

BWSpec[™] 4.10 Software and Hardware Installation Guide



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1. Introduction

These instructions will guide you through the software installation of BWSpec 4.10 and the driver/hardware installation of your spectrometer onto your Windows-based computer.

2. Supported Operating Systems

Windows XP* (32 bit) Windows Vista (32 bit & 64 bit) Windows 7 (32 bit & 64 bit) Windows 8 / 8.1 (32 bit & 64 bit) Windows 10* (32 bit & 64 bit)

*<u>NOTE:</u> Although the above operating systems are supported, Windows 7 and 8 / 8.1 are recommended. Microsoft has ended official support for Windows XP, and it is only listed here to provide information to support for legacy PC system. **B&W Tek can therefore no longer guarantee Windows XP support**.

Some screenshots below indicate the 32-Bit software and 64-Bit software versions are being installed. The same windows apply for both Bit operating systems versions, except where noted.

3. Minimum System Requirements

Meets or exceeds the System Requirements for your PC's Operating System respectively Processor: 1.5GHz or faster RAM: 1GB or more Hard disk space: 250MB available or more*

* Excluding additional hard disk space required to store generated data by the application.

4. Software Installation

- Open the BWSpec folder located on your CD or downloaded .zip file.
- Open the Install folder:

- Name 32bit 64bit
- Open the appropriate Folder for your appropriate Bit Operating System:
 If you are not sure if you have a 32-Bit or 64-Bit OS, check with your IT Dept.



4.1 Running the 'setup.exe' file and Prerequisites

Find the section below which matches the Operating System on your computer: Sections include: Windows XP, Vista, Windows 7, Windows 8, Windows 8.1, and Windows 10.

4.1.1 Windows XP, Vista, or 7

• Right Click on the 'setup.exe' file and select 'Run as Administrator'

INGIII	Name			
<u>]]</u> IS	ISSetupPrerequisites			
🛎 setup				
	Open			
۲	Run as administrator			
	Troubleshoot compatibility			

• A Security Warning window will appear.



Click 'Run'

Name



• An InstallShield Wizard may appear for C++ 2008 SP1 to be installed. Click 'Install'

	BWSpec4_64bit - InstallShield Wizard
خ ا	WSpec4_64bit requires the following items to be installed on your computer. Click Install o begin installing these requirements.
Status	Requirement
Pending	Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
	Install Cancel

	BWSpec4_64bit - InstallShield Wizard
	WSpec4_64bit requires the following items to be installed on your computer. Click Install begin installing these requirements.
Status	Requirement
Installing	Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
Installing N	licrosoft Visual C++ 2008 SP1 Redistributable Package (x64)
	Install

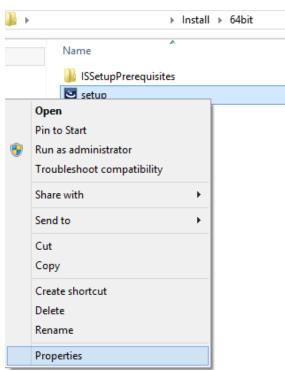
• Go to the 'Preparing to Install' Section 5.



4.1.2 Windows 8 and 8.1 Pro

• Right Click on the setup file.

Select Properties





• In the Properties window, select the 'Compatibility' tab.

ٹ		setup Prop	oerties			x
General	Compatibility	Digital Signatures	Security	Details		
		king correctly on th bility troubleshoote		of Windows	8,	
Ru	n compatibility tro	oubleshooter				
How d	lo I choose com	patibility settings ma	nually?			
	patibility mode					
		in compatibility mo	de for:			
VVir	idows 7		~			
Setti	ngs					
F	Reduced color m	ode				
8-bi	t (256) color	\sim				
F	Run in 640 x 480	screen resolution				
)isable display so	aling on high DPI :	settings			
Privi	ege level					
	-	as an administrator				
	Change settings	for all users				
		ОК		ancel	Apply	
		UN			CPP0	



• Under 'Compatibility mode', enable 'Run this program in compatibility mode for:"

In the dropdown menu, select 'Windows 7'

setup Properties ×
General Compatibility Digital Signatures Security Details
If this program isn't working correctly on this version of Windows, try running the compatibility troubleshooter.
Run compatibility troubleshooter
How do I choose compatibility settings manually?
Compatibility mode Run this program in compatibility mode for:
Windows 7
Settings
Reduced color mode
8-bit (256) color V
Run in 640 x 480 screen resolution
Disable display scaling on high DPI settings
Privilege level Run this program as an administrator
Change settings for all users
OK Cancel <u>A</u> pply



