

# Tera

**Model No.: HW0002**

**Barcode Scanner**

**User Manual**

Ver.01.2.01

# Contents

Chapter 1 General .....	01
Factory Default .....	01
Firmware Version .....	01
Lights .....	01
Aimer .....	02
Centering .....	03
Video Reverse .....	03
Chapter 2 Communications .....	05
Keyboard Country Layout .....	05
Control Character (Function Key) Output .....	08
Case Conversion .....	09
Chapter 3 Scan Modes .....	11
Manual Trigger Mode .....	11
Continuous Scan Mode .....	12
Sensor-activated Mode .....	13
Chapter 4 Data Edit .....	15
Code ID .....	15
Add Prefix .....	15
Add Suffix .....	16
Hide Characters .....	17
Insert Characters .....	19
Replace Characters .....	21
Chapter 5 Symbolologies .....	22
Chapter 6 Wireless Settings .....	52
Wireless Factory Default .....	52

Wireless Version .....	53
Beeper Volume .....	53
Vibration .....	53
Battery Level .....	53
Encoding Format .....	54
Wireless Operation Modes .....	54
Power Timeout Timer .....	55
USB-COM/Virtual Serial Port .....	56
2.4 Ghz Wireless Pairing .....	56
Bluetooth Pairing .....	57
Bluetooth Settings .....	59
Terminators .....	62
Timestamp .....	62
Chapter 7 Appendix .....	63
Appendix - Programming Chart .....	63
Appendix - Enter/Exit Programming Mode .....	64
Appendix - Examples of customizing settings .....	65
Appendix - Code ID & AIM ID .....	72
Appendix - Control Character Chart .....	75
Appendix - ASCII Character chart .....	78

# Chapter 1 General

## Factory Default



Reset to Factory Defaults

## Firmware Version



Show Firmware Version

## Lights

### Illumination Lights

If you want the illumination lights on while reading a barcode, scan the Lights On barcode. However, if you want to turn the lights off, scan the Lights Off barcode. Default = Lights On.



Lights On\*



Lights Off

## Aimer

The red beam tells where the scanner is aiming at.



Aimer On\*



Aimer Off



Solid Beam



Flashing Beam

## Centering

Use Centering to narrow the scanner's field of view to make sure that the scanner reads only those barcodes intended by the user. For instance, if multiple codes are placed closely together, centering will insure that only the desired codes are read.



Centering Off\*



Center Only

## Video Reverse

### Inverse Barcode Settings 1

Regular barcodes: white background and black bars

Inverse barcodes: black background and white bars



Regular Only\*



Inverse Only



Both Regular and Inverse

Note: In order not to degrade scan performance, Inverse Only or Both Regular and Inverse will only apply to UPC-A/UPC-E0/UPC-E1/EAN-8/EAN-13. If you wish to read other inverse barcodes, refer to Inverse Barcode Settings 2.

## Inverse Barcode Settings 2



All 1D Symbologies Inverse On



All 1D Symbologies Inverse Off\*



All 2D Symbologies Inverse On



All 2D Symbologies Inverse Off\*

# Chapter 2 Communications

## Keyboard Country Layout



United States\*



Japan



Netherlands



Spain



Switzerland (German)



Brazil (Portuguese)



Ukrainian



United Kingdom



Italy



France



Germany



Hungary



Sweden



Slovakia



Portugal



Romania



Belgium (French)



Turkey F



Turkey Q



Poland

## **Control Character (Function Key) Output**

### **Function Key:**

Replace control characters with custom function keys. Refer to “Appendix – Control Character Chart”- for details.

### **Ctrl + X Mode**

(Only works with Prefix and Suffix) : Use Ctrl + X combination to replace control characters. Refer to “Appendix – Control Character Chart” for details.

### **ALT Mode:**

Output control characters in the form of ALT + numeric key. Refer to “Appendix – ASCII Character Chart”- for details.

### **Enter & Down Arrow Only:**

In this mode, the scanner will only output two control characters: Enter and Down Arrow.



