

BRIGHTSPEC

USB Driver Upgrade Guide



Version 1.0
August 2015

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I. INTRODUCTION

With the recently introduced Topaz-X series of MCA devices, BrightSpec is switching to a new version of the USB driver. The updated driver is needed to access the extended features of the new devices, and is backwards compatible with the older MCA series like the bMCA-USB and the Topaz-Pico.

The old USB driver was built around libusb-0.1, which is now being phased out and no longer updated, while the new one is based on libusb-1.0, which is also supported natively by Linux, FreeBSD and Mac-OS.

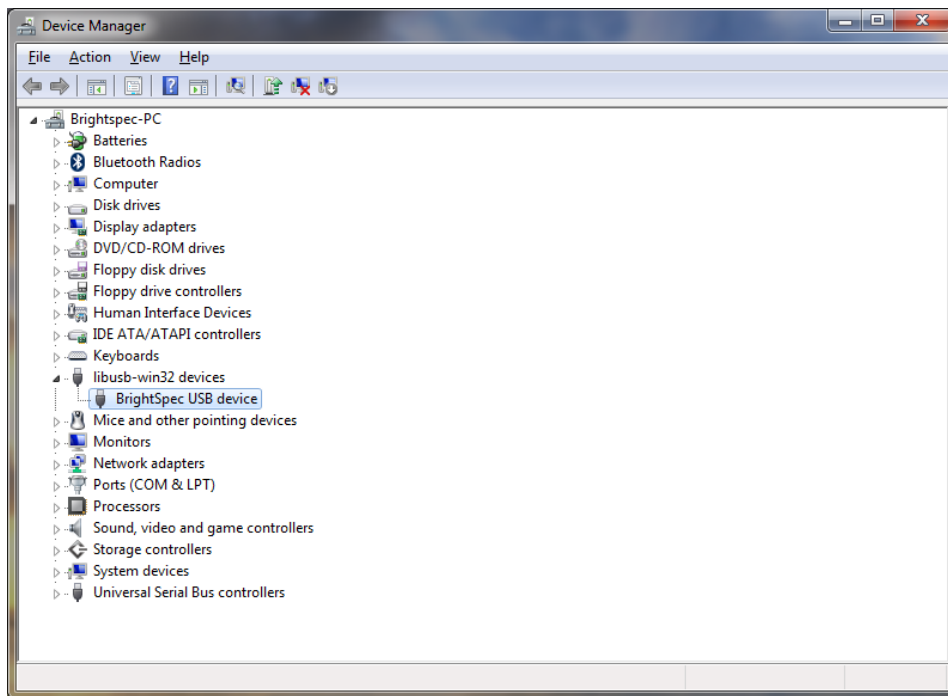
Beginning from August 2015, our Basic Acquisition and Spectrometry software will make use exclusive of the new driver. Fresh installations will be straightforward, while upgrades will require updating the USB driver as described further on this manual.

Future versions of the bMCA-USB and Topaz-Pico (with firmware version V2.2.001 and later) will work solely with the new driver.

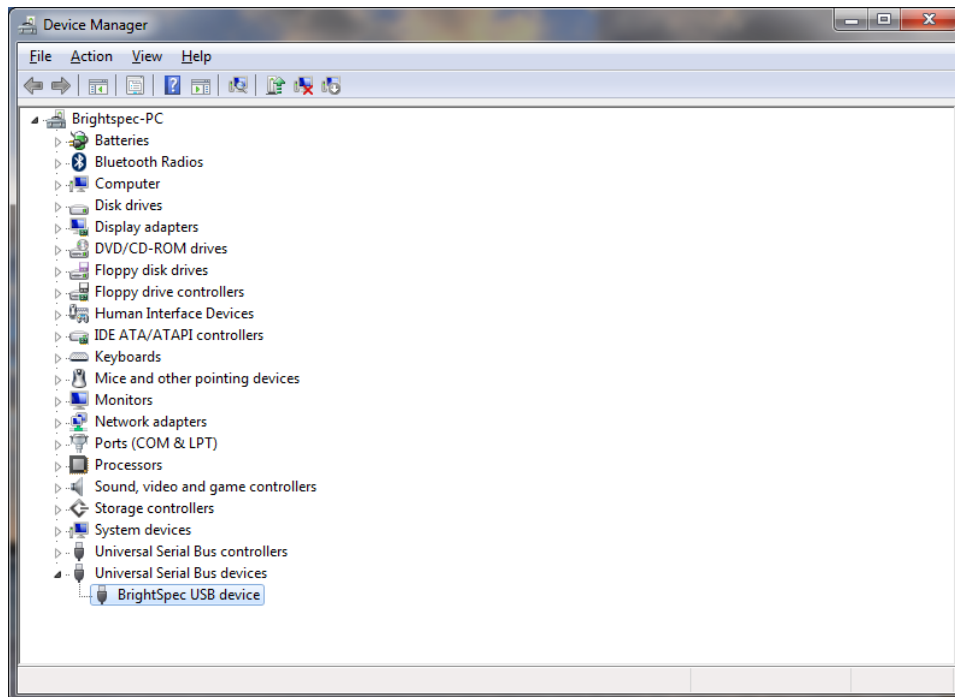
II. WHICH USB DRIVER DO I HAVE?

To determine which version of the USB driver is installed in your system, open Windows's 'Device Manager' and locate the 'BrightSpec USB device' entry.

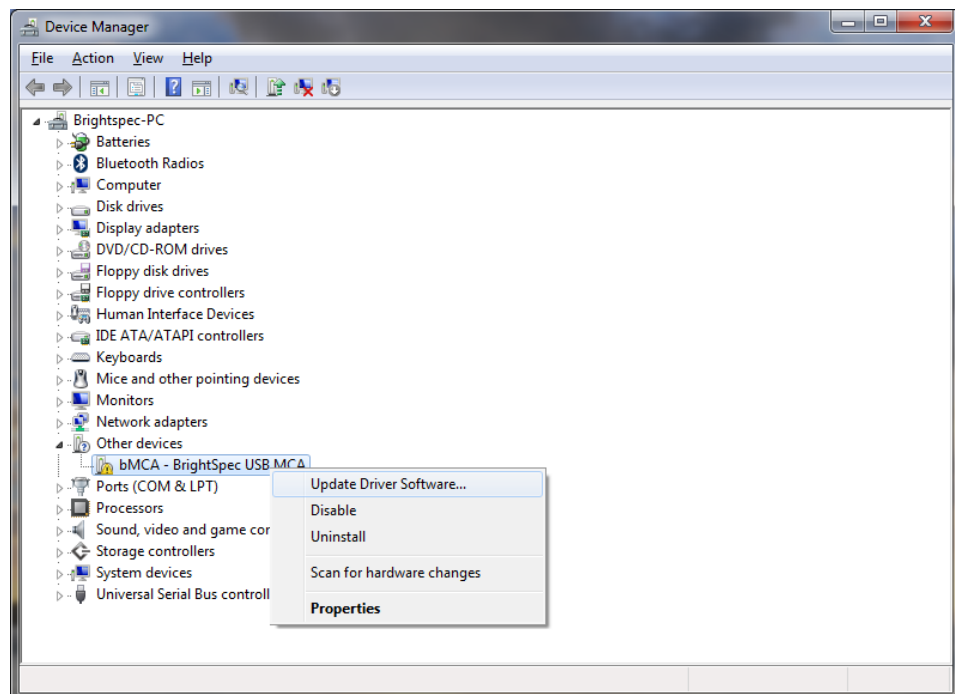
If it is located under 'libusb-win32 devices', as shown below, then you have the old version of the driver and will need to follow the instructions on this guide in order to upgrade it:



If the entry appears instead under 'Universal Serial Bus devices', then you already have the new version of the driver and no further actions need to be taken:



Finally, if the entry appears under 'Other devices' with a yellow question mark icon next to it, then that means that no driver is found for the USB device and that the new driver needs to be installed as described in this guide:

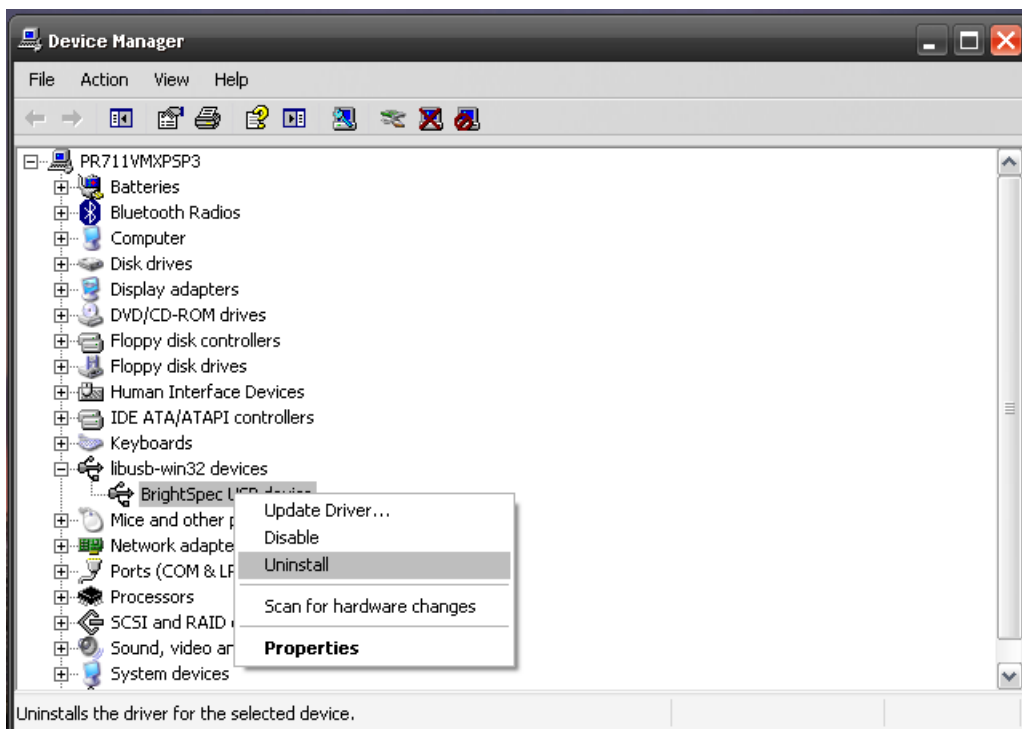


III. DRIVER UPGRADE FOR WINDOWS XP

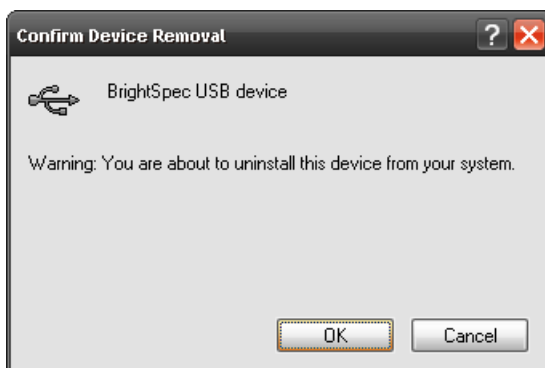
Uninstalling the old USB driver

Before proceeding to install the new USB driver for BrightSpec MCA's, we need first to ensure that the old drivers are removed:

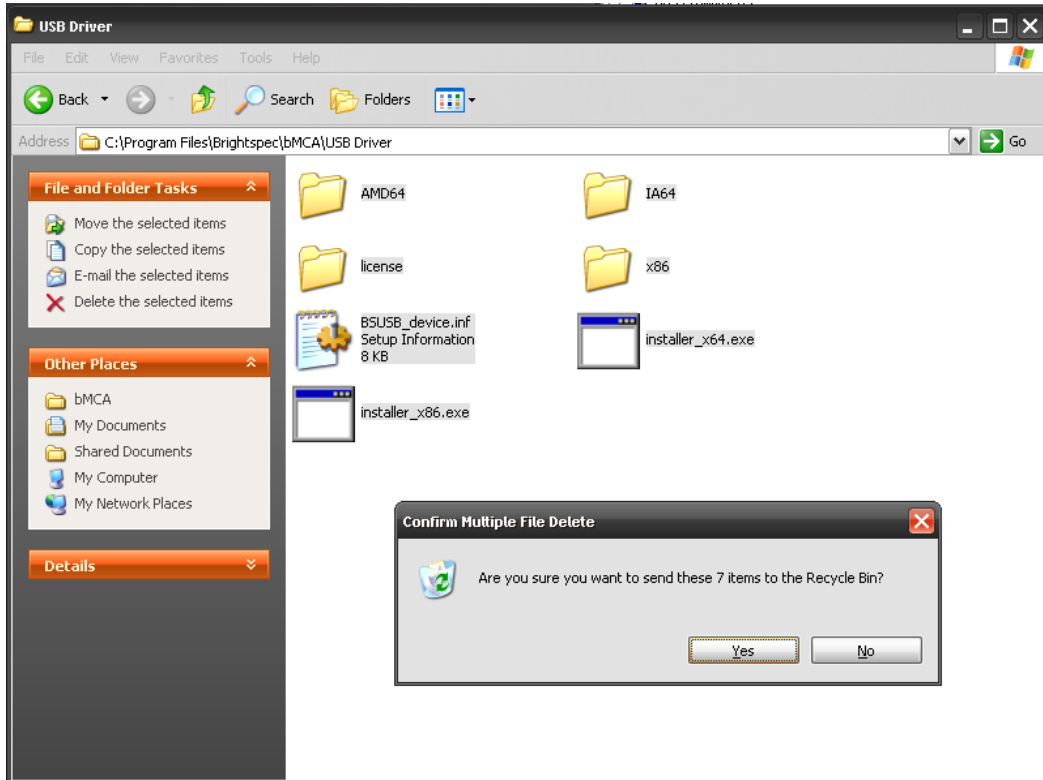
1. Make sure the MCA USB device is connected to the computer.
2. Go to 'Device Manager' and find the entry 'BrightSpec USB device' under 'libusb-win32 devices'. Right-click on it and select 'Uninstall':



3. When the confirmation dialog appears, click 'OK' to complete the device removal:



4. Care must also be taken to ensure that all locations which still contain old driver files are removed or renamed. If an old driver was installed once on a Windows system, the OS may keep trying to use those drivers even if the user doesn't want that. Removing or renaming folders and/or files that were used *at least once* for the driver installation fixes this:



5. After the removal of the old drivers, disconnect and reconnect the USB device. Follow the steps listed in the following section to install the new drivers.

