HotPot International Co., Ltd.



# **User Manual**

# AHM-TCU6

High Density CCD Barcode Scanner

(Ver: 1.07)

# Contents

# Chapter 11-1 Operation and installation1-011-2 Code ID Table List1-021-3 Data Output Format1-021-4 Settings1-03

# Chapter 2 Barcode Setting

System Settings 2-01
Output Interfaces
Code ID Selection 2-02
Buzzer Settings 2-02
Select Keyboard Type2-03
Select KBD Wedge Character Table Type 2-03
Capital Lock Settings 2-04
Digits Transmission 2-04
RS232 Baud Rate 2-05
RS232 Parity 2-05
RS232 Data Bit
RS232 Flow Control Settings 2-06
RS232 ACK/NAK Transmission 2-06
RS232 Flow Control Waiting Time Settings 2-07
RS232 STX/ETX
Scan Mode 2-08
Read Redundancy 2-08
Termination Character Transmission 2-08
Prefix/Suffix Settings
Inter-Block Delay 2-10
Inter-Character Delay 2-10
Length Code 2-11
Enable/Disable All Barcodes Length 2-13
Negative Barcode Setting 2-13
Interleaved 25 2-14
Standard/Full ASCII Code 392-15
Code 128 2-16
EAN 128 2-17
Codabar 2-18
Italy Pharmacode (Code 32) 2-19

ode 93 2-1	9
hina Postal Code 2-2	20
ndustrial 25 2-2	!1
latrix 25 2-2	2
PCA	:3
PCE	24
AN13	25
AN8	26
ataBar(RSS)-14	27
ataBar(RSS)-Limited	27
ataBar(RSS)-Expanded 2-2	27

# Chapter 3 Barcode Editing Formats

Activate Editing Formats	3-02
Exclusive Data Editing	3-02
Define Data Criteria – Applicable Code Type	3-03
Define Data Criteria – Data Length	3-04
Define Data Criteria – Matching String & Location of Matching String	3-04
Divide Data into Fields – Total Number of Fields	3-05
Divide Data into Fields – Field-1 setting	3-06
Divide Data into Fields – Field-2 setting	3-06
Divide Data into Fields – Field-3 setting	3-07
Divide Data into Fields – Field-4 setting	3-07
Divide Data into Fields – Field-5 setting	3-07
Divide Data into Fields – Additional Fields	3-08
Field Transmission Sequence (12 Fields can output at the same time)	3-09
Appendix A: ASCII Number	3-10
Appendix B : ASCII Character	3-11
Appendix C : Function Code	3-15
Appendix D : KBD Wedge Character Table	3-16
Appendix E : RS232 Character Table	3-17

# Chapter 1 Contents

# 1-1: Operation and Install

The barcode reader for a short distance from the reader to the scope necessary to trigger the barcode scan machine of Button, to be lit up with red light irradiation and a complete parallel in the barcode reader, and the attention of barcode machines and read the barcode of each other point of view, as far as possible to avoid optical total reflection, so can greatly increase the ability to read bar code machine to the user in order to provide reference

# Sequence of operation suggestion :

- a. Interface to be confirmed.
- b. Cable and determine the bar code machine interface to be the same.
- c. Set the bar code you want to drive into the system.
- d. And then basis for decoding the barcode to be done in detail the types of settings.
- e. Edit the output data format.
- f. After reading to confirm whether the correct Output.

# Keyboard Wedge Interface to connect :

- a. The closure of the terminal (PC) Power Supply.
- b. The bar code machine PS2 joint connected to the terminal (PC), then the original terminal (PC) access to the barcode machine keyboard PS2.
- c. Open the terminal (PC) Power Supply.
- d. You can start software testing instruments such as (Word 
  Notepad...).

# RS232 Interface to connect :

- **a.** Barcode machine to DB9 to a terminal connector (PC), then the DC Transformer DC 5V/500mA received on board the DC Barcode machine connector.
- b. Connected to DC power transformer.
- **c.** Set the terminal (PC) of the Com Pore, Baud Rate ... and so on, need to set consistent with the barcode machine.