Function Key\*



Ctrl+X



ALT Mode



Enter & Down Arrow Only

## Case Conversion



Conversion Off\*



**Convert All Characters to Upper Case**



**Convert All Characters to Lower Case**



**Invert Case of All Characters**

**Note:** This feature is only available when the scanner is in USB-KWB mode or it inputs control characters with keyboard emulation.

# Chapter 3 Scan Modes

## Manual Trigger Mode



Manual Trigger Mode\*

## Trigger Timeout – Manual Trigger Mode

This sets the length of time the scanner keeps scanning. When timeout is reached, the scanner stops scanning and waits for another trigger press.



Never



3s



5s



10s

## **Continuous Scan Mode**



Continuous Scan Mode

## **Reread Delay-Continuous Scan Mode**

This sets the time period before the scanner can read the same barcode a second time. Setting a reread delay protects against accidental rereads of the same barcode. Only when timeout is triggered or the scanner gets restarted can it read the same barcode a second time. Reread delay only works when in Continuous Scan Mode. Default = 500ms



No Delay



No Timeout



200ms



500ms



1200ms



2000ms

## **Sensor-activated Mode**



**Sensor-activated Mode**

**Note:** When in sensor-activated mode, the trigger still works and the scanner will return to sensor-activated mode when the trigger timeout is reached.

# Image Stabilization Timer – Sensor-activated Mode

In sensor-activated mode, the scanner will be in a state of detecting changes around the environment after it reads a barcode. It won't read the next barcode until the stabilization timeout is reached.



500ms\*\*



200ms



300ms



400ms

# Sensitivity – Sensor-activated Mode



High\*



Medium



Low

## Chapter 4 Data Edit

### Code ID



On\*



Off

### Add a Prefix

#### How to add a prefix

The maximum size of a prefix configuration is 10 characters.

Refer to “Appendix – Examples of customizing settings” for details.



Add Prefix

## Clear Prefixes



Clear Prefixes

## Add a Suffix

### How to add a suffix

The maximum size of a prefix configuration is 10 characters.

Refer to “Appendix – Examples of customizing settings” for details.



Add Suffix

## Clear Suffixes



Clear Suffixes

## Hide Characters

### Hide the First Characters



On



Off\*

### Set the number of digits to be hidden

Refer to “Appendix – Examples of customizing settings” for details.



Digits to be hidden

### Hide the middle characters

If you wish to hide characters from an uncertain digit, this selection might help. First, set up the digit from which the hiding characters command starts; then the number of digits to be hidden. Note: If the start digit is beyond the message length, the scanner won’t hide any digits; if the number of digits to be hidden is larger than that of the rest digits, the scanner will hide all the rest digits behind the start digit.



On



Off\*

## Hide characters from the X digit

This command defines from which digit the scanner should hide characters. For example, to hide characters from the 3th character, you should scan “0”, “0”, “3” from the programming chart.

Note: The X number should be between 1 and 255. Refer to “Appendix – Examples of customizing settings”



Start with the X character

## Set the number of digits to be hidden

The number of digits to be hidden shall be between 1 and 255. If you wish to hide 6 characters, scan “0”, “0”, “6” from the programming chart.



Digits to be hidden

## Hide the Last Characters



On



Off\*

## Set the number of digits to be hidden

Refer to “Appendix – Examples of customizing settings” for details.



Digits to be hidden – The last characters

## Insert Characters

Insert characters at certain points in barcode data as it is scanned. The maximum size of this configuration is 10 characters.



On



Off\*

## **Insert Characters from the X digit.**

This programming code sets up the position where the command takes effect. Inputted numbers should be between 1 and 255. For example, if you need to insert characters from the 16th digit, scan “0”, “1”, “6”. If you scan “0”, “0”, “0”, the inserted characters will appear at the beginning of the barcode data; if the number of digits inputted is beyond barcode length, the inserted characters will appear at the end of the barcode data. Refer to “Appendix – Examples of customizing settings”



Insert characters from the X digit

## Custom Characters

After selecting the position where you want to insert the character, you should choose the characters which you want to insert. Refer to “Appendix – Examples of customizing settings”



Custom Characters

## Replacement of Characters

This selection allows the scanner to replace any characters in a barcode with desired characters. Refer to “Appendix – Example of customizing settings” for details.