Installation of the new USB driver

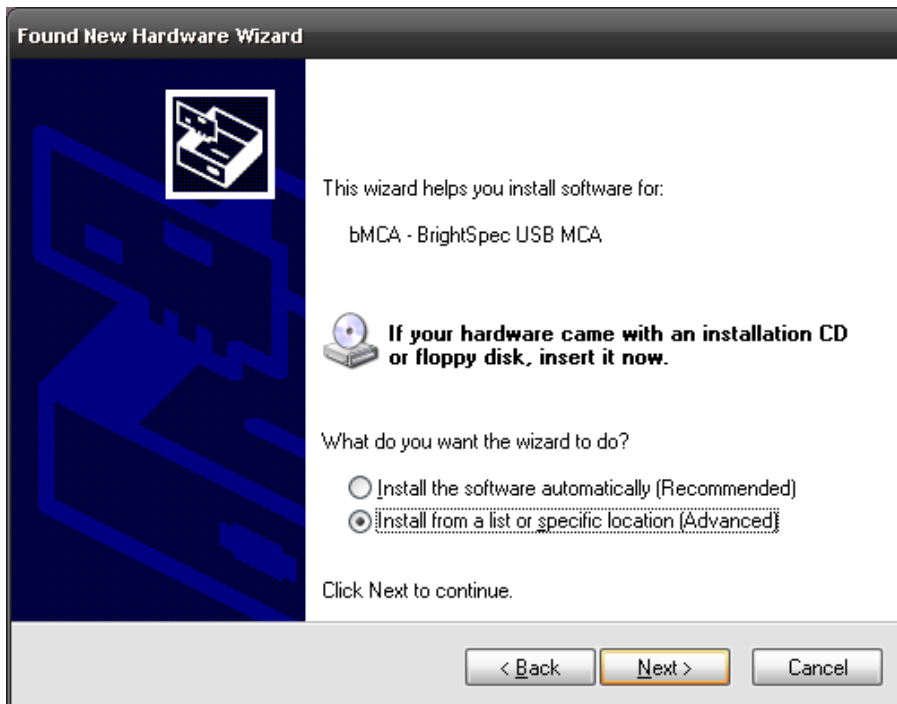
1. Connect the MCA USB device to the computer.
2. 'New hardware detected' balloon appears:



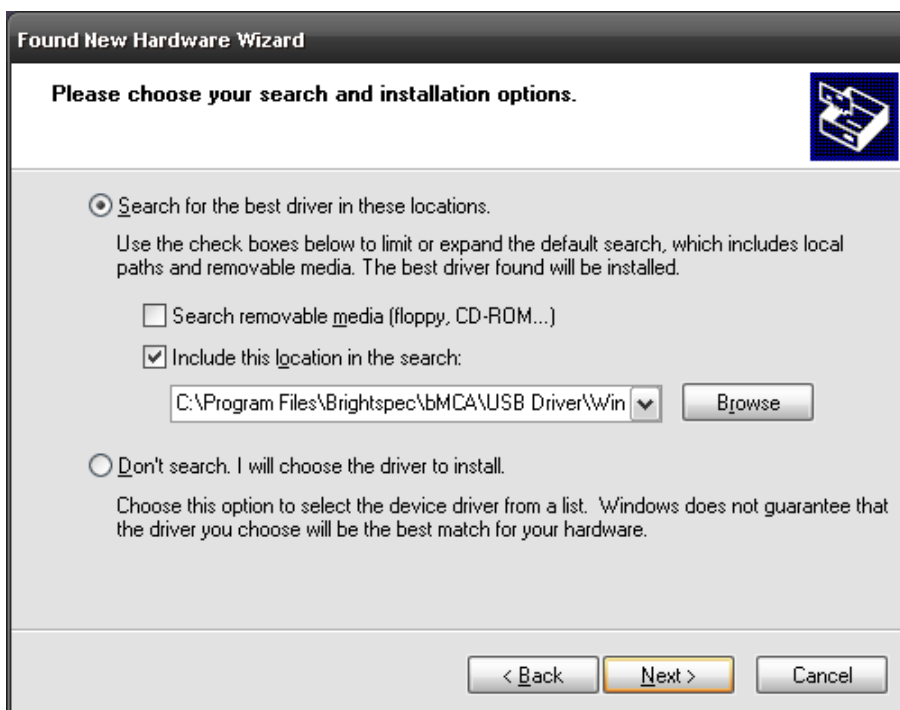
3. Click on the 'New Hardware' pictogram in the system tray. The 'Found New Hardware Wizard' appears:



4. Select 'No, not this time' and click 'Next':

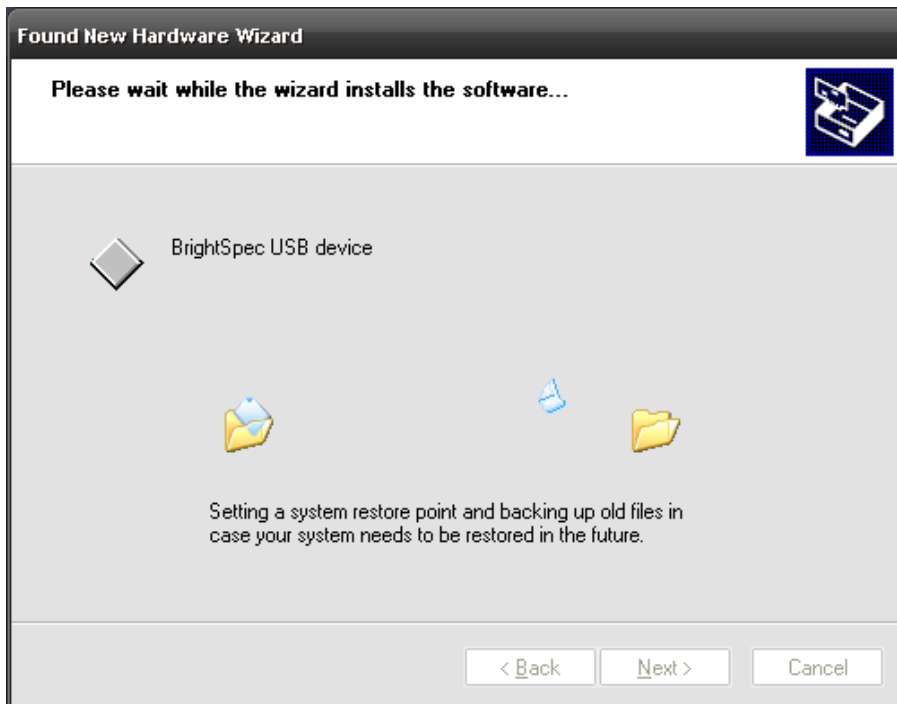


5. Select 'Install from a list or specific location (Advanced)':



6. Click 'Browse' to select the driver location on the system. Click 'Next'.

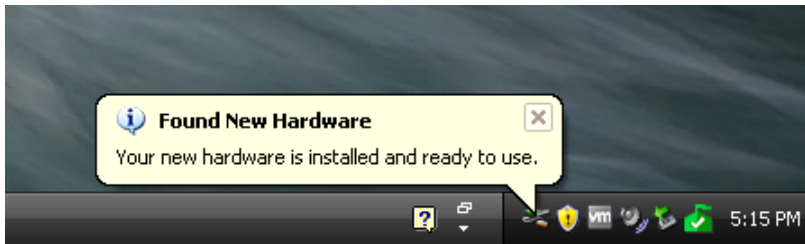
7. The driver installation will begin:



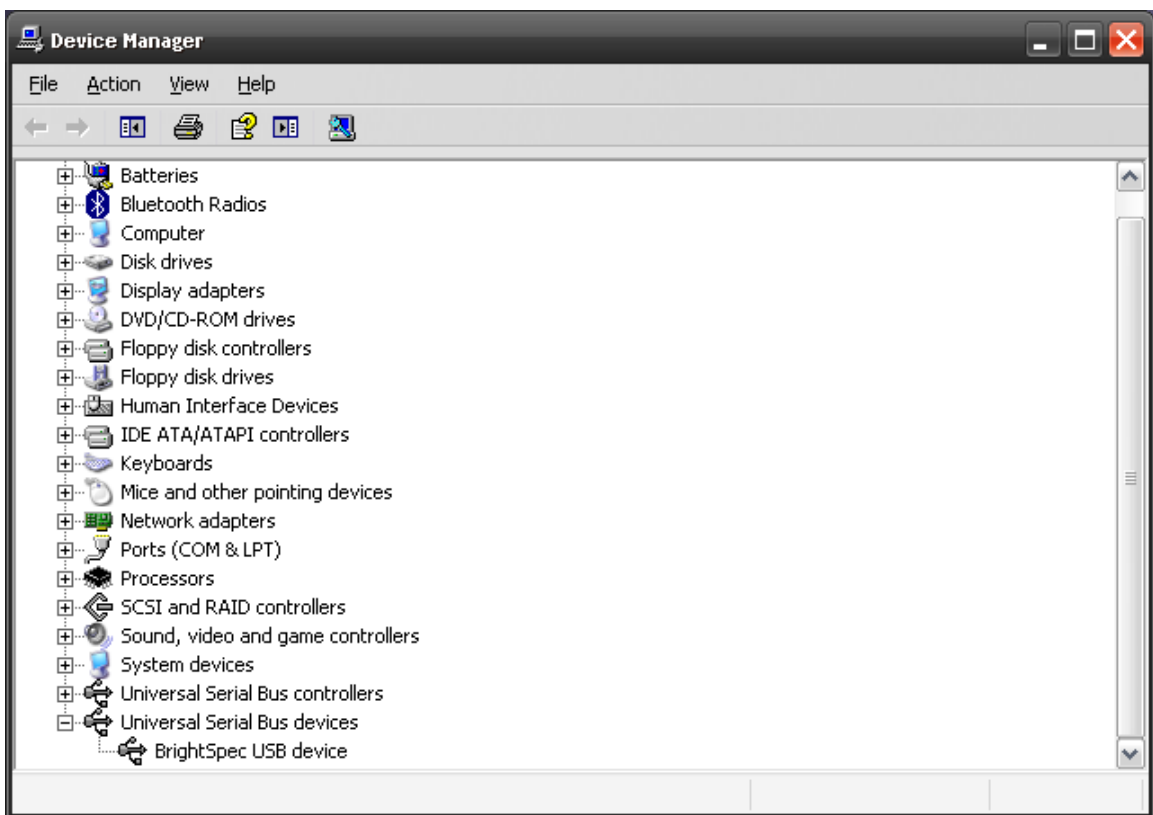
8. Click 'Finish' to end the driver installation:



9. The 'Found New Hardware' balloon text appears showing the driver was installed successfully:



10. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'BrightSpec USB device':

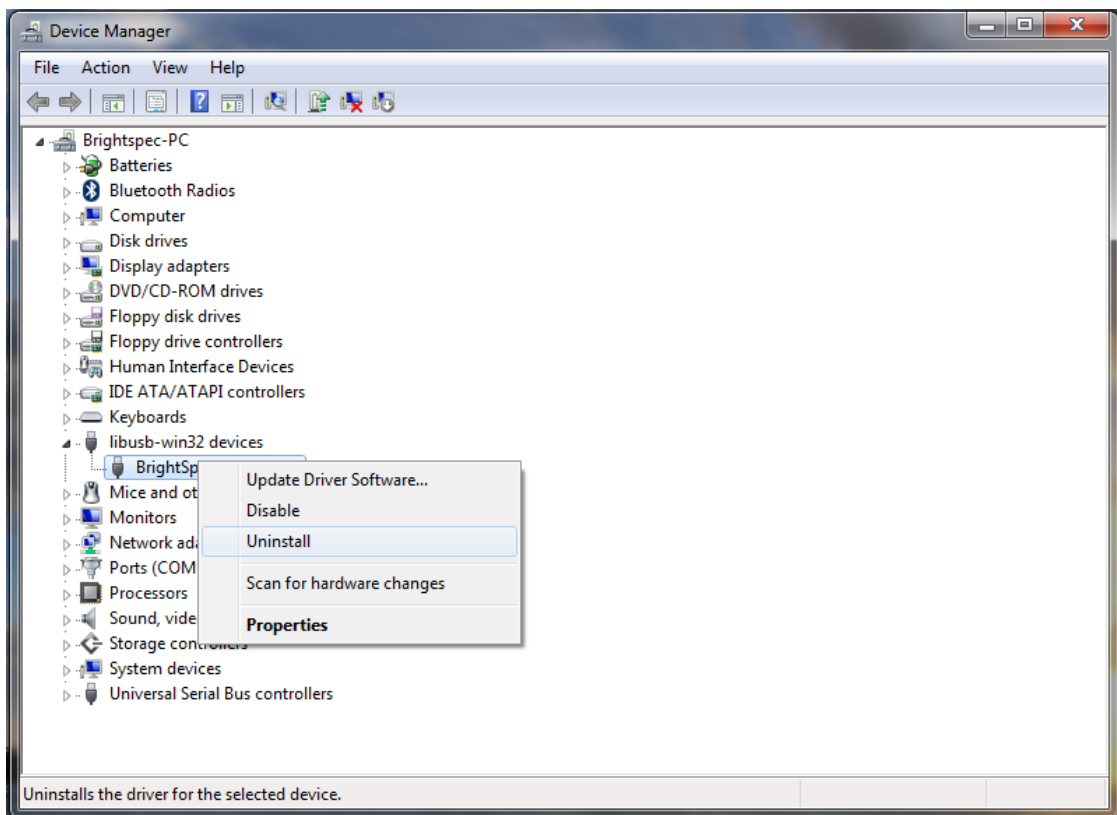


IV. DRIVER UPGRADE FOR WINDOWS 7

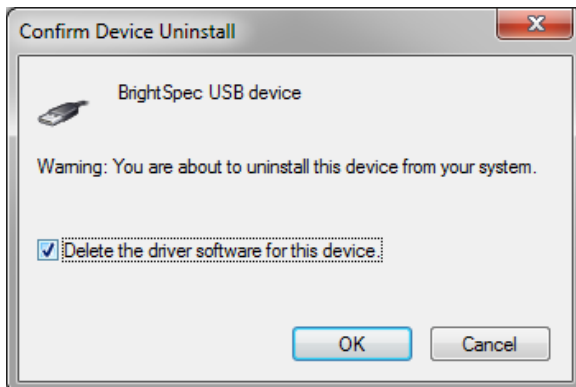
Uninstalling the old USB driver

Before proceeding to install the new BrightSpec USB driver we need to ensure first that the old drivers are removed:

