Configuration Commands

Configuration Procedures



Fig. 1 - Flow Chart of Configuration Procedures

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CHAPTER 1 INTRODUCTION

This chapter provides the useful information of the default configurations, the custom configuration, and the configuration process.

1.1 Default Configuration

The operation parameters of the scanner are set to defaults at the factory for the most popular applications of the bar code data collection. All default parameters are printed in boldface with an asterisk"*" in this manual. The main defaults are set as below:

- . Emulation as a keyboard wedge
- . IBM PC/AT and PS/2 series personal computers
- . US keyboard layout
- . Auto discrimination of bar codes
- . Data transmitted in using ALT (0-127)
- . Reading mode: Trigger on/good read off
- . Keyboard transmission speed : normal
- . Good reading beep : active
- . Keyboard number key: alphanumeric
- . Pre-amble and post-amble: none

<u>1.2 Custom configuration</u>

The scanner can be re-configured when different application is required . You may alter one or several of the defaults at one time by scanning the new parameters, bar code labels, printed in the following chapters.

Chapter 2. Interface Setting

- . Keyboard parameters
- . RS-232C parameters

Chapter 3. Settings of General Parameters

- . Terminator
- . Character delay
- . Code mark transmission
- . Code mark (Code ID)
- . Code(s) single or multi read
- . Scanner multi read
- . Define pre-amble & post-amble
- . Power up tone
- . Data format
- . Buzzer pitch & duration
- Transmission of data length

Chapter 4. Settings of Bar Code

- UPC/EAN/JAN family parameters
- . Code 39 parameters
- . Code 2/5 family parameters
- . Codabar parameters
- Code 128 parameters
- . Code 11, Code 93, MSI/Plessey
- . UCC/EAN-128

Chapter 5. Other Optional Settings

- . Reading mode parameters
- . Setting of delay time
- . Flash mode
- . Stop mode
- . Scan mode

- . LED indicator
- . Vibrating indicator

Chapter 6. Useful Examples

Chapter 7. Other Optional I/O Devices

- . Wand, OCIA
- . Magnetic Stripe Reader
- . Light Pen, 24-KeyPad

Note: Once the parameter(s) is re-configured, the new parameter(s) will be saved even the power is turned off.

<u>1.3 Configuration Process</u>

One or more parameters can be re-configured to fit your need. The basic three steps of custom configuration are:

Scan " START " label
Scan desired parameters
Scan " END " label

You can also refer to the flow chart shown on the back of the front cover for a better idea of the configuration process.

Important configuration commands are as under:

- START to begin custom configuration procedures.
- **ABORT -** to abandon all parameters you have just selected.
- **END** -to end the configuration procedures and save the new selected parameters.
- **SET -** to give up the new settings and return to the defaults.

CHAATER 2 INTERFACE SETTING

The scanner has 2 modes of communiaation. They are keyboard wedge and RS-232C.

2.1 Keyboard Wedgp Parameters

First of all, select one of the computer types below for keyboard ivterface.





- Keyboard parameters include:
- 1. Keyboard speed
- 2. Keyboard layoun
- 3. Keyboard upper/lower case
- 4. keyboard number keys
- 5. Keyboard emulates F1 to F12

Remark: Computer types marged with TP are optionat.





9.2 RS-232C Parameters

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



RS-232C parymeters include:

- 1. Baud rate
- 2. Data bit
- 3. Parity
- 4. Handshaking protocol
- 5. ACK/NAK/CTS time
- 6. RTS active is High/Low?





1





- Scanner ready: The scanner will activate RTS signal right after power is on, and will transmit data upon receipt of CTS sighal.
- D a t a 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 menioned above but the RTS logic is reserved.

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



Remark: This setting is optional.

CHAPTER 3 SETTINGS OF GENERAL PARAMETERS

This section mentions some general settings for whatever interface you are using.