Characters to be replaced



Target Characters

Note: If you wish to clear the settings, scan the Characters to be replaced, then “0”, “0”, “0” from the programming chart.

# Chapter 5 Symbologies

## All Symbologies



All Symbologies On



All Symbologies Off



All 1D Symbologies On



All 1D Symbologies Off



All 2D Symbologies On



All 2D Symbolologies Off

Note: If you disable all symbologies, the scanner is still able to read configuration codes in the manual.

## UPC-A



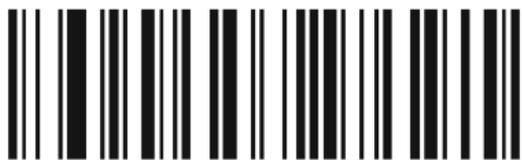
On\*



Off

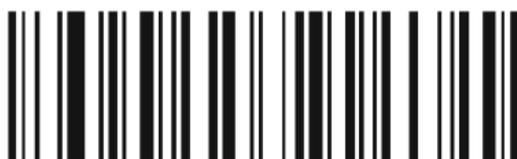


Transmit Check Digit\*



Don't Transmit Check Digit

## Number System Digit



Transmit\*



Don't Transmit

## UPC-A Converted to EAN-13



On



Off\*

## UPC-E



UPC-E0 On\*



UPC-E0 Off



UPC-E1 On



UPC-E1 Off\*

## UPC-E Check Digit



Transmit\*



Don't Transmit

## 2 or 5 digit Addenda



2-digit Addenda On



2-digit Addenda Off\*



5-digit Addenda On



5-digit Addenda Off\*

## **Addenda Required**

When “Required” is scanned, the scanner will only read barcodes that have addenda.

Default = Not Required.



Required



Not Required\*

## Addenda Separator

When this feature is On, there is a space between the data from the barcode and the data from the addenda. When turned Off, there is no space. Default = On.



On\*



Off

## Number System Digit



Transmit\*



Don't Transmit

## UPC-E Conveted to UPC-A



On



Off\*

## EAN/JAN 8



On\*



Off

## EAN/JAN 8 Check Digit



Transmit\*

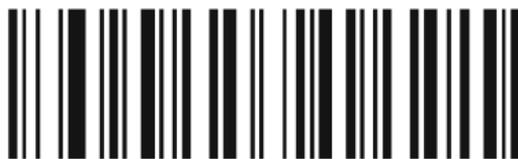


Don't Transmit

## Converted to EAN13



On



Off\*

## EAN/JAN 13



On\*



Off

## EAN/JAN 13 Check Digit



Transmit\*



Don't Transmit

## Converted to ISBN



On



Off\*

## ISBN Check Digit



Transmit



Don't Transmit\*

## Converted to ISSN



On



Off\*

## ISSN



On



Off\*

## ISSN Check Digit



Transmit



Don't Transmit\*

## UPC -A/EAN 8/EAN 13 Add-on 2 or 5 digit Addenda



2-digit Addenda On



2-digit Addenda Off\*



5-digit Addenda On



5-digit Addenda Off\*

## Addenda Required

When “Required” is scanned, the scanner will only read UPC-A barcodes that have addenda.



Required



Not Required\*

## Addenda Separator

When this feature is On, there is a space between the data from the barcode and the data from the addenda. When turned Off, there is no space. Default = On.



On\*



Off

## Code 128



On\*



Off

## GS1-128 (UCC/EAN 128)



On\*



Off

## Code 39



On\*



Off

## Code 39 Check Digit



Mod 43, Validate



No Check Character\*



Transmit Check Digit



Don't Transmit Check Digit\*

## Start/Stop Characters

There is an \* at each end of Code 39 barcode as start and stop characters. This selection determines whether to transmit the start/stop characters.



