

Firmware Updater Manual

MTi MkIV and MTw

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Xsens Technologies B.V.

Pantheon 6a P.O. Box 559 7500 AN Enschede The Netherlands

phone +31 (0)88 973 67 00 +31 (0)88 973 67 01 e-mail info@xsens.com internet www.xsens.com

fax

Xsens North America, Inc.

10557 Jefferson Blvd, Suite C CA-90232 Culver City USA

phone fax e-mail

310-481-1800 310-416-9044 info@xsens.com internet www.xsens.com



Revisions

Revision	Date	Ву	Changes
A	December 2008	PRI MMI	First version.
В	February 2009	PRI MMI	Added update for standalone MTs, Xbus Master, Xbus Master MTs and Xbus Kit
С	February 2009	HBE	Editorial changes
D	April 2009	HBE	Name change to MVN
E	May 2009	MHA	Added preferable mode Xbus system New corporate design
F	August 2009	PRI	Number of update options reduced to 3
G	October 2010	MHA	Minor editorial changes
Н	November 2011	СМО	Added update for MTw/Awinda System
Ι	7 May 2013	MHA	Updated for MT SW Suite 4.1.5

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1 Introduction

Using the Firmware Updater, it is possible to update the firmware of your Xsens product. Always follow the instructions given by the Firmware Updater very carefully.

NOTE: Do NOT run other programs while updating MT firmware. Do NOT run the Firmware Updater in a Windows emulation environment or virtual PC environment. Do NOT disconnect the device during an update in progress.



2 Firmware update overview

The following sub-sections show the steps needed to update the firmware of the current Xsens products as shown in the overview.

In section 3, a *detailed description* of how to update Xsens' products is given.

In the standard Firmware Updater, it is possible to update Standalone Motion Trackers, the Xbus Kit or MVN. These are also the recommended update procedures. For the update procedure of the Xbus Master and the Xbus Master Motion Trackers individually, refer to section **Error! Reference source ot found.** and go to <u>www.xsens.com/support</u>

Legend: U = User action S = Software action

2.1 MTi MkIV

- 1. U Select 'Standalone Motion Tracker' in firmware updater
- 2. U Select the COM port detection method (Auto-detect, or manual)
- 3. S Update Motion Tracker
- 4. U Disconnect and reconnect the Motion Tracker before using it.

2.2 MTw Development Kit

- 1. U Select 'Awinda System' in firmware updater
- 2. U Select the COM port detection method (Auto-detect, or manual)
- 3. S Update Awinda System



3 Firmware update details

NOTE: Do NOT run other programs while updating MT firmware. Do NOT run the Firmware Updater in a Windows emulation environment or virtual PC environment. Do NOT disconnect the device during an update in progress.

When updating the firmware in your device, please make sure to use the <u>latest Firmware</u> <u>Updater</u> (as part of the MT Software Suite or MVN), which are all available at our website <u>www.xsens.com</u>. Not using the latest Firmware Updater can render your sensor inoperable in which case the sensor may need to be returned to Xsens for recovery.

To start the Firmware Updater, go to Start \rightarrow All Programs \rightarrow Xsens \rightarrow MT Manager. In MT Manager, go to Tools Menu \rightarrow Firmware Updater...

3.1 MTi MkIV

Select "Standalone Motion Tracker", press "Next":

🙁 Xsens Firmware Updater		×	<u> </u>
Device Scheding	XS XS	ens	>
Update program for Xsens hardware. Please select the hardware you wish to update: Standalone Motion Tracker Xbus Kit MVN Awinda System	Update Information Motion Tracker: MkIV Motion Tracker: Xbus Master: Awinda:	v2.6.1 v1.2.8 v1.3.14 v1.1.6	
Previous Cancel		v2.5	.0

Ensure that the system is set up as the instructions detail. When this is the case, press "Next":