Remarks:

- 1) Default code mark for EAN-13 is " **A** ". Default code mark for UPC-A is " **B** ".
 - Default code mark for EAN-8 is " C ".
 - Default code mark for UPC-E is " D ".
 - Default code mark for Code 4 is" E ".
 - Default code mark for Code 11 is " F ".
 - Default code mark for Code 39 is "G".
 - Default code mark for Code 93 is " H ".
 - Default code mark for Code 128 is " I ".
 - Default code mark for Codabar (NW-7) is "J".
 - Default code mark for Interleave 2/5
 - (ITF2/5) is "K".
 - Default code mark for IND 2/5 is " L ".
 - Default code mark for MTX 2/5 is " M ".
 - Default code mark for China postage
 - (Datalogic 2/5) is " N ".
 - Default code mark for IATA is " S ".
 - Default code mark for MSI/Plessey is "U".
- 2) Refer to Chapter 6 to select the desired code mark.
- 3) Scan label of " Cancel All Code Mark " to cancel all code marks at one time.



- Remarks: 1) " This Code Single Read " or " This Code Multi Read" means you set one code only. You have to read the label of a specific code first.
 - If you set to multi read, you've to go to the following"Scanner Multi Read" to set the desired selection.





Remark: The defaults for pre-amble and post-amble are none.



3.9 Data Format *Pre-amble/Code Length/Code Mark/Data/ Post-amble/Terminator

Pre-amble/Code Length/Code Mark / Data/ Terminator/Post-amble







Remark: You can get the simultaneous (real time) response for the changes of buzzer. Try to set the desired one, then scan EXIT and END labels to finish your selection.



CHAPTER 4 BAR CODE SETTINGS

The scanner can read the following basic symbologies. Scan one or more codes to fit your special applications. In fact, the scanner can read more than 25 symbologies. The symbologies listed herein which are the most popular ones.



4.1 UPC/EAN Family Parameters

- They include the following:
- 1. Formats
- 2. UPC/EAN supplement
- 3. Add 2/5 lock
- 4. UPC-E=UPC-A
- 5. UPC-A= EAN-13
- 6. EAN-8=EAN-13
- 7. EAN-13=ISBN/ISSN
- 8. UPC-A first digit
- 9. UPC-A second digit
- 10. UPC- A check digit
- 11. UPC- E first digit
- 12. UPC-E check digit
- 13. EAN-13 first digit
- 14. EAN-13 second digit
- 15. EAN-13 check digit
- 16. EAN-8 first digit
- 17. EAN-8 check digit
- 18. Transmist code length



Remark: Multiple selection is allowed.



































4.2 Code 39 Parameters

Including the following :

- 1. Code type
- 2. Start/Stop character
- 3. Check digit
- 4. Code 39 concatenation
- 5. Code length (Default is Min.=1, Max.=25)









5. Code Length		
Define Variable:(1-25)		
Min = ? Max = ?	Define Fixed: (1-25)	
	Min = ? Max = ?	

Remark: Please refer to Chapter 6 for useful examples.

<u>4.3 Code 2 of 5 Family Parameters</u>

including:

- 1. Formats
- 2. Check digit

3. Code length (Defaults is Min.=4, and Max.=32)



Remarks: 1) Multiple selection is allowed.

2) See page 19 to find parameters for IATA

code.





Remark: Refer to Chapter 6 for useful examples.

<u>4.4 Codabar Parameters</u>

including the following:

- 1. Formats
- 2. Start/stop transmission
- 3. Format of start/stop transmission
- 4. Check digit
- 5. Code length (Default is Min.=1, and Max.=32)









Remark: Refer to Chapter 6 for useful examples.

4.5 Code 128 Parameter

There's only one:

1. Code length (Default is Min.=1, and Max.=32)



4.6 Code 11 Parameters

including:

- 1. Checksum
- 2. Code length (Default is Min.=1, and Max.=32)





Remark: Refer to Chapter 6 for useful examples.

