

kaptur

KP2200 Imager Barcode Scanner User Manual



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Safety information

Carefully read the general information regarding safety before using the device for the first time. An improper use of the device could damage the device or cause harm to both people and things.

CE certification

The device conforms to **European Directive 1999/5/EC**.



Disposal (RAEE)



The barred mobile container present on the product, the documentation or the packaging indicates the necessity, within the European Union, of a separate collection for expired electric and electronic products, including the batteries and the accumulators.

The user should, therefore, take the equipment at the end of its useful life separate waste collection of electronic and electrical waste, or return it to the dealer.

Do not dispose of these products in unsorted municipal refuse. Return the product to an authorized collection center to avoid damage to the environment or human health caused by uncontrolled disposal of waste and to promote the sustainable re cycling of materials

Improper disposal of the product by the user entails the application of administrative sanctions provided by law

RoHS

This device and all its components, subcomponents and consumables were produced in accordance with European directive 2002/95/EC also known as RoHS (Restrictions on the use of certain Hazardous Substances). This directive serves to reduce the polluting substances used in electronic devices.

Antistatic devices



Before working on the device it is necessary to apply the correct antistatic procedures to avoid possible damage by ESD (Electro Static Discharge) on the internal circuitry.

Label

The product label is showed below



Provisions used

The following provisions could be used in this manual:

Registers

Symbol/Text	Definition
RW	Read/write register
RO	Read only register
W	Written register meaning

Hexadecimal numbering

the hexadecimal numbers are indicated with an H suffix example or in form 0x... : Example 2A3BH or 0x2A3B

Symbology used in the definitions table:

Symbol/Text	Description
I	Input
X	Output
I/O	Bi-Directional
—	Passive
Model specific	Depends on the device
NC	Not connected
Reserved	User reserved for Kaptur must remained disconnected
#	Signal active low
	Notified potential danger or possible malfunctioning
	Instructions that must be followed in order to guarantee the device functions correctly

Technical Assistance

If you have a technical question regarding the product's installation or detect a problem with the device's operation send an email to technical support at

[email: support@kaptur-id.com.com](mailto:support@kaptur-id.com.com).

Before returning any materials for any reason it is necessary to send an email to technical support at Kaptur at the above address which includes the following information:

- Model
- Serial number
- Detailed and complete description of the malfunction
- Your company's information
- The reference person within your company

In response to your mail you will receive an RMA number (Returned Material Authorization) which authorizes the material's return.

The device must be returned in a protective antistatic bag and adequately packaged to ensure that the product is well protected during transport.



In case you have bought the product from Distributor channel please contact them for the first assistance .



Returning a device to Kaptur without adequate packaging will result in the nullification of the product warranty.

Getting Started

Packaging Information



Inside the standard packaging you will find: A Barcode Reader, a flexible stand (optional), the Quick Guide

Part of the scanner

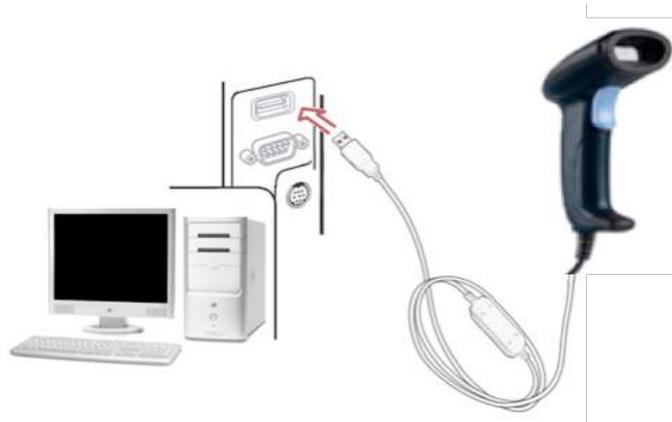


Use a piece of dry and soft cloth when cleaning the scanner. Be carefull and do not scrap the reading windows.

Installation

Connect Scanner to computer

1. Switch Off the Computer
2. Refer to the below pictures, connect the USB Cable to the computer
3. Ensure tha all the connection are secure
4. Switch On the Computer. If installation is correct the LED ① will lights Up and the Buzzer ⑤ will emit a beep.