Transmit



Don't Transmit\*

## Full ASCII Code 39



On



Off\*

## Code 32 Pharmaceutical (PARAF)

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 32 Check Digit



Transmit\*



Don't Transmit

## Add Prefix A to Code 32



On



Off\*

## Code 32 Not Good Read



On\*



Off

Note: When a Code 32 barcode is scanned with Code 39 enabled and Code 32 disabled, the scans may not be correct. This case indicates that Code 32 Not Good Read is enabled. If Code 32 Not Good Read is disabled, the scanner won't input any data if the Code 32 is not decoded correctly.

## Code 93



On\*



Off

## Code 11



On



Off\*

## Code 11 Check Digit



1 check digit\*



2 check digits

## Codabar (NW-7)



On\*



Off

## Codabar Check Digit



No Check Character\*



Mod 16, Validate



Transmit Check Digit



Don't Transmit Check Digit\*

## Start/Stop Characters

Start/Stop characters identify the leading and trailing ends of the barcode. You may either transmit, or not transmit Start/Stop characters. Default = Don't Transmit



Transmit



Don't Transmit\*

## Start and Stop Characters

Start character for Codabar can be any of "A", "B", "C", "D" and stop character can be any of additional four characters: "T", "N", "\*", "E".



ABCD/ABCD\*\*



ABCD/TN\*E

## Interleaved 2 of 5



On\*



Off

## No Check Character

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



No Check Character\*



Mod 10, Validate



Transmit Check Digit



Don't Transmit Check Digit\*

## Matrix 2 of 5



On\*



Off

## Industrial 2 of 5



On\*



Off

## Standard 2 of 5 (IATA 2 of 5)



On



Off\*

## MSI Plessey



On



Off\*

## Telepen



On



Off\*

## Telepen Type



Numeric



Alphanumeric\*

## GS1 DataBar 14 (RSS-14)



On



Off\*

Note: GS1 DataBar 14 is also known as GS1 Databar Omnidirectional, RSS-14.

## GS1 DataBar Limited (RSS-Limited)



On\*



Off

## GS1 DataBar Expanded (RSS-Expanded)



On\*



Off

## QR Code



On\*



Off

## Video Reverse – QR Code



Regular Only\*



Both Regular and Inverse

## Micro QR Code



On\*



Off

## Video Reverse – Micro QR Code



Regular Only\*



Both Regular and Inverse

## Data Matrix



On\*



Off

## **Rectangular Data Matrix**



On\*



Off

## **Video Reverse – Data Matrix**



Regular Only\*



Both Regular and Inverse

## PDF417



On\*



Off

## Micro PDF417



On



Off\*

## MaxiCode



On



Off\*

## Aztec Code



On



Off\*

## Chinese Sensible (Han Xin) Code



On



Off\*

## Febraban



Febraban on



Febraban off \*\*

## GS1 Composite Code



On



Off\*

## Chapter 6 Wireless Settings

### Wireless Factory Default



Reset to Wireless Factory Defaults

## Wireless Version



Show Wireless Version

## Beeper Volume



High\*



Medium



Low



Off

## Vibration



On



Off

## Battery Level



Show Battery Level

## Encoding Format



GBK (MS Notepad, Excel) \*



Unicode (MS Word)

## Wireless Operation Modes

### Real Time Mode



Real Time Mode\*

### Storage Mode



Storage Mode



Upload All Stored Codes



Upload Total Records



Clear All Stored Codes

## Power Timeout Timer



30s



1 mins



2 mins\*



5 mins



10 mins



30 mins



Never



Immediately

## **Communications & Pairing**

### **USB-COM/Virtual Serial Port**



USB-COM

## **2.4Ghz Wireless Pairing**

**Step 1: Scan "2.4G Mode"**

**Note: The scanner will connect to the previously paired receiver in preference.**



2.4G Mode

**Step 2: Scan "Pairing" symbol to force the scanner to connect to a receiver, the LED indicator flashing rapidly.**



Pairing

**Step 3:** Plug in the USB receiver. Wait for seconds till the scanner beeps once and the LED indicator stays solid blue, which means the pairing has succeeded.