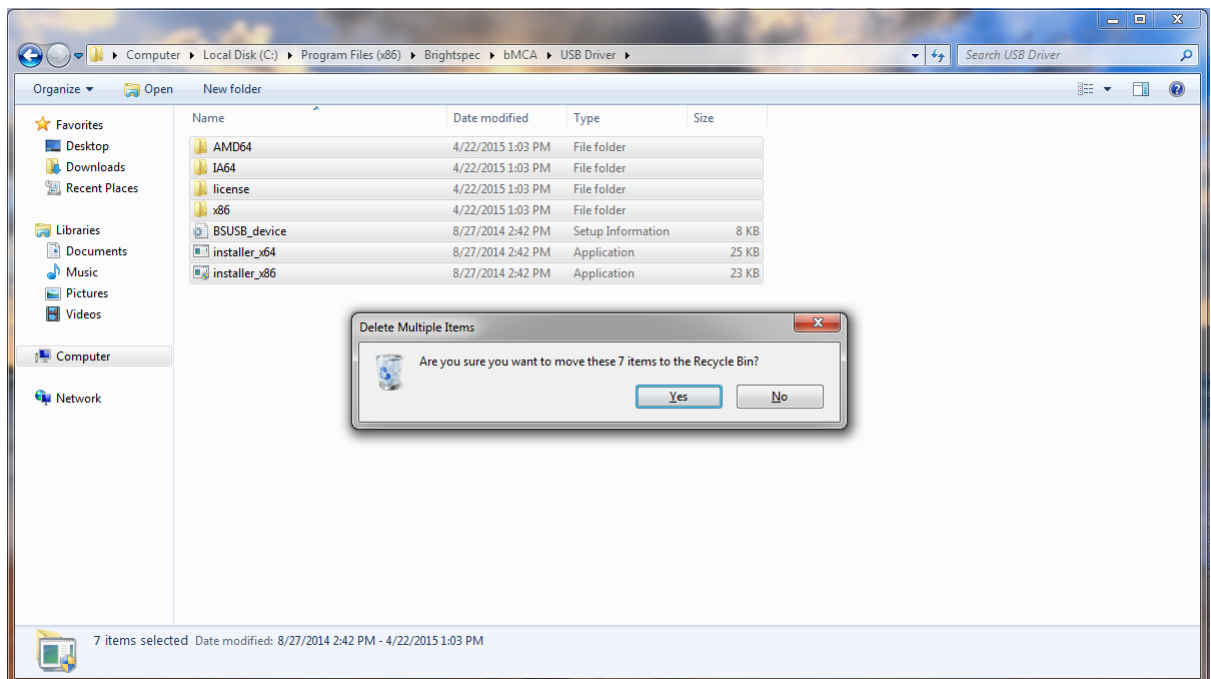
1. Make sure the MCA USB device is connected to the computer.
2. Go to 'Device Manager'. Find the entry 'BrightSpec USB device' under 'libusb-win32 devices' and right-click. Select 'Uninstall':



3. Make sure the 'Delete the driver software for this device' checkbox is checked. Click 'OK' to complete the device removal:



4. Care must also be taken to ensure that all locations which still contain old driver files are removed or renamed. If an old driver was installed once on a Windows system, the OS may keep trying to use those drivers even if the user doesn't want that. Removing or renaming folders and/or files that were used *at least once* for the driver installation fixes this:



5. After the removal of the old drivers, disconnect and reconnect the USB device. Follow the steps listed in the following section to install the new drivers.

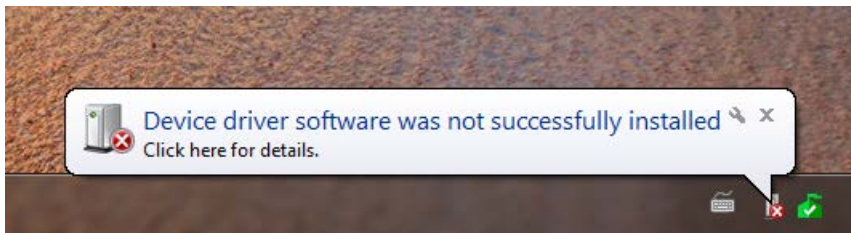
Installation of the new USB driver

The installation of the new USB driver for Windows 7 is different depending on the MCA device used during the process.

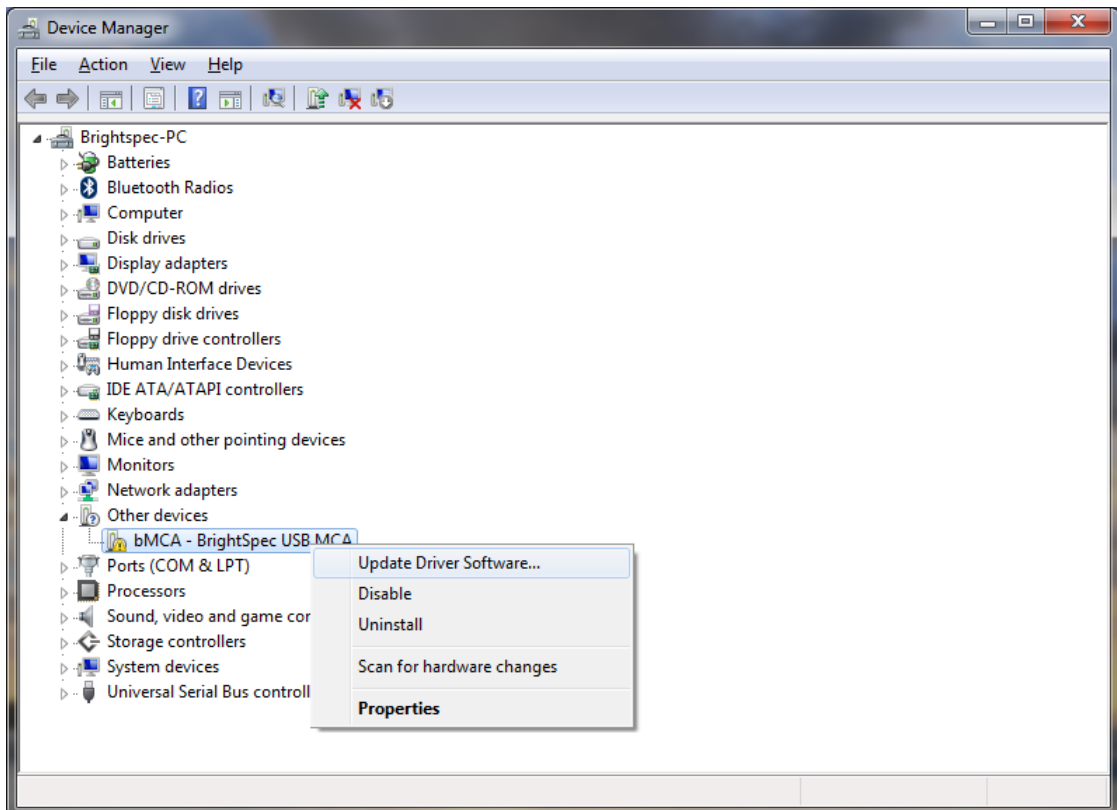
Older devices with original firmware (without MS descriptors)

These include bPAD, bMCA-USB and Topaz-Pico devices made before January 2016:

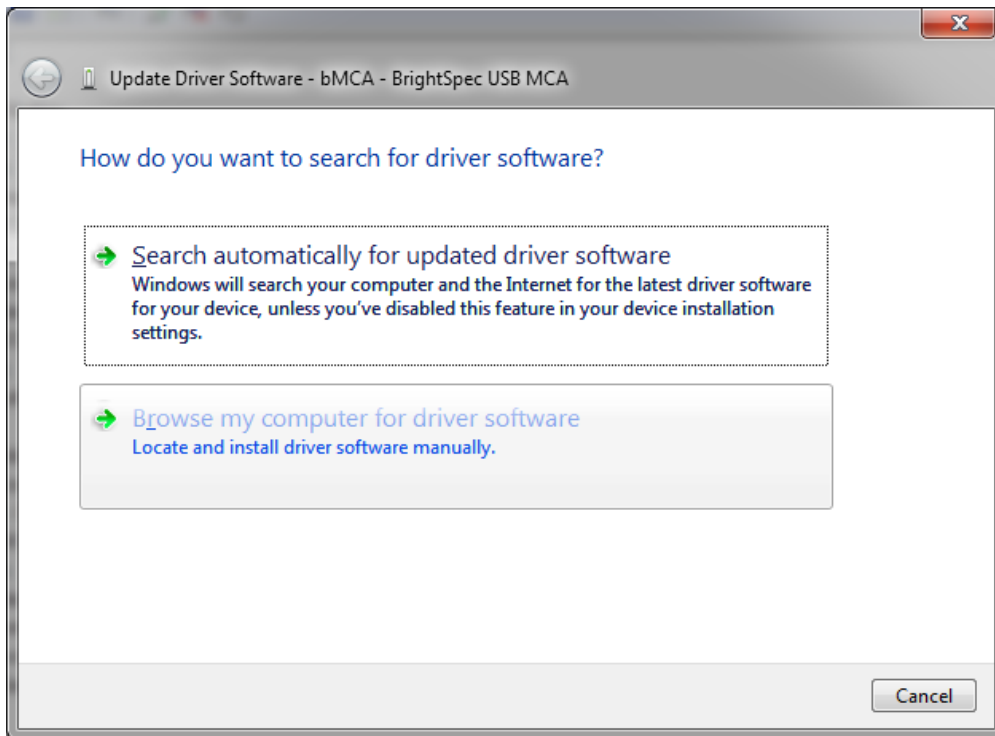
1. Connect the MCA USB device to the computer.
2. A 'Device driver software was not successfully installed' balloon appears:



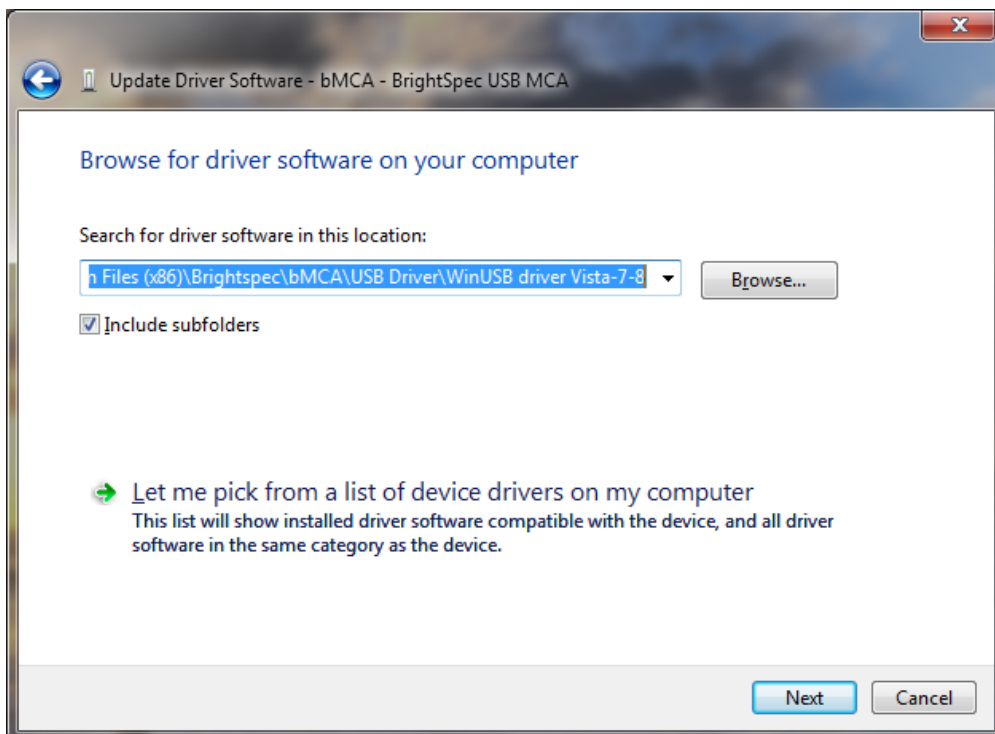
3. Click on the balloon to open the 'Device Manager'. A device 'bMCA – BrightSpec USB MCA' can be seen under 'Other devices'. Right click on the device name and select 'Update driver software...' from the context menu:



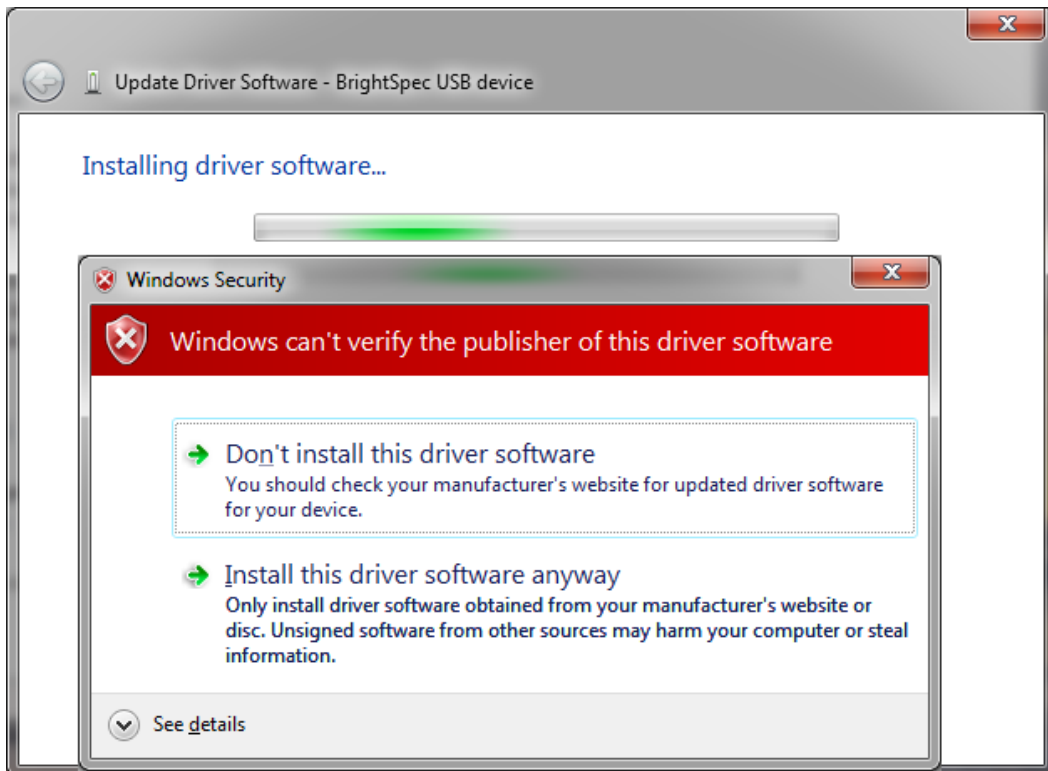
4. Select 'Browse my computer for driver software':



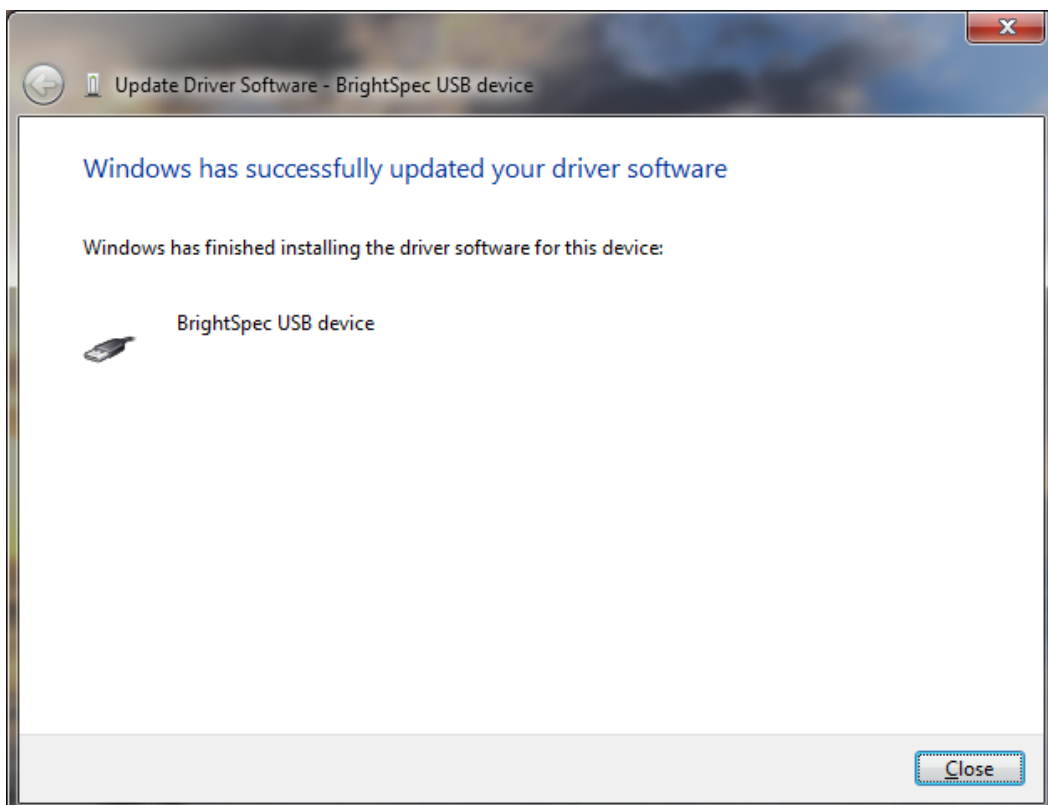
5. Click 'Browse' and select the directory where the drivers are located. Click Next:



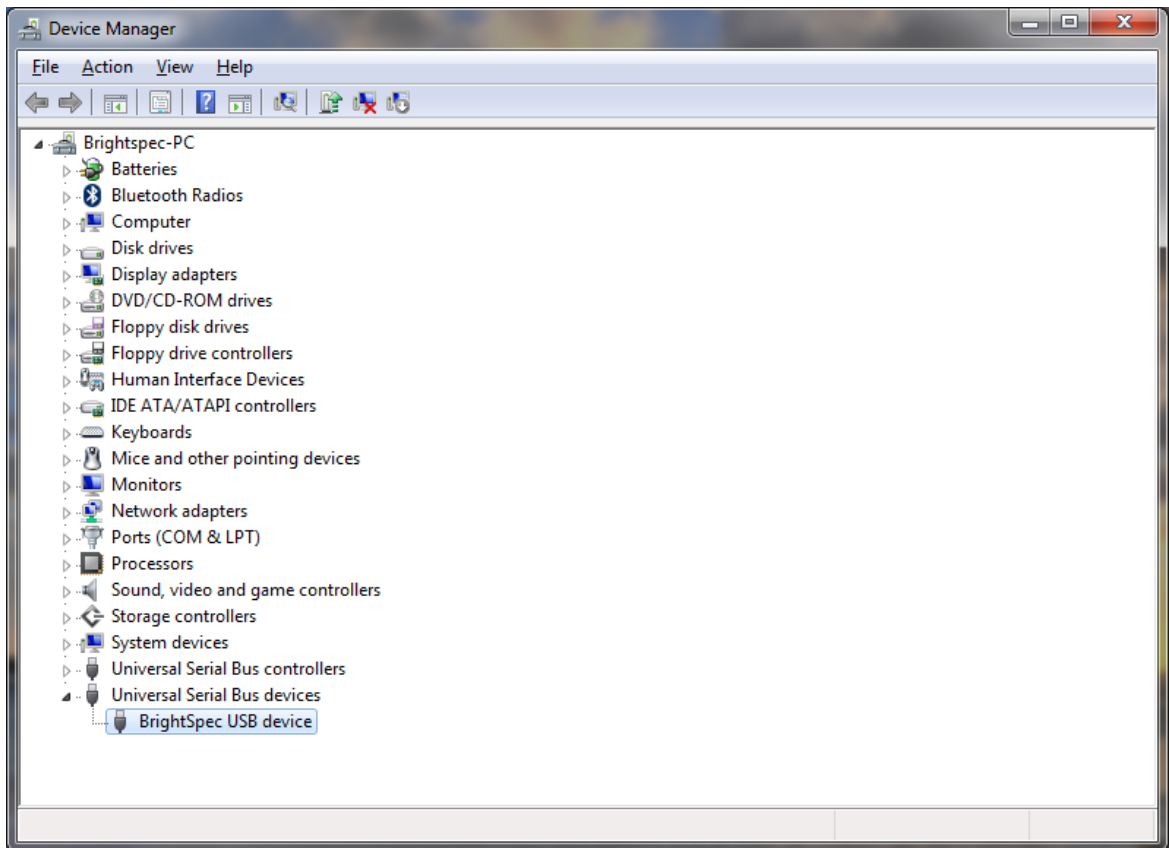
6. Driver installation begins. A window appears stating that the publisher of the driver can't be verified. Click 'Install this driver software anyway'. The installation continues:



7. The wizard finishes and shows the device being installed as a 'BrightSpec USB device':



8. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'bMCA - BrightSpec USB MCA':



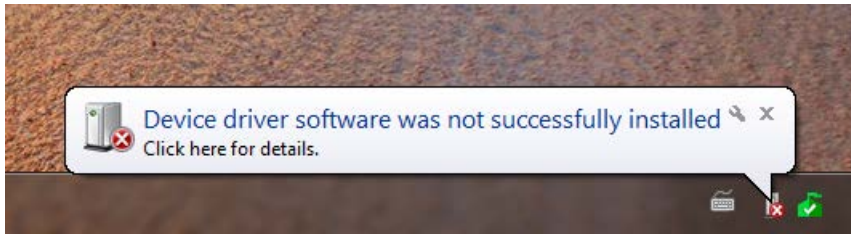
Later devices with new firmware (with MS descriptors)

These include the Topaz-X and Topaz-HR family of devices:

If you have an Internet connection

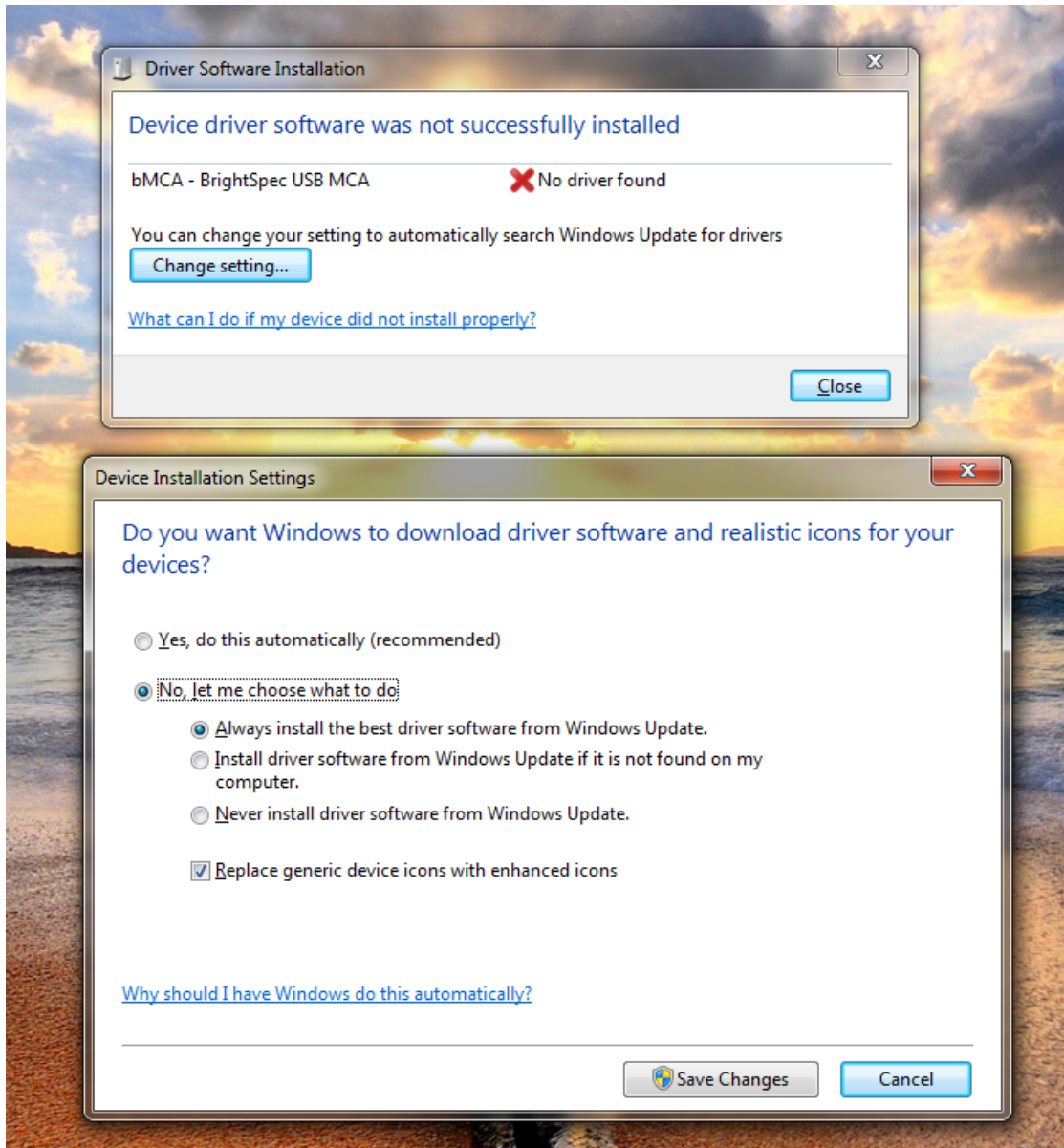
If the computer is connected to the internet the MCA, then the drivers can be automatically installed by the OS:

- 1.** Connect the MCA USB device to the computer.
- 2.** If 'Automatic updates' is enabled, the following steps can be skipped up to the automatic driver installation (step 6 below).
- 3.** If 'Automatic updates' is disabled, the 'Device driver software was not successfully installed' balloon appears:

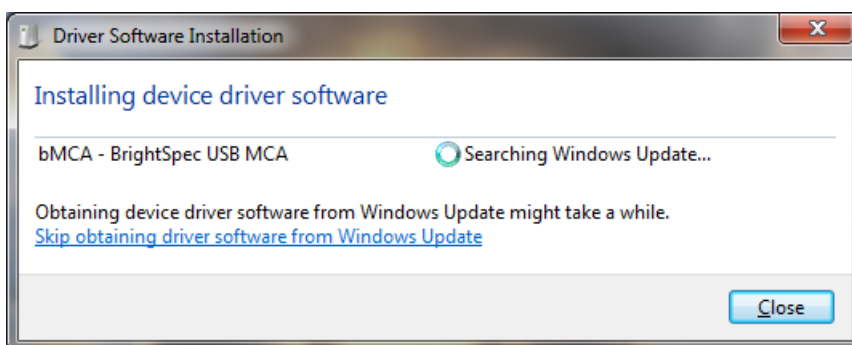


- 4.** Click on the text balloon to show the 'Driver Software Installation' window.

