7 Checking, comparing, the trip with the original GPX route

Automatic Compare

Version V1.5 of TripManager features an automatic compare of a trip with the original GPX route. The manual compare is still available of course. (See the bottom of this document)

A short explanation how the compare works.
Background:

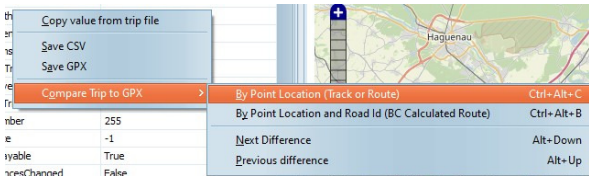
UDBdir's are sub item of mAllroutes and are the result of the calculation on the Zumo, and define the trip (route) exactly. They contain the GPS coordinates, and the Map Segment + Road ID. The compare works by checking for every UDBdir if the GPS Coordinates (or Point Location) can be found in the original GPX. If the GPX was calculated by BaseCamp the check can even be done on Map Segment + Road ID

- By Point Location (Track or Route)
  This compare takes all the UDBdir records and tries to find them as <trkpt>. This check will work for tracks, but also for routes. In that case TM will use the <gpxx:rpt> as <trkpt> and just ignore the Map Segment + Road Id in the subclass.
  To improve speed TM will first look up the track points of the previous and next route point and use those track points as a range. Think of it as the range of track points between 2 via/shaping points.
- By Point Location and Road Id (Bc Calculated Route)
  This compare will only work for a BC calculated route. First it tries to match the UDBDir type 3 records (Via/Shaping points in a trip) with the <rtept> tags (Via/Shaping points in a GPX). For every type 3 there should be 1. Next it checks the Map Segment + Road ID in the SubClass. If it finds a difference a line is added with the distance between the points in meters. Note: if the subclass is different, but the distance is 0 it could be the case of a route point on a junction.
  For all other UDBdirs there should be a corresponding <gpxx:rpt> with a <subclass>. These are also checked for Map Segment + Road ID and distance.

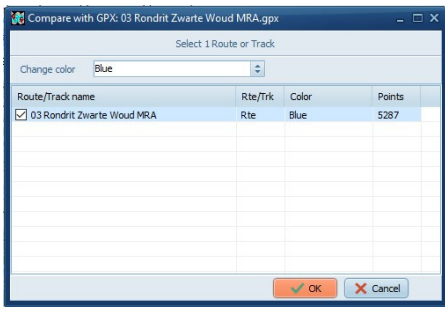
In the settings you can specify the allowed distance. (500 meter default)