4.7 MSI/Plessey Parameters

including:

- 1. Check digit
- 2. Checksum
- 3. Code length (Default is Min.=1 , Max.=32)







4.8 Code 93 Parameters

including only one parameter:

1. Code length (Default is Min.=1, and Max.=32)



IATA Parameters

including check digit, start/stop transmit, and transmission of check digit







UCC/EAN-128 Parameter

including one parameter:

1. UCC/EAN-128 On?



CHAPTER 5 OTHER OPTIONAL SETTINGS

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

5.1 Reading Modes Parameters



Mode 1 Trigger on/good read off

When power is on, the LED (of the aperture) is off. Press the trigger to initiate scanning. The beep sounds for a good read. The LED will turn off no matter the scanner has a good read or not. The default of delay time for turning off is 3 seconds. You can also define dealy time directly with labels on page 41 and Appendix A.

Mode 2 Trigger on/off

Trigger dominates the power on/ off of LED (of the aperture). The LED will be off when you release the trigger and there'll be no delay time.

Mode 3 Continuous/LED always on

The LED (of the aperture) is always on no matter you're reading a bar code or not.You'll have to switch off the power (of the system) to turn off the LED.

Mode 4 Continuous/trigger off

The LED (of the aperture) is off when power is on. LED is turned on by pressing the tirgger. Then you can read the bar codes continuously. The beeper sounds for a good read, otherwise there will be no beep. The LED will be turned off by pressing the trigger again.

Mode 5 Continuous/trigger off, define delay time = ?? This mode is almost the same as the previous "Continuous / trigger off " mode except that you can define the delay time of the LED (of the aperture) to be turned off. That means you'll have two ways to turn off the LED, either by pressing the trigger or by setting the delay time. The defualt of the delay time is 3 seconds. User can define from 0 to 15 seconds directly with labels on page 41 and Appendix A.

Mode 6 Testing

The LED (of the aperture) is on when power is turned on, and the LED indicator will be always on. The LED (of the aperture) can be turned off by pressing the trigger, and can be turned on again by pressing the trigger.

Mode 7 Auto (Touch-on)

This mode is an optional function. Before scanning the provided label, please check with your dealer whether your scanner supports this function or not. When the scanner is not in use, this function will enable the scanner to shut down the power into idle status within default seconds. (Power consumption at this moment will be about 4 to 8 mA.) The power will soon resume and the scanner will start to work when user holds or grabs the scanner again.

5.2 Setting of Delay Time

The delay time can be set only when you're using mode 1 or mode 5. If you wish to define your own delay time , please follow the steps as below: a) Scan label of Define Delay Time.

- b) Scan a digit from Appendix A.
- c) Scan EXIT label in Appendix A.
- d) Scan "Yes" or "No" from the label of Double Delay Time. This will enable you to define up to 254 seconds for your scanner. If you're setting a figure that is greater than 127, such figure must be an even number and maximum is 254. Please note that when you scan the "No (x1)" or "Yes (x2)" label, the scanner will store your instruction into the memory. Do remember to scan "Yes" or "No" label once you need to change it.
- e) Scan END label to finish your setting.If you select the double label, the delay time will be more than 4 minutes.



5.3 Flash Mode

When scanner is not scanning a bar code, the LED of the aperture will flash, and scanner will work soon at scanning a bar code. Once this mode is selected, all the reading modes previously discussed can be changed into a flash mode when your're not scanning a bar code.



5.4 Stop Mode

If you select this mode, the scanner will be changed into sleep mode and power consumption will be only about 0.0005 mA at this moment. It is extremly power-saving when the scanner is not in use temporarily. This mode can not be activated when you're using mode 3 (continuous / LED always on) as your current reading mode.



5.5 Scanner Mode



Remark: This is for factory setting only.

5.6 LED Indicator

With " Off " default, the LED will be off and it will be off, and LED will be on when a good read works. To change the indicator to be " On ", the LED will be on, and LED will be off when a good read works.



