

# Bluetooth troubleshooting for QC20-W ballbar and XR20-W rotary axis calibrator

## Bluetooth communications

### ***How do I choose a USB dongle for my device?***

1. Check the packaging – dongles that refer to Widcomm, Broadcomm or Blue Soleil may be more difficult to set up as they are designed for operation with their own stack.
2. If a dongle is packaged without any software, it may have been designed to use the Microsoft stack so will stand the best chance of working 'out of the box' with RotaryXL or Ballbar 20 software.

### ***Why is the Bluetooth range on my XR20-W or QC20-W poor?***

The wireless range is determined by the Bluetooth device in the XR20-W / QC20-W and the dongle or onboard device in the PC. The 'Class 2' device in the XR20-W / QC20-W has a specified range of 10 metres. This 'specified range' describes the expected performance when XR20-W / QC20-W is used in a 'good environment', i.e. when there is minimal interference with the Bluetooth radio signal between the XR20-W / QC20-W and the dongle/PC.

Physical obstructions to the wireless path will affect the Bluetooth range. Machine guards and even the PC itself can block Bluetooth signal. The worst materials for Bluetooth transmission are fibrous materials such as office partitions and liquids (the human body being a good screen)

It is good practice to have the dongle pointing towards the XR20-W / QC20-W wherever possible. One solution if experiencing loss of communication or poor Bluetooth range is to plug the dongle into a USB extension cable. This can then be placed closer to the XR20-W or better still, positioned over the top of machine guards.

### ***How do I check if I have the Microsoft stack installed?***

1. Click on the start menu and select 'Control panel'
2. In the control panel select the 'System' icon
3. The system properties window will then appear with multiple tabs along the top
4. Click on the 'Hardware' tab and then click on the 'Device manager' button
5. If the device list shows 'Generic Bluetooth Radio' and 'Microsoft Bluetooth Enumerator' then your PC is both Bluetooth capable and has the Microsoft stack installed.

### ***XR20-W / QC20-W Bluetooth is stated as Class 2, but Bluetooth dongles are available in versions 2.0 and 2.1 - which should I use with XR20-W / QC20-W?***

There are two specifications for Bluetooth devices - 'class' and 'standard'

#### **Class**

There are three Classes: 1, 2 and 3. They specify the radio power with 1 being the most powerful with up to 100 metres range. XR20-W / QC20-W are Class 2 devices, i.e. 10 metres. Class 3 is very weak - 1 or 2 metres, used for keyboards etc. We can use a Class 1 or Class 2 device on the PC side, however class 3 is not suitable.

#### **Standard**

Standard is a version of the protocol that the Bluetooth device is running. The XR20-W / QC20-W is fully compatible with 1.2, 2.0, 2.1. They not compatible with 3.0.

Any of these standards can be Class 1 or 2 or 3.

***Will XR20-W / QC20-W work with the older v1.2 Bluetooth standard?***

It will work with any existing class of Bluetooth device. However there are enhancements with each class released and so in marginal applications you will see a degradation in performance if using an earlier version e.g. 1.2 dongle.

***I have an internal Bluetooth device on my PC - do I need a dongle?***

This depends on the type of Bluetooth device in your PC. RotaryXL / Ballbar 20 software will only work with devices using the Microsoft stack (a type of device driver). If your device cannot use the Microsoft stack, then yes, you will still need a dongle. In some cases it is possible to switch the device to use the Microsoft Bluetooth stack. For more information visit the support site of the PC manufacturer.

***Can I use my XR20-W / QC20-W with a Bluetooth mobile phone?***

No, you need to install RotaryXL / Ballbar 20 software to communicate with the XR20-W / QC20-W.

***I have installed the CD that came with my Bluetooth dongle and now my XR20-W / QC20-W doesn't work?***

This is likely to be due to the CD that came with the dongle has installed it's own Bluetooth stack (software drivers) which is not compatible with the RotaryXL / Ballbar20 software. To solve this you must uninstall the incompatible stack by following the steps below:

1. Unplug the Bluetooth dongle from the PC
2. Click on the start menu and select 'Control Panel'
3. Select 'Add or Remove Programs' and uninstall the non-Microsoft Bluetooth stack (eg: Toshiba)
4. Remove the CD from the disk drive and restart the PC
5. Check the Microsoft stack is now active by again opening the Control Panel
6. In the Control Panel select the 'System' icon
7. The system properties window will then appear with multiple tabs at the top of the frame.
8. Click on the 'hardware' tab and then click on the 'device manager' button
9. If the device list shows 'Generic Bluetooth Radio' and 'Microsoft Bluetooth Enumerator' then your PC is both Bluetooth capable and has the Microsoft stack installed.
10. Plug the USB dongle into a different USB port (as additional measure) and run RotaryXL software For more information on this subject read our [Introduction to Bluetooth](#) application note.

***The use of Bluetooth devices is controlled in some countries, where can I use the XR20-W / QC20-W?***

In many territories, devices which use the radio frequencies used by Bluetooth are exempt from many of the normal regulations covering radio devices, whilst for others, specific approval is required.

Please refer to the following support documents for up to date information on the compliance of XR20-W / QC20-W use:

[Support document: Compliance of QC20-W ballbar with radio device regulations](#)

[Support document: Compliance of XR20-W rotary axis calibrator with radio device regulations](#)

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