CipherLab

User Guide

2200 Omnidirectional Presentation Scanner

Setup barcodes included.

Version 1.00

CIPHERLAB

CIPHERLAB CO., LTD.
Website: http://www.cipherlab.com

IMPORTANT NOTICES

FOR USA

This equipment has been tested and found to comply with the limits for a **Class B** digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FOR EUROPE

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- - EN 60950-1: 2006+A11:2009+A1:2010+A12:2011+A2:2013

Safety of Information Technology Equipment

- - EN 301 489-1 V2.1.1: 2016

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

- - EN 301 489-3 V2.1.0: 2016

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz

- - EN 302 208-1 V3.1.1: 2016

Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU

SAFETY PRECAUTIONS

- DO NOT expose the scanner to any flammable sources.
- Under no circumstances, internal components are self-serviceable.
- For AC power adaptor, a socket outlet shall be installed near the equipment and shall be easily accessible. Make sure there is stable power supply for the scanner or its peripherals to operate properly.

CARE & MAINTENANCE

- Use a clean cloth to wipe dust off the scanning window and the body of the scanner. DO NOT use/mix any bleach or cleaner.
- If finding the scanner malfunctioning, write down the specific scenario and consult the local sales representative.

RELEASE NOTES

Version	Date	Notes
1.00	Nov. 24, 2017	Initial Release

CONTENTS

INTRODUCTION

Equipped with a 2D barcode reader, the scanner is capable of reading 1D and 2D barcodes. The scanner is designed for desktop use with ease of installation. For particular deployment, the scanner can be integrated with other devices, like POS, to achieve systematic data colletion.

This manual contains information on operating the scanner and using its features. It is better to keep one copy of the manual at hand for quick reference or maintenance purposes. To avoid any improper disposal or operation, please read the manual thoroughly before use.

Thank you for choosing CipherLab products!

Update

INSIDE THE PACKAGE

The items included in the package may be different, depending on order. Rich choices of output interfaces are available to enhance the total performance of the scanner. Refer to product specifications.

Save the box and packaging material for future use in case it is need to store or ship the scanner.

PRODUCT HIGHLIGHTS

- Small-form-factor and built tough to survive drop test
- Extremely low power consumption
- Firmware upgradeable
- Supports most popular barcode symbologies, including GS1-128 (EAN-128), GS1 DataBar (RSS), etc.
- Supports a variety of 2D symbologies
- Supports different scan modes, including Aiming Mode and Multi-Barcode Mode[Note]
- Programmable feedback via LED indicator and beeper
- Beeping tone and duration programmable for Good Read
- Provides choices of output interfaces, including RS-232, Keyboard Wedge, and USB.
- Programmable parameters include data output format, editing format, symbologies, etc.

Note: In any scan mode other than Multi-Barcode Mode, a barcode acceptable to the scanner can only contain data of 7 KB at most.

Enter Setup

SYMBOLOGIES SUPPORTED

Most of the popular barcode symbologies are supported, as listed below. Each can be individually enabled or disabled. The scanner will automatically discriminate and recognize all the symbologies that are enabled. Refer to Chapter 3 錯誤! 找不到參照來源。 for details of each symbology.

Symbologies Supported: Enable/Disable		Default	
Codabar		Enabled	
Code 93		Enabled	
MSI			Disabled
Plessey			Disabled
Telepen			Disabled
Code 128	Code 128	Enabled	
	GS1-128 (EAN-128)	Enabled	
	ISBT 128	Enabled	
Code 2 of 5	Industrial 25	Enabled	
	Interleaved 25	Enabled	
	Matrix 25		Disabled
Code 3 of 9	Code 39	Enabled	
	Italian Pharmacode		Disabled
	French Pharmacode		Disabled
EAN / UPC	EAN-8	Enabled	
	EAN-8 Addon 2		Disabled
	EAN-8 Addon 511109951		Disabled
	EAN-13	Enabled	
	EAN-13 & UPC-A Addon 2		Disabled
	EAN-13 & UPC-A Addon 5		Disabled
	ISBN		Disabled
	UPC-E0	Enabled	
	UPC-E1		Disabled
	UPC-E Addon 2		Disabled
	UPC-E Addon 5		Disabled
	UPC-A	Enabled	
Code 11			Disabled
GS1 DataBar	GS1 DataBar Omnidirectional (RSS-14)		Disabled

Update

(RSS)	GS1 DataBar Truncated		Disabled
	GS1 DataBar Limited (RSS Limited)		Disabled
	GS1 DataBar Expanded (RSS Expanded)		Disabled
Composite Code	Composite CC-A/B		Disabled
	Composite CC-C		Disabled
2D Symbologies	PDF417	Enabled	
	MicroPDF417		Disabled
	Data Matrix	Enabled	
	Maxicode	Enabled	
	QR Code	Enabled	
	MicroQR	Enabled	
	Aztec	Enabled	
	Han Xin		Disabled

