

BCST-81

2D Barcode Scanner

Instruction Manual

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Notes

Safety Notes

Please do not dismantle the barcode scanner or place any foreign parts in it to prevent short circuit or circuit damage.

Please do not leave the barcode scanner or battery near fire.

Maintenance Notes

Use a clean damp cloth to wipe the outer shell of the barcode scanner.

Store the barcode scanner at the place that is dustless, dry, away from light and strong magnetic area.

If any malfunctions happen, please record the situation, and contact our customer service.

Product Overview

Product Specification

Collection Capacity	
Collection Method	Image Type, CMOS Sensor
Acquisition Speed	1/120 second
Viewing Angle	Horizontal 45° , Vertical 35°
Decode Capacity	
Resolution	≥ 4mil
Reading Method	Dynamic reading
Decode Angle	Roll 360° , Pitch ±65° , Yaw ± 60°
Supported Barcode	In compliance with domestic and international general 2D code standards: QR Code, Data Matrix, PDF417, etc.
	In compliance with domestic and international general 1D code standards: UPC-A, UPC-E, EAN-8, EAN-13, ISBN, Code 128, GS1 128, ISBT 128, Code 39, Code93, Code 11, Interleaved 2 of 5, Industrial 2 of 5, Matrix 25, Standard 25, Codabar, MSI/MSI PLESSEY, GS1 DataBar, etc.
Print Contrast	20%
LED	
Fill Light	Red
Physical Parameters	
Dimensions(mm)	85mm*85mm*155mm (L×W×H)
Weight	250g
Interface	
Socket	10P10C RJ45
Communication Interface	USB, RS232
Scanning Mode	Consecutive Scanning Mode / Induction Mode
Scan Prompt	Beep, Green LED
USB Cable (Optional)	2m USB cable, 2m RS232 cable
Environmental Parameters	
Operating Temperature	-30℃ ~ 70℃
Storage Temperature	-40℃ ~ 80℃
Humidity	Relative humidity 5% ~ 95%(No condensation)
Ambient Light	Max.100,000 Lux

Electrical Parameters	
Input Voltage	5V
Working Current	Less than 500mA

LED Indicator

Indicator Status	Explanations
Green light flashes once	A barcode is successfully read and uploaded to computer
Steady Red Light	Under commodity barcode mode.
Steady Blue Light	Under common mode.

Supported Barcode Type

Below are the barcode types supported by BCST-81. For more details, please refer to the barcode type setting in Barcode Type Setting.

Supported Barcode Type		Defaults
Codabar		Disabled
Code 11		Disabled
Code 128		Enabled
GS1-128 (UCC/EAN-128)		Enabled
Code 39		Enabled
Code 93		Disabled
EAN-8		Enabled
EAN-13		Enabled
ISBN		Disabled
UPC-A		Enabled
UPC-E		Enabled
MSI		Disabled
2 of 5 Barcodes	Interleaved 2 of 5	Enabled
	Matrix 2 of 5	Disabled
	Industrial 2 of 5	Disabled
	Standard 2 of 5	Disabled
QR Code		Enabled
PDF-417		Enabled
Aztec Code		Disabled
Data Matrix		Disabled
GS1 DataBar		Disabled

How to Set up the Scanner

You may change the settings of BCST-81 barcode scanner by scanning the command barcode in this manual. Some examples are as below.

Note : Those marked with (*) in the manual are default factory settings.

Steps	Operation
1	<p data-bbox="568 488 1209 521">Scan a command barcode to restore factory setting</p>  <p data-bbox="743 707 1027 741">Restore Factory Setting</p>
2	<p data-bbox="587 772 1190 806">Scan a command barcode to recognize 1D code:</p>  <p data-bbox="788 992 983 1025">Enable 1D Code</p>

Basic Settings

System Setting

Keyboard Setting

 <p>(*) US Keyboard</p>	 <p>Belgium Keyboard</p>
 <p>Finnish Keyboard</p>	 <p>French Keyboard</p>
 <p>German Keyboard</p>	 <p>Italian Keyboard</p>
 <p>Swedish Keyboard</p>	 <p>UK Keyboard</p>
 <p>Danish Keyboard</p>	 <p>Norwegian Keyboard</p>
 <p>Spanish Keyboard</p>	 <p>Portuguese Keyboard</p>
 <p>Turkish F Keyboard</p>	 <p>Turkish Q Keyboard</p>