% DC 5V/500mA the DC transformer connection, please note that the positive and negative voltage polarity is correct barcode machine in order to avoid machine damage.

# HID USB Interface to connect :

- a. The barcode machine USB (public Block) joint connected to the terminal (PC).
- Wait for the terminal (PC) the completion of the search device (device is defined as HID Keyboard).
- c. You can start software testing instruments such as (Word 
   Notepad...).

# 1-2: Code ID Table List

The following table lists the barcode machine can read the barcode type of support, and corresponds to the factory of the Default ID, and the United States, bar associations (AIM) of the Code ID set out.

Barcode Type	C	Defa	ult II	C	AIM ID
Code 39	С	Ν	Л	Y	]A0
Codabar	N			Х	]F0
Interleave 25	I			Z	]10
China Postal Code		۵	)		]X0
Industrial 25		ŀ	1		]S0
Matriax 25		ι	J		]X0
UPCA		A	٩		]E0
EAN13	A			F	]E0
EAN8	В			FF	]E4
UPCE	С	C E		E	]E0
Code 128	К				]C0
Code 93	L				]G0
Full ASCII Code 39	0				]A0
Italy Pharmacode	Р				]X0
EAN 128	W			]C1	
DataBar-14	R			]e0	
DataBar-Limited	S			]e0	
DataBar-Expanded	Т			]e0	

# 1-3: Data Output Format

Barcode sequence data output format is as follows:

ST	Prefix	Code	Code	Barcode	Suffix	ETX
x	Code	Length	ID	Data	Code	

# 1-4: Settings

The main manual setting mode, is divided into two broad categories as follows :

1. Input non-Annex :

**Example:** HID USB interface, the steps set.

Step1: set to enter the barcode.

Step2: set the barcode feature.

Step3: the options barcode.

Step4: to leave the store barcode.



# 2. Annex input methods:

**Example:** Set Code 128 character minimum length of 17 characters step.

Step1: set to enter the barcode.

Step2: set the barcode feature.

Step3: the options barcode.

Step4: the length of 1.

Step5: length 7.

Step6: Set the end of the annex to enter the barcode.

Step7: to leave the store barcode.



※ Enter the characters in length is fixed at 2-digit, such as: length of 1->01, length 9->09, length 15->15.











**%Keyboard less mode if Power Saving function without.** 



**%** If the interface configuration is not correct, would lead to output barcode machine can not be correct.

**%** If the models are not allowed to change the function-type Cable can not be used.







Select ID Set 1~4: ID function to choose the factory order of its corresponding barcode UPCE/EAN13/EAN8/Interleave 25/Code 39/Codabar •

# Code ID Selection





Clear All Code ID Settings

ID Set 2(E/F/FF/I/M/N)

ID Set 4(C/A/B/Z/Y/X)

Select User Defined ID



**Buzzer Settings** 

\*06\*





Buzzer Disable



2.4K Hz



\*03\*

1.5K Hz







Select Keyboard Type



% If the keyboard language setting is not correct, would lead to output characters or when the machine is wrong.

% If there is the phenomenon when the machine restart after power and give you the right settings.

In the PC-AT, Keyboard Less, HID-USB interface, etc., can choose the output type of ASCII characters in table Please refer to Appendix D, E.











**Capital Lock Settings** 



Alphanumeric Key: Figure out the side of the keyboard number keys. Numeric Key: Figure out the right side of the keyboard number keys.

# **Digits Transmission**





<u>Alphanumeric Key</u>









**RS232 Baud Rate** 





1200 bps







19200 bps



**RS232** Parity

\*06\*



\*04\*



\*00\*



Even

Mark

**No Parity** 



\*03\*

2400 bps

9600 bps

38400 bps

115200 bps

\*01\*

\*03\*

\*05\*

\*07\*

Odd 

Space







# RS232 Data Bit



7 Bits



# **RS232 Flow Control Settings**



\*00\*



\*02\*

No Flow Control

Scanner Ready



Data Ready

**RS232 ACK/NAK Transmission** 





Disable









**RS232 Flow Control Waiting Time Settings** 





**%** Unlimited options to choose, if the host did not respond have been waiting for the barcode and the machine will be unable to operate, please re-operation in order to restore power.