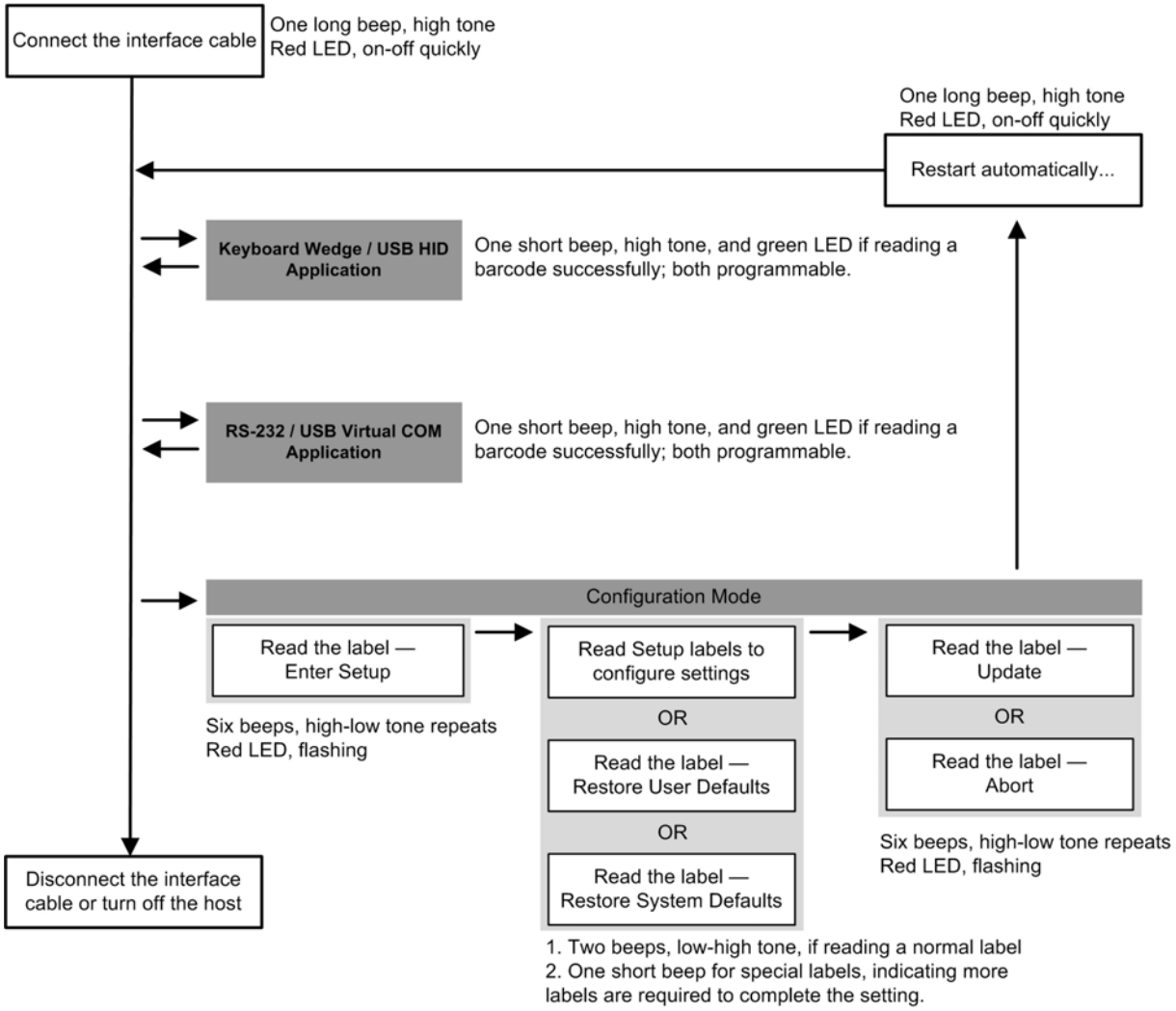
Enter Setup

QUICK START

The configuration of the scanner can be done by reading the setup barcodes (setup labels) contained in this manual or via the *ScanMaster* software.

This section describes the procedure of configuring the scanner by reading the setup barcodes and provides some examples for demonstration.

Note: If RS-232 or USB Virtual COM is selected for output interface, the host can directly send serial commands to configure the scanner.
For example, run HyperTerminal.exe and type the 6-digit command located under each setup barcode. Refer to Appendix II Host Serial Commands.



Update

ENTER CONFIGURATION MODE

For the scanner to enter the configuration mode, have it read the "Enter Setup" barcode located at the bottom of almost every even page of this manual.

- The scanner will respond with six beeps and its LED indicator will become flashing red after reading the barcode.

Enter Setup

For configuring scanner parameters, see “Read a Setup Barcode” below.

EXIT CONFIGURATION MODE

For the scanner to save settings and exit the configuration mode, have it read the “Update” barcode located at the bottom of almost every odd page of this manual. To exit the configuration mode without saving any changes, have the scanner read the “Abort” barcode instead.

- Just like reading the “Enter Setup” barcode, the scanner will respond with six beeps and its LED indicator will become flashing red after reading the barcode. Wait for a few seconds for the scanner to restart itself.