**Note:** When the scanner is ready for pairing, a double press on the trigger or not detecting any pairing request in 1 minute will cause the scanner to exit pairing

## **Bluetooth HID Pairing Steps**

When connected successfully, the scanner is able to scan barcodes into text field.

**Step 1:** Scan "Bluetooth HID" symbol.



**Bluetooth HID**

**Step 2:** Scan "Pairing" symbol, the LED indicator flashing blue.



**Pairing**

**Step 3:** Enable Bluetooth on your device and locate a device named "BarCode Scanner HID".

**Step 4:** Tap/Click "BarCode Scanner HID" to get it paired with your device.

**Step 5:** The scanner beeps once and the LED turns to solid blue, indicating the pairing has succeeded.

**Note:** A double trigger press or not detecting any pairing request within 1 min will cause the scanner to exit pairing when the scanner is in pairing state.

## **Bluetooth SPP (Serial Port Profile)** **(This feature is not available for iOS)**

This connection mode only works with application designed for SPP purpose. If you are not familiar with Bluetooth SPP, please use Bluetooth HID.

Step 1: Scan “Bluetooth SPP” symbol.

You need to launch a specially designed application (can be downloaded from application store) to get the scanner paired with your device via Bluetooth SPP.



**Bluetooth SPP**

Step 2: Locate a device named “BarCode Scanner SPP” in the application.

Step 3: Tap/click “BarCode Scanner SPP” to pair it with your device.

Step 4: The scanner beeps once and the LED turns to solid blue, indicating the pairing has succeeded.

## **Bluetooth BLE (Bluetooth Low Energy)**

This connection mode only works with application designed for BLE purpose. If you are not familiar with Bluetooth BLE, please use Bluetooth HID.

Step 1: Scan “Bluetooth BLE”

You need to launch a specially designed application (can be downloaded from application store) to get the scanner paired with your device via Bluetooth BLE.



Bluetooth BLE

Step 2: Locate a device named “BarCode Scanner BLE” in the application.

Step 3: Tap/click “BarCode Scanner BLE” to pair it with your device.

Step 4: The scanner beeps once and the LED turns into solid blue, indicating that the pairing has succeeded.

## **Bluetooth Settings**

**Hold the trigger for 8s to get the scanner ready for Bluetooth HID pairing.**



Long press to enter Bluetooth HID pairing On



Long press to enter Bluetooth HID pairing off

## **iOS Keyboard Settings**

**(Bluetooth HID Only)**



Show/Hide iOS Keyboard



Double press trigger to show keyboard On



Double press trigger to show keyboard Off

Note: Due to Android system limits, this feature is not available for most Android devices.

## Bluetooth HID Transfer Rate

If the transmitted data gets lost or garbled, try to reduce the transfer rate.



Fast



Medium\*



Slow



Ultra-slow

## **Change Bluetooth Name**

### **How to Change the Bluetooth Name**

Step 1: Scan “Customize Bluetooth Name” symbol.



**Customize Bluetooth Name**

Step 2: Scan the barcode containing characters desired.

Note: Users need to prepare a barcode before scanning the “Customize Bluetooth Name” barcode. The appendix charts are not applicable to this situation.

a) The maximum configuration of Bluetooth Name is 16 characters. If inputted characters are more than 16 characters, the scanner picks up the first 16 characters as the new Bluetooth name.

b) Construction of Bluetooth Name: Name+Profile. Users can only modify the name but not the profile.

## **Check Bluetooth Name**



**Show Bluetooth Name**

Note: Only when the scanner is in Bluetooth HID/SP-P/BLE mode, can this barcode take effect.

