Tera

Model: HW0001

Wireless 2D Barcode Scanner

User Manual

Ver.04.1.03

About This Manual

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

Scanners are factory programmed for the most common terminal and communication settings.

If settings need to be changed, you can reprogram by scanning the barcodes in this manual.

Note:
For the correct use of the product, please read this manual carefully and do not scan configuration barcodes at random. Otherwise, some settings will be temporarily unavailable.

The scanner's keyboard layout default is a US keyboard.

Please do not hesitate to contact us if you have any questions.

Important Notice:

Please include your Order Number and Product Model Number in the email.

Official Customer Service

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https://www.tera-digital.com
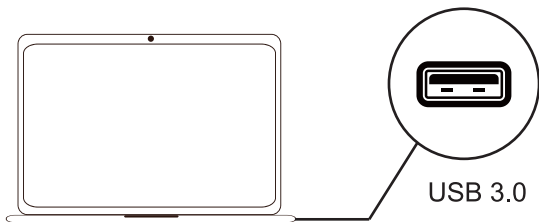
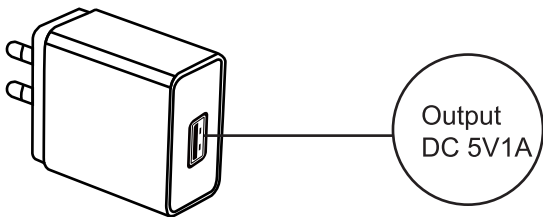# Charging Notice

USB 3.0

Figure A

Output
DC 5V1A

Figure B

Important: Read Before Charging

Power Requirement:
This scanner can be charged using a 5V/1A USB port.
It is crucial to use a USB power source that provides a
stable 5V/1A output for charging. Using a power source
with higher voltage or amperage may cause damage to
the device and void the warranty.

Please note the following guidelines:

USB Charging:
This scanner can be charged using a 5V/1A USB port available on various devices, such as computers, laptops, or USB wall adapters.
Ensure that the USB port you connect to provides a stable output of 5V/1A.
Avoid using USB ports that do not meet the recommended specifications, as this may result in slow or insufficient charging or damage to the device.

Charging Safety:
Do not attempt to modify or tamper with the USB cable or charging port.
Always plug the USB cable securely into the USB port, ensuring a proper connection.
If using a USB wall adapter, make sure to use a reputable brand and check that it provides the required 5V/1A output.
Keep the charging area well-ventilated and free from flammable materials.
Unplug the USB cable from the power source when not in use.

Failure to comply with these instructions may result in damage to your device and void the warranty.
Our company shall not be held liable for any such damages caused by the use of incompatible power sources.

Contents

Chapter 1 General Settings

Factory Default Settings

If you aren't sure what programming options are in your scanner, or you have changed some options and want to restore the scanner to factory default settings, scan the barcode below.

Restore Defaults

Software Version

Scan the bar code below to output the current software version for the scanner.

Show Software Version

Beeper Volume

High*

Medium

Low

Mute

Battery Level

To check the remaining battery level, please scan the following barcode. Make sure that your cursor is in a text box when scanning the barcode.

Show Battery Level

Power Timeout Timer (Sleep Timer)

When there is no activity within a specified time period, the scanner turns off. Scan the appropriate scanner power time-out barcode to change the timeout duration (in seconds).
Note: If there are no trigger pulls during the timer interval, the scanner turns off. Whenever the trigger is enabled, the timer is reset.

30s

60s

120s

300s*

600s

1800s

Never

Immediately

03

Keyboard Country Layout

Your keyboard layout default is a US keyboard.
To change this layout, scan the appropriate Keyboard
Country barcode below. Note that if your keyboard
layout doesn't match your computer's, the outputs may
be incorrect. If the keyboard layout you need is not
listed below, please try the International configuration.

United States*

Germany

France

Spain

Italy

United Kingdom

International

Vibration

The scanner vibrates when a barcode is successfully read. Scan Vibration Off to keep the scanner from vibrating. Default=Off

On

Off

Operation Modes

Real Time Mode

By default, the barcode scanner is in real time mode and it transmits scanned data into the host device immediately.

