

Installing USB Switcher App for Geo7X Series, Juno 3 Series and GeoExplorer 6000 Windows Mobile Receivers

Alaska Regional Office - GIS Team Cheat Sheet

Last Modified: March 13, 2020

Purpose

This document is intended to provide step-by-step instructions for installing **USB SWITCHER APP** on applicable Trimble receivers. Once a compatible Trimble has been properly switched using this App, the device can continue to use the data transfer utility in either Pathfinder Office or Positions for expedient file management.

Before You Begin

The USB Switcher app enables Data Transfer without Windows Mobile Device Center (WMDC). As of February 2020, WMDC is being deprecated in NPS due to security reasons.

Heads Up #1

This [Support Document](#) as of Feb 2020 does not go into sufficient detail on installing the USB Switcher app, hence this document

Trimble® has released the **USB Switcher app** to overcome some of the issues with Windows Mobile® Device Center running on PCs powered by the Windows® 10 operating system. The USB Switcher app changes how a Trimble Windows Embedded Handheld device connects to a PC powered by the Windows operating system. Instead of using Windows Mobile Device Center to access the internal storage on the device, with the app you can instead access the SD card directly in a device and have that appear as a lettered drive in Windows on a PC. You can then set up Data Transfer to send and receive data from the Trimble TerraSync software to the Trimble GPS Pathfinder® Office or Trimble Positions software from this lettered drive.

When to use the USB Switcher app? The USB Switcher app works best for Trimble Mapping & GIS handheld users who already have the TerraSync software installed and set up on their device and only need to get data to and from the device. The solution **does not work for users** who need to install and license the TerraSync software on their device. Contact Joel Cusick for installing outdated TerraSync on devices.

Which Trimble devices are supported? This app only works on Trimble GeoExplorer® 6000, Geo 7X handhelds, and Trimble Juno® 3x (3B, 3C, 3D and 3E devices). It does **not** work on devices such as the Trimble GeoExplorer 2008 and 3000 series, as they do not support Mass Storage. It does **not** work on Trimble Juno 5 / T41 handhelds, Trimble Nomad® handhelds, and TSC3 controllers as they do not have the USB Mass Storage driver installed. Those devices will require copying files onto SD cards and manual transfer to a computer. On 2008/3000, Juno 5/T41 and TSC3, you can still transfer files via SD card but will have to physically remove card from Trimble.

How does it work? The USB Switcher app runs on a Windows Embedded Handheld device and allows you to switch your device between using Windows Mobile Device Center (USB Mode: ActiveSync), and using USB Mass Storage. The USB Mass Storage option exposes the SD card in the device as a lettered drive in Windows. It DOES NOT expose the internal storage of the device; writing to the internal storage can only be done via the Windows Embedded Handheld operating system which requires the use of Windows Mobile Device Center. If there is no SD card in the device then nothing will appear in Windows. Once the Trimble is switched to using Mass Storage, then you do not have to re-install the app.

Tested in Feb 2020 on Windows 10 NPS computers at 1709, 1803 and 1809 versions. Kingston microSDHC/SDCard adapters were evaluated.

What you cannot do with the USB Switcher App? You will not be able to re-install Terrasync software on a device without WMDC. You can circumvent this issue by taking the receiver to a nearby dealer, or running WMDC on another computer.

Recommended SD cards Use this [chart](#) to see compatible SD card support depending on device. SDHC memory cards cannot be used in devices that support only SD cards. Limit to 32GIG or lower for 2008/3000 series devices. The Juno series require a micro SD card which fits under the battery. Our tests reveal any SD adapter/micro SD card combo will work. Recommend an extra card or two and pack an extra one in the GPS case in case someone forgets the card at work.