Update

Abort

Enter Setup

DEFAULT SETTINGS

SAVE USER SETTINGS AS DEFAULTS

For the scanner to keep the customized settings as user defaults, have it read the “Save as User Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone).

- After reading the “Update” barcode, the current settings will be saved as user defaults.

Save as User Defaults

RESTORE USER DEFAULTS

For the scanner to restore the user defaults saved earlier, have it read the “Restore User Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone).

- After reading the “Update” barcode, all the parameters of the scanner will return to their customized values.

Restore User Defaults

RESTORE SYSTEM DEFAULTS

For the scanner to restore the factory defaults, have it read the “Restore System Defaults” barcode. This is a normal setup barcode, and the scanner will respond with two beeps (low-high tone).

- After reading the “Update” barcode, all the parameters of the scanner will return to their default values.

Restore System Defaults

Note: The system default value (if there is) for each setting is indicated by an asterisk “*”.

Update

READ A SETUP BARCODE

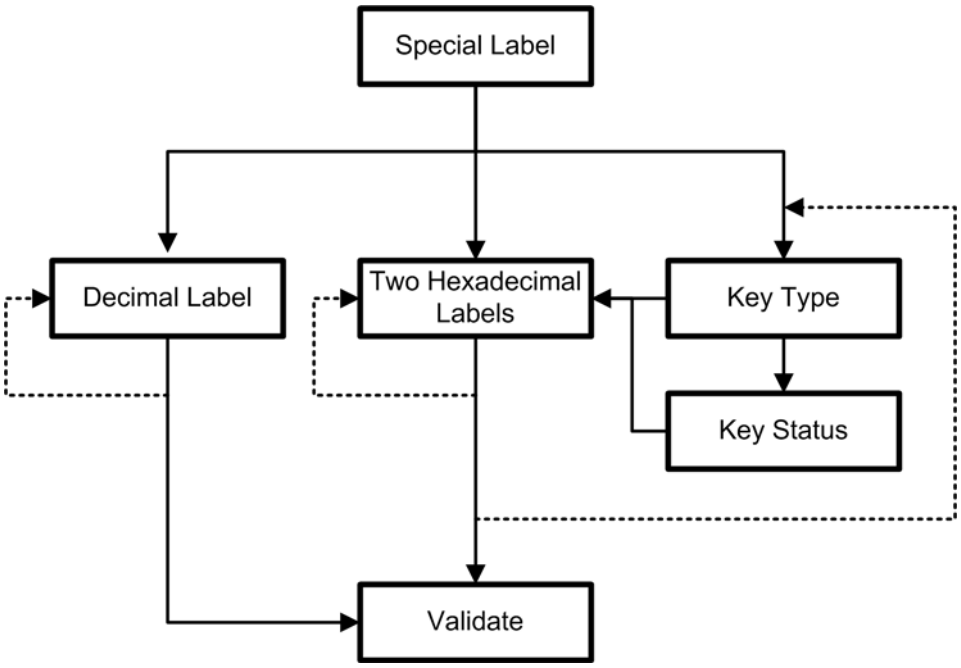
CONFIGURE PARAMETERS

For most of the scanner parameters, only one read is required to set them to new values. The scanner will respond with two beeps (low-high tone) when each parameter is set successfully.

But for a number of special parameters, multiple reads are required to complete the setting. In this case, the scanner will respond with a short beep indicating it needs to read more setup barcodes. These special parameters may require reading one or more setup barcodes, such as

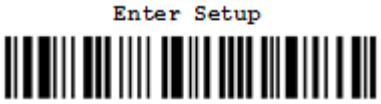
- Numeric barcodes, say, for keyboard type, inter-character delay, length qualification
- Hexadecimal barcodes, say, for character strings as prefix, suffix, etc.
- When “Keyboard Wedge” or “USB HID” is configured as the interface, Key Type and Key Status will then become applicable. Decide whether or not to change key status when “Normal Key” is selected for Key Type.

To complete the configuration of these special parameters, it requires reading the “Validate” barcode, and then the scanner will respond with two beeps (low-high tone) to indicate the input values are validated.



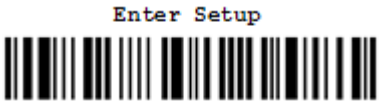
Enter Setup

The example below shows how to save settings as “User Default” to restore user defaults later:

Steps	Action	Scanner Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… 	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will be flashing red.
3	Read a Setup barcode… For example,  	The scanner will respond with two beeps (low-high tone) if reading a normal setup barcode.
4	Exit the Configuration Mode… 	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.
*	When any configuration error occurs…	The scanner will respond with one long beep (low tone).

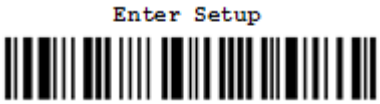
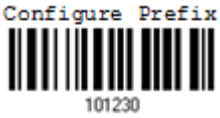
Update

The example below shows how to set numeric parameters:

Steps	Action	Scanner Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… 	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become flashing red.
3	Read a Setup barcode… For example, **Normal setup barcode**  **Normal setup barcode**  **Special setup barcode**  **Decimal barcodes**   	Read the “Decimal Value” barcode(s). ▸ Refer to Appendix IV “Decimal System” The scanner will respond with two beeps (low-high tone) when the input values are validated.
4	Exit the Configuration Mode… 	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.

