LTI MapSmart (for Android) Interface to



GNSS Receivers

Quick Reference Guide



Overview

LTI's MapSmart is an application serving the mapping and GIS industry. In addition to a full interface to LTI's laser products/systems, it also easily supports input from Trimble GPS receivers through the use of Android Location Services*.

Compatible Trimble products

Software used

- R Series: 1,2,8,10
- Catalyst

- GNSS Status ver 3.0.x
- Mobile Manager ver 1.2.x
- MapSmart ver 4.x

Basic Steps

- Setup Android Device
- Connect Receiver to Device
 - R Series
 - Catalyst
- Configure MapSmart

*only position and basic satellite information is available





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Setup Android Device

Instead of routing the GPS data to a Bluetooth Serial Port, it can be sent to Location Services in an Android device. This makes it easily accessible to MapSmart's GPS interface.

- 1. Navigate to Settings / About tablet and locate the *Build number* option (Figure 1)
- 2. Repeatedly tap the value until you see the **Developer** message (Figure 2)
- 3. From the **Developer Options** screen, tap **Select mock location app** and pick the
 - a) **GNSS Status** app from the list for the R Series products (Figure 3)
 - b) Trimble Mobile Manager app for the Catalyst product
- 4. Confirm the selection and then back out of the **Settings** menu (Figure 4)

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← About tablet	← About tablet	← Developer options		← Developer options	
System Upgrade	System Upgrade	On		On	•
Status Status of the battery, network, and other information	Status Status of the battery, network, and other information	OEM unlocking Allow the bootloader to be unlocked	•	OEM unlocking Allow the bootloader to be unlocked	
Legal information	Legal information	Running services View and control currently running services		Running services View and control currently running services	
Model number CT7G	Model number CT7G	Debugging		Debugging	
Android version 6.0	Android version 6.0	Select application		USB debugging Debug mode when USB is connected	
Android security patch level	Android security patch level	Nothing		Revoke USB debugging authorizations	
July 1, 2016	July 1, 2016	FM Radio		Bug report shortcut Show a button in the power menu for taking a bug report	
Baseband version MOLY.LR9.W1444.MD.LWTG.MP.V79.P15, 2016/08/08 10:16	Baseband version MOLY.LR9.W1444.MD.LWTG.MP.V79.P15, 2016/08/08 10:16	com.android.fmradio		Salat	
Kernel version		GNSS Status com.trimble.mcs.gnssstatus		Mock location app: GNSS Status	
3.18.19 tyd@tyd-H97-HD3 #1	You are now a developer!	Enable view attribute inspection	-	Enable view attribute inspection	
Perior number HV28 NFC SUS2 & 0227 V1.01	Build number HV28 NEC SUSZ & 0927 V1 01	Select debug app No debug application set		Select debug app No debug application set	
Custom build version	Custom build version	Wait for debugger Debugged application waits for debugger to attach before exec	uting	Wait for debugger Debugged application waits for debugger to attach before exect	
alps-mp-m0.mp1-V2.39.1_droi6735.65u.m0_P24	alps-mp-m0.mp1-V2.39.1_droi6735.65u.m0_P24	Verify apps over USB		Verify apps over USB	
		Check apps installed via ADB/ADT for harmful behavior.		Check apps installed via ADB/ADT for harmful behavior.	
		Logger buffer sizes		Logger buffer sizes	
Figure 1	Figure 2	Figure 3		Figure 4	

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Connect R Series Receiver to Device

The first time you use a Trimble GNSS receiver, you must pair it with your device. Make sure you have a compatible Trimble receiver paired with your device before continuing.

- Start the GNSS Status utility (version 3.x) and from the Home screen, tap the Menu icon (Figure 5a)
- 6. Select *Source* (Figure 6a)
- Confirm your GNSS receiver is listed under *Recent* connections; and under the *Position Source* tab, select Location Services. Tap Select (Figure 7a)
- 8. From the Home screen, wait for positions to update from the receiver (Figure 8a)



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Connect Catalyst Receiver to Device

The first time you use a Trimble GNSS receiver, you must pair it with your device. Make sure you have a compatible Trimble receiver paired with your device before continuing.

- 5. Start the *Trimble Mobile Manager (TMM)* utility (version1.x) and from the **Home** screen, make sure your Subscription is set properly (Figure 5b)
- 6. Tap the *Connect* icon or swipe left (Figure 6b)
- 7. Slide the **Connect** button On to start receiving data from the antenna (Figure 7b)
- 8. Slide the Share button On and wait for positions to update from the receiver (Figure 8b)

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Software Up to date		Ready applications do not need this.	Ready applications do not need this.
			Share
		GNSS Status	GNSS Status
		Position status Positioning: Autonomous	Position status Positioning: Differential
		Location N39*35'27.169"; W104*50'43.304"; 1736.11m	Location N39°35'27.094°; W104°50'43.093°; 1736.47m
		Horizontal precision (RMS) 3.5m	Horizontal precision (RMS) 70cm
		Vertical precision (RMS) 4.0m	Vertical precision (RMS) 80cm
		GNSS correction status 728 bytes	GNSS correction status 2 sec; 51643 bytes
		Satellites 🗸	Satellites 🗸
Figure 5b	Figure 6b	Figure 7b	Figure 8b



Configure MapSmart

If basic information such as number of satellites and HRMS is adequate, Android Location Services can provide the position from the Trimble Receiver to MapSmart.

- 9. Start the *MapSmart* app and tap the **Menu** options (Figure 9)
- 10. Select GPS Settings (Figure 10)
- 11. Under the Device pull-down list, select Location Services, then tap Start Fix (Figure 11)



12. Confirm the positions come in and update from the Trimble receiver. Tap **Submit** and the GPS is ready to use with MapSmart (Figure 12)

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Figure 9	Figure 10		Figure 11			Figure 12								
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Product Resources

https://www.lasertech.com/TruPulse-Laser-Rangefinder.aspx



http://www.lasertech.com/MapSmart-Software.aspx



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https://geospatial.trimble.com/products-andsolutions/gnss-systems



https://geospatial.trimble.com/products-andsolutions/trimble-catalyst



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Contact Laser Technology, Inc.

Questions regarding the interface of Trimble GPS receivers to our laser products?

Please contact us at:

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