[Amazon prices here.](#)

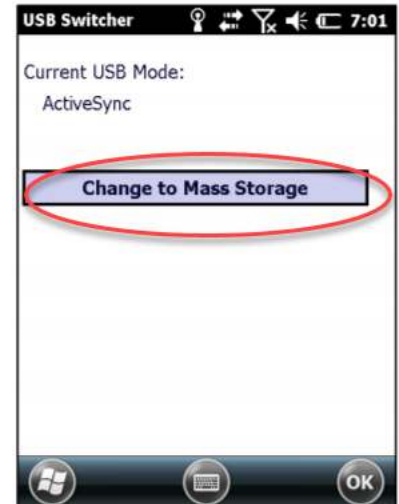
SD Card readers. Because you will need to extract the SD card out of the Geoexplorer 2008/3000 series, we also recommend a modern card reader. Many new laptops do not come with a SD card slot. Here are [6 recommendations.](#)



Installing USB Switcher App

Install Instructions for Geo7x and Juno 3X series devices. [SEE THESE STEPS FOR GEO6000 DEVICES](#)

1. **Download the USB Switcher zip file from** <http://trl.trimble.com/dscgi/ds.py/Get/File-871020/UsbSwitcher.zip>
2. **Extract the 3 files to a folder on a PC**
3. **Copy / Paste** the 3 files to the Geo7x or Juno 3x device. To do this we recommend to copy the folder containing the 3 files onto the SD card.
4. Insert SD card into the device.
5. Launch File explorer from the main screen.
6. Select the **Menu** button (bottom right) and enable **Show All Files**.
7. Using the stylus, select **Storage Card** from the pulldown bar upper left in File Explorer.
8. Tap and HOLD the USB Switcher folder. Select **Copy**
9. Select **My Device** from the pulldown bar upper left in File Explorer.
10. Using the stylus, scroll to bottom of **My Device** and tap and hold in the open white space.
11. Select **Paste**. You should now have a USB Switcher folder in My Device.
12. **If you have connected the device to the host computer via a USB cable, disconnect the USB cable.** Some computers still allow WMDC, and the Trimble won't "let go" of USB mode using ActiveSync. Disconnect the USB cable from the Trimble then proceed to next step.
13. **Enable Advanced Network Functionality.** On the Trimble select windows / Settings / Connections / USB to PC and check the box to enable. Press OK and close.
14. **With the SD inserted in the Trimble, Run UsbSwitcher by double-tapping the USBSwitcher app** inside the My Device/USB Switcher directory. If the Current USB mode says ActiveSync/WMDC or RSNID, press the button to **Change to Mass Storage**. The Trimble will reboot.
15. Repeat step 5 to confirm the app has switched to Mass Storage by browsing again in File Explorer to the USB Switcher app. The app should now state Current Mode: **Mass Storage** If this is the case tap OK to cancel. If it remains stuck on RNDIS (Active Sync) or Active Sync/WMDC, then check again that the Advanced Network Functionality check box is switched on the Trimble. Do this by tapping the Windows icon/ Settings / Connections / USB to PC.

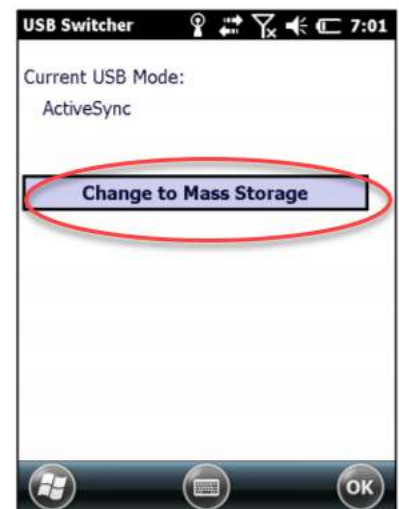


16. Repeat Step 14 launching the UsbSwitcher app. You may have to repeat twice.
17. Once in Mass Storage mode (Current USB Mode: Mas Storage) you are done.
18. Connect the Trimble to the computer using the USB cable and the device will connect as a drive letter to any Windows 10 computer. This will persist but you must have an SD card inserted.

Install Instructions for GeoExplorer 6000 handheld devices

The GeoExplorer® 6000 requires a driver to be installed on the handheld device **before** the installation of the USB Switcher App.