 Enter Setup

The example below shows how to set string parameters:

Steps	Action	Scanner Feedback if Successful
1	Power on the scanner…	The scanner will respond with a long beep (high tone) and its LED indicator will become solid red and go off quickly.
2	Enter the Configuration Mode… 	The scanner will respond with six beeps (high-low tone repeats three times), and its LED indicator will become flashing red.
3	Read a Setup barcode… For example, **Special setup barcodes** 	The scanner will respond with one short beep if reading a special setup barcode such as “Prefix Code”, indicating the setup requires reading more barcodes.
		When “Keyboard Wedge” or “USB HID” is configured for interface, Key Type and Key Status will then become applicable. Decide whether or not to change key status when “Normal Key” is selected for Key Type. ▸ Refer to Appendix III
		
	Hexadecimal barcodes 	Read the “Hexadecimal Value” barcodes for the desired character string. For example, read “2” and “B” for the scanner to prefix the character “+”. ▸ Refer to Appendix IV “Hexadecimal System”
		
		The scanner will respond with two beeps (low-high tone) when the input values are validated.
4	Exit the Configuration Mode… 	Same as for *Enter the Configuration Mode*.
5	The scanner will automatically restart itself…	Same as for *Power on the scanner*.

 Update

LIST THE CURRENT SETTINGS

The current settings of all scanner parameters can be sent to the host computer for user inspection. The listing includes pages as shown below. Select the page of interest by having the scanner read the “List Page x” barcode. The scanner will respond with two beeps (low-high tone) and send the selected page to the host immediately.

Lists settings regarding Firmware Version, Serial Number, Interface, Buzzer, and Other Scanner Parameters	**List Page 1**	 109950
Lists settings regarding Prefix, Suffix, and Length Code Setting (1/2)	**List Page 2**	 109951
Lists settings regarding Prefix, Suffix, and Length Code Setting (2/2)	**List Page 3**	 109952
Lists settings regarding Code ID	**List Page 4**	 109953
Lists settings regarding: Readable Symbologies (1/2)	**List Page 5**	 109954
Lists settings regarding: Readable Symbologies (2/2)	**List Page 6**	 109955
Lists settings regarding Symbology Parameters (1/3)	**List Page 7**	 109956
Lists settings regarding Symbology Parameters (2/3)	**List Page 8**	 109957
Lists settings regarding Symbology Parameters (3/3)	**List Page 9**	 109958
Reserved	**List Page 10**	 109959

 Enter Setup

Lists settings regarding Editing Format 1 (1/2)

List Page 11

Lists settings regarding Editing Format 1 (2/2)

List Page 12

Lists settings regarding Editing Format 2 (1/2)

List Page 13

Lists settings regarding Editing Format 2 (2/2)

List Page 14

Lists settings regarding Editing Format 3 (1/2)

List Page 15

Lists settings regarding Editing Format 3 (2/2)

List Page 16

Lists settings regarding Editing Format 4 (1/2)

List Page 17

Lists settings regarding Editing Format 4 (2/2)

List Page 18

Lists settings regarding Editing Format 5 (1/2)

List Page 19

Lists settings regarding Editing Format 5 (2/2)

List Page 20

Lists settings of Driver License parsing

List Page 22

Update

CREATE ONE-SCAN SETUP BARCODES

Most of the scanner parameters require only one read for setting new values. To facilitate configuring the scanner, create One-Scan setup barcodes for use.

1D ONE-SCAN BARCODE

The requirements of a One-Scan setup barcode are:

- a prefix of the "#@" characters
- the six digits of command parameters
- a suffix of the "#"character

For example, the scanner needs reading three setup barcodes for the command parameter "109952" to take effect:

Enter Setup

List Page 3

Update

Now, it requires only one read:

One-Scan Setup Barcode for 109952

Note: The scanner will restart automatically upon reading the One-Scan setup barcode for changing the interface. It will respond with a long beep and its LED will come on-off shortly.

Enter Setup

2D ONE-SCAN BARCODE

Users can also scan a single 2D barcode combining with a series of serial commands to configure the scanner. For example, if you want to change the suffix character to '#', you will need to input the serial commands in sequence as follows (underlining the digits is to make them more readable):

#@CipherLab101231109902109903109994

Command	Purpose
#@CipherLab	Enter Setup
101231	Configure suffix
109902	Give the first hexadecimal digit of 0x23
109903	Give the second hexadecimal digit of 0x23 for taking '#' as the suffix
109994	Validate the settings

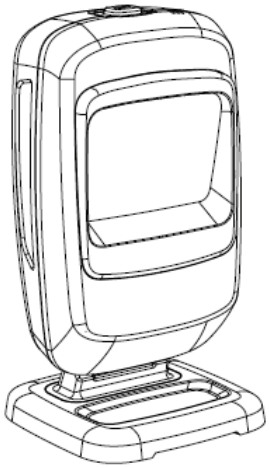
The serial commands above can be combined to form a single 2D barcode:

2D One-Scan Setup Barcode for configuring suffix

Update

Enter Setup

SPECIFICATIONS



Optical Characteristics		2200
Scan Engine		2D Imager
Light Source		Aiming pattern: 520~532nm LED Illumination: 616~625nm LED
Physical Characteristics		
Indication		Tri-color LED (Red/Green/Blue) and beeper
Interface Options		Keyboard Wedge, RS-232, USB HID, USB Virtual COM
Weight		Approx. 320g (2D Barcode Reader only); 380g (RFID included)
Dimensions		150 x 83 x 80 mm
Environmental Characteristics		
Temperature	Operating Storage	0 °C to 40 °C -40 °C to 60 °C
Humidity (Non-condensing)	Operating Storage	10% to 90% 5% to 95%

Update

Resistance	
Splash / Dust Resistance	IP 52
Electrostatic Discharge	± 15 kV air discharge, ± 8 kV contact discharge
Programming Support	
Configuration via Setup Barcodes	Use setup barcodes or host serial commands.
Software	Windows®-based ScanMaster
Firmware upgradeable	Download firmware updates via the download utility.
Accessories (√ means "supported")	
Keyboard Wedge Cable	√
RS-232 Cable	√
USB Cable	√
Dual-USB Cable	√

Enter Setup

Appendix I

FIRMWARE UPGRADE

USING RS-232

1) Connect the RS-232 cable between the scanner and the computer, and join the power supply cord.

2) Read the following barcodes in sequence to configure the scanner to use RS-232 as download interface.

Enter Setup

Activate RS-232

100001

115200 bps

100080

Update

109999

3) Read the following barcodes in sequence for the scanner to enter the download mode. The scanner will respond with beeps to indicate it is ready for downloading.

Enter Setup

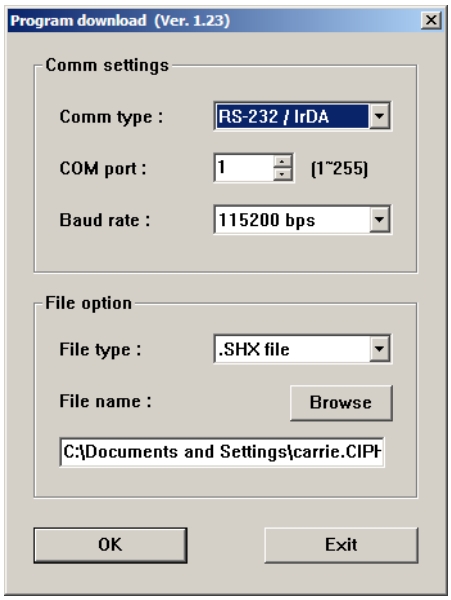
Download

109997

Update

4) Run the download utility “ProgLoad.exe” on the computer.

Kernel Program	User Program
K250x_V*.shx	STD250x_V*.shx



- For the communication settings, select “RS-232” and the correct COM port for RS-232 or USB Virtual COM interface.
- For RS-232, select 115200 bps for baud rate; for USB Virtual COM, ignore the baud rate setting.
- For the file option, click [Browse] to select the target file for firmware update.
- Click [OK].

5) After upgrading kernel, you will need to restart the scanner manually.

After upgrading the user program, the scanner will automatically restart itself once the download is completed successfully.

Note: The output interface remains unchanged as specified in step 2 (= RS-232 or USB Virtual COM). For RS-232, the baud rate setting is still 115200 bps!

Enter Setup

USING USB VIRTUAL COM

1) Connect the USB cable between the scanner and the computer.
   - If using USB Virtual COM for the first time, you must install its driver beforehand.
2) For Windows platform, read the following barcodes in sequence to configure the scanner to use USB VCOM_CDC as download interface.

Enter Setup

Activate Direct USB VCOM_CDC

100010

Update

109999

For non-Windows platform, read the following barcodes in sequence to configure the scanner to use USB Virtual COM as download interface.

Enter Setup

Activate Direct USB VCOM

100008

Update

109999

3) Read the following barcodes in sequence for the scanner to enter the download mode. The scanner will respond with beeps to indicate it is ready for downloading.

Enter Setup

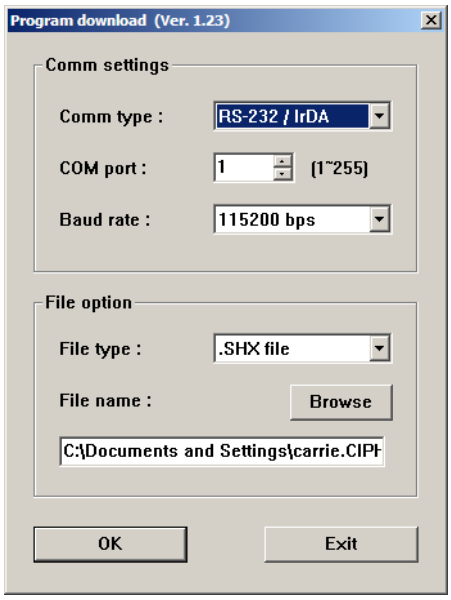
Download

109997

4) Run the download utility “ProgLoad.exe” on the computer.