• Under 'Privilege level', Enable 'Run this program as an administrator' Click 'Apply', then the 'OK' button

2		setup Prop	erties			×
General	Compatibility	Digital Signatures	Security	Details		
		king correctly on thi bility troubleshooter.		f Windows		
Run	o compatibility tra	oubleshooter				
How do	o I choose com	patibility settings man	nually?			
	atibility mode –	·				
		in compatibility mod	e for:			
Win	dows 7		¥			
Settir	ngs					
R	educed color m	ode				
8-bit	(256) color	~				
R	Run in 640 x 480 screen resolution					
	isable display so	aling on high DPI s	ettings			
Privile	ege level					
	-	as an administrator				
9	Change settings	for all users				
		OK	Ca	ancel	Apply	

• Double-click the 'seup.exe' file to begin the installation process:

▶ Install ▶ 64bit		✓ C Search 64bit		
Name	Date modified	Туре	Size	
🐌 ISSetupPrerequisites	6/26/2013 9:38 AM	File folder		
🐸 setup	6/25/2013 3:22 PM	Application	66,840 KB	



• An InstallShield Wizard may appear for C++ 2008 SP1 to be installed. Click 'Install'

	BWSpec4_64bit - InstallShield Wizard
	3WSpec4_64bit requires the following items to be installed on your computer. Click Install to begin installing these requirements.
Status	Requirement
Pending	Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)
	Install Cancel

BWSpec4_64bit - InstallShield Wizard				
WSpec4_64bit requires the following items to be installed on your computer. Click Install b begin installing these requirements.				
Status Requirement				
g Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)				
Microsoft Visual C++ 2008 SP1 Redistributable Package (x64)				
Instal				

• Go to 'Preparing to Install' section 5.



4.1.3 Windows 10

- Before running the setup.exe file, open the ISSetupPrerequisites Folder
- Run the installation files inside each of the sub-folders; 64-bit is shown on the left, 32-bit on the right.
 - Iangpack.exe
 Iangpack.exe
 Interfx20SP2_x64.exe
 NetFx64.exe
 Vcredist_x64.exe



- When prompted, download and install the latest .NET files.
- After all the Prerequisites are installed, follow the installation for Windows 8, Section 4.1.2.



5. Preparing to Install

	BWSpec4_32bit - InstallShield Wizard					
		Preparing to Install				
	C	BWSpec4_32bit Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.				
8	1000	Extracting: BWSpec4_32bit.msi				
		Cancel				

Extracting

BWSpec4_32bit - InstallShield Wizard		
	Preparing to Install	
0	BWSpec4_32bit Setup is preparing the InstallShield Wizard, which will guide you through the program setup process. Please wait.	
2 201	Decompressing: BWSpec4_32bit.msi	
	Cancel	

Decompressing



6. InstallShield Wizard

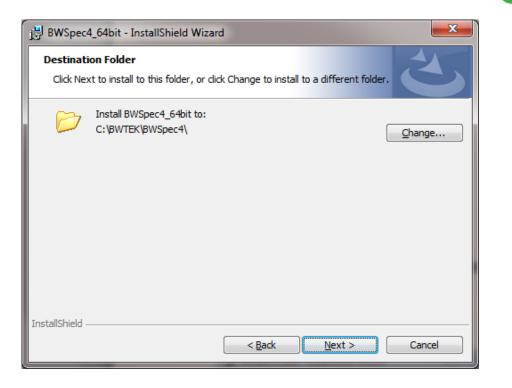
BWSpec4_32bit - InstallShiel	d Wizard
	Welcome to the InstallShield Wizard for BWSpec4_32bit
	The InstallShield(R) Wizard will install BWSpec4_32bit on your computer. To continue, dick Next.
	WARNING: This program is protected by copyright law and international treaties.
	<back next=""> Cancel</back>

• Welcome Screen: Click "Next"