1. **Download** the USB Mass Storage driver from http://trl.trimble.com/dscgi/ds.py/Get/File-936346/USB_MS.zip
2. **Extract the 1 file to a folder on a PC**
3. **Copy-paste the USB_MS.cab** file to the GeoExplorer® 6000 handheld **My Device** root file structure. To do this we recommend to copy the file onto an SD card.
4. Insert SD card into the device.
5. Launch File Explorer from the main screen on the Trimble.
6. Select the Menu button (bottom right) and enable **Show All Files**.
7. Using the stylus, select **Storage Card** from the pulldown bar upper left in File Explorer.
8. Tap and HOLD the USB_MS.cab file. Select **Cut**.
9. Select **My Device** from the pulldown bar upper left in File Explorer.
10. Using the stylus, scroll to bottom of **My Device** and tap and hold in the open white space.
11. Select **Paste**. You will now see the USB_MS.cab file.
12. Single tap to install the driver.
13. **Download the USB Switcher zip file** from <http://trl.trimble.com/dscgi/ds.py/Get/File-871020/UsbSwitcher.zip>
14. **Extract the 3 files to a folder on a PC**
15. **Copy / Paste** the 3 files to the Geo7x or Juno 3x device. To do this we recommend to copy the folder containing the 3 files onto the SD card.
16. Insert SD card into the device.
17. Launch File explorer from the main screen.
18. Select the **Menu** button (bottom right) and enable **Show All Files**.
19. Using the stylus, select **Storage Card** from the pulldown bar upper left in File Explorer.
20. Tap and HOLD the USB Switcher folder. Select **Copy**
21. Select **My Device** from the pulldown bar upper left in File Explorer.
22. Using the stylus, scroll to bottom of **My Device** and tap and hold in the open white space.
23. Select **Paste**. You should now have a USB Switcher folder in My Device.
24. **If you have connected the device to the host computer via a USB cable, disconnect the USB cable.** Some computers still allow WMDC, and the Trimble won't "let go" of USB mode using ActiveSync. Disconnect the USB cable from the Trimble then proceed to next step.
25. **Enable Advanced Network Functionality.** On the Trimble select windows / Settings / Connections / USB to PC and check the box to enable. Press OK and close.
26. **With the SD inserted in the Trimble, Run UsbSwitcher by double-tapping the USBSwitcher app** inside the My Device/USB Switcher directory. If the Current USB mode says ActiveSync/WMDC or RSNID, press the button to **Change to Mass Storage**. The Trimble will reboot.



27. Repeat step 5 to confirm the app has switched to Mass Storage by browsing again in File Explorer to the USB Switcher app. The app should now state Current Mode: **Mass Storage** If this is the case tap OK to cancel. If it remains stuck on RNDIS (Active Sync) or Active Sync/WMDRC, then check again that the Advanced Network Functionality check box is switched on the Trimble. Do this by tapping the Windows icon/ Settings / Connections / USB to PC.

28. Repeat Step 14 launching the UsbSwitcher app. You may have to repeat twice.

29. Once in Mass Storage mode (Current USB Mode: Mas Storage) you are done.

Connect the Trimble to the computer using the USB cable and the device will connect as a drive



letter to any Windows 10 computer. This will persist but you must have an SD card

inserted.

Windows Explorer, Exposing the SD card on the Trimble device as a Drive Letter. This now allows Data Transfer to directly access the files to /from SD card

NOTE: If the USB Switcher app continues to return to Activesync Mode after a couple attempts to switch to Mass Storage, check the following

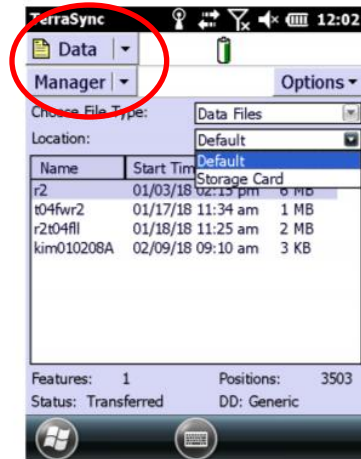
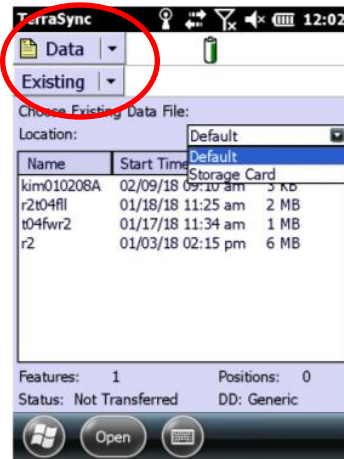
- You may still have the USB cable attached to the computer. Disconnect cable and run app again.
- Ensure the Advanced Network Functionality check box on the Trimble is checked. Go to Windows icon/ Settings / Connections / USB to PC. This must be switched on (checked).
- Are all 3 files required for the switcher app placed together on the root of the Trimble device? This was done if you copied the entire folder containing all 3 files (Steps 19 – 23).
- Removing the SD card and reinserting is another way to wake up the device so the SD card
- Is the device updated to the most current OS/FW? See trimble.com/support and A-Z list.
- If there continues to be an issue, the device may need to have a HARDWARE RESET which will return the Trimble to default settings. This is a good thing to do especially for very old, hard working Trimbles. Like having a 10 year old PC that never was formatted!!! Backup the Trimble before doing a hard reset. You will need to re-install Terrasync. See this [guide](#).