Disconnect Scanner from Computer

1. Switch Off the computer and unplug the USB Cable

Restore factory default parameters

To restore the factory default parameters read the below barcode



Restore to factory default

Programming instruction and example

To set the device just scan the related code. Example



Set US Keyboard Style

Indication

Power on alert

After power-on the scanner will generate an alert signal to indicate a successful self-test.

LED indication

After each successful reading, the LED above the scanner will light up to indicate a good barcode reading.

Beeper indication

After each successful reading, the scanner will beep to indicate a good barcode reading, and its beep tone duration is adjustable.

USB interface

The communication interface of the reader is USB

USB device type

HID keyboard

By setting, the scanner is used as a USB HID keyboard emulation device.

USB virtual COM

By setting, the scanner emulates a regular RS232-based COM port. If a Microsoft Windows PC is connected to the scanner, a driver is required to be installed. The driver will use the next available COM Port number. The driver and the installation guide can be found in the software package provided on the manufacturer website. A Windows-based software COM_Text is recommended to display the barcode data in text format. COM_Text emulates some kind of serial-key typing.

Keyboard layout

The scanner supports different national keyboard layouts. Commonly an appropriate encoding system must be selected. Please refer to Settings to configure and for details

Inter-character delay

This delay is inserted after each data character transmitted. By selecting, the user can change the output speed of the scanner to match the speed of the host USB communication port.

Scan mode

Trigger Mode

The trigger button must be pressed, and keep pressed, to activate scanning. The scanner will stop scanning when there is a successful reading or no code is decoded after the Stand-by duration elapsed.

Continuous Mode

In this configuration the scanner always keeps scanning, and it does not matter when the trigger button is pressed or duration is elapsed. If a valid code is readed the scanner will emit a beep.

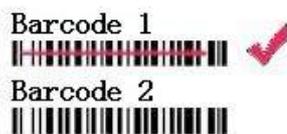
Decode illumination and aim pattern

The scanner for a better quality images use a with light to illuminate the code. The effectiveness of the illumination decreases as the distance to the target increases.

The scanner will project the aiming red patten during the code capture

Vertical centering read

The scanner reads only the barcode centered by the aimer in vertical direction. However, the scanner will read either one of two barcodes which are positioned horizontally. See the below example.



Setting

To configure the scanner it is sufficient to read the setting barcode. If the configuration code is read, the scanner will emit a dual high frequency beep.

Note: The default factory settings are indicated with "Default".

Interface configuration

The scanner has been configured in factory with the USB HID enabled. If it is necessary to change the interface scan one of the below codes.

USB HID interface

To configure the scanner in USB HID operating mode scan the below code.



Enable USB HID (Default)

USB Virtual COM

To configure the scanner in USB Virtual COM mode. No other settings are necessary after this selection.

Note:

Driver has to be installed on Windows PC.



Enable USB Virtual COM mode

Language keyboard Setting

It is possible to configure the scanner for different keyboard layouts just by reading the below programming code.



US Keyboard (Default)



Hungarian Keyboard



Japan Keyboard



Czech Keyboard



French Keyboard



Italian Keyboard



Spanish Keyboard



Germany Keyboard

Inter-character delay

This delay is inserted after each data character transmitted.



3 msec delay



6 msec

Scan Reading Mode

Select one of the below codes to select the reading mode

Trigger mode



TRIGGER MODE

In this configuration the scanner start when the trigger button is pressed and stay on until the trigger is released. At a good read the scanner stop

Continuous mode



In this configuration the scan start reading when a change of brightness is detected by the CMOS sensor (typically when a code is pass in front of the reader). *In this configuration is not necessary press the trigger to read a code.*

Presentation Mode



In this configuration the scan start reading in continuous mode when the trigger button is pressed. The scanner stop at the second pression of the Trigger. *In this configuration is not necessary press the trigger to read a code.*

Buzzer Setup

Power ON



Buzzer On at power on of the scanner (Default)