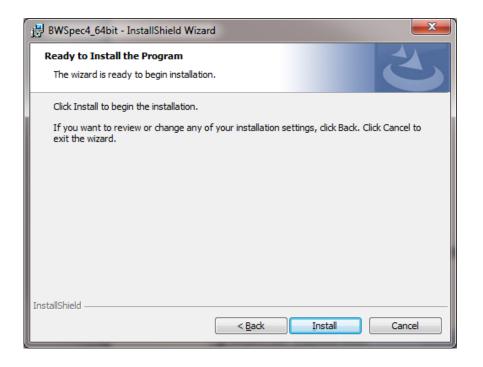
BWSpec4_32bit - InstallShield Wizard	x
License Agreement Please read the following license agreement carefully.	5
B&W Tek, Inc. Software License Agreement	* III
PLEASE READ THIS SOFTWARE LICENSE AGREEMENT CAREFULLY BEFOR DOWNLOADING OR USING THIS SOFTWARE. BY INSTALLING, COPYING, O OTHERWISE USING THE SOFTWARE, YOU AGREE TO BE BOUND BY THE TERM OF THIS END USER LICENSE AGREEMENT ("EULA"). YOU AGREE THAT YOUR US OF THE SOFTWARE ACKNOWLEDGES THAT YOU HAVE READ THIS AGREEMENT UNDERSTAND IT, AND AGREE TO BE LEGALLY BOUND BY ITS TERMS AND CONDITIONS.	R IS E F,
I gccept the terms in the license agreement Print I do not accept the terms in the license agreement	
InstallShield < <u>B</u> ack <u>N</u> ext > Cance	

- License Agreement page: Read the license agreement.
- Select, "I accept the terms in the license agreement" to continue with installation.
- Click "Next"

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- Destination folder where BWSpec will be installed: C:\BWTEK\BWSpec4
- Click "Next"



Click "Install"

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BWSpec4	4_32bit - InstallShield Wizard
-	BWSpec4_32bit gram features you selected are being installed.
17	Please wait while the InstallShield Wizard installs BWSpec4_32bit. This may take several minutes.
	Status:
	Publishing assembly information
InstallShield -	
	< <u>B</u> ack Next > Cancel

Installation progress bar:

BWSpec4_32bit - InstallShiel	d Wizard
2	InstallShield Wizard Completed
	The InstallShield Wizard has successfully installed BWSpec4_32bit. Click Finish to exit the wizard.
44	
	< Back Finish Cancel

Installation is completed. Click "Finish"

<u>Do Not</u> open the software program at this time! First install the Hardware Drivers

for the spectrometer.



7. Open the Device Manager

7.1 Windows XP, Vista, 7, 8, 8.1, or 10:

- In the Search Bar type **Device Manager**, and click Enter.
- Or Press 'Windows Key + R', in the 'Run' window type: mmc devmgmt.msc, and Press OK
- The Device Manager window will open
- In the Device Manager window expand the "Universal Serial Bus controllers" [USB] section.
- Plug the spectrometer or Raman unit USB cable into the computer and power on the unit (if applicable).

着 Device Manager	x
<u>File Action View H</u> elp	
🖌 🏺 Universal Serial Bus controllers	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2934	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2935	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2936	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2937	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2938	
🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2939	
🔤 🖣 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A	
🚽 🖣 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C	
🚽 🖣 Realtek USB 2.0 Card Reader	
🟺 USB Root Hub	
USB Root Hub	
🏺 USB Root Hub	=
USB Root Hub	
🖶 USB Root Hub	
🟺 USB Root Hub	
🟺 USB Root Hub	
📖 🏺 USB Root Hub	-

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8. Hardware Installation

Below there are several different installation guides for 32-Bit OS, 64-Bit OS, US2.0 and USB 3.0, and Windows 8/8.1 Pro/10. Normally the drivers will install automatically when the unit is powered on and plugged into the USB slot. If the drivers do not install automatically a manual driver installation may be attempted.

Find and follow the appropriate installation guide for your computer and spectrometer hardware. If you are not sure of your computers settings or capabilities, check with your IT Department.

Definitions:

Spectrometers which have USB 3.0 capabilities we refer to as 'USB 3.0' Spectrometers which have only USB 1.1/2.0 capabilities will be referred to as 'USB 2.0' spectrometers.

8.1 USB 2.0 Ported Spectrometer Hardware Driver Installation for

32-Bit OS and 64-Bit OS

- If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer.
- Connect the USB 2.0 Cable to any USB Port on your computer and then to your spectrometer.