 <p>Japanese Keyboard</p>	 <p>Russian Keyboard</p>
 <p>Czech Keyboard</p>	 <p>Thai Keyboard</p>
 <p>Ukrainian Keyboard</p>	 <p>Brazilian ABNT2 Keyboard</p>
 <p>Greek Keyboard</p>	 <p>Hungarian Keyboard</p>
 <p>Dutch Keyboard</p>	 <p>Polish 214 Keyboard</p>
 <p>Romanian Standard Keyboard</p>	 <p>Slovakian Keyboard</p>

Write to Custom Defaults

You may change the factory defaults and customize some functions based on the actual demand by scanning some command barcode (e.g., Convert All Letters to Upper Case) and "Write to Custom Defaults".

If you make some configuration and need to restore the custom setting, please scan "Restore to Custom Defaults". The barcode scanner will exit the setup mode after restoring custom defaults.



Write to Custom Defaults



Restore to Custom Defaults

Restore Factory Setting

You may use the "Restore Factory Setting" under the circumstances below:

1. Wrong configuration is made on the scanner or the scanner fails to read barcodes.
2. Previous settings are forgotten and users do not want them to affect future barcode scanning.
3. The scanner needs to go back to the default settings after some rarely used configuration.

Scan "Restore Factory Setting".

Note : If you have restored factory settings for the barcode scanner, the data stored under inventory mode will be cleared.



Restore Factory Setting

Check Software Version

Scan "Check Software Version" and the software version number will be output to the device connected with the BCST-81.



Check Software Version

Illuminative Light Control

 <p>(*) Auto Off</p>	 <p>Stay On</p>
 <p>Stay Off</p>	

Volume Control

 <p>High Volume</p>	 <p>(*) Medium Volume</p>
 <p>Low Volume</p>	 <p>Silent</p>

Scanning Mode

Consecutive Scanning Mode

You do not need to press the trigger to scan barcodes under this mode. The red LED is automatically on and ready to scan barcodes. The laser of the scanner will not go off until Inateck BCST-81 reads a barcode. After a successful scanning, the red LED goes off for 3 seconds by default and then light up again automatically. To adjust the scanning intervals, please follow the steps below:

For Example, below are the steps to set the scanner into Consecutive Scanning Mode and set the scanning interval as 1s:

1. Scan "Consecutive Scanning Mode";
2. Scan the " Consecutive Scanning Interval Setting";
3. Scan "0" and "1" in Appendix lin sequence.



Consecutive Scanning Mode



Consecutive Scanning Interval Setting

Induction Mode

Under the Induction Mode, users just need to move the barcodes to be scanned in front of the scan window of Inateck BCST-81 where the red light will show up, indicating the scanner is ready to scan barcodes. The red light will go off in following situations:

1. A barcode is read successfully.
2. No barcode is read within 3 seconds.

You can also set up the best time according to actual demand.



(*)Induction Mode

Scanning Interval of the Same Barcode

If you do not want to scan the same barcode twice by mistake under consecutive scanning mode and induction mode, you could set the interval to stop your scanner reading the same barcode twice in a certain period of time.

For example, below are the steps to set the scanning interval as 0.5s:

1. Scan "Scanning Interval of the Same Barcode".
2. Scan "0" and "5" in Appendix I in sequence.



Scanning Interval of the Same Barcode

Interval Setting of the Same Barcode

 No Interval	 1S
 3S	 5S
 7S	 Do Not Read the Same Barcode Continuously

Connection

USB Wired Mode

You may connect BCST-81 to a computer via the USB cable for data transfer.