Buzzer OFF at power on of the scanner



Success Read



At success read the Buzzer will emit a sound (Default)

At success read the Buzzer will be mute



Illunimation and Aiming

Lighting



Illuminating light enabled when the trigger button is pressed (Default)



Illuminating light always ON



Illuminating light always OFF

Aim



RED Aiming light enabled when the trigger button is pressed (Default)



RED Aiming light always ON



RED Aiming light always OFF

Add Prefix / Suffix

Is it possible to add a Prefix or a Suffix at any code read. The structure of the transmitted code will be



Prefix and Suffix can be max 15 ASCII characters
For the ASCII Table refer to the chapter relative chapter

In order to add the Prefix or Suffix proceed as indicated below

1. Scan the barcode "Modify Prefix or Modify Suffix"
2. Check the ASCII table and get the ASCII Code for the Character to add
3. Scan the barcode of ASCII
4. Scan the barcode Save Prefix or Suffix

Example: Add character "+" as prefix

On the ASCII Table the character "+" is equal to 2B



Enable Prefix



Scan value 2 on ASCII Table



Scan Value B on ASCII Table



Save Prefix or Suffix

Configure Prefix



Enable Prefix

Disable Prefix (Default)



Modify Prefix



If Prefix is disabled (as per Default Configuration) the scanned doesn't sent out it also if programmed. Be sure to enable Prefix after have programmed it.

Configure Suffix



Enable Suffix

Disable Suffix (Default)



Modify Suffix



If Suffix is disabled (as per Default Configuration) the scanned doesn't sent out it also if programmed. Be sure to enable Suffix after have programmed it.

Select Terminator

It is possible to add a terminator at the end of the transmission of the code readed. The selection can be "None" - "Return (CR)" - "TAB" - "Return/Line Feed (CR/LF)".



None



TAB



CR (Default)



CR / LF

Symbologies Selection

All the symbologies indicated on the table 1 are enabled as default parameter. Is it possible to enable/disable every single code just reading the relative configuration code.

To increase the speed on decoding time in some case it is necessary to disable the 2D Symbologies.

Is it possible to Enable / Disable in block all the supported Barcodes. After have disabled all the barcode it is possible enable the single standard reading the relative code to enable it.

Enable & Disable all Barcodes



Enable All Barcode (Default)



Disable All Barcodes

EAN /UPC



EAN/UPC Enable (Default)



EAN/UPC Disabled



EAN/UPC no additional code



EAN/UPC send additional code

Code 128



Code 128 Enable (Default)



Code 128 Disabled



Code 128 Enable ASCII Character



Code 128 Enable ASCII Character

Code 39



Code 39 Enable (Default)



Code 39 Disabled

Code 93



Code 93 Enable (Default)



Code 93 Disabled

Codebar



Codebar Enable (Default)



Codebar Disabled

QR Code



QR Code Enable (Default)



QR Code Disabled

Interleaved 2 of 5



Interleaved 2 of 5 Enable (Default)



Interleaved 2 of 5 Disabled

Industrial 25



Industrial 25 Enable (Default)



Industrial 25 Disabled

Matrix 2 of 5



Matrix 2 of 5 Enable (Default)



Matrix 2 of 5 Disabled

Code 11



Code 11 Enable (Default)



Code 11 Disabled

MSI



MSI Enable (Default)



MSI Disabled



MSI Enable Check Digit



MSI Disable Check Digit (Default)

GS1 Databar



GS1 Databar Enable (Default)



GS1 Databar Disabled

Datamatrix



Datamatrix Enable (Default)



Datamatrix Disabled

PDF417



PDF417 Enable (Default)



PDF417 Disabled

AZTEC



Aztec Enable (Default)



Aztec Disabled

Hanhix



Hanhix Enable (Default)



Hanhix Disabled

MicroPDF



MicroPDF Enable (Default)



MicroPDF Disabled

Trioptic



Trioptic Enable (Default)



Trioptic Disabled

Codeblock F



Codeblock F Enable (Default)



Codeblock F Disabled

Straight



Straight Enable (Default)



Straight Disabled

Telepen



Telepen Enable (Default)



Telepen Disabled

Maxicode



Maxicode Enable (Default)



Maxicode Disabled

Code32



Code 32 Enable (Default)



Code 32 Disabled

More setting for 2D Symbologies

Setting the output of the Chinese content 2D code

In order to display the correct Chinese data, the scanner have to be configured.