The spectrometer will first show up as an 'Unknown device"

🚔 Device Manager		
<u>File Action View H</u> elp		
Other devices		A
🔤 🦣 Unknown device	←───	
Processors		
🔰 🛛 🗸 Sound, video and ga	me controllers	
Storage controllers		
System devices		
a 🏺 Universal Serial Bus c	ontrollers	
🚽 🖣 Intel(R) ICH9 Fam	ily USB Universal Host Controller - 2934	
🚽 🚽 Intel(R) ICH9 Fam	ily USB Universal Host Controller - 2935	
📕 🚽 Intel(R) ICH9 Fam	ily USB Universal Host Controller - 2936	
📕 🔤 🖬 🖬 🖬 🖬 🖬	ily USB Universal Host Controller - 2937	
	1 000 0 1 10 10 10 10 0000	



After about 30 seconds the 'Unknown device' will change to 'B&W-USB201' automatically.

🚔 Device Manager		
<u>File Action View H</u> elp		
Other devices		
Processors		
🖕 🐗 Sound, video and game controllers		
Storage controllers		
July System devices		
🍙 🏺 Universal Serial Bus controllers		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2934		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2935		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2936		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2937		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2938		
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2939		
📖 🏺 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A		
📖 🏺 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C		
🔤 🟺 Realtek USB 2.0 Card Reader		

After about 30 seconds the 'B&W-USB201' will change to 'B&W TEK Spectrometer' automatically.

🚔 Device Manager	×
<u>File Action View H</u> elp	
🖌 🏺 Universal Serial Bus controllers	-
🔤 🚽 🖉 🖉 🖉 🖉 🖉 🖉 🖉	
📕 🚽 Intel(R) ICH9 Family USB Universal Host Controller - 2934	
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2935	
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2936	
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2937	
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2938	
📖 🏺 Intel(R) ICH9 Family USB Universal Host Controller - 2939	
📖 🏺 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293A	
🏺 Intel(R) ICH9 Family USB2 Enhanced Host Controller - 293C	
🖶 Realtek USB 2.0 Card Reader	

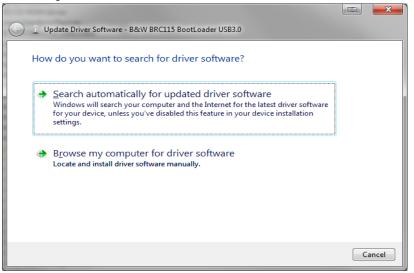
You are now ready to Open BWSpec 4 and run the spectrometer.



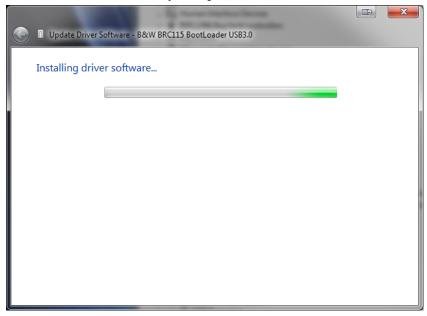
8.1.1 Manually Install USB 2.0 Driver for 32-Bit OS and 64-Bit OS

If your driver installation was unsuccessful, you may attempt to manually install the drivers. For more assistance feel free to contact our customer support team at <u>bwtek.com/support/</u>.

- Right Click on "Unknown Device" and select "Update Driver Software..."
- Search Options:



• Select "Search automatically for updated driver software"





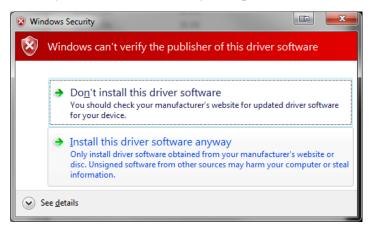
- If "Search automatically for updated driver software" was unsuccessful, select "Browse my computer for driver software" and select this location: C:\BWTEK\BWSpec4\USB Drivers
 - In the USB Drivers folder, select the sub folders for 32bit or 64bit depending on your computer, the sub folder USB2, and the sub folder for your windows version.
 - Windows 10 users, please select the Windows 8 folder.
 - For example on a 64 bit Windows 7 computer, the pathway would be: C:\BWTEK\BWSpec4\USB Drivers\64bit\USB2\win7.
 - Warning! Be sure to select the path that applies to your computers settings!