Barcode Settings

1D & 2D Code

 Enable	 Disable
---	---

1D Code

 Enable	 Disable
---	---

2D Code

 Enable	 Disable
---	---

UPC-A

 (* Enable	 Disable
--	---

UPC-A Checksum

You may decide whether to transmit the checksum. The scanner transmits checksum by default.	
 Do not Transmit UPC-A Checksum	 (*)Transmit UPC-A Checksum

UPC-A 2-digit Additional Code

 Enable	 (*)Disable
---	--

UPC-A 5-digit Additional Code

 Enable	 (*)Disable
---	--

Convert UPC-A to EAN-13

 Enable	 (*)Disable
---	--

UPC-E

 (*)Enable	 Disable
---	---

UPC-E Checksum

 Do not Transmit UPC-E Checksum	 (*)Transmit UPC-E Checksum
---	---

UPC-E 2-digit Additional Code

 Enable	 (*)Disable
--	--

UPC-E 5-digit Additional Code

 Enable	 (*)Disable
---	---

Convert UPC-E to UPC-A

 Enable	 (*)Disable
---	---

Enable/Disable UPC-E1

The initial digit of most UPC-E is "0". If you are going to read UPC-E barcodes with initial digit "1", please first enable the UPC-E and then scan "Enable UPC-E1". The scanner disables UPC-E1 by default.



Enable



(*)Disable

EAN-8



(*) Enable



Disable

EAN-8 Checksum



(*) Transmit EAN-8 Checksum



Do not Transmit EAN-8 Checksum

EAN-8 2-digit Additional Code



Enable



(*)Disable

EAN-8 5-digit Additional Code

 Enable	 (*)Disable
---	---

EAN-13 (ISBN)

 (*) Enable	 Disable
--	---

EAN-13 Checksum

 Do not Transmit EAN-13 Checksum	 (*) Transmit EAN-13 Checksum
--	---

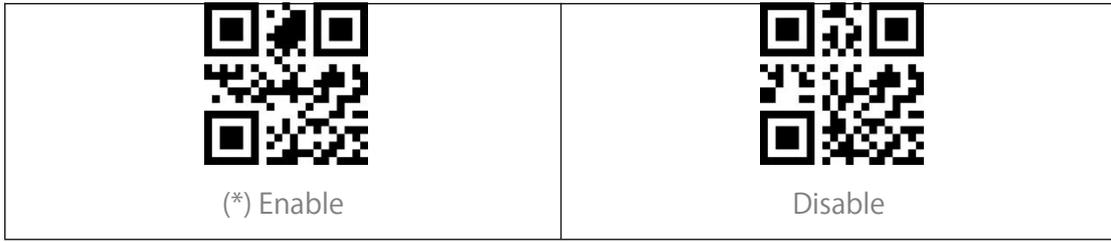
EAN-13 2-digit Additional Code

 Enable	 (*) Disable
---	--

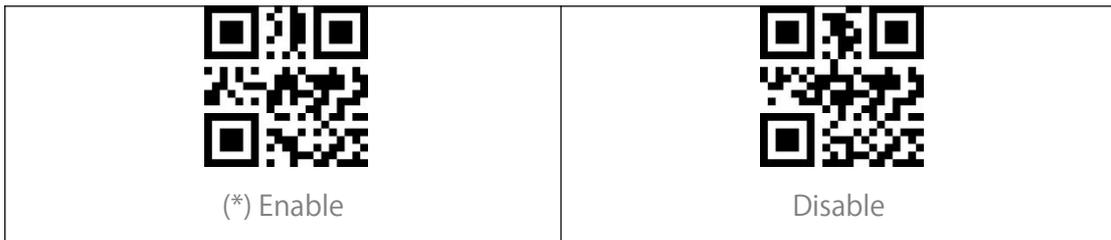
EAN-13 5-digit Additional Code

 Enable	 (*) Disable
---	--

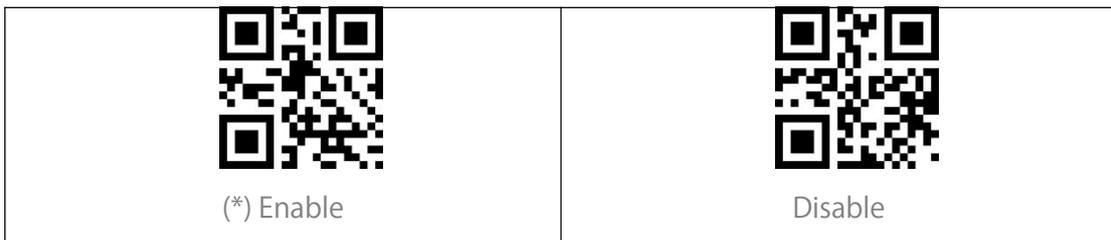
CODE 128



GS1-128 (UCC/EAN-128)



Interleaved 2 of 5



Interleaved 2 of 5 Recognition Range Setting

Users can set the scanner to decode Interleaved 2 of 5 of a certain length range only. For example, to decode Interleaved 2 of 5 of the range of 4 - 20 digits: Scan the barcode below, and then scan "0", "4", "2", "0" in Appendix I. If the barcode of a certain length range cannot be read, please scan "Decode Interleaved 2 of 5 of any Length". Please contact us if the problem persists.