GBK Format: Can be used in Notepad txt document.

Unicode Format: Can be used in Word and QQ and micro-mail and other commonly used chat box input tool.

Note:

Most of the software is generally compatible with the GBK format and if you can not view the correct characters, try switching to Unicode mode



GBK Format (Default)



Unicode Format



These are the most common settings. If more settings are required please contact the manufacturer.

ASCII Table

#	0	1	2	3	4	5	6	7
0	NUL	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



To have the right code select the column and that the row.
 Example: To value of the "A" is 41 Column 4 Row 1 - the value of "+" is 2B Column 2 Row B
 Use the ASCII Code Value to set the value

ASCII Code Value



Restore factory default setting

To reset the parameter to factory default. Use this code carefully and only if you are not sure how is configured the scanner.



RESET TO FACTORY DEFAULTS

Specifications

Technical specifications

Input voltage	5 VDC \pm 0.25V
Power	500 mW (Operating); 650 mW (Max.)
Current	100 mA (Operating); 130 mA (Max.)
Standby current	<250 μ A
2D Imager	Area Image (640 x 480 pixel array)
Decoding rate	200 times/sec
Scanning angle	\pm 60°, \pm 65°, \pm 42°(Skew, Pitch, Roll)
Print contrast	25% minimum reflection difference
Decode capability	UPC-A, UPC-E, UPC-E1, EAN-13, EAN-8, ISBN (Bookland EAN), ISSN, Code 39, Code 39 full ASCII, Code 32, Trioptic Code 39, Interleaved 2 of 5, Industrial 2 of 5 (Discrete 2 of 5), Matrix 2 of 5, Codabar (NW7), Code 128, UCC/EAN 128, ISBT 128, Code 93, Code 11 (USD-8)
Indicator	Beeper, LED
Interface supported	USB Keyboard, USB virtual COM
Operating mode	Hand-held, Auto-detection (Optional)
Dimensions	Height x Width x Depth - 90 x 70 x 164mm
Weight	190g, without cable
Cable	Straight 2.0m
Case material	PC+TPU
Temperature	Operating 0°to 40°C Storage -40°to 60°C
Humidity	5% to 95% (non-condensing)
Program upgrade	Online
Safety	EMC: EN55022, EN55024 Electrical Safety: EN60950 Drop resistance: Multiple Drop 1.2m Protection: IP41

Supported Barcode & Default setting for each barcode

The table indicate the supported barcode as the Enabled barcode at factory default.

Code type	Read enable	Check digit verification	Check digit transmission	Min. code length
UPC-A	√	√	√	(12) ¹
UPC-E	√	√	√	(8) ¹
EAN-13	√	√	√	(13) ¹
EAN-8	√	√	√	(8) ¹
Code 39	√	-	-	1
Interleaved 2 of 5	√	-	-	6
Codabar	√	-	-	4
Code 128	√	√	-	1
Code 93	√	-	-	1
GS1 DataBar	√	-	-	(16) ¹
GS1 DataBar Truncated ²	√	-	-	(16) ¹
GS1 DataBar Limited	√	-	-	(16) ¹
GS1 DataBar Expanded	√	-	-	1
PDF417	√	-	-	1
DataMatrix	√	-	-	1
QR Code	√	-	-	1
Aztec Code	√	-	-	1

Notes

¹ Fixed-length barcodes.

² The settings for GS1 DataBar Truncated and GS1 DataBar must be the same.