	×
\bigcirc	Update Driver Software - B&W TEK Spectrometer
	Browse for driver software on your computer
	Search for driver software in this location:
	C:\BWTEK\BWSpec4\USB Drivers\64bit\USB2\win7 Browse
	☑ Include subfolders
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
	Next Cancel

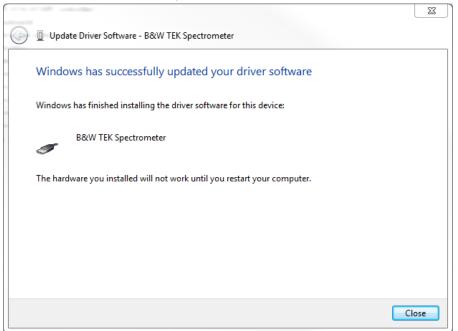
Click "Next"



- Installation will begin
- You may see a Windows Security Prompt:



- Select "Install this driver software anyway"
- Driver will install successfully



• Click "Close"

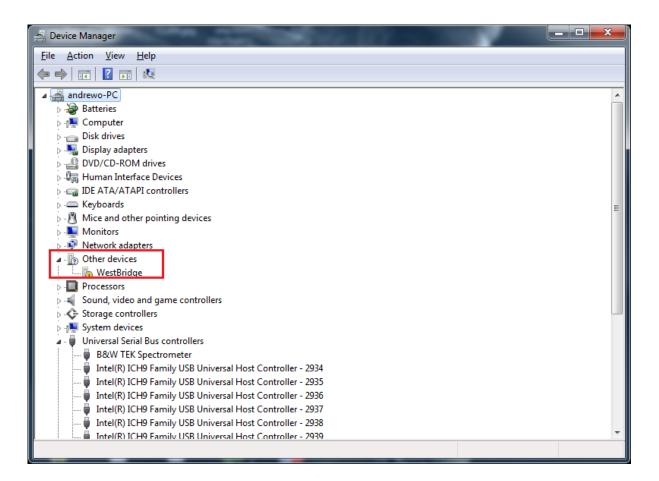


8.2 USB 3.0* Ported Spectrometer Hardware Driver Installation for

32-Bit OS and 64-Bit OS

If your spectrometer has a Power Supply, properly connect to an outlet and the spectrometer.
 Connect the USB 3.0 Cable to any USB Port on your computer and then to your spectrometer.

*The USB Port on the PC does *Not* need to be a USB 3.0 port for the spectrometer to operate. Using less than a USB 3.0 port will simply reduce the transfer speed between the spectrometer and PC.



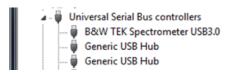
After about 30 seconds the "WestBridge" driver will appear in the Device Manager.



 After about 30 seconds the "WestBridge" will change to "B&W BTC665N BootLoader USB3.0" or "B&W BTC655N BootLoader USB3.0" or "B&W BRC115 BootLoader USB3.0" or similar and will then appear under USB Controllers in the Device Manager.



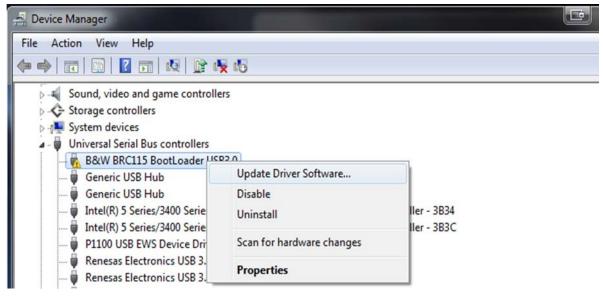
 After about 30 seconds, "B&W (model number) BootLoader USB3.0" will change into "B&W TEK Spectrometer USB3.0" under USB Controllers.



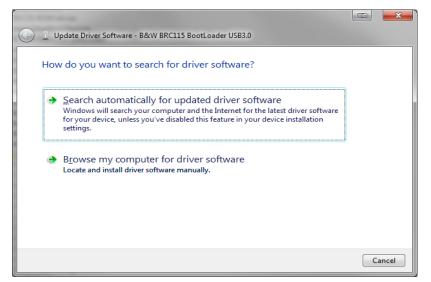
You are now ready to Open BWSpec4 and run the spectrometer.

8.2.1 Manually Install USB 3.0 Driver for 32-Bit OS and 64-Bit OS

If your driver installation was unsuccessful, you may attempt to manually install the drivers. For more assistance feel free to contact our customer support team at <u>bwtek.com/support/</u>. 19 Shea Way, Newark, DE 19713 • Tel: (302) 368-7824 • Fax: (302) 368-7830 • Web: www.bwtek.com SPECTROMETERS I LASERS I TOTAL SOLUTIONS



- Right Click on "WestBridge" or "B&W (model number) BootLoader USB3.0" and select "Update Driver Software..."
- Search Options:



• Select "Search automatically for updated driver software"

E.	TEK SPECTROMETERS TOTAL SOLUTIONS	
	Update Driver Software - B&W BRC115 BootLoader USB3.0 Installing driver software	

- If "Search automatically for updated driver software" was unsuccessful, select "Browse my computer for driver software" and select this location: C:\BWTEK\BWSpec4\USB Drivers
 - In the USB Drivers folder, select the sub folders for 32bit or 64bit depending on your computer, the sub folder USB3, and the sub folder for your windows version.
 - Windows 10 users, please select the Windows 8 folder.
 - For example on a 64 bit Windows 7 computer, the pathway would be: C:\BWTEK\BWSpec4\USB Drivers\64bit\USB3\win7.
 - Warning! Be sure to select the path that applies to your computers settings!