Update

Kernel Program	User Program
K250x_V*.shx	STD250x_V*.shx



- For the communication settings, select "RS-232" and the correct COM port for RS-232 or USB Virtual COM interface.
- For RS-232, select 115200 bps for baud rate; for USB Virtual COM, ignore the baud rate setting.
- For the file option, click [Browse] to select the target file for firmware update.
- Click [OK].

5) After upgrading kernel, you will need to restart the scanner manually.

After upgrading the user program, the scanner will automatically restart itself once the download is completed successfully.

Note: The output interface remains unchanged as specified in step 2 (= RS-232 or USB Virtual COM). For RS-232, the baud rate setting is still 115200 bps!

Enter Setup

Appendix II

HOST SERIAL COMMANDS

SERIAL COMMANDS

D

Purpose	To disable the scanner.
Remarks	"D"

E

Purpose	To enable the scanner.
Remarks	"E"

#@ nnnnnn <CR>

Purpose	To configure the scanner.
Remarks	nnnnnn – the six digits of command parameters.
	For example, "109952" is to list the current Code ID settings.

List Page 3

"0x23" + "0x40" + "0x31" + "0x30" + "0x39" + "0x39" + "0x35" + "0x32" + "0x0d"

Note: After configuring the scanner, send the serial command "#@109999" to save the settings.

#@----<CR>

Purpose	To halt the scanner.
Remarks	"0x23" + "0x40" + "0x2d" + "0x2d" + "0x2d" + "0x2d" + "0x0d"

#@....<CR>

Purpose	To resume operation.
Remarks	"0x23" + "0x40" + "0x2e" + "0x2e" + "0x2e" + "0x2e" + "0x0d"

#@////<CR>

Purpose	To respond with a beep.
Remarks	"0x23" + "0x40" + "0x2f" + "0x2f" + "0x2f" + "0x2f" + "0x0d"

Update

#@TRIGOFF<CR>

Purpose	Disable software trigger
Remarks	"0x23" + "0x40" + "0x54" + "0x52" + "0x49" + "0x47" + "0x4f" + "0x46" + "0x46" + "0x0d"

#@TRIGON<CR>

Purpose	Enable software trigger
Remarks	"0x23" + "0x40" + "0x54" + "0x52" + "0x49" + "0x47" + "0x4f" + "0x4e" + "0x0d"

EXAMPLE

Run HyperTerminal.exe on the host computer to send serial commands to the scanner via RS-232 or USB Virtual COM.

- For the scanner to stop immediately –

  D

- For the scanner to resume working –

  E

- For the scanner to change the beeper to medium volume and beep –

  #@101011<CR>

  #@////<CR>

- For the scanner to change the beeper to minimal volume and beep –

  #@101010<CR>

  #@////<CR>

- For the scanner to change the beeper frequency to 8 kHz (for Good Read Beep only) and beep –

  #@101001<CR>

  #@////<CR>

- For the scanner to change the beeper length to longest (for Good Read Beep only) and beep –

  #@101008<CR>

  #@////<CR>

- For the scanner to save the settings, send the serial command "#@109999" –

  #@101011<CR>

  #@109999<CR>

Note: Configure more than one scanner connected to the host via RS-232 or USB Virtual COM. To identify the scanner, please end the serial command to have it respond with a beep.

Enter Setup

Appendix III

KEYBOARD WEDGE TABLE

“Apply” Special Keyboard									
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0		F2	SP	0	@	P	`	p	⓪
1	INS	F3	!	1	A	Q	a	q	①
2	DLT	F4	"	2	B	R	b	r	②
3	Home	F5	#	3	C	S	c	s	③
4	End	F6	$	4	D	T	d	t	④
5	Up	F7	%	5	E	U	e	u	⑤
6	Down	F8	&	6	F	V	f	v	⑥
7	Left	F9	'	7	G	W	g	w	⑦
8	BS	F10	(	8	H	X	h	x	⑧
9	HT	F11	)	9	I	Y	i	y	⑨
A	LF	F12	*	:	J	Z	j	z	
B	Right	ESC	+	;	K	[	k	{	
C	PgUp	Exec	,	<	L	\	l	|	
D	CR	CR*	-	=	M	]	m	}	
E	PgDn		.	>	N	^	n	~	
F	F1		/	?	O	_	o	Dly	ENTER*

Note: (1) ⓪~⑨: Digits of numeric keypad.
(2) CR*/ENTER*: ENTER key on the numeric keypad.