Troubleshooting

Problem	Possible causes	Possible solutions
Nothing happens when you follow the operating instructions.	No power to the scanner.	Check the system power. Ensure the power supply is connected.
Illumination and aimed red line are on, but the scanner does not decode.	Bar code symbol is unreadable.	Check the symbol to make sure it is not disabled. Try scanning test symbols of the same bar code type.
	Scanner is not programmed for the correct bar code type.	Be sure the scanner is programmed to read the type of bar code you are scanning.
	Distance between scanner and bar code is incorrect.	Move the scanner closer to or further from the bar code.
Scanned data is incorrectly displayed on the host.	Scanner is not programmed to work with the host. Check scanner host type parameters or editing options.	Be sure proper host is selected. For RS-232, ensure the scanner's communication parameters match the host's settings. For a USB-HID keyboard or a keyboard wedge configuration, ensure the system is programmed for the correct keyboard type and language, and the CAPS LOCK key is in the correct state.
Others		Contact your distributor or the manufactory support centre.

Maintenance

1. Cleaning the exit window is the only maintenance required. A dirty window may affect scanning accuracy.
2. Do not allow any abrasive material to touch the window.
3. Remove any dirt particles with a damp cloth.
4. Wipe the window using a tissue moistened with water.
5. Do not spray water or other cleaning liquids directly into the window.
6. Use a piece of soft and dry cloth when cleaning the scanner.

Assembling the stand

Standing is an optional part you can order separately.
Below the instruction how to assembly



See the figure above, tighten the screws.

1. Bend the neck to the desired position for scanning and insert the scanner Picture 2
2. Screw mounting: Fix the flexible stand on the working station with right screw for the material of the working station (ex. Wood). Ensure the flexible stand is fixed and stable. Screws are not included.
3. Adhesive tape mounting: ① Peel the paper liner off one side of each piece of tape and place the sticky surface over each of the three rectangular tape holders. ② Peel the paper liner off the exposed sides of each piece of tape and press the stand on a flat surface until it is secure. Ensure the flexible stand is fixed and stable. Adhesive Tape are not included.

Installing the Driver for USB VCOM Mode

The scanner can be configured to be used in USB Virtual COM on Windows XP, 7, 8/8.1, 10 Operating System. On this chapter it is described the procedure to install the Windows driver for the KP2200 Scanner.

The default configuration of the KP2200 is USB HID. When plugged on PC the operating system will setup a default keyboard emulator driver.

In order to switch in USB Virtual COM follow the next steps:

1. Unplug the Kaptur device from your PC
2. Unzip **Kaptur USB Virtual COM Drivers V1.0.zip** folder
3. Launch **dpinst_x86.exe** or **dpinst_amd64.exe** according to the version of the Operating System you are currently using (right-click on *This PC* → *Properties* → *System* → *System type*) and follow the on-screen installation procedure



If you are using Windows 8/8.1 or 10, you must disable the digital signature check option of your Operating System before the launch of the executable (this will require a reboot). See [Disable Digital Signature Check](#) chapter

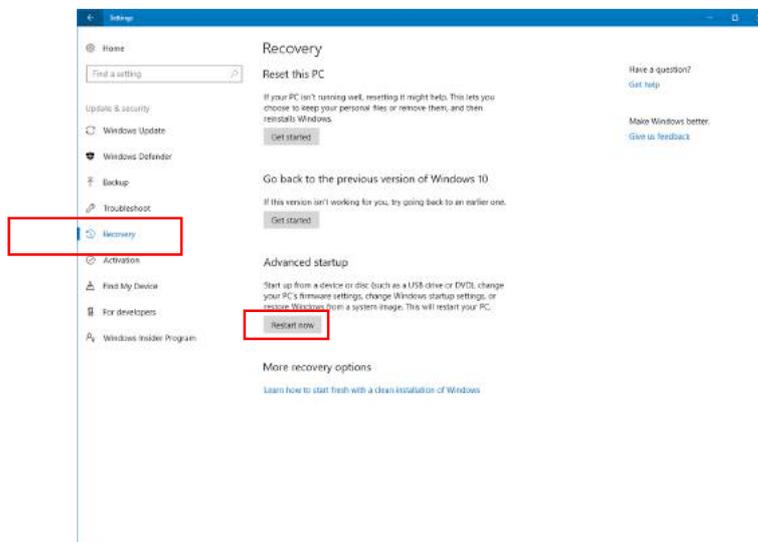
4. Plug the Kaptur device to your PC and scan the **Enable USB Virtual COM** QR code in order to switch to serial emulation. The driver just installed will automatically setup your device in few moments

If you are experiencing other kind of problems during the driver installation, please try to install **VCP_V1.4.0_Setup.exe** instead.

