



Spatial FOG Dual RTX Guide

The following describes the method to activate Trimble RTX on the Spatial FOG Dual.

1. Upgrade the Spatial FOG to the following firmware:

https://hq.advancednavigation.com.au/filesshare/spatial_fog_dual_v1501.anfw

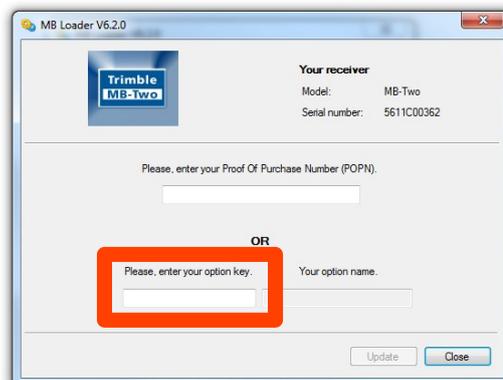
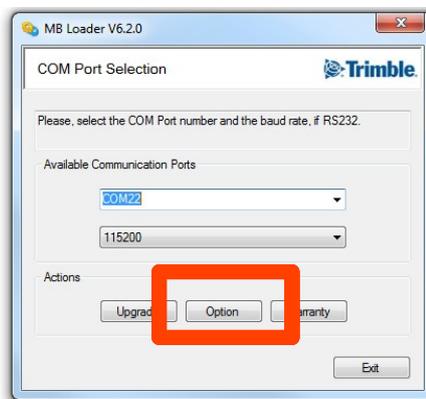
This firmware alters the internal MB-Two GNSS receiver settings to allow L-Band tracking.

2. Perform a cold-start reset on the Spatial FOG Dual as this will apply the new GNSS receiver settings.

3. Connect the GNSS Pass-through port to your PC, please note this is an RS232 port.

4. Using the Trimble MB-Loader program apply the RTX option code, MB-Loader can be downloaded from the following link:

https://hq.advancednavigation.com.au/filesshare/TrimbleMBLoaderSetupV6_2_0.zip





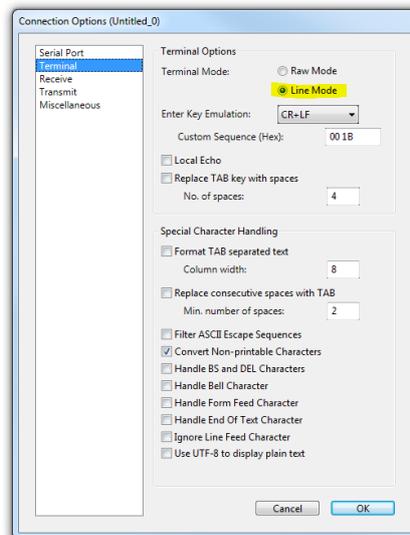
5. Position the Spatial FOG Dual outside with a clear view of the sky. Using Spatial FOG Dual Manager observe the GNSS FIX status: it should change from 3D fix to RTK Float then to RTK Fix. This process may take up to 30 minutes and requires a clear unobstructed view of the sky. If no RTK fix is obtained after 30 minutes please proceed to the troubleshooting steps.

Troubleshooting

1. Download Coolterm or you preferred terminal emulator to communicate directly with MB-Two GNSS receiver:

<https://freeware.the-meiers.org/>

2. In the options menu in Coolterm set the correct port and baud-rate, then in the terminal menu select line mode:



3. Using Coolterm connect to the MB-Two receiver using the GNSS Pass-through port. Please note this is an RS232 port.

4. In the Terminal Type the following command:

```
$PASHQ,OPTION,EXP
```

Ensure the RTX and L-band options have been applied, this will be doneted by the following messages:

```
$PASHR,OPTION,L,LBAND,6A14B1B379631*18  
$PASHR,OPTION,C,CPRTX,47BFA300825FC,19062019*32
```

Ensure both options are present the date on Option C has not lapsed. If the options are not present, please reapply the option codes using MB-Loader. Contact Advanced Navigation Support



if you do not have an option code.

5. Using Coolterm send the following command:

```
$PASHQ,SLB
```

If you receive a 0 in response and the L-band option has been enabled in the previous step the Satellite Geometry is poor as RTX corrections come from specific satellites they may be obstructed by nearby structures. Please move to a more open area until you receiver a response, such as the example below:

```
$PASHR,SLB,1,02,2013,301,30,40.3*32
```

If there are Satellites present here, please enter the following command using Coolterm:

```
$PASHQ,LBN
```

You will receive a response of the L-band satellites the MB-Two is configured to track, please ensure your local Satellite is on the list and enabled, in the list below you can see the RTXAP satellite is being tracked as denoted by the 1, the ON after the ALM denoted that the satellite is enabled:

```
$PASHR,LBN,7,1,RTX,RTXEA,1,1539952500,600,25.0,ALM,ON,OFF,OFF*6C  
$PASHR,LBN,7,2,RTX,RTXAP,2,1539832500,600,109.0,ALM,ON,1,OFF*3F  
$PASHR,LBN,7,3,RTX,RTXWN,3,1557861500,600,-101.0,ALM,ON,OFF,OFF*62  
$PASHR,LBN,7,4,RTX,RTXEN,4,1557859000,600,-101.0,ALM,ON,OFF,OFF*7E  
$PASHR,LBN,7,5,RTX,RTXCN,5,1557815000,2400,-101.0,ALM,ON,OFF,OFF*40  
$PASHR,LBN,7,6,RTX,RTXSA,6,1539832500,600,-98.0,ALM,ON,OFF,OFF*56  
$PASHR,LBN,7,7,RTX,RTXAE,7,1539812500,2400,25.0,ALM,ON,OFF,OFF*59
```

If your local Satellite is not on this list please contact Advanced Navigation Support.

6. Using Coolterm enter the following command:

```
$PASHQ,SNS
```

You should, receive the following reply:

```
$PASHR,SNS,DUO,1*55
```

If there is a 2 after the DUO, this disables L-Band tracking, please enter the following command:

```
$PASHS,SNS,DUO,1
```

7. Finally RTX is only available for land based applications, in some circumstances if you are testing near the Ocean you will require a WET code. Please contact Trimble positioning services and request a trial for the Wet code.