Real Time Mode*

Storage Mode

Storage mode is used to store barcode data when a scanner is out of range of its receiver or when performing inventory. The data is stored in the memory so it won't get lost when the barcode scanner is turned off. When the scanner's buffer space is full, any barcodes scanned generate an error tone. In order to clear the scanner's buffer, you must scan Clear All Codes.

Storage Mode

Upload All Stored Codes

In storage mode, the scanner won't transmit the data into the host device when the scanner is back in range. Users need to scan the following code to control the barcode scanner to transmit the stored data.

Upload All Stored Codes

Total Records

If you wish to output the total number of barcodes scanned when in storage mode, scan Total Records.

Total Records

Clear All Stored Codes

If you want to clear the scanner's buffer of all data accumulated in storage mode, scan Clear All Stored Codes.

Clear All Stored Codes

Chapter 2
Communications and Pairing
2.4GHz Wireless Pairing

If the scanner doesn't connect to the USB dongle automatically, please scan the following codes to pair the scanner to the dongle. First scan 2.4GHz Mode symbol and then scan Pairing symbol. Be sure to unplug the dongle before scanning the codes.
(If the barcode scanner is not connected to the USB dongle when used wireless after scanning a test barcode, it will emit a good read beep followed by three quick beeps)

2.4GHz Mode

Pairing

USB HID-keyboard

No driver from the manufacturer is required for USB Keyboard connection.

USB HID-keyboard*

USB-COM/Virtual Serial Port

Scan the following code to program the scanner to emulate a regular RS232-based COM Port. No extra configuration is necessary. To exit USB-COM mode, please scan the USB HID Keyboard barcode.

USB-COM Mode

Bluetooth HID Pairing

Step 1: Scan the "Bluetooth HID" symbol.
This allows the devices to pair to PCs, laptops and tablets that the scanned data appears as though it were entered on a keyboard.

Bluetooth HID

Step 2: Scan the "Pairing" symbol to switch the scanner to pairing mode, the LED indicator starts flashing.

Pairing

Step 3: Enable Bluetooth on the target device and locate a device named "Barcode Scanner HID" in the Bluetooth List.
Step 4: Tap/click "Barcode Scanner HID" to pair it with the target device.
Step 5: The scanner beeps once and the LED indicator stops flashing, indicating successful pairing.
The scanner will send data to any editable text terminal (e.g. Notepad).

(Please note that if the trigger is pulled twice or no pairing requests are detected within one minute, the scanner will exit pairing mode.)

Bluetooth Settings

Hold the trigger for 8s to switch the scanner to Bluetooth HID pairing mode.

Long press to enter Bluetooth HID
Pairing Mode On*

Long press to Enter Bluetooth HID
Pairing Mode Off

Virtual Bluetooth HID Keyboard
(For iOS devices only)

Show/Hide Virtual Keyboard

Pull trigger twice to show/hide keyboard On*

Pull trigger twice to show/hide keyboard Off

Bluetooth HID Transmission Speed

If the transmitted data gets lost or garbled, try to reduce the transmission speed.

Fast

Medium*

Slow

Ultra-slow

Chapter 3 Data Editing

Character Encoding

Working in keyboard mode, the scanner by default selects GBK code page.

GBK*

UTF

Keyboard Conversion

Alphabetic keyboard characters can be forced to be all upper case or all lowercase. So if you have the following barcode: "AZErty", you can make the output "AZERTY" by scanning Convert All Characters to Upper Case, or to "azerty" by Convert All Characters to Lower Case.

Convert All Characters to Lower Case

Convert All Characters to Upper Case

Conversion Off*

Terminators (Termination Suffixes) - Enter, Tab

Termination suffixes are added to all symbologies at the end of scanned data.

Carriage Return

Line Feed

Carriage Return & Line Feed

Horizontal Tab

None (Clear Termination Suffixes)

Timestamp

If you want to record the time and date for every scan, scan either Time & Date Prefix or Time & Date Suffix. If the time and date stamp doesn't match your computer's, contact Tera customer service for Time Sync Tool.