Update

“Bypass” Special Keyboard									
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0			SP	0	@	P	`	p	
1			!	1	A	Q	a	q	
2			"	2	B	R	b	r	
3			#	3	C	S	c	s	
4			$	4	D	T	d	t	
5			%	5	E	U	e	u	
6			&	6	F	V	f	v	
7			'	7	G	W	g	w	
8	BS		(	8	H	X	h	x	
9	HT		)	9	I	Y	i	y	
A	LF		*	:	J	Z	j	z	
B		ESC	+	;	K	[	k	{	
C			,	<	L	\	l	|	
D	CR		-	=	M	]	m	}	
E			.	>	N	^	n	~	
F			/	?	O	_	o	Dly	

Note: (1) ⓪~⑨: Digits of numeric keypad.
(2) CR*/ENTER*: ENTER key on the numeric keypad.

Enter Setup

KEY TYPE & STATUS

KEY TYPE

If “Keyboard Wedge” or “USB HID” is configured for interface, Key Type and Key Status will then become applicable.

***Normal**

109926

Scan Code

109936

KEY STATUS

Decide whether or not to change key status when “Normal Key” is selected for Key Type.

Add Shift

109930

Add Left Ctrl

109931

Add Right Ctrl

109933

Add Left Alt

109932

Add Right Alt

109934

Update

EXAMPLE

KEY TYPE = NORMAL

For example, if you want to program the character "!" as the prefix code:

1. Read the "Configure Prefix" barcode.
2. Read the "Hexadecimal Value" barcode on page 30 for "2" and "1".
3. Read the "Validate" barcode to complete this setting.

KEY TYPE = SCAN CODE

For example, if you want to program the character "a" (= "1C" on the scan code table) as the prefix code:

1. Read the "Configure Prefix" barcode.
2. Read the "Scan Code" barcode.
3. Read the "Hexadecimal Value" barcode on page 30 for "1" and "C".
4. Read the "Validate" barcode to complete this setting.

KEY TYPE = NORMAL + KEY STATUS = SHIFT

For example, if you want to program the character "!" (= "Shift" + "1" on keyboard) as the prefix code:

1. Read the "Configure Prefix" barcode.
2. Read the "Add Shift" barcode.
3. Read the "Hexadecimal Value" barcode on page 30 for "3" and "1".
4. Read the "Validate" barcode to complete this setting.

KEY TYPE = NORMAL + KEY STATUS = CTRL

For example, if you want to program "Ctrl+A" and "Ctrl+$" as the prefix code:

1. Read the "Configure Prefix" barcode.
2. Read the "Add Left Ctrl" barcode.
3. Read the "Hexadecimal Value" barcode on page 30 for "4", "1" (= "A").
4. Read the "Add Left Ctrl" barcode.
5. Read the "Hexadecimal Value" barcode on page 30 for "2", "4" (= "$").
6. Read the "Validate" barcode to complete this setting.

Enter Setup

Appendix IV

NUMERAL SYSTEMS

DECIMAL SYSTEM

Decimal

0

109900

1

109901

2

109902

3

109903

4

109904

5

109905

6

109906

7

109907

8

109908

9

109909

Validate the Values

Validate

109994

Update

Abort

HEXADECIMAL SYSTEM

Hexadecimal

0

109900

1

109901

2

109902

3

109903

4

109904

5

109905

6

109906

7

109907

8

109908

9

109909

A

109910

B

109911

C

109912

D

109913

E

109914

F

109915

Enter Setup

Validate the Values

Validate

109994

ASCII TABLE

	0	1	2	3	4	5	6	7	
0		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	SUB	*	:	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	

Update

Abort

Enter Setup

Appendix V

READING DRIVER LICENSES

The scanner is capable of reading 2D driver's licenses and other American Association of Motor Vehicle Administrators (AAMVA) compliant ID cards. For compliant 2D licensed card scanning, it decodes the information embedded in the ID cards to a formatted data. This appendix provides the setup barcodes required while ScanMaster utility provides GUI setup that is oganized and easy-to-use.

Note: The configured settings are saved in flash memory for access once a driver's license is read.

LICENSE PARSING SETUP

***License Parse Disable**

License Parse Enable

Parse Field Clear

FILE TYPE

You can check the file type of ANSI by scanning the barcode as below.

***Enable**

Disable

Update

Abort

OUTPUT SEQUENCE SETUP

The scanner supports arranging the sequences of license embedded data via separators and fields. In order to present data in a consistent format, some barcodes (ex. First Name, Middle Name/Initial, Last Name, Name suffix, Name Prefix, Birth Date and so on) will return data based on the calculated actual data contained in the ID barcode.

Full Name

Last Name

First Name

Middle Name/Initial

Name Suffix

Name Prefix

Mailing Address Line1

Mailing Address Line2

Mailing Address City

Mailing Address State

Enter Setup

Mailing Address Postal Code


103021

Home Address Line1


103022

Home Address Line2


103023

Home Address City


103024

Home Address State


103025

Home Address Postal Code


103026

License ID Number


103027

License Class


103028

License Restrictions


103029

License Endorsements


103030

Height (Feet and/or Inches)


103031

Height (Centimeters)


103032

Update

Abort

Weight (Pounds)

Weight (Kilograms)