date Instructions	
date Instructions	ns
auto Institutions oupdate the Firmware of your Motion Tracker: Close all programs on your PC prior to starting the update and do not open any plications or files while the update is in process!! Have your Motion Tracker ready and connected to your PC. Lick Next. ternatively Make sure the Motion Tracker from the provided USB serial cable. Do NOT remove the USB serial cable from your PC. Click Next and de-select the auto-detect checkbox. revious Next Cancel M Port Selection Yress Next to detect updateable devices. ernatively Nesselect the 'Auto Detect' checkbox ielect the COM port at which the Xsens USB serial cable is connected and pres xt.	
bupdate the Firmware of your Motion Tracker: Close all programs on your PC prior to starting the update and do not open any plications or files while the update is in process!! Have your Motion Tracker ready and connected to your PC. Click Next. ternatively Make sure the Motion Tracker from the provided USB serial cable. Do NOT remove the USB serial cable from your PC. Click Next and de-select the auto-detect checkbox. Tevious Next Cancel M Port Selection Yress Next to detect updateable devices. ernatively Nesselect the 'Auto Detect' checkbox ielect the COM port at which the Xsens USB serial cable is connected and pres xt.	
Close all programs on your PC prior to starting the update and do not open any optications or files while the update is in process!! Have your Motion Tracker ready and connected to your PC. Click Next. ternatively Make sure the Motion Tracker baudrate is set to 115k2 (default). Disconnect the Motion Tracker from the provided USB serial cable. Do NOT remove the USB serial cable from your PC. Click Next and de-select the auto-detect checkbox. Tervious Next Cancel ens Firmware Updater M Port Selection M Port Selection M Port Select the devices. ernatively Ne-select the Yauto Detect' checkbox ielect the COM port at which the Xsens USB serial cable is connected and pres xt. Auto Detect DM 15 I	
Aave your Motion Tracker ready and connected to your PC. Click Next. ternatively • Make sure the Motion Tracker baudrate is set to 115k2 (default). • Disconnect the Motion Tracker from the provided USB serial cable. Do NOT reaves the USB serial cable from your PC. • Click Next and de-select the auto-detect checkbox. • Mext • Cancel • M Port Selection • Yess Next to detect updateable devices. • ernatively Ne-select the 'Auto Detect' checkbox • elect the COM port at which the Xsens USB serial cable is connected and present. • Auto Detect • M 15	
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De-select the 'Auto Detect' checkbox Select the COM port at which the Xsens USB serial cable is connected and pres ext. Auto Detect	
Auto Detect	8
0M 15 🗾 😢	
21600	

Press "Next" or manually select a COM port number where a device configured at 115k2 has been attached.

Note: If the Firmware Updater does not find a Motion Tracker attached during an auto detect, it does help to manually select the COM port number. For the COM port number, connect your Motion Tracker and read out the COM port number in the Device list.



Wait while the software is scanning for your Motion Tracker:

	烤 xsens
Scanning	
Previous Next Ca	ancel v2.5.



An overview is shown of all detected hardware. If one Motion Tracker was found, the "Next" button is enabled. If no hardware was found, the previous dialog is shown again. Click "Next":

Devices Dverview MTi-G-700-2A8G4 DeviceID=0770005A Firmware Revision=1.2.8 Hardware Revision=1.0	Press 'Next' to start the firmware update process for your attached Motion Tracker.	2

...then press "Update" to start the actual upgrading:

		😫 xsens
Ready to Upda	e	
Ready To Upo Press ''Update	ate Motion Tracker Firmware '' to begin the update process	
IDo NOT ope	n any applications or files while	the update is in process!!
!!DoNOT turn	off or unplug your device during	g the update procedure!!
Restart	Update Can	icel J

Important: Do NOT turn off or unplug your device during the update!



Now the firmware of the Motion Tracker will be updated. First the filter setting profiles...

11-1-2		
Updating		
Updating firmware	for	
MTi-G-700		
From v1.2.8 T	o v 1.2.8	
	SN: 0770005A (1 of 1)	
		Writing scenarios
		Updating device(s)
Do NOT turn off or	unplug your device!!!	

Then the MT Settings...

Xsens Firmware Updater	
	≍ xsens
Updating	
Updating firmware for	
MTi-G-700	
From v1.2.8 To v1.2.8	
SN: 0770005A (1 of 1)	
	Writing MT Settings
	Updating device(s)
Do NOT turn off or unplug your device!!!	
10 A2 107	
Restart Update Cancel	



And finally the firmware of the attached Motion Tracker.

Updating		
Updating firmv	vare for	
MTi-G-700		
From v1.2.8	To v 1.2.8	
	SN: 0770005A (1 of 1)	
		Writing firmware
		Updating device(s)
Do NOT turn	off or unplug your device!!!	

When all Motion Trackers have been updated, baud rate, location ID, alignment matrix and magnetic field mapper results are restored:

Xsens Firmwar	e Updater			×
		1	X 56	בחי
11-4-6				
opoaung				
Updating firmwa	are for			
MTi-G-700				
From v1.2.8	To v 1.2.8			
	SN: 07	70005A (1 of 1)		
			Writing done	
			Restoring settings	
Do NOT turn of	f or upplug your d	eviceIII		
Dontor tamor	r or anplag your a	C NGC:::		
	-		-1	
Restart	Update	Cancel		v2.5.



Upon successful update, press "Finish" to conclude the Firmware Update.