Show Current Time & Date

Time & Date Prefix

Time & Date Suffix

Clear Timestamp

Replacement of Group Separators

A <GS> is a non-printable character to separate parts of a barcode which do not have a fixed length. In some cases, you may need to replace or remove the Group Separator <GS> embedded in your barcodes. To replace or the GS character, following the steps below.
Step 1: Scan GS Replacement On

GS Replacement On

GS Replacement Off

Step 2: Check the Appendix - ASCII Character Chart and scan the barcode on the rightmost column that represents the character you need.
(To remove the GS character, just scan GS Replacement Off)

Prefix and Suffix Overview

When a barcode is scanned, additional information is sent to the host computer along with the barcode data. This group of barcode data and additional, user-defined data is called a "message string.". The selections in this section are used to build the user-defined data into the message string. Prefix and Suffix characters are data characters that can be sent before and after scanned data. By default, they are sent with all symbologies. Below is draw of the breakdown of a message string.
<Prefix><Barcode Data><Suffix><Termination Suffix>

Points to keep in mind.

1. It is not necessary to build a message string. The selections in this section are only used if you wish to alter the default settings.
2. You can add any prefix or suffix from the Appendix ASCII Character Chart.

3. Enter prefixes and suffixes in the order in which you want them to appear on the output.
4. The maximum size of a prefix or suffix configuration is 16 characters.

Add a Prefix or Suffix

Step 1: Scan the Add Prefix or Add Suffix symbol

Add Prefix

Add Suffix

Step 2: Scan the barcode in the rightmost column which represents the character you need.
For example, add an @ as a prefix, you should scan Add Prefix, then the 64th symbol from the Appendix ASCII Character Chart.
(To clear all prefixes or suffixes, scan the Add Prefix or Add Suffix symbol again.)
Note: In keyboard applications, ASCII Control characters can be represented in 3 different ways, as shown in the Appendix A Control Characters. The CTRL + X function is OS and application dependent. If you need to add a control characters as a prefix or suffix, you should first select an escape character set, and then follow the steps mentioned above. For example, add a STX prefix and an ETX suffix, you should first scan Escape Character Set 3, then scan Add Prefix, then the 1st symbol from the Appendix A Control Characters; then scan Add Suffix, then the 4th symbol from the Appendix A Control Characters.

Escape Character Set 0

Escape Character Set 1

Escape Character Set 2

Escape Character Set 3

Removal of Characters

If you need to remove leading and/or trailing characters from scanned bar codes, please scan the Remove characters from the start symbol or the Remove characters from the end symbol, then scan the appropriate code among the first 16 codes from the Appendix ASCII Character Chart.
(Note: The maximum size of this configuration is 16 characters.)

Remove characters from the start

Remove characters from the end

For example, if you have the following barcode: "QWERT123456789ASDFG", you can make the output "12345678" by scanning Remove characters from the start, then the 5th barcode from the ASCII Character Chart; then scanning Remove characters from the end, lastly the 6th barcode from the ASCII Character Chart. That is, the first 16 barcodes in the ASCII Character Chart are digits codes that tell the barcode scanner how many digits should be removed.

Chapter 4 Scan Modes
Manual Trigger Mode
A scan mode for reading barcodes by pulling the trigger.

Manual Trigger Mode*

Continuous Scan Mode

A scan mode that continuously keeps scanning barcodes.

Continuous Scan Mode

Sensor-activated Mode

For sensor-activated mode, when the scanner is idle it has no illumination, and uses predominantly ambient light to detect if an object is moving in front of the scanner. The scanner is expected to reside in a fixed position. Whenever it detects activity in the field of view it will turn on the illumination and attempt to read a barcode. After reading the barcode the illumination will be default remain on for defined period, before it returns to idle state again.

Sensor-activated Mode

Chapter 5 Symbologies

Inverse Barcodes Reading

This selection is used to allow the scanner to read barcodes that are inverted. Inverse barcodes refer to barcodes with white elements on a black background.

Regular Only*

Both Regular and Inverse

EAN 13
EAN-13 On/Off

On*

Off

EAN-13 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN-13 data. Default = Off for both 2 digit and 5 digit Addenda.