## Terminators



Add Carriage Return <CR>(0x0D)\*



Add Line Feed <LF>(0x0A)



Add <CR> & <LF>(0x0D,0x0A)



Add Horizontal Tab <HT>(0x09)



None

## Timestamp



Show Current Time



Time Prefix



Time Suffix



No Timestamp

**Note:** The time settings will restore to factory default when the scanner shuts down so users should sync time with the host device by using time sync utility. For the utility, contact Tera customer service.

## **Chapter 7 Appendix**

### **Appendix – Programming Chart**

This chart is used to configure prefix and suffix, message length and other settings with variable values. Be sure to scan Enter/Exit Programming Mode code before scanning numeric codes below and scan Enter/Exit Programming Mode after scanning all the numeric codes needed.



0



1



2



3



4



5



6



7



8



9

## **Appendix – Enter/Exit Programming Mode**

To configure viable parameters like prefix and suffix, message length, you should first scan Enter/Exit Programming Mode, then the desired selections, finally the Enter/Exit Programming Mode again. If

you have scanned the Enter/Exit Programming mode and wish to modify other non-variable settings, you need to exit the programming mode and then scan other configuration codes.



Enter/Exit Programming Mode

## **Appendix – Examples of customizing settings**

### **How to add a prefix/suffix**

Fox example: add XY as a prefix to all symbologies  
First, refer to ASCII Chart and find that the DEC values of X and Y are 088 and 089.

Step 1: Scan the Enter/Exit Programming Mode, scanner beeping 3 times.



Enter/Exit Programming Mode

Step 2: Scan the Add Prefix symbol.



Add Prefix

Step 3: Scan "0", "8", "8" from the programming chart respectively. (Every 3 numbers are regarded as a group and the beeper will beep once, twice, and 3 times on each scan)



Step 4: Scan the Add Prefix symbol.



Step 5: Scan "0", "8", "9" from the programming chart respectively. (Every 3 numbers are regarded as a group and the beeper will beep once, twice, and 3 times on each scan)





9

**Step 6: Scan the Enter/Exit Programming Mode to save the settings, with scanner emitting 3 beeps.**



**Enter/Exit Programming Mode**

**Note: The maximum size of a prefix or suffix configuration is 10 characters. Repeat step 2 and step 3 to add multiple prefixes.**

## **How to hide/drop characters**

**For example: hide the first 3 characters of barcode data.**

**Sample Code 128: 1616abcd**



**After dropping the first 3 characters, we get 6abcd.**

**Step 1: Scan the Enter/Exit Programming Mode, beeper emitting 3 beeps.**



Enter/Exit Programming Mode

Step 2: Scan the Digits to Be Hidden symbol.



Digits to be hidden – The first Characters

Step 3: Scan “0”, “0”, “3” from the programming chart respectively. (Every 3 numbers are regarded as a group and the beeper will beep once, twice, and 3 times on each scan)



0

0



3

Step 4: Scan the Enter/Exit Programming Mode to save the settings, beeper emitting 3 beeps.



Enter/Exit Programming Mode

Step 5: Scan the On code in the Hide the first characters section (The code below is the same as the one in the Hide the first characters section.)



On

## How to replace characters

**For example: Replace 6 in the sample code with letter X.**

First, refer to “Appendix – ASCII Chart” for the DEC values of “6” and “X”. We can easily notice that the DEC value for “6” is 054 and the value for “X” is 088.



The original data of the sample is 1616abcd.  
After finishing the setting, we get 1X1Xabcd.

Step 1: Scan the Enter/Exit Programming Mode, beeper emitting 3 beeps.



Enter/Exit Programming Mode

Step 2: Scan the Characters to be replaced symbol.



Characters to be replaced

Step 3: Scan "0", "5", "4" from the programming chart respectively. (Every 3 numbers are regarded as a group and the beeper will beep once, twice, and 3 times on each scan)



0



5



4

Step 4: Scan the Target Character symbol.



Target Character

Step 5: Scan “0”, “8”, “8” from the programming chart respectively. (Every 3 numbers are regarded as a group and the beeper will beep once, twice, and 3 times on each scan)



0



8



8

Step 6: Scan the Enter/Exit Programming Mode to save the settings, beeper emitting 3 beeps.