Feel free to contact the support for every issue encountered during this procedure.

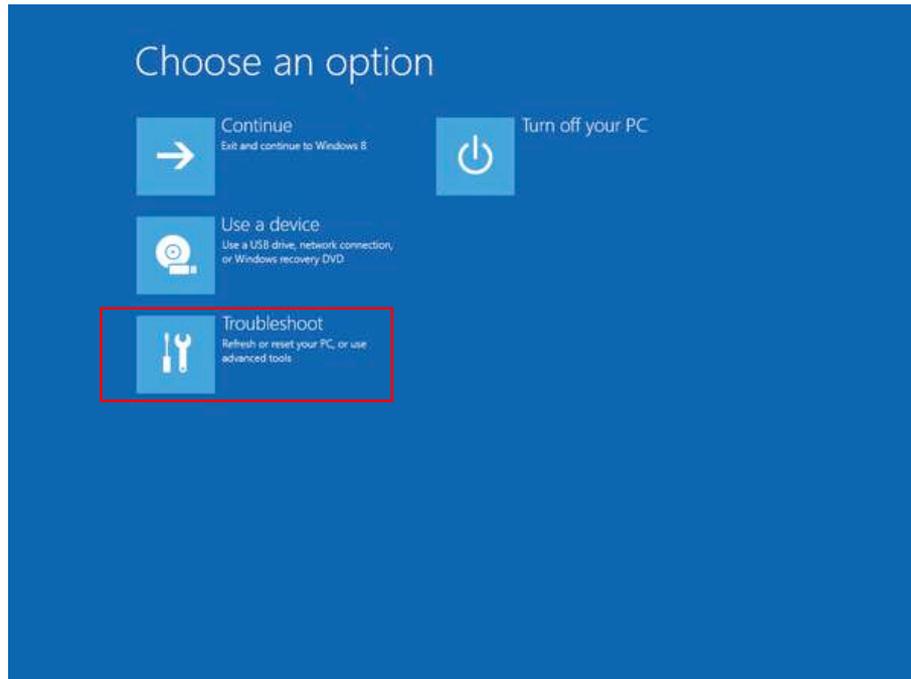
Disable digital signature check

In *Start* → *Settings* → *Update & security* → *Recovery* click **Restart now** from the *Advanced startup* section.

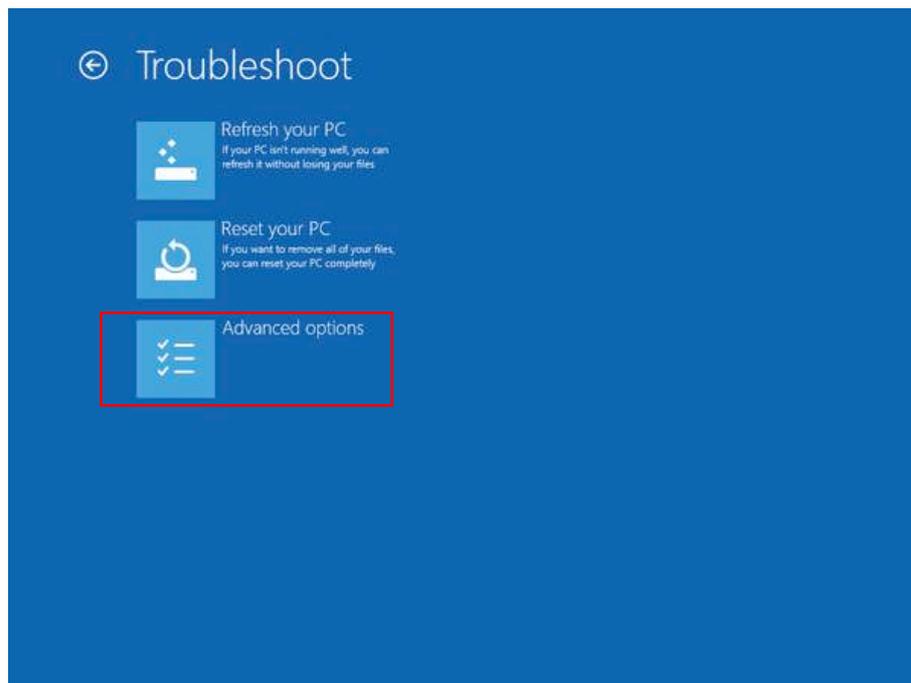


The computer will restart.