Eye Color

Hair Color

License Expiration Date

Birth Date

Gender

License Issue Date

Issue Timestamp

Number of Duplicates

Medical Codes

Organ Donor

Enter Setup

Nonresident


103045

Customer ID


103046

Social Security Number


103047

AKA Birth Date


103048

AKA Social Security Name


103049

AKA Full Name


103050

AKA Last Name


103051

AKA First Name


103052

AKA Middle Name/Initial


103053

AKA Name Suffix


103054

AKA Name Prefix


103055

Weight Range


103056

Update

Abort

Document Discriminator

Country

Federal Commission Codes

Place of Birth

Audit Information

Inventory Control

Race/Ethnicity

Std Vehicle Class

Std Restrictions

Std Endorsements

Class Description

Endorsement Description

Enter Setup

Restrictions Description


103069

Permit Class


103070

Permit Expiration Date


103071

Permit ID Number


103072

Permit Issue Date


103073

Permit Restrictions


103074

Permit endorsements


103075

Issuer ID Number


103076

Family Name Truncation


103077

First Name Truncation


103078

Middle Name Truncation


103079

Update

Abort

SEPARATORS AND FIELDS

Define the separators that separate fields during the transmission sequence of data scanning. In addition to the built-in data elements, you can also specify up to 5 Additional Fields with 4 bytes characters. Program the transmission sequence by reading the desired fields as additional fields.

Note: Up to 5 separators can be assigned.

Separator 1 (1 byte) *"Space"

Separator 2 (1 byte) *"Enter"

Separator 3 (1 byte) *","

Separator 4 (1 byte) *"."

Separator 5 (1 byte) *"-"

Additional Field 1 (4 bytes)

Additional Field 2 (4 bytes)

Additional Field 3 (4 bytes)

Additional Field 4 (4 bytes)

Additional Field 5 (4 bytes)

Enter Setup

EDIT SEPARATORS

All the driver license fields can be split with a pre-selected separator, for example, “-” as First Name-Last Name or “:” as First Name:Last Name.

Edit Separator 1

Edit Separator 2

Edit Separator 3

Edit Separator 4

Edit Separator 5

1) Read the barcode above to apply separator to driver license information separately, and follow steps 2~3.
2) Read the “Hexadecimal Value” barcode for the desired character string. For example, read “3” and “A” for the separator to split the data with character [:].
3) Read the “Validate” barcode on the same page to complete this setting.

EDIT FIELDS

Up to five additional fields can be created for each editing format; each of them is numbered from Additional 1 to Additional 5 accordingly.

- If "*Bluetooth*® HID" or "USB HID" is configured for interface, Key Type and Key Status will then become applicable. You may decide whether or not to apply Key Status when "Normal Key" is selected for Key Type.

Key Type		Key Status
Scan Code	Up to 2 scan code values are allowed.	N/A
Normal Key	Up to 4 character strings are allowed.	▸ Add Shift ▸ Add Left Ctrl ▸ Add Left Alt ▸ Add Right Ctrl ▸ Add Right Alt Refer to Keyboard Wedge Table.

Edit Additional Field 1

Edit Additional Field 2

Edit Additional Field 3

Edit Additional Field 4

Edit Additional Field 5

1) Read the barcode above to specify an additional field, one at a time.
2) Read the "Hexadecimal Value" barcode for the desired additional field.
3) Read the "Validate" barcode on the same page to complete this setting.

Enter Setup

Appendix VI

KEYBOARD TYPE ONE-SCAN BARCODE

KEYBOARD WEDGE

PCAT (US)

PCAT (French)

PCAT (German)

PCAT (Italian)

PCAT (Swedish)

PCAT (Norwegian)

PCAT (UK)

PCAT (Belgium)

PCAT (Spanish)

PCAT (Portuguese)

PS55 A01-1

PS55 A01-2 (Japanese)

PS55 A01-3

PS55 001-1

PS55 001-81

PS55 001-2

PS55 001-82

PS55 001-3

PS55 001-8A

PS55 002-1, 003-1

PS55 002-81, 003-81

PS55 002-2, 003-2

PS55 002-82, 003-82

PS55 002-3, 003-3

PS55 002-8A, 003-8A

IBM 3477 Type 4 (Japanese)

PS2-30

IBM 34XX/319X, Memorex Telex 122 Keys

User-defined table

PCAT (Turkish)

PCAT (Hungarian)

PCAT (Swiss German)

PCAT (Danish)

PCAT (Russian)

PCAT (Cyrillic on Russian)

PCAT (Armenian)

PCAT (Thai)

DIRECT USB HID

PCAT (US)

PCAT (French)

PCAT (German)

PCAT (Italian)

PCAT (Swedish)

PCAT (Norwegian)

PCAT (UK)

PCAT (Belgium)

PCAT (Spanish)

PCAT (Portuguese)

#@DH0073#

PS55 A01-2 (Japanese)

#@DH0074#

User-defined table

#@DH0075#

PCAT (Turkish)

#@DH0076#

PCAT (Hungarian)

#@DH0077#

PCAT (Swiss German)

#@DH0078#

PCAT (Danish)

#@DH0079#

PCAT (Russian)

#@DH0083#

PCAT (Cyrillic on Russian)

#@DH0088#

PCAT (Armenian)

PCAT (Thai)