Enter/Exit Programming Mode

## Appendix - Code ID & AIM ID

Num	Symbology	Code ID	AIM ID	Description
1	Code 128	A	JC0	
2	GS1 128	B	JC1	
3	EAN-8	C	JE4	
4	EAN-8 with Add-on	C	JE3	
5	EAN-13	D	JE0	
6	EAN-13 with Add-on	D	JE3	
7	UPC-E	E	JE0	
8	UPC-E with Add-on	E	JE3	
9	UPC-A	F	JE0	
10	UPC-A with Add-on	F	JE3	
11	UPC-E1	E	JX0	
12	ISBN	d	JE0	
13	Code11	1	JHm	m: 0,1,3
14	Code39 Base32	f	JX0	

15	Interleaved 2 of 5	G	]Im	
16	Industrial 2 of 5	h	]S0	m: 0,1,3
17	Standard 2 of 5	H	]R0	
18	Code 39	I	]Am	
19	Codabar	J	]Fm	m: 0,1,2, 3,5,6,7
20	MSI Plessey	K	]Mm	m: 0,2,4
21	Code 93	L	]G0	m: 0,1, 3,4,5,7
22	GS1 Databar Omnidirectional	M	]e0	
23	GS1 Databar Limited	[	]e0	
24	GS1 Databar Expanded	]	]e0	
25	HongKong 2 of 5 (China Post)	P	]X9	
26	Matrix 2 of 5	Q	]X0	
27	PDF417	N	]Lm	m: 0,1,2
28	Micro PDF417	O	]Lm	m: 0,1,2, 3,4,5
29	Hanxin	S	]XH	

30	AztecCode	T	]zm	m: 0-9,A-C
31	QR code	U	]Qm	m: 0-6
32	Micro QR	U	]Qm	m: 0-6
33	Data Matrix	V	]dm	m: 0-6
34	Maxi Code	W	]Um	m: 0-3
35	GS1 Composite Code	M/W/...	]e0	
36	Telepen	8	]Bm	m: 0,1,2,4

Note: The code identifier for GS1 Composite Code depends on the type of composite codes.

## Appendix – Control Character Chart

Note: In keyboard applications, ASCII Control Characters can be represented in 3 different ways. The CTRL+X function is OS and application dependent. The appendix charts apply to US style keyboards. Certain characters may differ depending on your Country Code/PC regional settings.

HEX	ASCII (DEC)	Function Keys	Ctrl + X Mode
00	00	Null	Ctrl+2
01	01	Keypad Enter	Ctrl+A
02	02	Caps lock	Ctrl+B
03	03	Right Arrow	Ctrl+C
04	04	Up Arrow	Ctrl+D
05	05	Null	Ctrl+E
06	06	Null	Ctrl+F
07	07	Enter	Ctrl+G
08	08	Left Arrow	Ctrl+H
09	09	Horizontal Tab	Ctrl+I
0A	10	Down Arrow	Ctrl+J

0B	11	Vertical Tab	Ctrl+K
0C	12	Backspace	Ctrl+L
0D	13	Enter	Ctrl+M
0E	14	Insert	Ctrl+N
0F	15	Esc	Ctrl+O
10	16	F11	Ctrl+P
11	17	Home	Ctrl+Q
12	18	Print Screen	Ctrl+R
13	19	Delete	Ctrl+S
14	20	tab+shift	Ctrl+T
15	21	F12	Ctrl+U
16	22	F1	Ctrl+V
17	23	F2	Ctrl+W
18	24	F3	Ctrl+X
19	25	F4	Ctrl+Y

1A	26	F5	Ctrl+Z
1B	27	F6	Ctrl+[
1C	28	F7	Ctrl+\
1D	29	F8	Ctrl+]
1E	30	F9	Ctrl+6
1F	31	F10	Ctrl+-

