# TRC – TRACK FORMAT SPECIFICATION

**Name**: "MyNav TRC format"
**Version**: 2.0
**MyNav compatibility**: v6.3.0.0 and above
**Date of publishing**: November 18th, 2010

## File Structure

A track file is a plain text document with .TRC extension.
It is split into 6 main sections:
- 1st line – Header – stores Device Data
- 2nd line – Header – stores Bike1 Information
- 3rd line – Header – stores Bike2 Information
- 4th line – Header – stores User Information
- 5th line – Header – stores Exercise Settings
- 6th : Nth line – stores Samples

Each element in the line is bounded by "|" and the first element of each row indicates the line type:

| Key | Value | Note |
|---|---|---|
| 0 | Header | A file could contain more header sections, this is due because the file could be written or updated in different timing |
| 1 | Sensors sample | Stored when a sensor input is received -- every 5 secs or more, depending on user settings |
| 2 | GeoNote ID | ID of a MyNav waypoint (geonote) added while a track recording |
| 3 | [reserved] | |
| 4 | [reserved] | |
| 5 | GPS sample | similar to "1" but stored when a GPS input is received -- every 1 sec or more depending on user settings |
| 6 | [reserved] | |
| 7 | lap pause | |
| 8 | restart lap from pause | |
| 9 | total tour data | saved every 60 sec. and at the end of the file |
| 10 | start lap | |
| 11 | end lap | |

All data will be stored using metric units unless other specification.

## Line Structure

A detailed structure of each line is described below:

0|sw_version (String [xx.xx.xx.xx (ex:6.1.0.0)])|protocol_version (String[xx.xx (ex: 2.0)])|battery_level (Double [0-100])|active_bike(Short[1,2])|distance_unit (String [m|ft|yd])|altitude_unit (String [m|ft])|track_file_path (String)|short_name(String)|extended_name(String)|track_type(String)|track _notes(String)

0|wheel_size_bike1 (Double[millimiters])

0|wheel_size_bike2 (Double[millimiters])

0|name (String[M,F])|age (String[0-N])|weight (String[0-N])|maxHR(String[0-N])

**0**|hrm_conneExercted([0=off,1=on])|cadence_sensor_connected([0=off,1=on])|speed_sensor_connected([0=off,1=on])|speed_cadence_sensor_connected([0=off,1=on])|recording_interval (Integer [5,10,20,30])|HRzone_limit_low(Double)|HRZone_limit_high (Double)

**1**|longitude (Double [WGS84*3600000 (es:43964604)])|latitude (Double[WGS84*3600000 (es:166107265)])|direction (Double [0-360])|speed(Double)|altitude (Double)|timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC]|duration(Double [seconds])|gps_valid ([0=not valid,1=valid])|distance (Double)|ascent (Double)|cadence (Double)|heart_rate (Double)|id (Int32 [1-N]) | total_duration (Double[s])

**5**|longitude (Double [WGS84*3600000 (es:43964604)])|latitude (Double [WGS84*3600000 (es:166107265)])|direction (Double [0-360])|speed (Double)|altitude (Double)|timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC]|duration(Double [Seconds])|gps_valid ( [0=not valid,1=valid])|distance (Double)|ascent (Double)|cadence (Double)|heart_rate (Double)|id (Int32 [1-N]) | total_duration (Double[s])

**2**|waypoint ID(Integer)
…
**7**|id (Int32 [1-N])|start_duration (Double [s])|start_timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC])|pause_sample_id (Int32 [1-N])

**8**|id (Int32 [1-N])|start_duration (Double [s])|start_timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC])|restart_sample_id (Int32 [1-N])

**9**| start_exercise _timestamp(DateTime [Unix time number of seconds after January 1, 1970 UTC])|duration(Double [Seconds])|distance (Double)| end_exercise_timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC])| average_speed(Double [m/s])|max_speed(Double [m/s])| altitude_gain (Double [m])| altitude_loss (Double [m])|avg_gradient_uphill(Double [%])|max_gradient_uphill(Double [%])|avg_gradient_downhill(Double [%])|max_gradient_downhill(Double [%])|pulse_time(Double [seconds])|average_heart_rate(Double [bmp])|max heart rate(Double [bmp])|total_calories(Double [cal])|max_elevation(Double)| min_elevation(Double)|max_speed_uphill (Double [m/min])|max_speed_downhill(Double [m/min]) |sum_samples_cadence(Double) |number_samples_cadence(Double) |max_cadence(Double[rpm]) |avg_cadence(Double[rpm])|total_ascent_distance(Double)|total_discent_distance(Double)| total_sample_id (Int32 [1-N])|total_duration (Double[s])