5.7 Vibrating Indicator

This function mainly serves as an additional indicator of a good read after scanning a bar code. It can be very useful for retail shops or supermarkets especially under noisy working environments. It acts very similar to a vibrating pager. Operator's hand will be vibrated immediately after a successful bar code reading works even without paying attention to the beep or the LED indicator.

This is an optional function. Please check with your dealer to find out whether your scanner has such function or not. If your scanner does not have this function, it can not be activated even you scan the following labels.



2. Vibrating Duration	
Define =? (0-15) (*Default =05)	

Remark: The default of vibrating duration is set to 5.

CHAPTER 6 USEFUL EXAMPLES

This section contains two examples to help you quickly understand the custom configuration.

Example A If you want to

- emulate the scanner as s keyboard wedge
- select " turbo " speed to transmit data for a PC AT/PS2 computer
- slow down the keyboard delay time to " 25"
- choose the reading mode as " Trigger on/off "

Simply follow the steps as shown below:

- 1. Scan "START " label on the back of the front cover
- 2. Scan one correct label from labels under the category of "Computer Type". In this example, you do not have to scan since PC AT/PS2 has been set to default.
- 3. Scan "Turbo" label from the label in keyboard speed.
- 4. Scan " Define " label first and scan the desired delay time, " EM(25)" and then scan " EXIT" label to finish your choice.
- 5. Scan " Trigger on/off " label in chapter 4.
- 6. Scan "END" label on the back of the front cover to complete all your settings and save the changes you've made into the memory of your scanner.

Example B If you want to

- choose RS-232C as your interface
- choose baud rate as " 19200 "
- change the default length of Code 39 into " 05-20 "
- set the data terminator of RS-232C to be " Tab"

Simply follow the stepts below:

- 1. Scan "START" label on the back of the front cover
- 2. Scan RS-232C label to change the interface of your scanner
- 3. Scan baud rate "19200 " label
- 4. Scan label of code length to define min. & max. under code 39 category.
- 5. Scan " ENQ (5)" (for min.) and " DC4 (20)" (for max.) to set the desired code length.
- 6. Scan " EXIT" label to finish the setting of your code length.
- 7. Scan " Tab" label as data terminator of RS-232C in chapter 3.
- 8. Scan " END " label on the back of the front cover to complete all of your settings. The new settings will be saved into the memory of your scanner accordingly.

CHAPTER 7 Other Optional I/O Devices

In this section, we provide more I/O devices for scanner. They are wand, OCIA, magnetic stripe reader, light pen, and 24-keypad. We reserve the rights to make any necessary changes to meet those special requirements.

7.1 Output Device-Wand



Wand emulation has two parameters, bar and scan.



Remarks: "3" represents " normal", "0" represents " the lowerest", and "7" is "the highest".

7.2 Output Device-OCIA

OCIA is a special output device for certain POS systems. The scanner has reserved the OCIA to meet those application requirements.





Remarks:

1) Code Mark Set-1

EAN-13/JAN-13 code mark is " F "; EAN-8/JAN-

8 code mark is "FF"; UPC-A code mark is "A"; UPC-E code mark is "E".

- 2) Code Mark Set-2
 - EAN-13/JAN-13 code mark is " A", EAN-8/JAN-8 code mark is " B ", UPC -A code mark is " A ", UPC-E code mark is " C ".
- 3) No matter you select Set-1 or Set-2, code mark of ITF 2/5 is "I", code mark of codabar is "N"; code mark of Code 39 is "M"; code mark of Code 128 is "K".













Remark: The default setting for track 1 is "%", for track 2 is ";", for track 3 is "+".





7.4 Input Device - Light Pen





Remark: Refer to Appendix A for custom setting.

7.5 Input Device - 24 KeyPad



7.6 USB Connection (Optional)

Scan the following command codes to complete USB setting:



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 discirminate your setting(s) automatically no matter it's for a text or a digit.

























