A))
Select Insertion Code
 00H (00-02H) ((T9A))

VIRTUOS











End Configuration



Start Configuration

RSS code (OPTION)

RSS-14	
 (OFF) ((U1B))	 ON ((U1A))
RSS-14 Limited	
 (OFF) ((U2B))	 ON ((U2A))
RSS-14 Expanded	
 (OFF) ((U3B))	 ON ((U3A))
RSS code to UPC/EAN	
 (OFF) ((U4B))	 ON ((U4A))



End Configuration

Appendix A

ASCII code



0



A



1



B



2



C



3



D



4



E



5



F



6



Y



7



N



8



9



End Configuration

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 Code table

	0	1
0	NULL	CTRL
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	ALT
F	DELETE	SHIFT

Function Key Code:

Before scanning barcode, please turn on Full ASCII CODE 39

 UP(\$A)		 F1(\$Q)	 F10(\$Z)
 DOWN(\$B)		 F2(\$R)	 ESC(%A)
 LEFT(\$C)	 HOME(\$K)	 F3(\$S)	 F11(%B)
 RIGHT(\$D)	 END(\$L)	 F4(\$T)	 F12(%C)
 PAGE UP(\$E)	 ENTER(\$M)	 F5(\$U)	 F13(%D)
 PAGE DOWN(\$F)	 INSERT(\$N)	 F6(\$V)	 F14(%E)
	 DELETE(\$O)	 F7(\$W)	
 BS(\$H)		 F8(\$X)	
 TAB(\$I)		 F9(\$Y)	