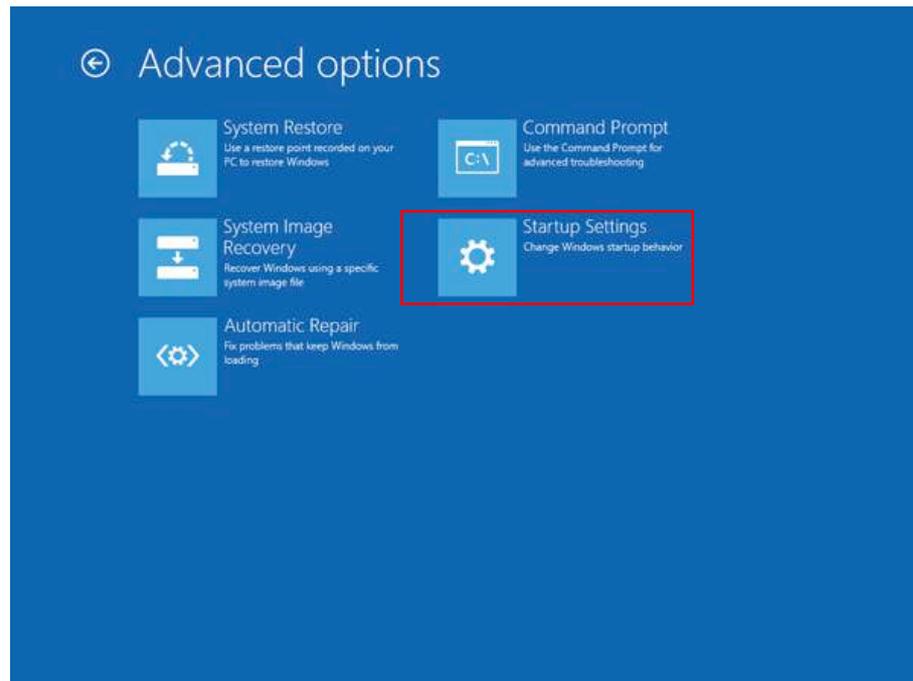
Choose **Troubleshoot** from the options menu it appears.



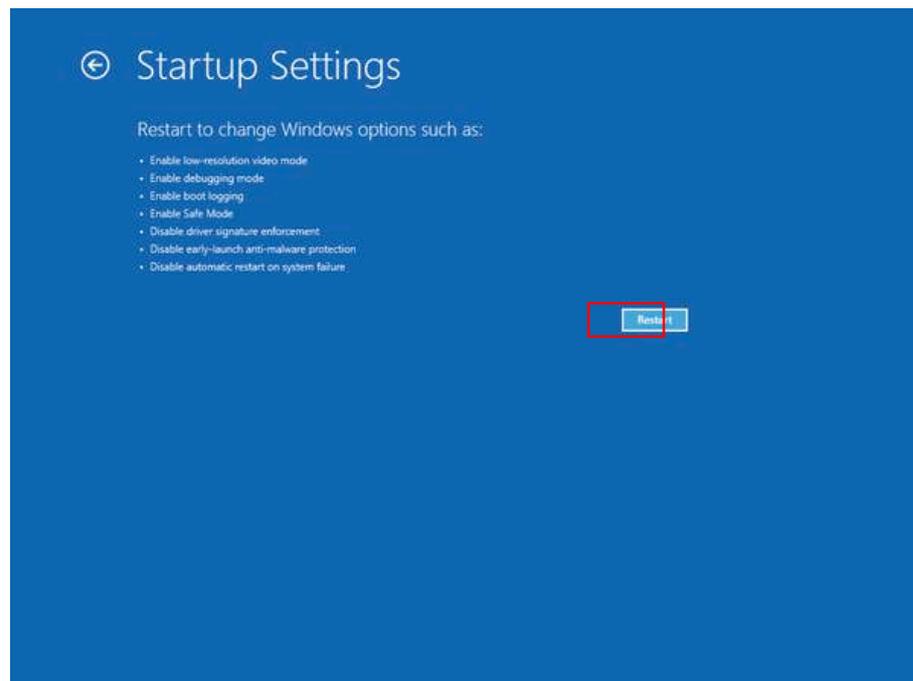
Choose **Advanced options** from the *Troubleshoot* menu.