2 digit Addenda On

2 digit Addenda Off*

5 digit Addenda On

5 digit Addenda Off*

EAN-13 Addenda Required

When required is scanned, the scanner will only read EAN-13 barcodes that have addenda. Default=Not Required.

Required

Not Required*

EAN 13 Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default=On.

Transmit Check Digit*   Don't Transmit Check Digit

EAN 8
EAN-8 On/Off

On   Off

EAN-8 Addenda

This selection adds 2 or 5 digits to the end of all scanned EAN-8 data. Default = Off for both 2 digit and 5 digit Addenda.

2 digit Addenda On

2 digit Addenda Off*

5 digit Addenda On

5 digit Addenda Off*

EAN-8 Addenda Required

When required is scanned, the scanner will only read EAN-8 barcodes that have addenda. Default=Not Required.

Required

Not Required*

EAN-8 Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default=On.

Transmit Check Digit*   Don't Transmit Check Digit

UPC-A

UPC-A On/Off

On*   Off

UPC-A Addenda

This selection adds 2 or 5 digits to the end of all scanned UPC-A data. Default = Off for both 2 digit and 5 digit Addenda.

2 digit Addenda On

2 digit Addenda Off*

5 digit Addenda On

5 digit Addenda Off*

UPC-A Addenda Required

When required is scanned, the scanner will only read UPC-A barcodes that have addenda. Default=Not Required.

Required

Not Required*

UPC-A Check Digit

This selection allows you to specify whether the check digit should be transmitted at the end of the scanned data or not. Default=On.

Transmit Check Digit*   Don't Transmit Check Digit

Convert UPC-A to EAN-13

When UPC-A Converted to EAN-13 is selected, UPC-A barcodes are converted to 13 digit EAN-13 codes by adding a zero to the front. When Do not Convert UPC-A is selected, UPC-A codes are read as UPC-A.

UPC-A Converted to
EAN-13

Do not Convert
UPC-A

UPC-E

UPC-E On/Off

On*

Off

2 digit Addenda On

2 digit Addenda Off*

5 digit Addenda On

5 digit Addenda Off*

UPC-E Addenda Required

When required is scanned, the scanner will only read UPC-E barcodes that have addenda. Default=Not Required.

Required

Not Required*

UPC-E Check Digit

Transmit Check Digit

Don't Transmit Check Digit

Code128

On*

Off

Code 39

Code 39 On/Off

On*

Off

If you are reading Code 39 barcodes, Code 32 Pharmaceutical should remain disabled; otherwise, the output might not be as expected.

Full ASCII Code 39

If Full ASCII Code 39 decoding is enabled, certain character pairs within the barcode symbol will be interpreted as a single character. Default= Off.

On

*Off

Code 39 Check Character

No Check Character indicates that the scanner reads and transmits barcode data with or without a check character. When Check Character is set to Validate Mod 43 Check, but Don't Transmit, the unit only reads Code 39 barcodes printed with a check character, but will not transmit the check character with the scanned data. When Check Character is set to Validate Mod 43 Check and Transmit, the scanner only reads Code 39 barcodes printed with a check character, and will transmit this character at the end of the scanned data. Default = No Check Character.

Validate Mod 43 Check

No Check Character*

Transmit Check Digit

Don't Transmit Check Digit*

Code 32 Pharmaceutical

Code 32 Pharmaceutical is a form of the Code 39 symbology used by Italian pharmacies. This symbology is also known as PARAF.

On

Off*

Code 93

On*

Off

Codabar
Codabar On/Off

On*

Off

Codabar Start/Stop Characters

Transmit

*Don't Transmit

Interleaved 2 of 5
Interleaved 2 of 5 On/Off

On

*Off

Interleaved 2 of 5 Check Digit

No Check Digit indicates that the scanner reads and transmits barcode data with or without a check digit. When Check Digit is set to Validate Mod 10 Check, but Don't Transmit, the unit only reads Interleaved 2 of 5 barcodes printed with a check digit, but will not transmit the check digit with the scanned data. When Check Digit is set to Validate Mod 10 Check and Transmit, the scanner only reads Interleaved 2 of 5 barcodes printed with a check digit, and will transmit this digit at the end of the scanned data. Default = No Check Digit.