 Decode Interleaved 2 of 5 of a Certain Length	 Decode Interleaved 2 of 5 of any Length
--	---

Interleaved 2 of 5 Checksum Verification

 Enable	 (* Disable)
---	---

Transmit Interleaved 2 of 5 Checksum

 Enable	 (* Disable)
---	---

Matrix 2 of 5

 Enable	 (* Disable)
---	---

Matrix 2 of 5 Recognition Range Setting

Users can set the scanner to decode Matrix 2 of 5 of a certain length range only. For example, to decode Matrix 2 of 5 of the range of 4 - 20 digits, scan the barcode below, and then scan "0", "4", "2", "0" in Appendix 1. If the barcode of a certain length range cannot be read, please scan "Decode Matrix 2 of 5 of any Length". Please contact us if the problem persists.

 Decode Matrix 2 of 5 of a Certain Length	 Decode Matrix 2 of 5 of any Length
---	--

Matrix 2 of 5 Checksum Verification

 Enable	 (*) Disable
---	---

Transmit Matrix 2 of 5 Checksum

 Enable	 (*) Disable
---	---

Industrial 2 of 5

 Enable	 (*) Disable
---	---

Industrial 2 of 5 Recognition Range Setting

<p>Users can set the scanner to decode Industrial 2 of 5 of a certain length range only. For example, to decode Industrial 2 of 5 of the range of 4 - 20 digits, scan the barcode below, and then scan "0", "4", "2", "0" in Appendix 1.</p> <p>If the barcode of a certain length range cannot be read, please scan "Decode Industrial 2 of 5 of any Length". Please contact us if the problem persists.</p>	
 Decode Industrial 2 of 5 of a Certain Length	 Decode Industrial 2 of 5 of any Length

Industrial 2 of 5 Checksum Verification

 Enable	 (*) Disable
---	--

Transmit Industrial 2 of 5 Checksum

 Enable	 (*) Disable
---	--

Standard 2 of 5

 Enable	 (*) Disable
--	---

Standard 2 of 5 Recognition Range Setting

Users can set the scanner to decode Standard 2 of 5 of a certain length range only. For example, to decode Standard 2 of 5 of the range of 4 - 20 digits, scan the barcode below, then scan "0", "4", "2", "0" in Appendix 1. If the barcode of a certain length range cannot be read, please scan "Decode Standard 2 of 5 of any Length". Please contact us if the problem persists.

 Decode Standard 2 of 5 of a Certain Length	 Decode Standard 2 of 5 of any Length
---	--

Standard 2 of 5 Checksum Verification

 Enable	 (*)Disable
---	--

Transmit Standard 2 of 5 Checksum

 Enable	 (*)Disable
---	--

Code 39

 (*) Enable	 Disable
--	--

Code 39 Recognition Range Setting

 Decode Code 39 of any Length

Code 39 Checksum Verification

 Enable	 (*) Disable
---	---

Code 39 Checksum

To output the checksum, please enable to verify the checksum first.

 Transmit Code 39 Checksum	 (*Do not Transmit Code 39 Checksum
--	--

Transmit Code 93 START/STOP Characters

 (* Disable	 Enable
---	--

Code 93

 Enable	 (* Disable
---	--

Code 93 Recognition Range Setting

 Decode Code 93 of any Length

Code 93 Checksum Verification

 Enable	 (* Disable
---	--

Transmit Code 93 Checksum

 Enable	 (*) Disable
---	--

Code 11

 Enable	 (*) Disable
---	--

Code11 Recognition Range Setting

 Decode Code 11 of any Length
--

Code 11 Checksum Code

 Enable Checksum Verification	 Code 11 with 1-digit Checksum
 Code 11 with 2-digit Checksum	

Transmit Code 11 Checksum

 Transmit Code 11 Checksum	 (*)Do not Transmit Code 11 Checksum
--	---

Codabar

 Enable	 (*) Disable
---	---

Codabar Recognition Range Setting

 Decode Codabar of any Length
--

Format of START/STOP Characters

The start and stop characters can be one of the four characters "A", "B", "C", "D".
 The start character can be one of the four characters "A", "B", "C", "D", and the stop character can be one of the four characters "T", "N", "*", "E".