Choose **Startup Settings** from the *Advanced options* menu.

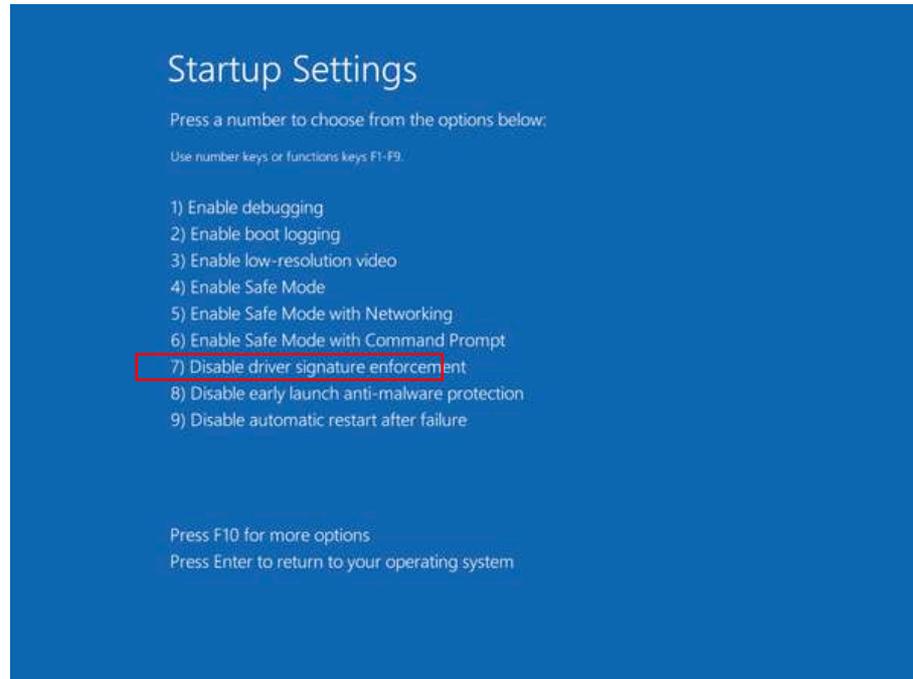


Click **Restart**.





The computer will restart. Press the **F7** key from the keyboard when the following menu appears on the screen.



The system will boot with the digital signature check disabled. This will allow installing any unsigned USB Driver.



After a reboot of the system, the digital signature check will be enabled again. The drivers that have already been installed will remain on your system, but if you want to install new unsigned drivers, you will need to perform this procedure again.

Test barcode



UPC-A Value 123456790124



UPC-E Value 01234565



UPC-E(1) Value "01234565"



EAN 13 Value 1234567890128



EAN 8 Value 12345670



ISBT/ISSN Value 9781234567897



CODE 39 Value 1234-ABCD



Code Interleaved 2 of 5 Value 0123456784



CODABAR Value A12345678\$B



CODE128 Value A12345678B



UCC ENA128 Value 0101234567890128



Code 93 Value ABC-1234-/+



GS1 DataBar Value 0100123456784444



GS1 DataBar Limited Value 0101234567890128



GS1 DataBar Expanded Value 0112345678901231BCabc



PDF417 Value This is a MicroPDF417 by Kaptur



DataMatrix Value This is a Data Matrix by Kaptur



QR Code Value This is a QR Code by Kaptur



Aztec Value This is an Aztec Code by Kaptur