Validate Mod 10 Check

No Check Digit*

Transmit Check Digit

Don't Transmit Check Digit*

Industrial 2 of 5

On

Off*

Matrix 2 of 5

On

*Off

Code 11

On

Off*

GS1 Databar
GS1 Databar On/Off

On

Off*

GS1 Databar Application Identifier Parentheses

*Transmit Parentheses

Don't Transmit Parentheses

GS1 Databar Limited

GS1 Databar Limited On/Off

On

Off*

GS1 Databar Limited Application Identifier Parentheses

*Transmit Parentheses

Don't Transmit Parentheses

QR Code

On*

Off

Data Matrix

On*

Off

PDF417

On*

Off

Appendix ASCII Character Chart

Appendix A - Control Characters

Dec	ASCII	Escape Set 0		Escape Set1
1	SOH	NULL		Home

Escape Set2	Escape Set3	Symbol	
Ctrl+A	Alt+001		

Dec	ASCII	Escape Set 0		Escape Set1
2	STX	Ctrl+B		End

Escape Set2	Escape Set3	Symbol	
Ctrl+B	Alt+002		

Dec	ASCII	Escape Set 0	Escape Set1
3	ETX	Ctrl+C	Up Arrow

Escape Set2	Escape Set3	Symbol
Ctrl+C	Alt+003	

Dec	ASCII	Escape Set 0	Escape Set1
4	EOT	NULL	Down Arrow

Escape Set2	Escape Set3	Symbol
Ctrl+D	Alt+004	

Dec	ASCII	Escape Set 0	Escape Set1
5	ENQ	NULL	Left Arrow

Escape Set2	Escape Set3	Symbol
Ctrl+E	Alt+005	

Dec	ASCII	Escape Set 0	Escape Set1
6	ACK	NULL	Right Arrow

Escape Set2	Escape Set3	Symbol
Ctrl+F	Alt+006	

Dec	ASCII	Escape Set 0	Escape Set1
7	BEL	NULL	Shift+Tab

Escape Set2	Escape Set3	Symbol
Ctrl+G	Alt+007	

Dec	ASCII	Escape Set 0	Escape Set1
8	BS	Back Space	Back Space

Escape Set2	Escape Set3	Symbol
Back Space	Alt+008	

Dec	ASCII	Escape Set 0	Escape Set1
9	HT	Tab	Tab

Escape Set2	Escape Set3	Symbol	
Tab	Alt+009		

Dec	ASCII	Escape Set 0	Escape Set1
10	LF	Enter	Enter

Escape Set2	Escape Set3	Symbol	
Ctrl+P	Alt+010		

Dec	ASCII	Escape Set 0	Escape Set1
11	VT	NULL	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+Q	Alt+011	

Dec	ASCII	Escape Set 0	Escape Set1
12	FF	NULL	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+R	Alt+012	

Dec	ASCII	Escape Set 0	Escape Set1
13	CR	Enter	Enter

Escape Set2	Escape Set3	Symbol	
Enter	Alt+013		

Dec	ASCII	Escape Set 0	Escape Set1
14	S0	F1	Page Up

Escape Set2	Escape Set3	Symbol	
Ctrl+N	Alt+014		

Dec	ASCII	Escape Set 0	Escape Set1
15	S1	F2	Page Down

Escape Set2	Escape Set3	Symbol	
Ctrl+O	Alt+015		

Dec	ASCII	Escape Set 0	Escape Set1
16	DLE	F3	F11

Escape Set2	Escape Set3	Symbol	
Ctrl+P	Alt+016		
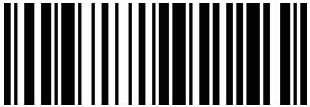
Dec	ASCII	Escape Set 0	Escape Set1
17	DC1	F4	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+Q	Alt+017	

Dec	ASCII	Escape Set 0	Escape Set1
18	DC2	F5	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+R	Alt+018	

Dec	ASCII	Escape Set 0	Escape Set1
19	DC3	F6	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+S	Alt+019	

