TR-UM9100

Tera

Model No.: 9100

1D/2D Wired Desktop Barcode Scanner

User Manual

Ver.01.1.01

Contents

Chapter 1 General

Factory Default

Reset to Factory Defaults

Firmware Version

Show Firmware Version

Beeper

All Sounds

On*

Off

Power Up Beeper

On*

Off

Configuration Codes – Good Read

The beeper may be programmed On or Off in response to a good read for configuration codes. Turning this option off only turns off the beeper response to a good read indication for configuration codes. All error and normal beeps are still audible.

On*

Off

Beeper – Good Read (Beeps when decoding normal codes correctly)

On*

Off

High Volume*

Low Volume

Lights

Illumination Lights

On*

Off

Data Format

Encoding Format

Codepage (MS Notepad, Excel)*

Unicode (Word)

To output European Special Characters, please refer to Appendix - Special Characters Output, scan ALT Mode barcode, then Single-byte Character barcode.

Inverse Barcode Reading

Overall Settings

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) Ouput

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: Ouput control characters in the form of ALT + numeric key. Refer to “Appendix – ASCII Character Chart”for details.
Enter & DownArrow Only: In this mode, the scanner will only output two control characters, Enter and DownArrow.

Function Key*

Ctrl+X Mode

ALT Mode

Enter & Down Arrow Only

Virtual Keyboard Ouput

When virtual keyboard is activated, the scanner will output character whose entry is between 0x20～0xFF in the way the virtual keyboard does.

Off*

On

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.

Inter-character Delay

Some terminals drop information (characters) if data comes through too quickly. Inter-character delay slows the transmission of data, increasing data integrity.

Normal*

Low

Ultra Low

USB-COM/Virtual Serial Port

To enable this feature, you will need to contact Customer service for a driver.

USB-COM

Chapter 3 Scan Modes

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

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 has read a barcode. It won't read the next barcode until the stabilization timeout is reached.

200ms

300ms

400ms

500ms*

Sensitivity – Sensor-activated Mode

High*

Medium

Low

Chapter 4 Data Edit

Code ID

Off*

On

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 digts 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

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.

Terminators

Carriage Return <CR>(0x0D)*

Line Feed <LF>(0x0A)

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

Horizontal Tab <HT>(0x09)

<CR><CR>(0x0D,0x0D)

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

None

Chapter 5 Symbologies

Symbologies - Overview

All Symbologies On

All Symbologies Off

All 1D Symbologies On

All 1D Symbologies Off

All 2D Symbologies On

All 2D Symbologies Off

Note: When all the Symbologies Off code is scanned, the scanner is still able to scan configuration codes.

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*

Check Digit

Transmit*

Don’t Transmit

UPC-E Addenda

2 digit Addenda On

2 digit Addenda Off*

5 digit Addenda On

5 digit Addenda Off*

Addenda Required

When On is scanned, the scanner will only read barcodes that have addenda.

On

Off*

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 Converted to UPC-A

On

Off*

EAN/JAN 8

On*

Off

Check Digit

Transmit*

Don’t Transmit

EAN-8 Converted to EAN-13

On

Off*

EAN/JAN 13

On*

Off

Check Digit

Transmit*

Don't Transmit

ISBN Translate

When On is scanned, EAN-13 Bookland symbols are translated into their equivalent ISBN number format. Default = Off.

On

Off*

Check Digit - ISBN

Transmit

Don’t Transmit*

Converted to ISSN

On

Off*

ISSN

On

Off*

Check Digit

Transmit

Don’t Transmit*

UPC -A/EAN 8/EAN 13 Addenda

Addenda

2-digit Addenda On

2-digit Addenda Off*

5-digit Addenda On

5-digit Addenda Off*

When On is scanned, the scanner will only read barcodes that have addenda.

On

Off*

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

Check Digit

Mod 43 Validate

No Check Digit*

Transmit

Don’t Transmit*

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

On

Off*

Code 32 Pharmaceutical（PARAF）

On

Off*

Check Digit

Transmit

Don’t Transmit

Add Prefix A to Code 32

On

Off*

Code 32 Not Good Read

On*

Off

Note: The scanner outputs error when scanning Code 32 with Code 32 not enabled. With Code 32 Not Good Read is on, the scanner won't read Code 32 when Code 32 is disabled and it won't scan Code 39 as well.

Code 93

On*

Off

Code 11

On

Off*

Check Digit

1 check digit*

2 check digits

Codabar（NW-7）

on*

Off

Check Digit

No Check Digit*

Mod 16 Validate

Transmit Check Digit

Don’t Transmit Check Digit*

Start/Stop Characters

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

Check Digit

No Check Digit*

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 Output

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

QR Code - Inverse

Regular Only*

Both Regular and Inverse

Micro QR Code

On*

Off

Micro QR Code - Inverse

Regular Only*

Both Regular and Inverse

Data Matrix

On*

Off

Data Matrix - Rectangular

On

Off*

Data Matrix - Inverse

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*

China Post (Hong Kong 2 of 5)

On

Off*

GS1 Composite Code

On

Off*

Chapter 6 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

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

Add Prefix

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.

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

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 1X1Xabce.

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

Enter/Exit Programming Mode

Step 2: Scan the Characters to be replaced

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

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	]C0	
2	GS1 128	B	]C1	
3	EAN-8	C	]E4	
4	EAN-8 with Add-on	C	]E3	
5	EAN-13	D	]E0	
6	EAN-13 with Add-on	D	]E3	
7	UPC-E	E	]E0	
8	UPC-E with Add-on	E	]E3	
9	UPC-A	F	]E0	
10	UPC-A with Add-on	F	]E3	
11	UPC-E1	E	]X0	
12	ISBN	d	]E0	
13	Code11	1	]Hm	m: 0,1,3
14	Code39 Base32	f	]X0	

Num	Symbology	Code ID	AIM ID	Description
15	Interleaved 2 of 5	G	]Im	m: 0,1,3
16	Industrial 2 of 5	h	]S0	
17	Standard 2 of 5	H	]R0	
18	Code 39	I	]Am	m: 0,1,2, 3,5,6,7
19	Codabar	J	]Fm	m: 0,2,4
20	MSI Plessey	K	]Mm	m: 0,1, 3,4,5,7
21	Code 93	L	]G0	
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	

Num	Symbology	Code ID	AIM ID	Description
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/[/]/…	]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

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

HEx	ASCII (DEC)	Function Keys	Ctrl + X Mode
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

HEx	ASCII (DEC)	Function Keys	Ctrl + X Mode
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)

HEX	ASCII (DEC)	Character
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)

HEX	ASCII (DEC)	Character
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)

HEX	ASCII (DEC)	Character
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)

HEX	ASCII (DEC)	Character
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

HEX	ASCII (DEC)	Character
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

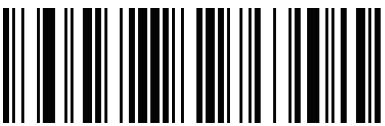
HEX	ASCII (DEC)	Character
59	89	Y
5A	90	Z
5B	91	[(Left / Opening Bracket)
5C	92	\ (Back Slash)
5D	93	] (Right / Closing Bracket)
5E	94	^ (Caret / Circumflex)
5F	95	_ (Underscore)
60	96	' (Grave Accent)
61	97	a
62	98	b
63	99	c
64	100	d
65	101	e
66	102	f
67	103	

HEX	ASCII (DEC)	Character
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

HEX	ASCII (DEC)	Character
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)

Appendix – Special Characters Output

ALT Mode



Single-byte Character

Raw Data

Single-byte Character

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