Configuring TerraSync to read and write to the SD Card

You must next configure the TerraSync field software to read and write data to the SD card rather than the Default internal storage. You may have never used this storage location. It has no effect with using TerraSync or Pathfinder Office so once these steps are done in Terrasync you can forget about file where files are. This must be repeated for all the Trimble devices in your fleet once you have run the Switcher App above.

1. Disconnect the USB cable from the Trimble for this next step.
2. Launch Terrasync on the device.

When creating new data files or editing existing files, change the data file Location from the Data Section in Trimble to Storage Card in any of Data / New, Data / Existing, or Data / Manager subsections. This next screen shot shows you how.



Background files for the Map section also has an option to load files from SD card. Select Map Section and under Layers, select Background Files and change Location from Default to Storage Card.

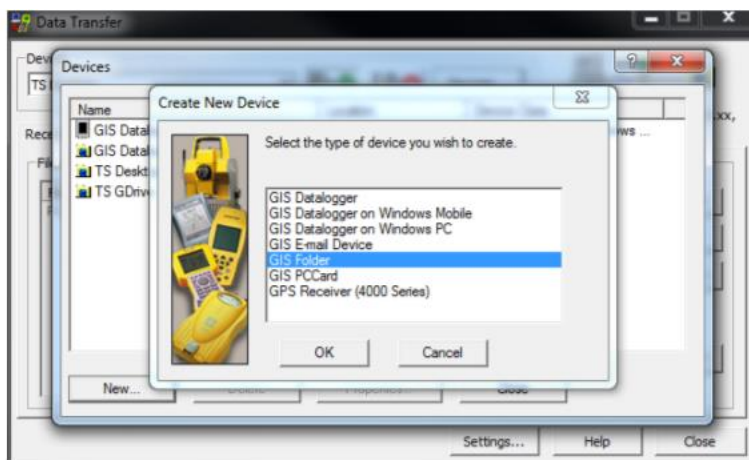
Congratulations. Your GPS is now set forever to bypass ActiveSync as a file transfer software since the USB switcher app controls the connection to the PC and TerraSync knows where to look for files.

If you forget to change the file location to Storage Card during a GPS Job copy the files from the SD Card Use the Data Section / File Manager subsection selecting Options / Copy To.

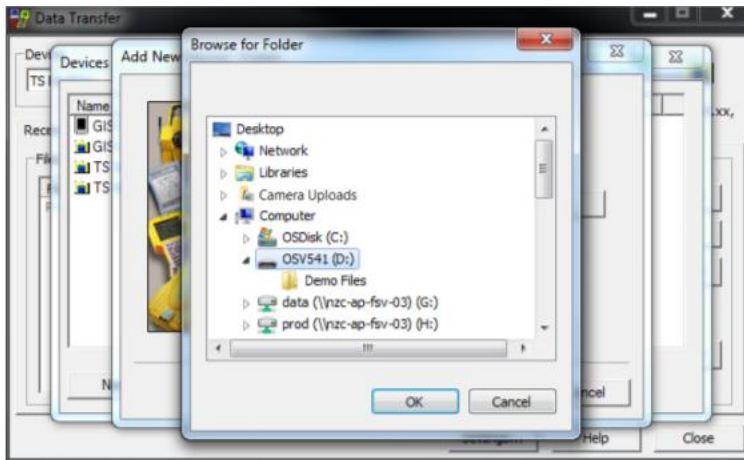
Configuring Data Transfer to transfer files directly to/from SD

You must now change how you use Data Transfer to get data to and from the device. As the SD card is now visible as a lettered drive on the Windows PC, set up a GIS Folder device in the Data Transfer Utility and point that to the lettered drive. This works for Pathfinder Office and Positions workflows.