Dec	ASCII	Escape Set 0	Escape Set1
20	DC4	F7	NULL

Escape Set2	Escape Set3	Symbol
Ctrl+T	Alt+020	

Dec	ASCII	Escape Set 0	Escape Set1
21	NAK	F8	F12

Escape Set2	Escape Set3	Symbol
Ctrl+U	Alt+021	

Dec	ASCII	Escape Set 0	Escape Set1
22	SYN	F9	F1

Escape Set2	Escape Set3	Symbol
Ctrl+V	Alt+022	

Dec	ASCII	Escape Set 0	Escape Set1
23	TB	F10	F2

Escape Set2	Escape Set3	Symbol
Ctrl+W	Alt+023	

Dec	ASCII	Escape Set 0	Escape Set1
24	CAN	F11	F3

Escape Set2	Escape Set3	Symbol
Ctrl+X	Alt+024	

Dec	ASCII	Escape Set 0	Escape Set1
25	EM	F12	F4

Escape Set2	Escape Set3	Symbol
Ctrl+Y	Alt+025	

Dec	ASCII	Escape Set 0	Escape Set1
26	SUB	NULL	F5

Escape Set2	Escape Set3	Symbol
Ctrl+Z	Alt+026	

Dec	ASCII	Escape Set 0	Escape Set1
27	Esc	Esc	F6

Escape Set2	Escape Set3	Symbol
Ctrl+[	Alt+027	

Dec	ASCII	Escape Set 0	Escape Set1
28	FS	ALT+028	F7

Escape Set2	Escape Set3	Symbol
Ctrl+\	Alt+028	

Dec	ASCII	Escape Set 0	Escape Set1
29	GS	ALT+029	F8

Escape Set2	Escape Set3	Symbol
Ctrl+]	Alt+029	

Dec	ASCII	Escape Set 0	Escape Set1
30	RS	NULL	F9

Escape Set2	Escape Set3	Symbol
Ctrl+^	Alt+030	

Dec	ASCII	Escape Set 0	Escape Set1
31	US	NULL	F10

Escape Set2	Escape Set3	Symbol
Ctrl+_	Alt+031	|||||||||||||||||||||

Appendix - B Printable Characters

Dec	ASCII	Symbol
32	Space	|||||||||||||||||||||
33	!	|||||||||||||||||||||
34	"	|||||||||||||||||||||

Dec	ASCII	Symbol
35	#	
36	$	
37	%	
38	&	
39	'	
40	(	
41	)	

Dec	ASCII	Symbol
42	*	
43	+	
44	,	
45	-	
46	.	
47	/	
48	0	

Dec	ASCII	Symbol
49	1	
50	2	
51	3	
52	4	
53	5	
54	6	
55	7	

Dec	ASCII	Symbol
56	8	
57	9	
58	:	
59	;	
60	<	
61	=	
62	>	

Dec	ASCII	Symbol
63	?	
64	@	
65	A	
66	B	
67	C	
68	D	
69	E	

Dec	ASCII	Symbol
70	F	
71	G	
72	H	
73	I	
74	J	
75	K	
76	L	

Dec	ASCII	Symbol
77	M	
78	N	
79	O	
80	P	
81	Q	
82	R	
83	S	

Dec	ASCII	Symbol
84	T	
85	U	
86	V	
87	W	
88	X	
89	Y	
90	Z	

Dec	ASCII	Symbol
91	[	
92	\	
93	]	
94	^	
95	_	
96	`	
97	a	

Dec	ASCII	Symbol
98	b	
99	c	
100	d	
101	e	
102	f	
103	g	
104	h	

Dec	ASCII	Symbol
105	i	
106	j	
107	k	
108	l	
109	m	
110	n	
111	o	

Dec	ASCII	Symbol
112	p	
113	q	
114	r	
115	s	
116	t	
117	u	
118	v	

Dec	ASCII	Symbol
119	w	
120	x	
121	y	
122	z	
123	{	
124	l	
125	}	

Dec	ASCII	Symbol
126	~	
127	DEL	
199	Ç	
231	ç	