 *ABCD/ABCD	 ABCD/TN*E
---	---

Transmit START/STOP Characters

 <p>Disable Codabar START/STOP Characters</p>	 <p>(*) Enable Codabar START/STOP Characters</p>
--	--

MSI

 <p>Enable</p>	 <p>(*) Disable</p>
---	---

MSI Recognition Range Setting

 <p>Decode MSI of any Length</p>

GS1-Databar

 <p>Enable</p>	 <p>(*) Disable</p>
---	---

QR Code

 <p>(*) Enable</p>	 <p>Disable</p>
---	---

Inverse QR Code

 (*) Disable	 Enable
---	--

Data Matrix

 (*) Enable	 Disable
--	---

Inverse Data Matrix

 (*) Disable	 Enable
--	---

PDF 417

 (*) Enable	 Disable
--	---

Aztec code

 Enable	 (*) Disable
---	--

To Edit Data Format

Code ID

A Code ID character identifies the code type of a scanned barcode. This is useful when decoding more than one code type.

You may decide whether to add code ID in front of a barcode output. The scanner disables Code ID by default.



Output Code ID



(*) Do not Output Code ID

Code ID List

Code ID	Code Type
A	UPC-A, UPC-E, EAN-8, EAN-13
B	Code 39, Code 32
C	Codabar
D	Code 128, GS1-128, ISBT 128
E	Code 93
F	Interleaved 2 of 5/ITF, ITF14
G	Industrial 2 of 5, Standard 2 of 5
H	CODE11
J	MSI, MSI/Plessey
R	GS1 DataBar-14, GS1 DataBar Limited, GS1 DataBar Expanded, RSS
V	Matrix 25
r	PDF417
u	DataMatrix(DM)
q	QR
a	Aztec Code
x	Maxi Code
c	HanXin

Ending Character Setting

You may decide whether to add an "Enter" after each scan. Each scan is followed by an "Enter" by default.

 <p>No Ending Character</p>	 <p>(*) CR LF</p>
 <p>CR</p>	 <p>TAB</p>

1D Inverse Code

1D inverse barcode refers to the 1D code with white lines on black ground (The recognition of 2D inverse code needs separate setting).

 <p>Enable</p>	 <p>Disable</p>
---	---

Custom Code Prefix/Suffix Setting

BCST-81 supports adding 1-32 digit barcode prefix and 1-32 digit barcode suffix. The prefix and suffix can be either shown or hidden. The scanner does not show the prefix and suffix by default. Please refer to the Appendix for the supported prefix/suffix characters.

Belows are the steps to add prefix and suffix:

1. Scan "Set Prefix".
2. Find the corresponding 4-digit scanning value in Appendix II and scan the 4 digits in Appendix I in sequence. You will hear a prompt tone after every 4 scans, indicating successful setting.
3. Scan "Save Prefix" to exit.
4. Scan "Set Suffix".
5. Scan the corresponding digits in sequence. You will hear a prompt tone after every 4 scans, indicating successful setting.
6. Scan "Save Suffix" to exit.

Note: Once the setting is successful, BCST-81 will output data with prefix/suffix by default.

 Set Prefix	 Save Prefix
 Set Suffix	 Save Suffix
 (*)Hide Prefix/Suffix	 Show Suffix
 Show Prefix	 Show All Prefixes and Suffixes

Delete Characters on Output Result

When outputting data, BCST-81 supports deleting 1-255 starting digits and 1-255 ending digits.

Below are the steps to delete 12 starting digits and 4 ending digits:

1. Scan "Set Number of Starting Digit(s) to be Deleted".
2. Scan "0","1","2" in sequence.
3. Scan "Set Number of Ending Digit(s) to be Deleted".
4. Scan "0","0","4" in sequence.