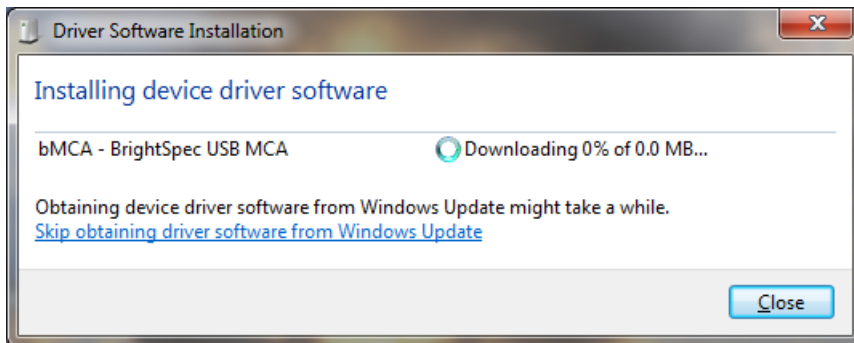
5. Click on 'Change Settings...' to show the 'Device Installation Settings' window. Select 'Always install the best driver software from Windows Update' and click 'Save changes':



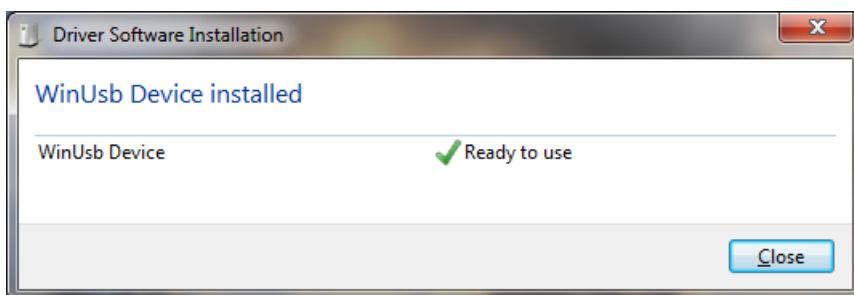
6. Windows will start searching Windows Update to find the right driver online:



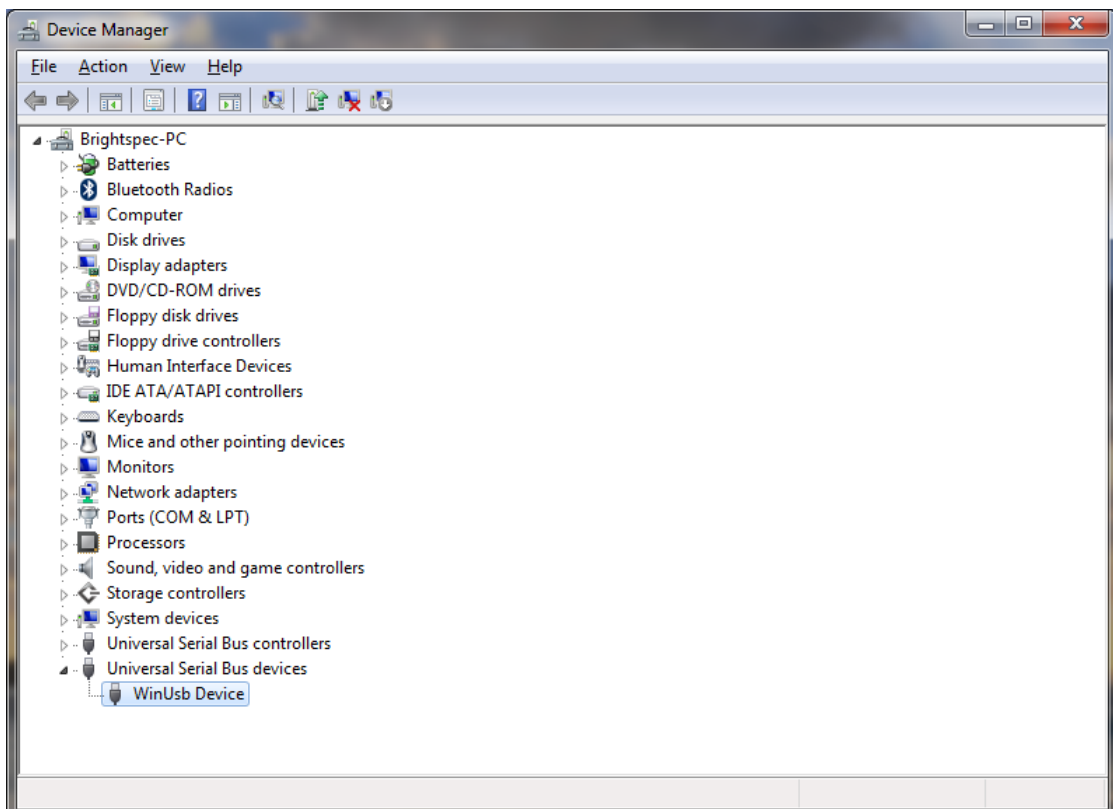
7. After Windows finds the driver online, the download will start:



8. When the installation finishes, the device is recognized as 'WinUsb Device':

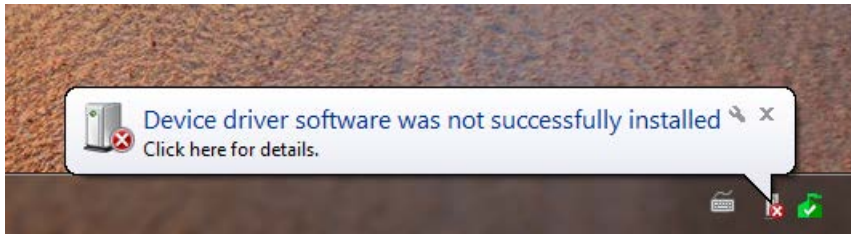


9. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'WinUsb Device':

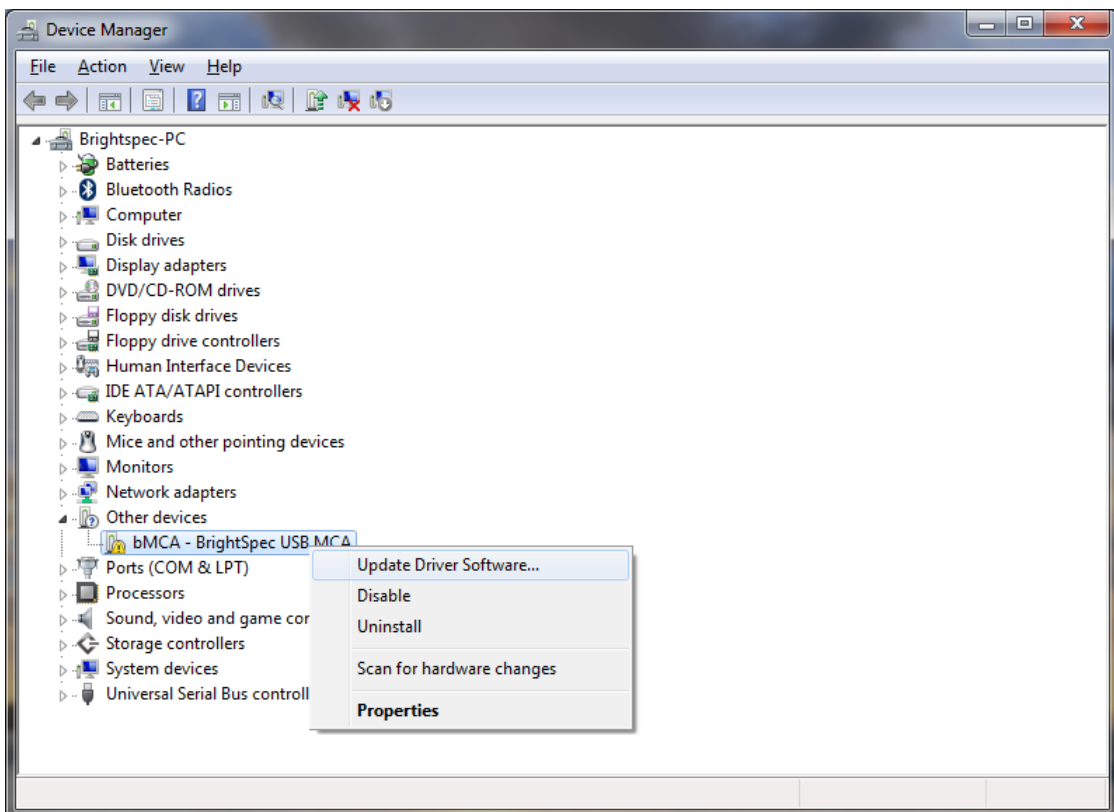


If you do not have an Internet connection

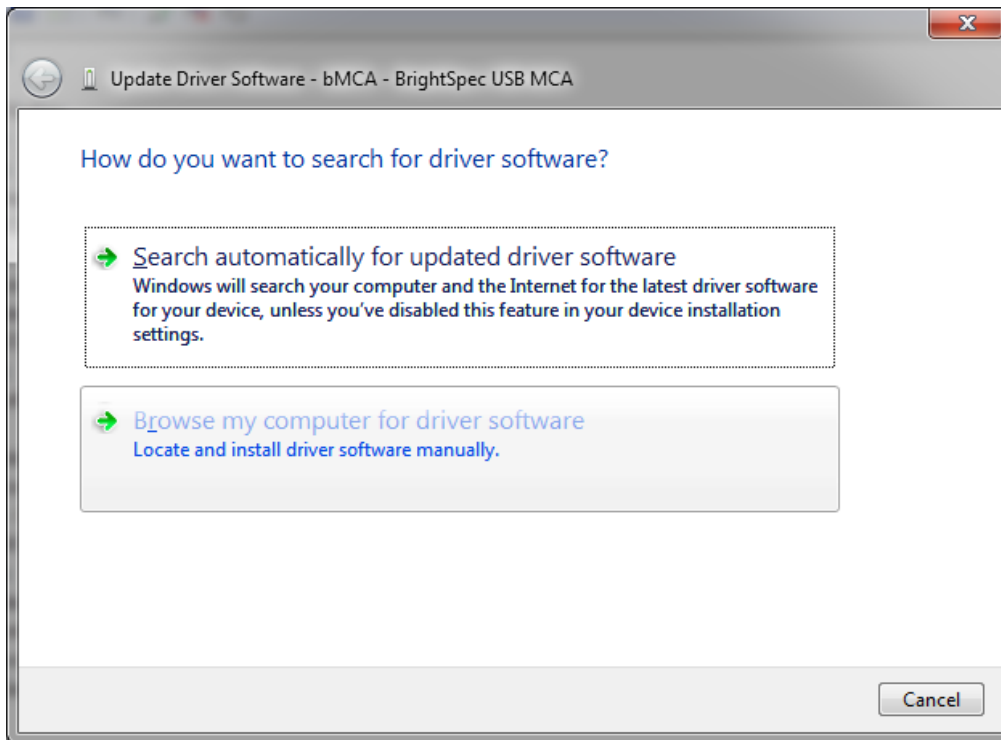
1. Connect the MCA USB device to the computer.
2. A 'Device driver software was not successfully installed' balloon appears:



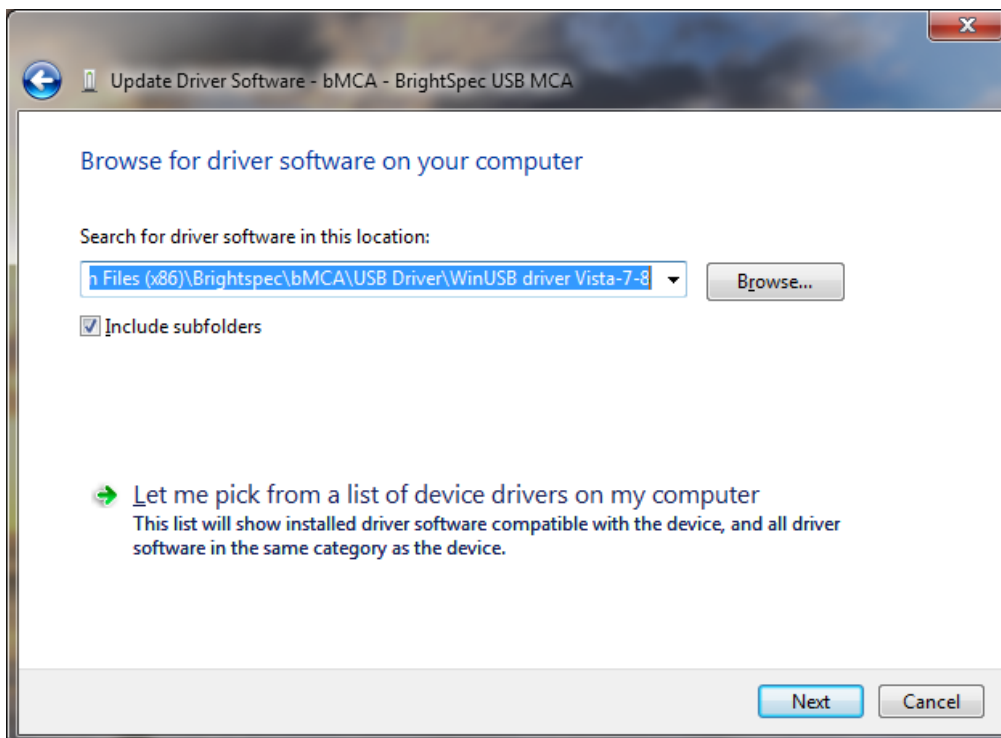
3. Go to 'Device Manager'. A device 'bMCA – BrightSpec USB MCA' is available under 'Other devices'. Right click on the device name and select 'Update driver software...' from the context menu:



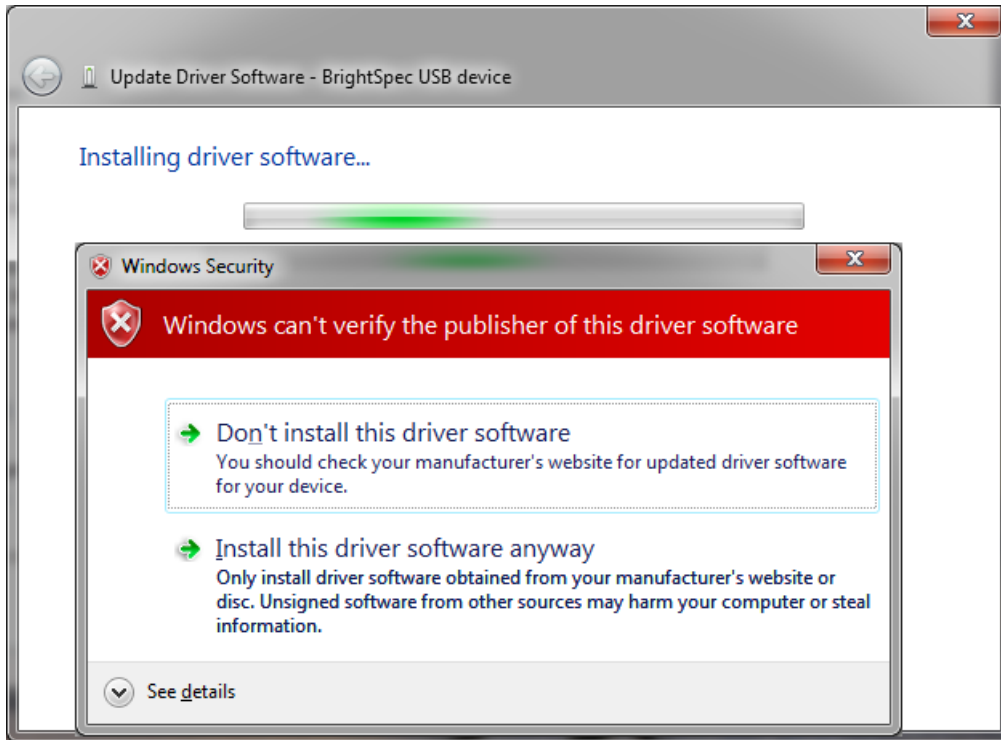
4. Select 'Browse my computer for driver software':



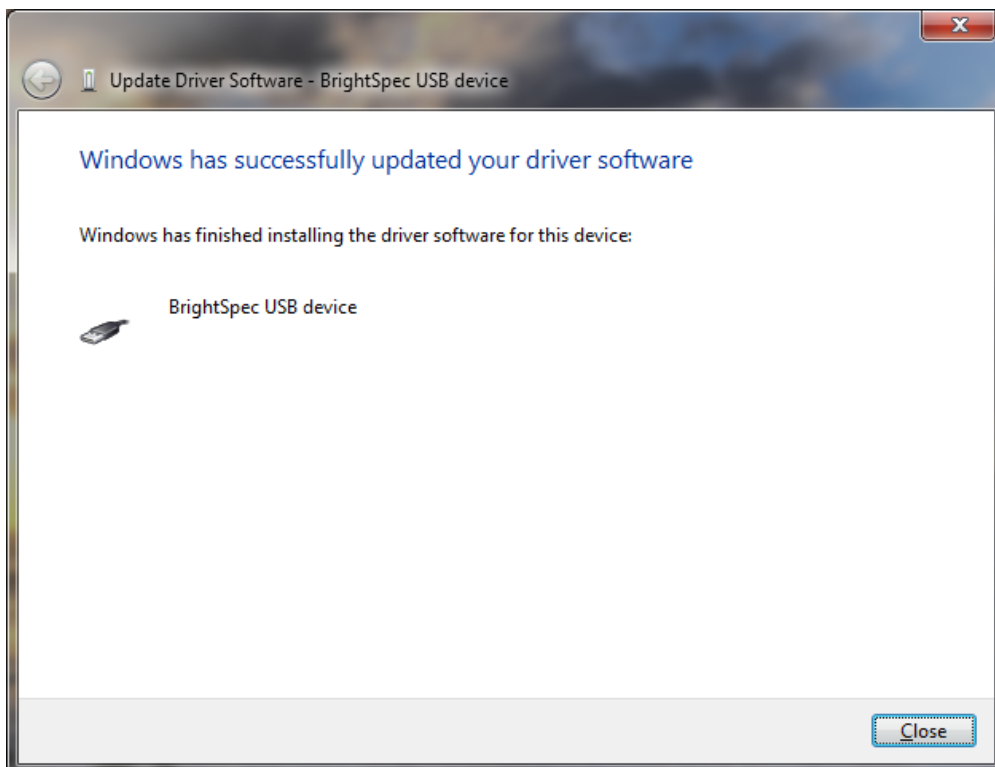
5. Click 'Browse' and select the directory where the drivers are located. Click Next:



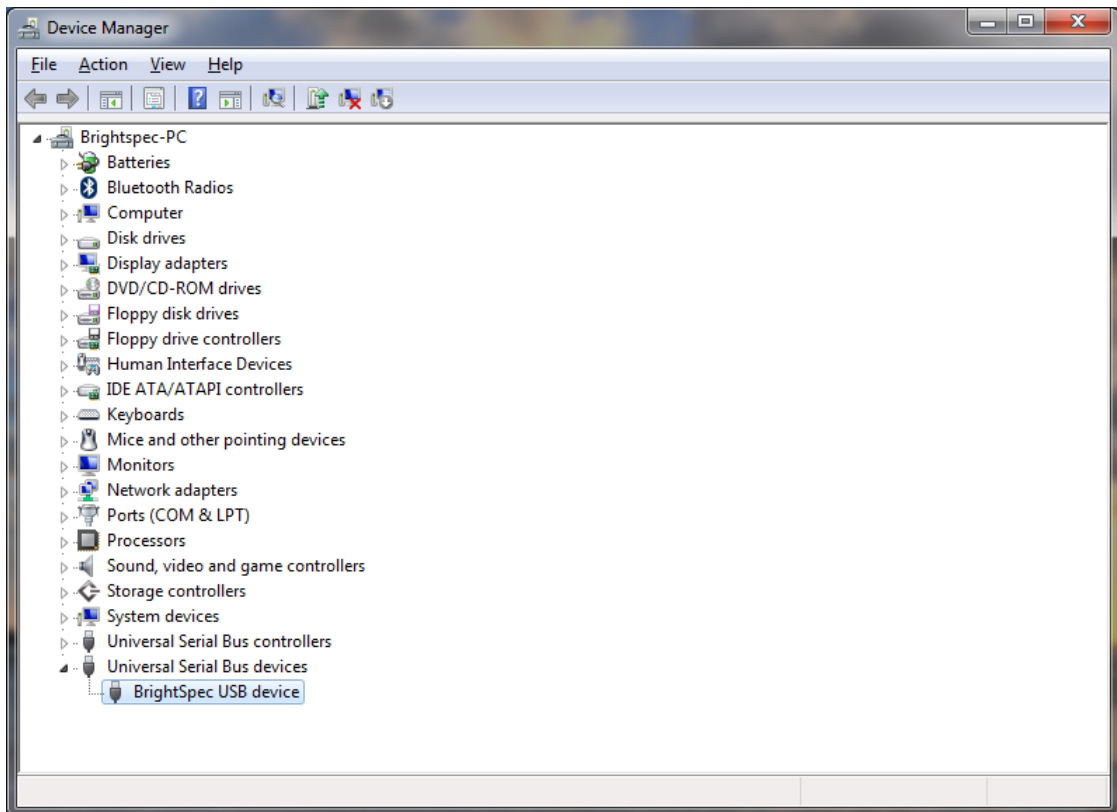
6. Driver installation begins. A window appears stating that the publisher of the driver can't be verified. Click 'Install this driver software anyway'. The installation continues:



7. The wizard finishes and shows the device being installed as a 'BrightSpec USB device':



8. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'bMCA - BrightSpec USB MCA':

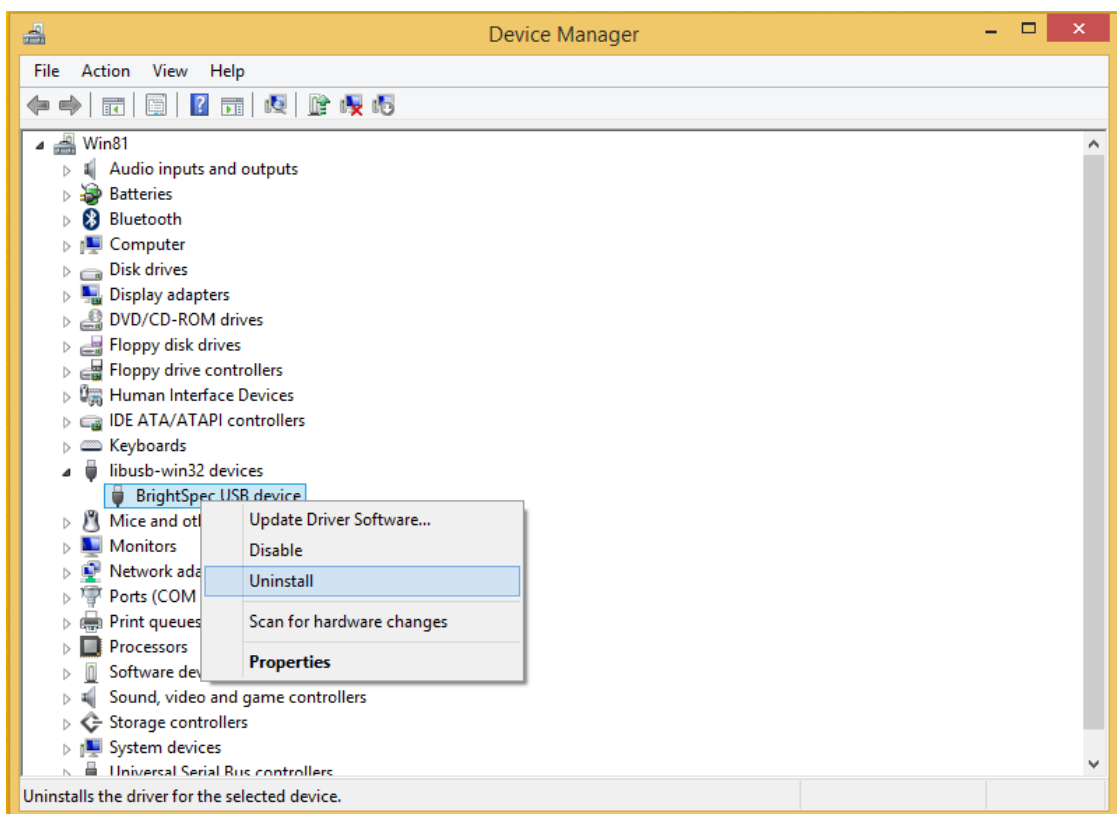


V. DRIVER UPGRADE FOR WINDOWS 8

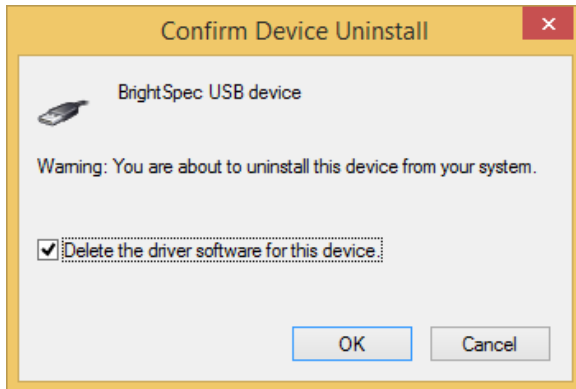
Uninstalling the old USB driver

Before proceeding to install the new BrightSpec USB driver we need to ensure first that the old drivers are removed:

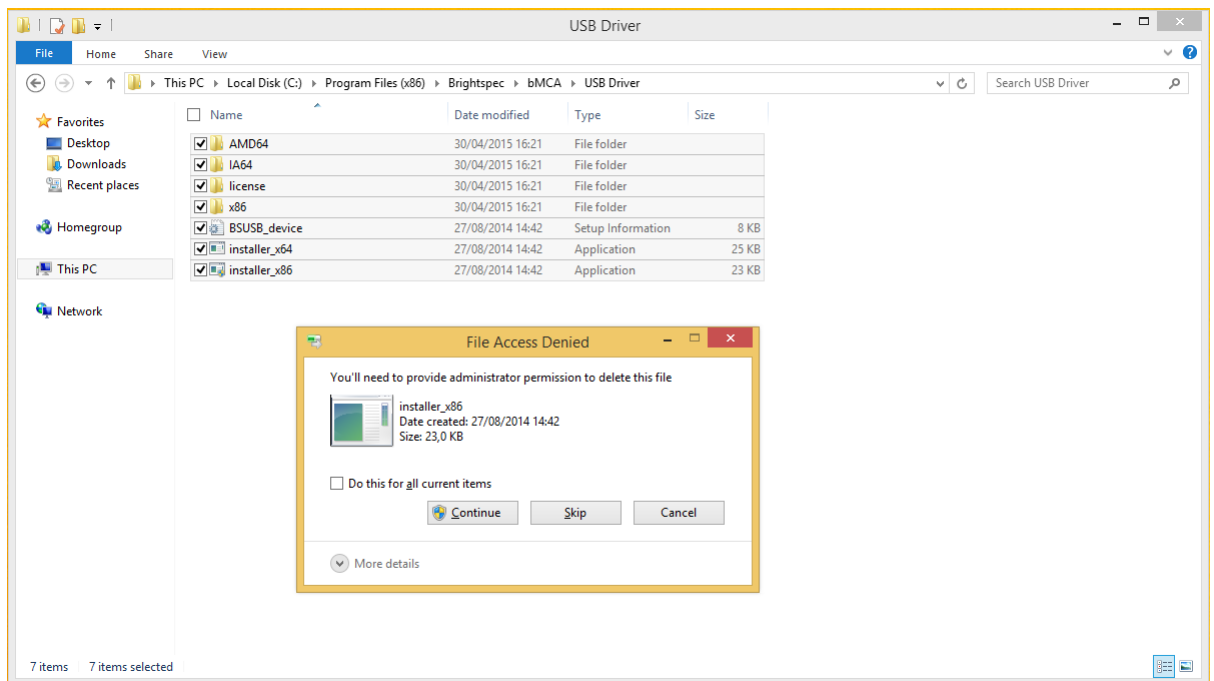
1. Make sure the MCA USB device is connected to the computer.
2. Go to 'Device Manager'. Find the entry 'BrightSpec USB device' under 'libusb-win32 devices' and right-click on it. Select 'Uninstall' from the context menu:



3. Make sure the 'Delete the driver software for this device' checkbox is checked. Click 'OK' to complete the device removal:



4. Care must also be taken to ensure that all locations which still contain old driver files are removed or renamed. If an old driver was installed once on a Windows system, the OS may keep trying to use those drivers even if the user doesn't want that. Removing or renaming folders and/or files that were used *at least once* for the driver installation fixes this:



5. After removing the old drivers, disconnect and reconnect the USB device. Follow the steps listed in the following section to install the new drivers.