Xsens Firmware Updater		
	🔀 xsens	
Done	<u> </u>	
Firmware update successful		
Disconnect your Motion Tracker before using it.		
Bestart Update Finish		



When you receive an error (see below), try to run the Firmware Updater again.

Xsens Firmware U	odater	
	6	xsens
Failed	×	ABCIT
Update Failed		
Reason:	Error code 19 (Device	eld 0770005A)
Please contact http	://www.xsens.com/support	
- 1 T		

When an error occurred, it can happen that the firmware in the device is a rescue firmware (version 255.0.x):

	🦱 X56	112
Updating		
Updating firmware for		
MTi-G-700		
From v255.0.6 To v 1.2.8		
SN	0770005A (1 of 1)	
	Writing firmware	
	Updating device(s)	
Do NOT turn off or unplug yo	r device!!!	

If the problem persists, please go to www.xsens.com/support.



3.3 MTw Development Kit

Select "Awinda System", press "Next":

Xsens Firmware Updater			
	xs	en	S
Device Selection			
Update program for Xsens hardware. Please select the hardware you wish to update: C Standalone Motion Tracker C Xbus Kit C MVN	– Update Information	1	
 Awinda System 	Xbus Master: Motion Tracker: Awinda:	v1.3.14 v2.6.1 v1.0.4	
Previous Next Cancel			v2.4.5

Ensure that the system is set up as the instructions detail. When this is the case, press "Next":

Xsens Firmware Updater	
Xsen:	S
Update Instructions	
To update the your Awinda system:	
!! Close all programs and do not open any applications or files while the update is in process!!	
 Have your Awinda system ready. Connect using power adapter. Place the MTw(s) to update in the Awinda station. Click Next. 	
Previous Cancel	/2.4.5



Press "Next" or manually select the appropriate COM port number.

Xsens Firmware Updater
🔀 xsens
COM Port Selection
Press Next to detect updateable devices.
alternatively
 De-select the 'Auto Detect' checkbox Select the CDM port at which the Xsens USB serial cable is connected and press Next.
🔽 Auto Detect
COM 1 💌 🖂
921600 🔽
Previous Next Cancel v2.4.5

Note: Usually selecting AutoDetect is sufficient. However, if the Firmware Updater does not find a component of the Awinda System, manually select the COM port number. To determine the appropriate COM port number, check the Device list.

Wait while the software is scanning for the Awinda System:

Xsens Firmware U	pdater		
		×s 🔀	ens
Scanning	Λ		
Previous	Next	Cancel	v2.4.5



An overview is shown of all detected hardware. When hardware is detected, the "Next" button is enabled, however it is advised that the user checks that all hardware has been correctly detected. If no hardware was found, the previous dialog is shown again.

When all hardware that should be detected is on the list, click "Next":



...then press "Update" to start the firmware update:

Xsens Firmware Updater
🔀 xsens
Ready to Update
Ready To Update your Awinda system Press "Update" to begin the update process.
!!Do NOT open any applications or files while the update is in process!!
!!Do NOT turn off or unplug your device during the update procedure!!
Restart Update Cancel v2.4.5

Important: Do NOT turn off or unplug your device during the update!



First the firmware of the Awinda Dongle is updated.

Xsens Firmware Updater	
🔀 xsens	
Updating	
Updating firmware for	
Awinda Dongle	
From v1.0.6 To v1.0.6 SN: 00210080 (1 of 3)	
Writing firmware	
Total progress	
Do NDT turn off or unplug your device!!!	
Restart Update Cancel v2.4.5	

Then the Awinda Station

Xsens Firmware Updater	
🔀 xsen	S
Updating	
Updating firmware for	
Awinda Station	
From v1.0.4 To v1.0.4 SN: 00210080 (4 of 5)	
Writing firmware	
Updating Main device(s)	
Do NOT turn off or unplug your device!!!	
Restart Update Cancel	v2.4.5



And finally the firmware of the Motion Trackers

Xsens Firmware Updater
🔀 xsens
Updating
Updating firmware for
MTw
From v1.0.4 To v1.0.4
SN: 00340270 (1 of 5)
Writing firmware
Updating Main device(s)
Do NOT turn off or unplug your device!!!
Restart Update Cancel v2.4.5



4 Technical Support

Xsens Technologies B.V. is glad to help you with any questions you may have about the firmware updater or about the use of the technology for your application. Please contact Xsens' Support Team:

→ by e-mail: www.xsens.com/support
 → telephone: Xsens HQ +31 88 97367 00 / Xsens US office 310-481-1800

To be able to help you, please mention your **Firmware Updater version number** and **software license registration number** in your e-mail. In case of a Xsens MVN system please mention the **8digit number** on the Xsens Sticker, you can find this between the latches of the Suitcase.





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