Set Number of Starting Digit(s) to be Deleted



Set Number of Ending Digit(s) to be Deleted

Delete Starting Digits



(*) Disable



Enable

Delete Ending Digits



(*) Disable



Enable

Uppercase/Lowercase

The BCST-81 can convert all letters in the barcode into uppercase or lowercase. The case of letters remains unchanged by default. You may change the case by scanning barcodes below.

 <p>(*) Do Not Convert Letter Case</p>	 <p>Convert All Letters to Upper Case</p>
 <p>Convert All Letters to Lower Case</p>	 <p>Swapcase</p>

Settings of Data Coding Format

The scanner outputs data in original data coding format by default. You may change the coding format to output data in different software.

1. The original data format and the output format are closely connected with the code generation environment. The output format can be GBK or UNICODE.
2. The GBK (GB2312) is applicable to software like Notepad, Excel, etc.
3. The UNICODE is applicable to software like WORD etc.

 <p>(*) Original Data Coding Format</p>	 <p>GBK</p>
 <p>Unicode</p>	

Appendix I

 0	 1
 2	 3
 4	 5
 6	 7
 8	 9

Appendix II

Scanning Value	Hexadecimal Value	Corresponding Function
1000	00h	Null
1001	01h	Keypad Enter
1002	02h	Caps Lock
1003	03h	Right Arrow
1004	04h	Up Arrow
1005	05h	Null
1006	06h	Null
1007	07h	Enter
1008	08h	Left Arrow
1009	09h	Horizontal Tab
1010	0Ah	Down Arrow
1011	0Bh	Vertical Tab
1012	0Ch	Backspace
1013	0Dh	Enter
1014	0Eh	Insert
1015	0Fh	Esc
1016	10h	F11
1017	11h	Home
1018	12h	Print Screen
1019	13h	Delete
1020	14h	Tab+Shift
1021	15h	F12

1022	16h	F1
1023	17h	F2
1024	18h	F3
1025	19h	F4
1026	1Ah	F5
1027	1Bh	F6
1028	1Ch	F7
1029	1Dh	F8
1030	1Eh	F9
1031	1Fh	F10
1032	20h	Space
1033	21h	!
1034	22h	'
1035	23h	#
1036	24h	\$
1037	25h	%
1038	26h	&
1039	27h	'
1040	28h	(
1041	29h)
1042	2Ah	*
1043	2Bh	+
1044	2Ch	,
1045	2Dh	-

1046	2Eh	.
1047	2Fh	/
1048	30h	0
1049	31h	1
1050	32h	2
1051	33h	3
1052	34h	4
1053	35h	5
1054	36h	6
1055	37h	7
1056	38h	8
1057	39h	9
1058	3Ah	:
1059	3Bh	;
1060	3Ch	<
1061	3Dh	=
1062	3Eh	>
1063	3Fh	?
1064	40h	@
1065	41h	A
1066	42h	B
1067	43h	C
1068	44h	D
1069	45h	E

1070	46h	F
1071	47h	G
1072	48h	H
1073	49h	I
1074	4Ah	J
1075	4Bh	K
1076	4Ch	L
1077	4Dh	M
1078	4Eh	N
1079	4Fh	O
1080	50h	P
1081	51h	Q
1082	52h	R
1083	53h	S
1084	54h	T
1085	55h	U
1086	56h	V
1087	57h	W
1088	58h	X
1089	59h	Y
1090	5Ah	Z
1091	5Bh	[
1092	5Ch	\
1093	5Dh]

1094	5Eh	^
1095	5Fh	_
1096	60h	'
1097	61h	a
1098	62h	b
1099	63h	c
1100	64h	d
1101	65h	e
1102	66h	f
1103	67h	g
1104	68h	h
1105	69h	i
1106	6Ah	j
1107	6Bh	k
1108	6Ch	l
1109	6Dh	m
1110	6Eh	n
1111	6Fh	o
1112	70h	p
1113	71h	q
1114	72h	r
1115	73h	s
1116	74h	t
1117	75h	u

1118	76h	v
1119	77h	w
1120	78h	x
1121	79h	y
1122	7Ah	z
1123	7Bh	{
1124	7Ch	
1125	7Dh	}
1126	7Eh	~
1127	7Fh	Undefined