Quick Setup: Getting started with your Xbus Master

Please, read these instructions before installing and using your Xbus Master for the first time.

Contents Xbus Master Kit

The Xbus Master Development Kit contains the following items:

- **Xbus Master**
- MTx miniature inertial measurement unit(s)
- Xbus Master USB-RS232 serial data cable
- Xbus cable(s)
- Wireless Receiver (WR-A)
- 4x AA type batteries
- 12 VDC Power adapter
- a copy of the Xbus Master User Manual
- a copy of the MTx and MTi User Manual and Technical Documentation
- MT Software Development Kit CD-ROM
- **A letter with your individual software license code**
- This Xbus Master Quick Setup sheet

The following pages describe the installation steps for software, hardware, Bluetooth module and finally the first time use.

Step 1: Software Setup

NOTE: Do not connect your Xsens XM USB-RS232 serial cable, Wireless Receiver (WR-A) or Bluetooth USB Adaptor until you have completed the software install procedure detailed below.

- Use the CD to run the **MT SDK Installer** (setup.exe) as a user with **'Administrator'** or **'Power User'** rights if you install on Windows NT/2000/XP/Vista. During installation, you will be asked for your **individual registration number**, which can be found in the letter accompanying the product.
- The Installer will also install the drivers for the **Xsens USB-serial Converter.**
- The installer will also install the MATLAB Component Runtime (MCR), which is only needed for the Xsens Magnetic Field Mapper Software. It is advised you install the MCR when indicated. A dialog as shown below will guide you through the process.
- After completing “Step 2: Hardware Setup” we advise to run the “MT Manager”, see “Step 3: First Use”**.**

Step 2: Hardware Setup

NOTE*: By factory default, the Xbus Master uses either the serial cable or the WR-A to connect to the PC. To use a generic Bluetooth wireless connection, please refer to the Xbus Master User Manual.*

Using the USB-serial cable

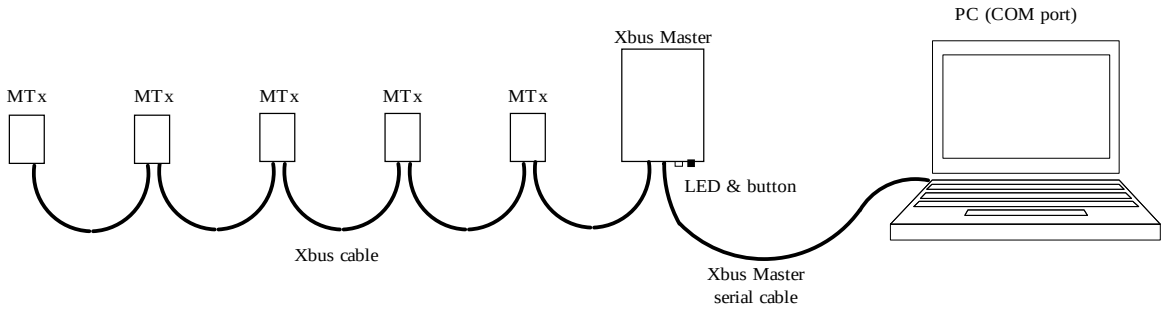
- Open the battery compartment of the Xbus Master and insert the batteries
- Connect your Xbus Master with the **XM USB-RS232 serial cable** to a free PC USB slot (USB 1.1 or higher, preferably not through a hub).
- The Xsens USB-serial cable requires 2 drivers to be installed. The following devices will be installed:

1. Xsens USB-serial converter
2. Xsens Virtual COM port

- After connecting the Xsens USB Converter to the PC, Windows will detect and install the necessary drivers. Xsens drivers are WHQL certified and will be installed automatically:

- Wait while Windows installs the necessary drivers.

- Now the Xsens XM USB-RS232 serial cable is ready for use.
- Connect your Motion Tracker(s) with the Xbus cable(s) to Xbus Master
- Your setup must be according to the figure below
- Press the Xbus Master button once to turn the device ON (LED flashes)
    - ***To turn OFF your Xbus Master, press the button 3 times in sequence***
- Now run the MT Software to try your setup (see; Step 4)



Using the WR-A

- Connect the WR-A with the cable to a free PC USB port (USB 1.1 or higher)
- After connecting the wireless receiver to your computer, you will see a notification 'Found New Hardware' in your System Tray Toolbar and the drivers will automatically be installed. Xsens drivers are WHQL certified and will be installed automatically.