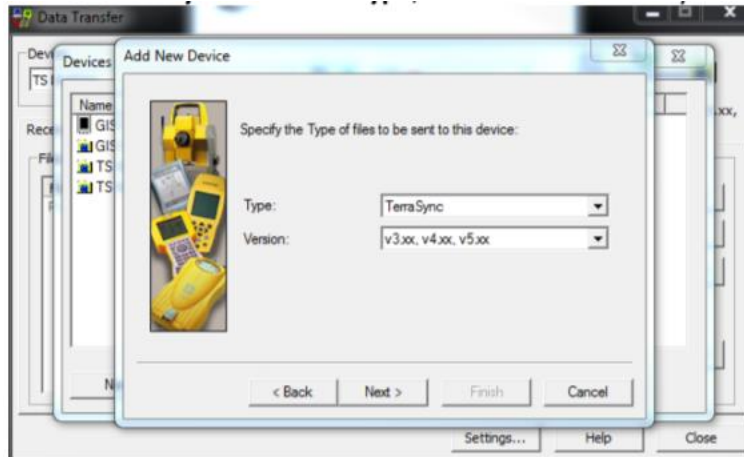
1. In Data Transfer, select Add a new device, and select GIS Folder:



2. Select the lettered drive that is associated with the device:



3. Choose TerraSync as the file Type, and select the TerraSync version:



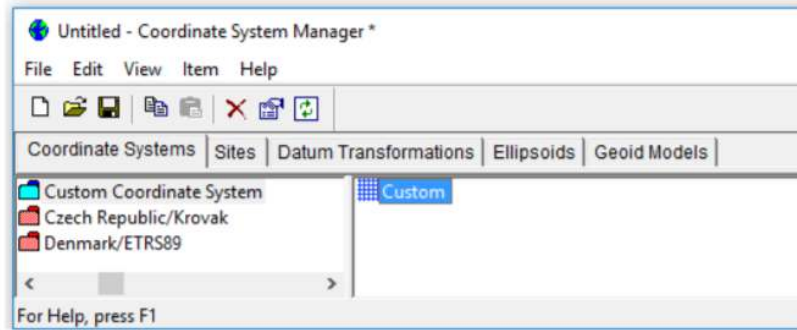
With these settings applied, you can use Data Transfer to send files directly to and from the SD card.

Transferring Coordinate System files

You cannot transfer single coordinate system files or Coordinate System export files using the GIS folder option. If you want to add custom coordinate systems that are not available in the version of TerraSync you have installed, follow these instructions:

1. In GPS Pathfinder Office, open Utilities / Other / Coordinate System Manager.

2. Select the Coordinate System you want to export (if you want to use only the selected



coordinate system).

3. Select File / Export, and rename the file to complete.csw.
4. Choose a folder on your PC and select Save.
5. Copy any related required files (e.g. geoids) to the same folder.
6. Copy the file(s) to the Windows Embedded Handheld device (e.g. via the SD Card Mass Storage connection).
7. On the Windows Embedded Handheld device, move the file(s) to the Program Files / Common Files / Trimble / GeoData folder.

References and Links

NPS Alaska GPS Page.

<http://inpakroms03web/rgr/akgis/index.cfm?action=dsp&topic=gps&item=gps>

All in-one guide on conducting Hard resets.

<https://www.blm.gov/sites/blm.gov/files/Factory%20Reset%20Instructions%20for%20Common%20Mobile%20Devices.pdf>

SD Card compatibility matrix

http://trl.trimble.com/docushare/dsweb/Get/Document-390286/MGIS_SprtNote_FieldComputers_SD_cards.pdf

How to transfer TerraSync files without the USB Switcher App

<https://www.youtube.com/watch?v=VNuwdKMD1bc>

Revision History

Date Modified	Revised By	Changes Made
2020-02-28	Joel Cusick	Document Created
2020-03-01	Joel Cusick	Document Revised
2020 – 03-04	Joel Cusick	Document standard applied
2020-03-13	Joel Cusick	Simplify the file copy from card to device