Installation of the new USB driver

The installation of the new USB driver for Windows 8 is different depending on the MCA device used during the process.

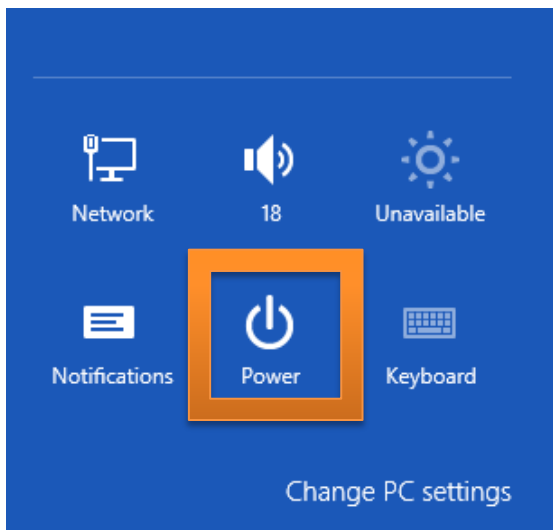
Older devices with original firmware (without MS descriptors)

These include bPAD, bMCA-USB and Topaz-Pico devices made before January 2016.

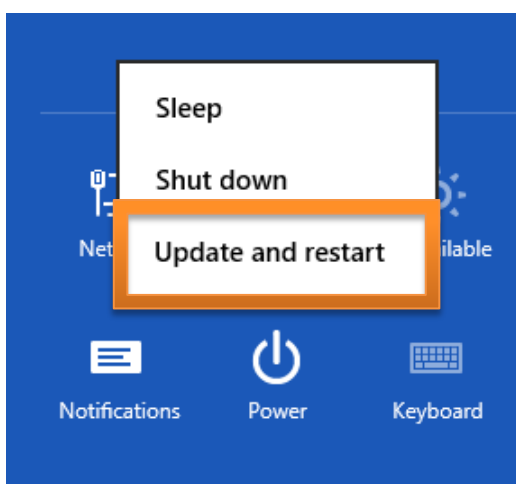
Disabling Windows 8 driver enforcement option

The installation the new device driver might fail under Windows 8 due to its restrictive policy regarding the installation of third party drivers (*.INF files) that do not contain a digital signature. Therefore, in order to proceed with the BrightSpec USB driver installation you must disable first the Windows 8 *driver signature enforcement* option:

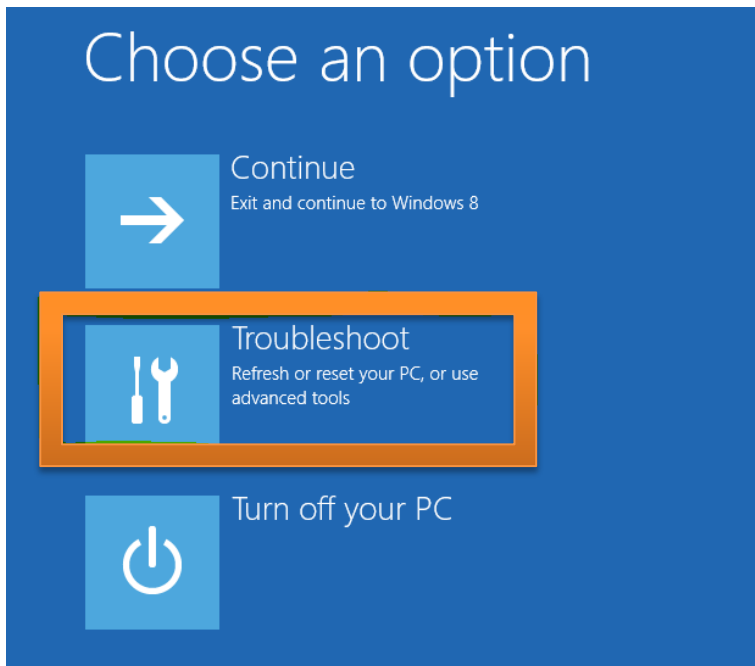
1. Using the PC Settings, press the SHIFT key while clicking on the Restart menu option 'Power':



2. Click on 'Update and restart':



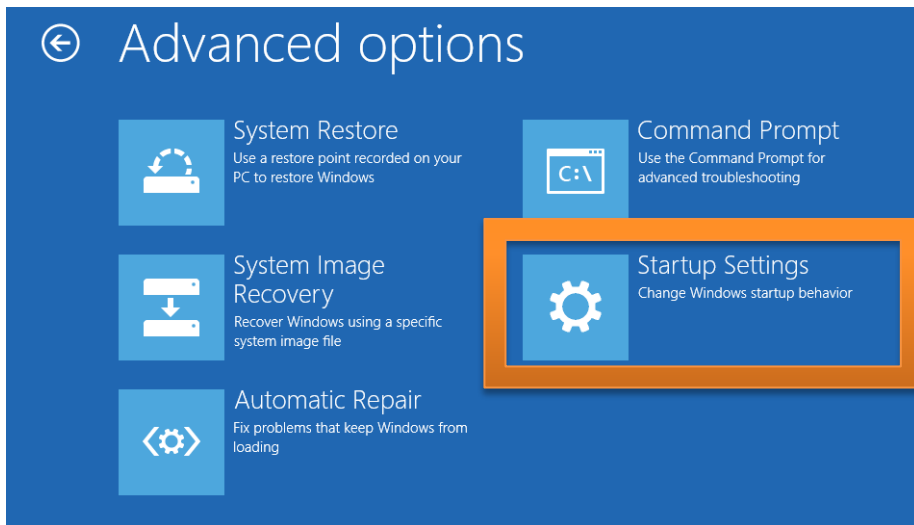
3. Choose the option 'Troubleshoot' in the screen that appears:



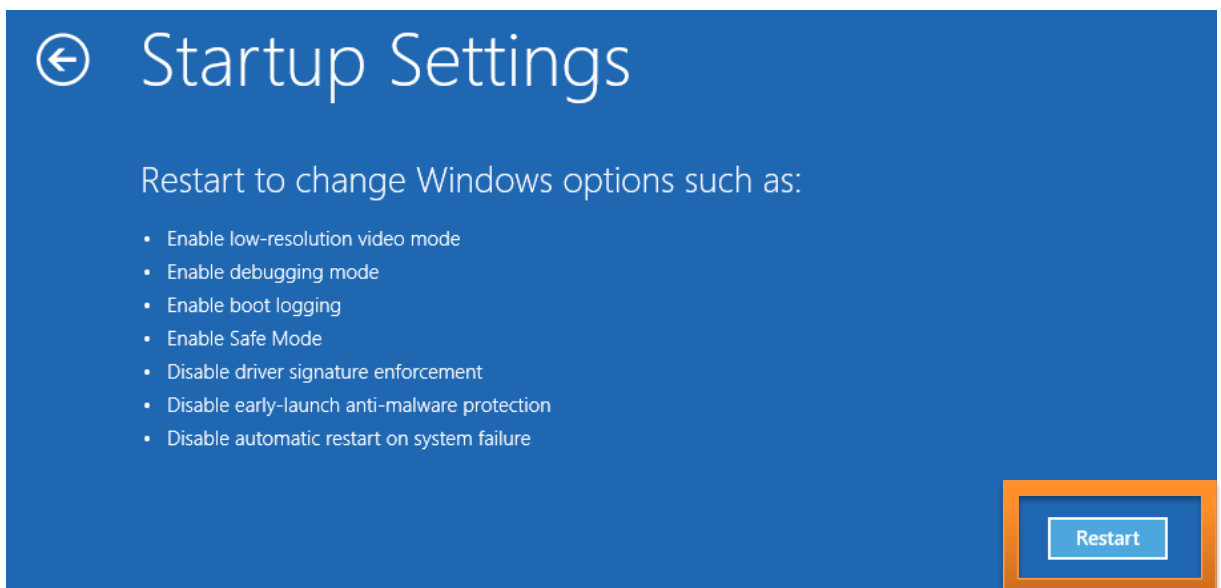
4. From the 'Troubleshoot' menu choose 'Advanced options':



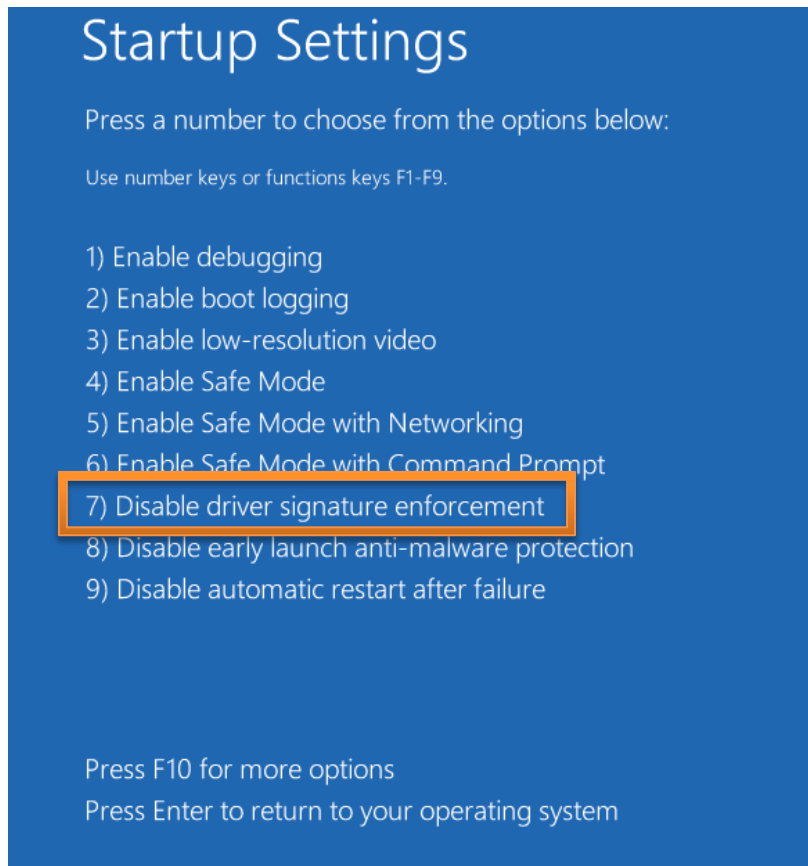
5. From 'Advanced options' select 'Startup Settings':



6. In 'Startup Settings' click on the 'Restart' button:



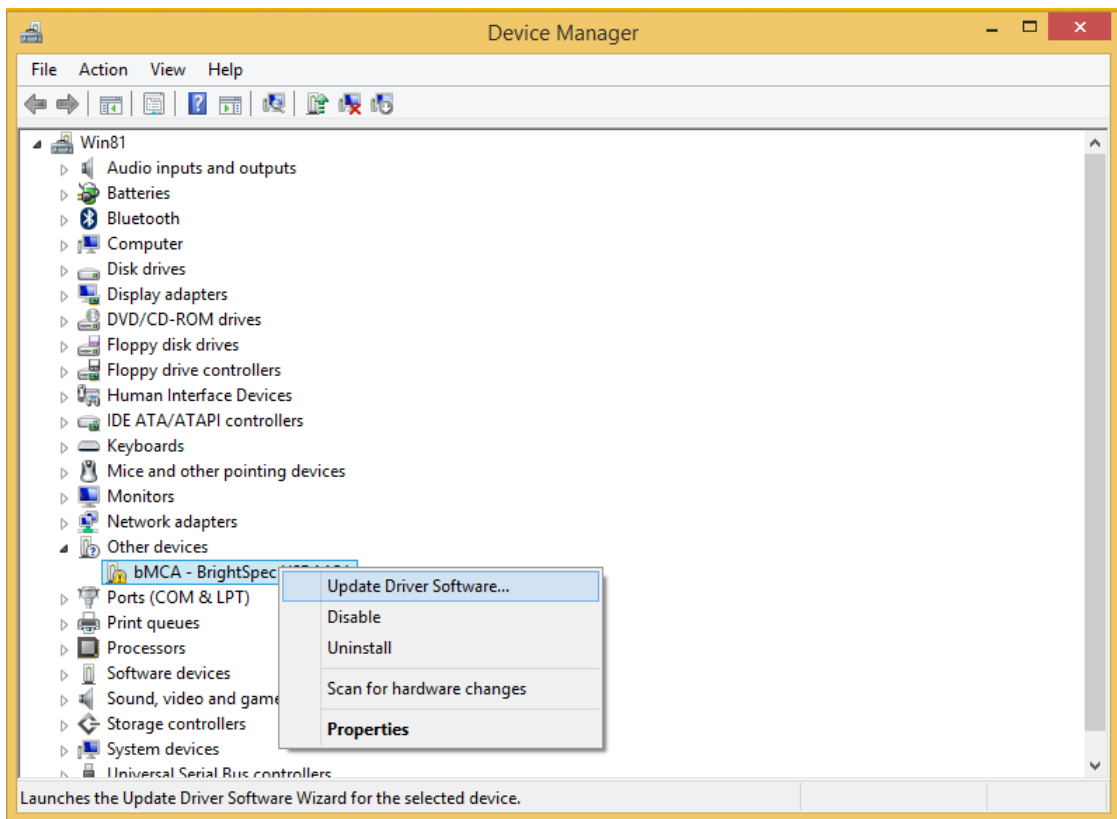
7. From the next boot screen, select option 7 'Disable driver signature enforcement' by pressing 'F7' on the keyboard:



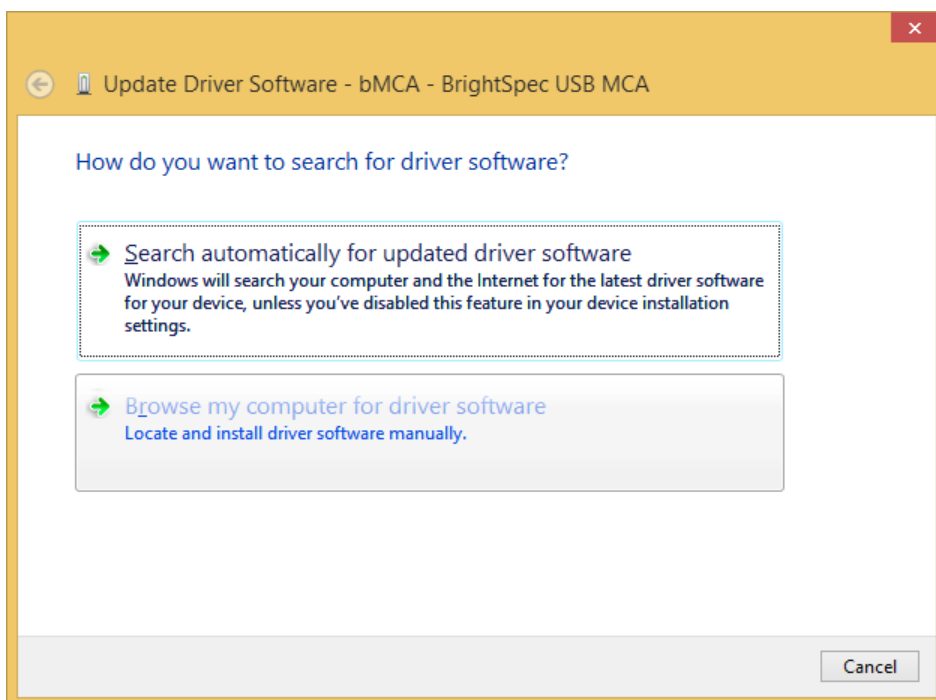
Once the driver signature enforcement has been disabled, the driver installation should proceed normally by following the steps listed below:

1. Connect the MCA USB device to the computer.
2. The OS makes a sound meaning that the new hardware was recognized.

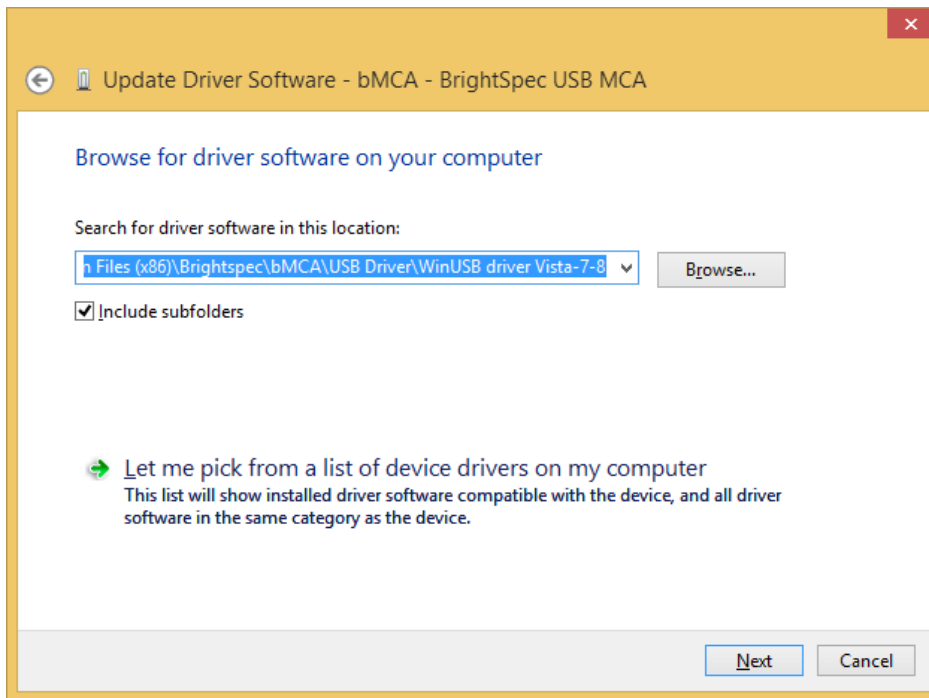
3. Go to 'Device Manager'. A device 'bMCA – BrightSpec USB MCA' is available under 'Other devices'. Right click the on the device name and select 'Update driver software...' from the context menu:



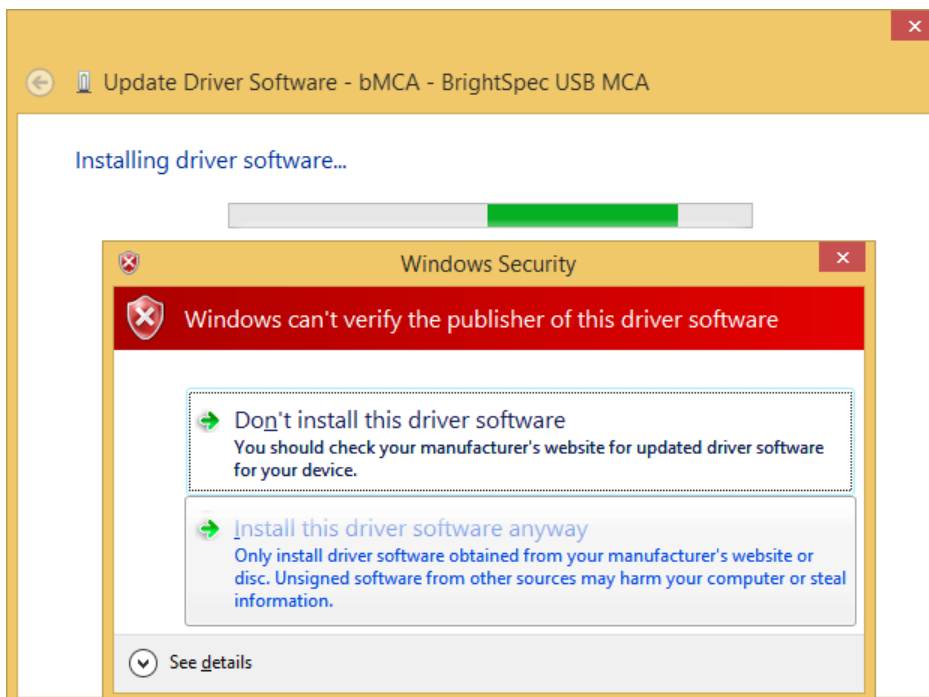
4. Select 'Browse my computer for driver software':



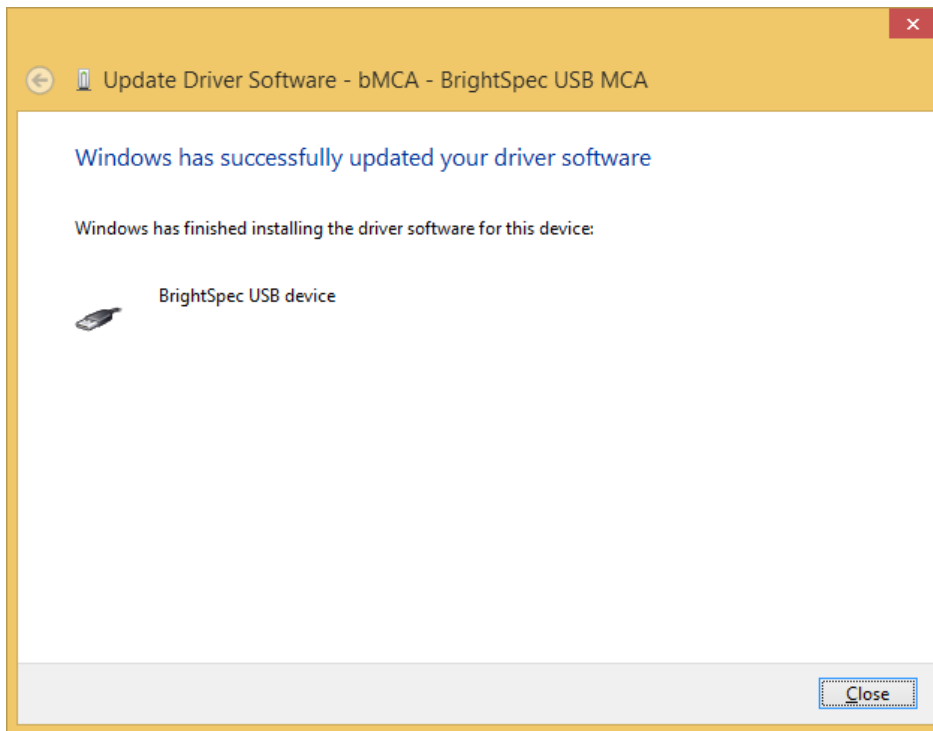
5. Click 'Browse' and select the directory where the drivers are located. Click Next:



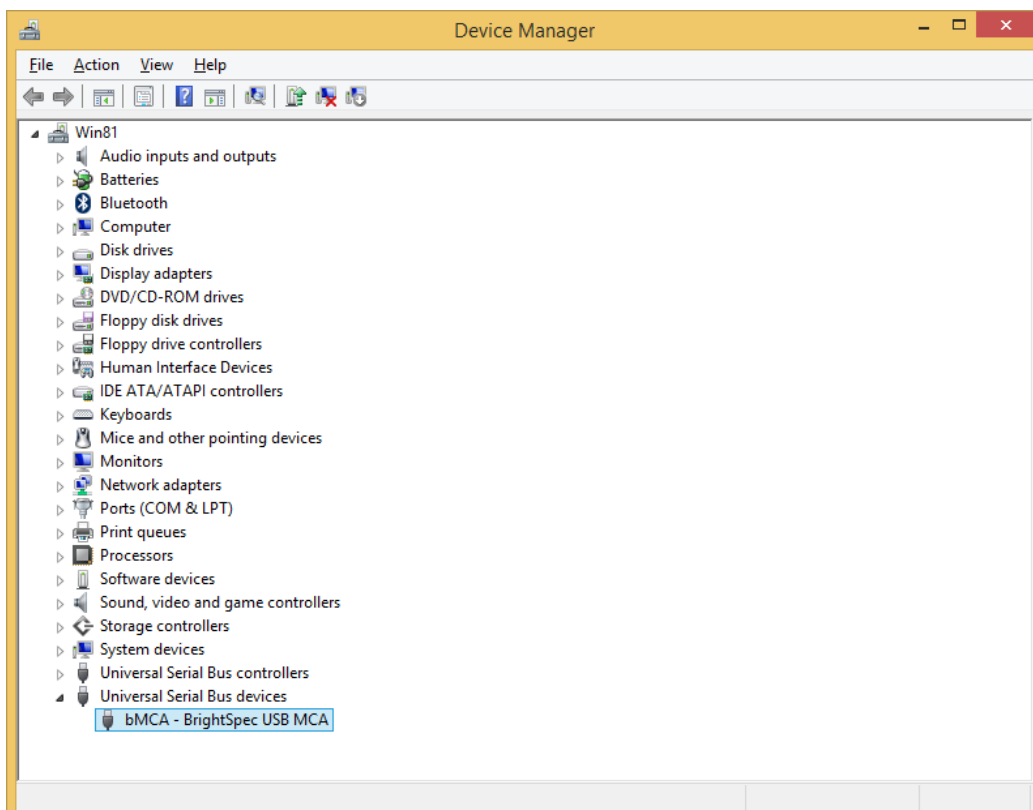
6. Driver installation begins. A window appears stating that the publisher of the driver can't be verified. Click 'Install this driver software anyway'. The installation continues:



7. The wizard finishes and shows the device being installed as a 'bMCA - BrightSpec USB device':



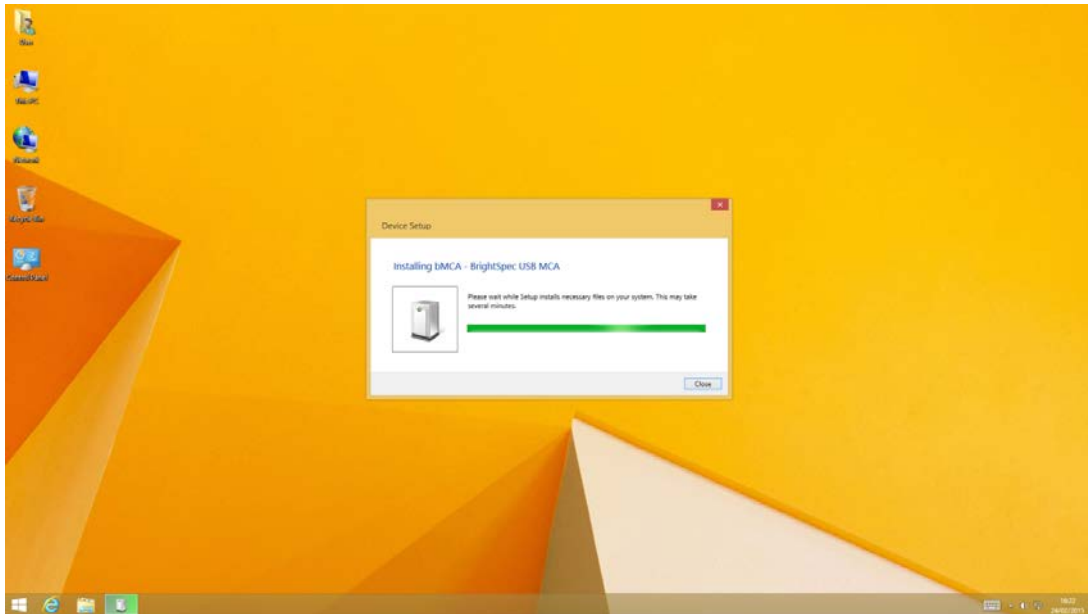
8. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'bMCA - BrightSpec USB MCA':



Later devices with new firmware (with MS descriptors)

On Windows 8 the driver installation for MCAs with newer firmware (Topaz-X and Topaz-HR series) is done completely automatic. No user intervention is required:

1. Connect the MCA USB device to the computer.
2. Windows automatically installs the driver for the connected MCA:



3. The bMCA appears in 'Device Manager' under 'Universal Serial Bus devices' as a 'bMCA – BrightSpec USB MCA':