Starting an automatic compare

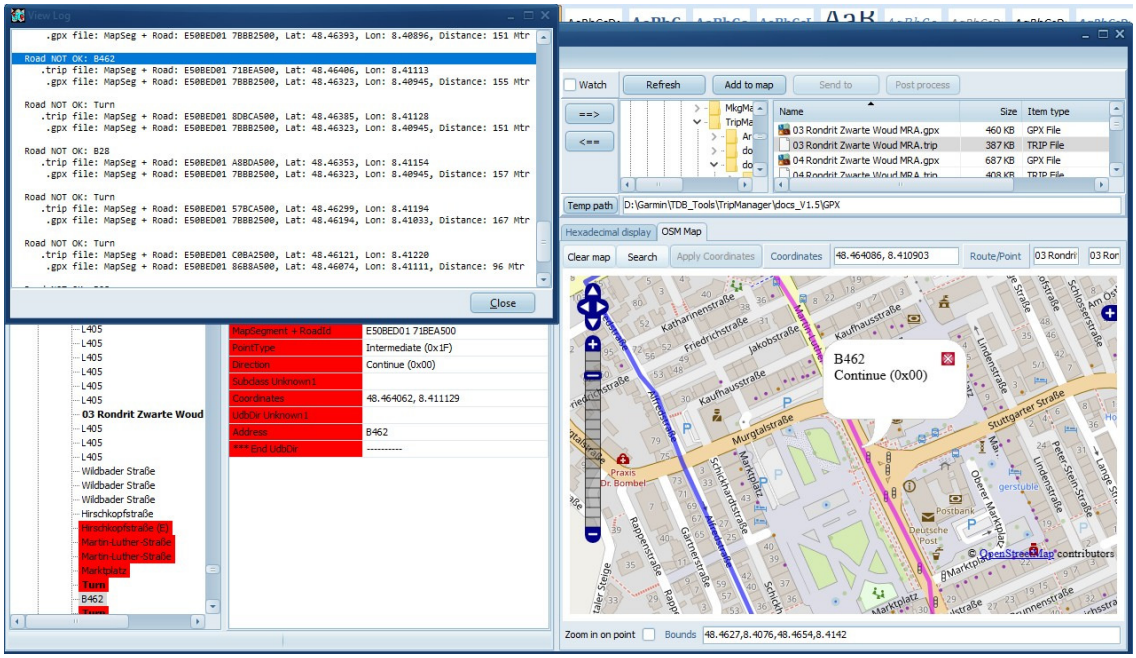
1. Select a .trip file. This can be a .trip file on the Device or on a Windows Folder.
2. Right click on the Grid and select the Compare method. Or use CTRL+ALT+C/CTRL+ALT+B



3. Select the GPX file, and the Route/Track in that GPX file.



4. A log window will be displayed with the results. The results are also copied to the clipboard.
   The selected route/track to compare with will also be shown on the map.
   Clicking on a line of the log window will mark that on the map.
   The items in error will be marked with a different background color on the treeview.



5. Use ALT+Cursor Down/ALT+Cursor Up to find the differences in the Treeview.

Checks performed

- General
  'Can not find mAllRoutes in trip.'
  'Trip does not appear to be calculated.'
  ‘Route point NOT OK'

- By Point Location (Track or Route)
  'Coordinates NOT OK'
  'No <trkpt> in GPX.'

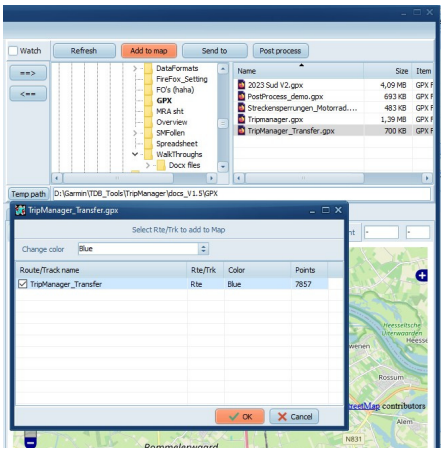
- By Point Location and Road Id (BC Calculated Route)
  'Number of route points does not match in trip and gpx route.'
  'No <gpxx:rpt> in GPX file. Non BaseCamp origin?'
  ‘No matching RtePt found for: %s MapSeg + Road:%s, Lat:%s, Lon:%s'
  'Road NOT OK'
  'Road OK, Coordinates NOT OK'
  'No <rte> in GPX.'
  'No <rtept> in GPX.'

Manual Compare

It is assumed that you have already loaded your trips on the Zumo, using one of the methods described in **6 Send to device.**

The next steps show how you can check the result at your desk on the big screen of your computer.

1. Connect your XT(2), and wait for it to appear in the Explorer.
2. Start TripManager.
3. Navigate, in the top-right panel, to the folder containing the GPX
4. Select the GPX file (Top-right) and click on Add to map. Don't choose magenta as color, because the trip (step 5) will always be shown as magenta.



5. Click on the trip (Top-left). The trip will be shown as magenta.
6. You can now compare the lines. Blue, chosen in the screenshot, is the original track, Magenta is the trip on the XT(2).
7. If the XT(2) has made some choices you don't like, add more shaping points in Basecamp and repeat the procedure.