- Now the wireless receiver is ready for use.
- Please refer to the **Xbus Master User Manual** for further details on how to connect your Xbus Master to the PC using the WR-A.
    - Using a generic Bluetooth connection is also possible, please refer to the Xbus Master User Manual.

Step 3: First use

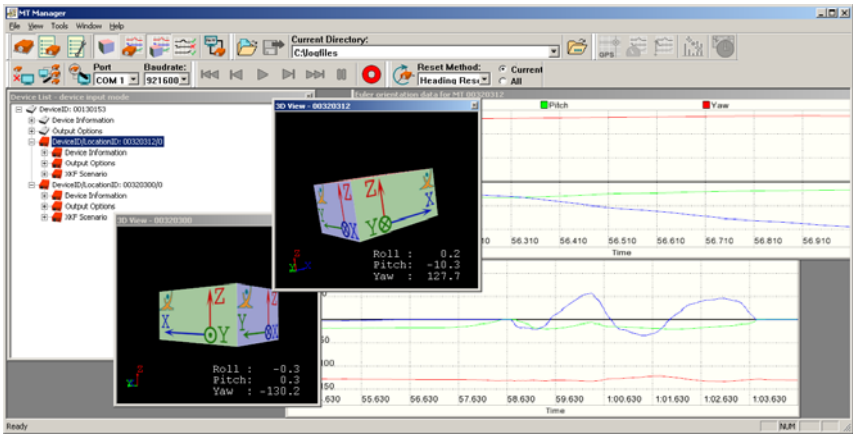
- Make sure that the Xbus Master is setup as described in Step 2. The LED should be flashing.
- The easiest way to check if the MTi or MTx is running and configured correctly is **to view the 3D representation[1] of the MotionTracker in the MT Manager.**

    ➔ Click the  icon

    ➔ The default output mode of the MT is Orientation:Quaternion, so you should see a 3D representation of the MT.

    ➔ You can change Output Mode in the Device List window, or access advanced Output Setting in the "MT Settings" Tool. Click  to access.

- When you have set the 3D view and output options to your satisfaction, use **'Record'** to start a measurement. The measurement will be logged in the "Current Directory".



Installed Documentations

For a quick reference on what to do next, please read the following:

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[1] Please make sure your PC's Graphics Card meets the requirements for 3D graphical output (refer to System Requirements in the **MT Manager Manual**).

Getting Started with the MT Manager

The easiest way to get started with your Xbus Master and MTx is to use the **MT Manager**. This easy-to-use software with familiar Windows user interface lets you view 3D orientation in real-time, view 2D plots of inertial data. You can also export logged MT binary data files (.MTB) to ASCII files. Further the MT Manager lets you, change and view various device settings and properties. It is an easy way to get to know and to demonstrate the capabilities of the MTx.

Interface through COM-object API or DLL API

If you want to develop a Windows software application that uses your Xbus Master and MTx you can consider using the COM-object API (XsensCMT.DLL) or interface directly with the DLL. XsensCMT.DLL provides easy-to-use function calls to obtain data from the sensor or to change settings. The DLL takes care of the hardware communication interfacing and it is an easy way to get (soft) real-time data access.

Using the COM-object API is typically preferred when you want to access the MT's capabilities directly in application software such as MATLAB, LabVIEW, Excel (Visual Basic), etc. (examples included in MT SDK). Both polling and events based methods are supported.

Using the DLL API is typically preferred when you are using programming languages such as C, C++, etc.

Direct low-level communication with the Xbus Master

Direct interfacing with the Xbus Master (over RS-232, Bluetooth SPP) is the natural choice if you are looking for full-control, maximum flexibility and/or have hard real-time performance requirements. The MT's low power embedded DSP does all the calculations/calibration, you just retrieve the data from the serial communication interface using the MT binary communication protocol using with streaming (free-running) mode or polling mode.

This part is made easy for you by the inclusion of the source code (C++) of the MT Communication protocol C++ class in the MT SDK (CMT.LIB and CMT source code). Example C/C++ application code should get you quickly started on your development platform of choice. The example code is tested on Linux as well.

*You will find links to all installed files in Windows **Start Menu → Programs → Xsens***

Support

If you have any questions and require support, please visit the support section on **http://www.xsens.com**. You can also contact us via e-mail on **support@xsens.com**, or telephone **+31 88 XSENS 00** (**+31 88 97367 00**) and ask for the Support Team.

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