## Appendix – ASCII Character Chart

HEX	ASCII (DEC)	Character
00	00	NUL (Null char.)
01	01	SOH (Start of Header)
02	02	STX (Start of Text)
03	03	ETX (End of Text)
04	04	EOT (End of Transmission)
05	05	ENQ (Enquiry)
06	06	ACK (Acknowledgment)
07	07	BEL (Bell)
08	08	BS (Backspace)
09	09	HT (Horizontal Tab)
0A	10	LF (Line Feed)
0B	11	VT (Vertical Tab)
0C	12	FF (Form Feed)
0D	13	CR (Carriage Return)

0E	14	SO (Shift Out)
0F	15	SI (Shift In)
10	16	DLE (Data Link Escape)
11	17	DC1 (XON) (Device Control 1) (XON)
12	18	DC2 (Device Control 2)
13	19	DC3 (XOFF) (Device Control 3) (XOFF)
14	20	DC4 (Device Control 4)
15	21	NAK (Negative Acknowledgment)
16	22	SYN (Synchronous Idle)
17	23	ETB (End of Trans. Block)
18	24	CAN (Cancel)
19	25	EM (End of Medium)
1A	26	SUB (Substitute)
1B	27	ESC (Escape)
1C	28	FS (File Separator)

1D	29	GS (Group Separator)
1E	30	RS (Request to Send)
1F	31	US (Unit Separator)
20	32	SP (Space)
21	33	! (Exclamation Mark)
22	34	" (Double Quote)
23	35	# (Number Sign)
24	36	\$ (Dollar Sign)
25	37	% (Percent)
26	38	& (Ampersand)
27	39	` (Single Quote)
28	40	( (Right / Closing Parenthesis)
29	41	) (Right / Closing Parenthesis)
2A	42	* (Asterisk)
2B	43	+ (Plus)

2C	44	, (Comma)
2D	45	- (Minus / Dash)
2E	46	. (Dot)
2F	47	/ (Forward Slash)
30	48	0
31	49	1
32	50	2
33	51	3
34	52	4
35	53	5
36	54	6
37	55	7
38	56	8
39	57	9
3A	58	: (Colon)

3B	59	; (Semi-colon)
3C	60	< (Less Than)
3D	61	= (Equal Sign)
3E	62	> (Greater Than)
3F	63	? (Question Mark)
40	64	@ (AT Symbol)
41	65	A
42	66	B
43	67	C
44	68	D
45	69	E
46	70	F
47	71	G
48	72	H
49	73	I

4A	74	J
4B	75	K
4C	76	L
4D	77	M
4E	78	N
4F	79	O
50	80	P
51	81	Q
52	82	R
53	83	S
54	84	T
55	85	U
56	86	V
57	87	W
58	88	X

59	89	Y
5A	90	Z
5B	91	[ (Left / Opening Bracket)
5C	92	\ (Back Slash)
5D	93	] (Right / Closing Bracket)
5E	94	^ (Caret / Circumflex)
5F	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	g

68	104	h
69	105	i
6A	106	j
6B	107	k
6C	108	l
6D	109	m
6E	110	n
6F	111	o
70	112	p
71	113	q
72	114	r
73	115	s
74	116	t
75	117	u
76	118	v

77	119	w
78	120	x
79	121	y
7A	122	z
7B	123	{ (Left/ Opening Brace)
7C	124	(Vertical Bar)
7D	125	} (Right/Closing Brace)
7E	126	~ (Tilde)
7F	127	DEL (Delete)

If you need any product support, please contact our customer service.

**Important Notice:**

Please attach your Amazon Order Number and Product Model Number in the email.

**Official Customer Service**

Email Addresses:

service-us@tera-digital.com

service-eu@tera-digital.com

service-uk@tera-digital.com

Cell/WhatsApp (service in English): +86 13382526580

If you want to learn more about our brand or need a digital user manual of the latest version, please visit our official website via the links below or by scanning the given QR code:

<https://tera-digital.com/>

<https://tera-digital.com/pages/user-manual>



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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** 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.