0	Update Driver Software - B&W TEK Spectrometer USB3.0
	Browse for driver software on your computer
	Search for driver software in this location:
	C:\BWTEK\BWSpec4\USB Drivers\64bit\USB3\win7
	▼ Include subfolders
	Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
	Next Cancel

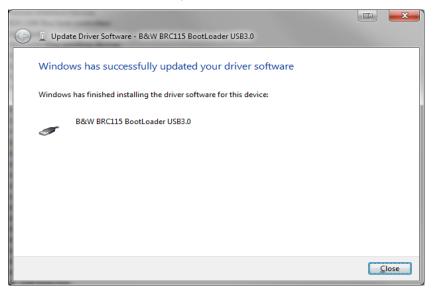
• Click "Next



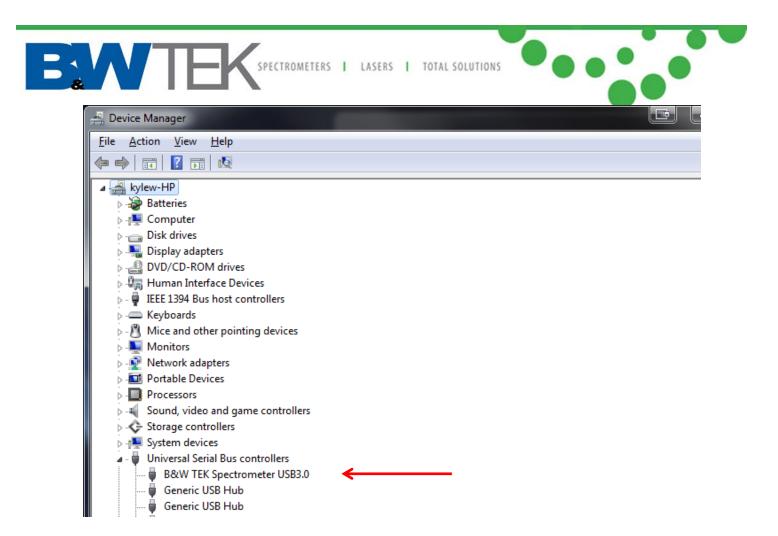
- Installation will begin
- You may see a Windows Security Prompt:



- Select "Install this driver software anyway"
- Driver will install successfully



Click "Close"



• B&W TEK Spectrometer USB3.0 will appear under USB Controllers.

You are now ready to Open BWSpec 4 and run the spectrometer.

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8.3 Windows 8/8.1/10 Driver Installation

For certain versions of Windows 8/8.1/10, there are incompatibilities with the "Digital Driver Signatures". By disabling this "feature" you can correctly install the spectrometer unit's drivers. Apply these steps after you have properly installed the BWSpec4 software, and changed the Compatibility Mode to Windows 7 in Section 4.1.2. Your computer may restart during this procedure. Please save all your work and close any open programs or applications.

• You may also receive the following "Program Compatibility Assistant" message concerning an unsigned driver:



• Click "Close".

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- Unplug spectrometer unit from PC
- Perform a Swipe action on your screen/touchscreen from the right side to the left to bring up the "Charms Bar". Go to Settings and choose "Change PC Settings"
- For Windows 8:
- Choose "General" and go to Advanced startup. You will have to Restart during this option
- For Windows 8.1 Pro: (and some Windows 8 computers depending on which updates have been made)
- Choose "Update and Recovery" => "Recovery" and then go to Advanced startup. You will have to Restart during this option
- Choose "Troubleshoot" => Advanced options => Startup Settings
- Press the 7 or F7 key when prompted to **Disable driver signature enforcement**
- Your computer will restart.
- Plug in Spectrometer unit to PC
- The unit will show "Unknown Device" or "Westbridge". Continue the installation instructions in <u>Section</u> 8.1 for USB 2.0 or <u>Section 8.2 for USB 3.0</u>.