Alternate

Auto Scan

Continuous

# Scan Mode



# Read Redundancy



% If the more the number of settings will affect the rate of barcode decoding machine.









Information in the bar code before and after adding custom characters and special function keys output.

**Prefix/Suffix Settings** 





**Enable Prefix** 



Enable Suffix



Prefix code (max 8 digits)



Suffix code (max 8 digits)



**Disable Prefix** 



Clear Prefix code

Clear Suffix code







Each set of data and the delay time between data.



Each set of characters and the delay time between characters.



# Inter-Character Delay









Information in the barcode data before sending the median length of 2.

# Ex: Barcode = 1234567890 Output = 101234567890











This feature can be set out all types of bar code data length, all types of bar code data length can not be sent alone to choose the length of the output data need to bar code types.

# Enable/Disable All Barcodes Length





Code 39 Enable

All Code Length Enable



Codabar Enable



Interleave 25 Enable



China Postal Code Enable



Industrial 25 Code Enable



Matriax 25 Code Enable



UPCA Enable



`22\*

EAN13 Enable



EAN8 Enable





Code 128 Enable



All Code Length Disable



Code 39 Disable



Codabar Disable



Interleave 25 Disable



China Postal Code Disable



Industrial 25 Code Disable



Matriax 25 Code Disable

\*15\*



EAN13 Disable

**UPCA** Disable



'23'

EAN8 Disable

\*21\* UPCE Disable

Code 128 Disable







# Enable/Disable All Barcodes Length





DataBar-Expanded Enable

\*38\*

PDF417 Enable



**Negative Barcode Setting** 



Disable



Enable







**Interleave 25** 





Disable



Enable



Checksum Verification and Transmission



Checksum Verification and no Transmission



**Checksum no Verification** 



Last digit ignored



Min Length (01)/[10]



Set User Defined ID



Max Length (82)/[82]

First digit ignored

No ignored



\*05'

\*07\*







# Standard / Full ASCII Code 39









# Code 128

*0405*	
*00*	D

Disable



Min Length (01)/[01]



Set User Defined ID



Disable Code128 A

\*08\*

Disable Code128 B



Disable Code128 C









# EAN 128





Disable



Enable AIM ID



Field Separator Defined



Disable Field Separator



Clear User Defined ID



Disable EAN-128 A



Disable EAN-128 B



Disable EAN-128 C

# 

<u>Enable</u>



'01\*

Disable AIM ID



Enable Field Separator

\*07\*

Set User Defined ID



Enable EAN-128 A



\*14\*

Enable EAN-128 B

Enable EAN-128 C















### Italy Pharmacode (Code 32) \*0404\* \*00\* '01' Enable Disable \*02\* Enable alphabet Transmission \*03\* **Disable alphabet Transmission** Enable Checksum Transmission\*05\* \*04\* **Disable Checksum** Transmission \*06\* Set User Defined ID \*07\* Clear User Defined ID

# Code 93





\*04\*

**Disable** 



Enable



Set User Defined ID









# **China Postal Code**



Checksum Verification and Transmission



Checksum Verification and no Transmission



Checksum no Verification



Max Length (82)/[82]





\*07\*

Set User Defined ID









Industrial 25









Enable



Checksum Verification and Transmission



Checksum Verification and no Transmission



Checksum no Verification



Max Length (82)/[82]



Min Length (01)/[10]

\*07\* Set User Defined ID





















℁ EN = Enable

⅔ DN = Disable















℁ EN = Enable

※ DN = Disable









※ EN = Enable※ DN = Disable







# DataBar(RSS)-14





\*02\*



Set User Defined ID



1\* Enable



Clear User Defined ID

DataBar(RSS)-Limited



\*02\*



<u>Disable</u>

Set User Defined ID



Enable



Clear User Defined ID

DataBar(RSS)-Expanded





<u>Disable</u>

Set User Defined ID



Enable









# Chapter 3 Barcode Editing Formats

Edit Settings barcode information can be divided into 3 parts:

- 1. Set up the opening of the basic conditions for editing data (Define Data Criteria).
- 2. Set the bar code information or to insert a string section (Define Data Fields).
- 3. Data set or sub-string output sequence (Define Transmission Sequence).









# Activate Editing Format Image: Clear All Format <th Image: Clear All Format</t

**Normal:** When the barcode data editing and data checking settings do not meet the conditions, the output information on the contents of the original bar code.

**Reject Non-conforming Data:** When the barcode data editing and data checking settings when conditions are not consistent with such a significant amount of data is not output.

# **Exclusive Data Editing**





Reject Non-conforming Data

# First step (Define Data Criteria):

Editing Format	Defaults	Data Range
Applicable Code Type	All	None ~ All
Data Length (Min)	0	0 ~ 99
Data Length (Max)	0	0 ~ 99
Matching String	None	0 ~ 4 chars
Matching String Location	0	0 ~ 99







Election will be the first step to check the barcode types (can be multiple choice).

# Define Data Criteria – Applicable Code Type









Set the length of barcode data range (0  $\sim$  99), when the Data Length (Min & Max) are both 0, this condition will be ignored.

# Define Data Criteria – Data Length



\*00\*

Min Length (0~99)



Max Length (0~99)

Matching string ...: set the string to search for a maximum of four characters.

Location of Matching string ...: set the bar code information from the first location to start

looking for a few strings, when the Matching String Location for 0, this condition will be ignored.

# Define Data Criteria – Matching String & Location of Matching String





Matching string...(4 chars)

Location of Matching string...(0~99)

# Second step (Define Data Fields):

Editing Format	Defaults	Data Range
Total Number of Fields	1	1 ~ 6
F1~F5 Terminating string	None	0 ~ 2 chars
F1~F5 Include/Discard string	Include	Include or Discard
F1~F5 Divide Field by Field length	0	0 ~ 99
Additional Field 1 (AF1~AF5)	None	0 ~ 5 chars







Information on the second step can be divided into up to 6, respectively, then Field 1 ~ Field 6, default is 1, that is, do not use this function, the successful decoding of the bar code information will be deemed to be the paragraph 1 information display in Field 1 in. The use of examples:

- 1. Barcode data to be divided into 2, but only need the information in paragraph 1 of editors, to choose Two Fields.
- 2. Barcode data to be divided into 2, but only in paragraph 2 of the need for data editing, to choose Three Fields.
- 3. Barcode data to be divided into 2, but in paragraph 1 and 2 need to edit the information, it is necessary to choose Three Fields.

Because when there is data after partition, if there are remaining, which the rest of the information will automatically be assigned to the next section, only Field 1 ~ Field 5 can perform data editing, Field 6 can not.

# Divide Data into Fields – Total Number of Fields



 $\Omega \Delta$ 



<u>One Field</u>

\* Three Fields

Five Fields









Contents of the following Field-1 setting to the Field-5 setting common Description:

Select Field Terminating string ...: to find the information in line with the paragraphs of the characters as do the split point up to 2 characters.

Include string: the characters look for reservation.

Discard string: delete the character to look into.

Divide Field by Field Length: set in accordance with paragraphs in length as do the split point.

% If you set the Select Field Terminating string ... conditions Divide Field by Field Length conditions will be automatically ignored, these two conditions can only choose one to use, not at the same time.

# Divide Data into Fields - Field-1 setting



601



Select Field Terminating string...(2 chars)

Include string



Discard string



Divide Field by Field Length (0~99)

# Divide Data into Fields - Field-2 setting



Divide Field by Field Length (0~99)





# Divide Data into Fields - Field-3 setting





\*01\*

Select Field Terminating string...(2 chars)





**Discard string** 



Divide Field by Field Length (0~99)

# Divide Data into Fields - Field-4 setting



\*01



Select Field Terminating string...(2 chars) 



**Discard string** 



Divide Field by Field Length (0~99)

# Divide Data into Fields - Field-5 setting

Include string

Divide Field by Field Length (0~99)

Include string



\*01



Select Field Terminating string...(2 chars)



**Discard string** 









Additional Field: In addition to the barcode data can be divided into 6 data, but also to increase the 5 additional user-defined data, each Additional Field can be added up to 5 characters.

% If the user interface for the PS2 or HID-USB, the characters can be added and included in Appendix B Appendix C of the characters.

% If the user interface for the RS232, the characters can be added only in Appendix B of the characters

# **Divide Data into Fields – Additional Fields**





Additional Field 1

Additional Field 3



Additional Field 5



Additional Field 2

\*03\*

Additional Field 4







Transmission Sequence: Set all the information above to order the order of output, a total of 12 sections for the order, the output of the information above can be repeated with, for example: <F1> <AF1> <F2> <AF2> <F3> <AF2>.

Set by:

- 1. Read <\* 0812 \*>.
- 2. Re-read <\* 00 \*>.
- 3. And then to the output data in accordance with the order, read the  $<^* A ^* >$  to
- <\* J \*> of the barcode.

# Field Transmission Sequence (12 Fields can output at the same time)







\*K\*



\*I\* Additional Field 3

Additional Field 5



Set Field Transmission Sequence















Appendix B : ASCII Character -1













Appendix B : ASCII Character -2













Appendix B : ASCII Character -3













Appendix B : ASCII Character -4











# Appendix C : Function Code









		0		1	2	3	4	5	6	7	8
	Туре	Type 2	Туре	Type 2							
	1		1								
0	^@		<b>^P</b>	F2	SP	0	@	Р	•	р	
1	<b>^A</b>	Ins	^Q	<b>F3</b>	!	1	Α	Q	а	q	
2	<b>^B</b>	Del	<b>^</b> R	F4	"	2	В	R	b	r	
3	<b>^C</b>	Home	^S	F5	#	3	С	S	С	s	
4	<b>^D</b>	End	<b>^</b> T	<b>F6</b>	\$	4	D	Т	d	t	
5	^E	Up	<b>^U</b>	F7	%	5	Е	U	е	u	
6	^F	Down	<b>^V</b>	<b>F8</b>	&	6	F	V	f	v	
7	<b>^G</b>	Left	<b>^W</b>	F9	"	7	G	W	g	w	
8	<b>^H</b>	BS	<b>^X</b>	F10	(	8	Н	Х	h	x	
9	<b>^</b>	нт	<b>^Y</b>	F11	)	9	I	Y	i	у	
Α	^J	LF	^Z	F12	*	:	J	Z	j	z	
В	<b>^K</b>	Right	^[	Esc	+	;	К	[	k	{	
С	<u>^L</u>	PgUp	^\	Exec	,	<	L	١	I		
D	<b>^M</b>	Enter	^]		-	=	М	]	m	}	
Е	^N	PgDn	~~		•	>	Ν	^	n	~	
F	^0	<b>F1</b>	^_		1	?	0	_	0	DEL	

# Appendix D : KBD Wedge Character Table

**Note 1:** If the KBD Wedge Character Table selected as Type 1, the output of Table 00 ~ 1F blue please refer to Type 1 fonts.

**Note 2:** If the KBD Wedge Character Table selected as Type 2, the output of Table 00 ~ 1F please refer to Type 2 red font.

**Note 3:** In addition to the above 00 ~ 1F Table different from other Table Type 1 and Type 2 are the same.







	0	1	2	3	4	5	6	7
0	NUL	DLE	SP	0	@	Р	•	р
1	SOH	DC1	!	1	Α	Q	а	q
2	STX	DC2	"	2	В	R	b	r
3	ETX	DC3	#	3	С	S	с	s
4	EOT	DC4	\$	4	D	т	d	t
5	ENQ	NAK	%	5	E	U	е	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	6	7	G	W	g	w
8	BS	CAN	(	8	Н	Х	h	x
9	HT	EM	)	9	I	Y	i	у
Α	LF	SUB	*	:	J	Z	j	z
В	VT	ESC	+	,	К	[	k	{
С	FF	FS	,	<	L	١	I	Ι
D	CR	GS	-	=	М	]	m	}
E	SO	RS	-	>	Ν	^	n	~
F	SI	US	1	?	0	_	0	DEL

# Appendix E : RS232 Character Table