**10**|id (Int32 [1-N])|start_duration (Double [s])|start_timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC])|start_sample_id (Int32 [1-N])

**11**|id (Int32 [1-N])| end_duration (Double [s])|end_timestamp (DateTime [Unix time number of seconds after January 1, 1970 UTC])|end_sample_id (Int32 [1-N])|average_speed (Double)|average_heart_rate (Double)|average_cadence (Double)| maximum_speed(Double)|maximum_heart_rate (Double)|maximum_cadence (Double)

### Invalid Values

| Variable Name | Key | Invalid Value |
|---|---|---|
| Altitude | 1, 5 | -2147483648 (Min Integer) |
| Altitude gain, Altitude loss | 9 | -2147483648 (Min Integer) |
| Direction | 1, 5 | -1 |
| Speed | 1, 5 | -1 |
| Max Speed, Max Speed Uphill, Max Speed Downhill | 9 | -1 |
| Ascent | 1, 5 | -128 |
| max gradient uphill, max gradient downhill | 9 | -128 |

### Example

```
[----- file CCC.trc begins here]
0|6.2.2.7|2.0|100|2|m|m|\SDMMC\MyNav\MyNav_ITAO\TRC\CCC.trc||||
0|2100
```

LEGAL NOTICE:

```
0|2100
0|DIPDKG|M|45|82|177
0|0|0|1|0|5
1|0|0|0|0|1349|1284887245|0|0|0|0|0|59|1|0
1|0|0|0|0|1348|1284887250|0|0|0|0|0|59|2|5
5|43642607|167575754|9|0|1349|1284887251|0|1|0|0|0|59|3|8
5|43642644|167575842|13|2.438|1348|1284887252|1|1|2|0|0|59|4|9
1|43642644|167575842|13|3.139|1348|1284887253|2|1|6|0|0|59|5|9
5|43642700|167575943|17|3.139|1348|1284887253|2|1|6|0|0|59|6|10
5|43642739|167576058|15|3.799|1348|1284887254|3|1|11|0|0|59|7|11
5|43642780|167576194|14|4.371|1348|1284887255|4|1|17|0|0|59|8|12
5|43642823|167576339|14|4.716|1348|1284887256|6|1|21|0|0|59|9|13
5|43642887|167576501|15|4.716|1348|1284887257|6|1|21|0|0|59|10|14
5|43642964|167576670|17|5.376|1347|1284887258|7|1|27|0|0|59|11|15
1|43642964|167576670|17|5.376|1347|1284887258|7|1|27|0|0|59|12|15
5|43643048|167576850|18|5.644|1347|1284887259|8|1|32|0|0|59|13|16
5|43643143|167577047|18|6.516|1347|1284887260|9|1|44|-1.5|0|59|14|17
5|43643211|167577257|13|7.027|1347|1284887261|11|1|50|-2.3|0|59|15|18
5|43643221|167577480|5|7.027|1347|1284887262|11|1|50|-2.3|0|59|16|19
5|43643177|167577725|357|7.694|1347|1284887263|12|1|63|0|0|59|17|20
1|43643177|167577725|357|7.694|1347|1284887263|12|1|63|0|0|59|18|20
5|43643073|167577977|349|8.145|1346|1284887264|13|1|71|-0.8|0|59|19|21
5|43642925|167578230|343|8.584|1346|1284887265|14|1|84|-1.4|0|59|20|22
5|43642758|167578493|341|8.886|1346|1284887266|16|1|92|-1.9|0|59|21|23
5|43642594|167578758|340|8.886|1345|1284887267|16|1|92|-1.9|0|59|22|24
5|43642431|167579033|339|9.112|1345|1284887268|17|1|105|-2.2|0|59|23|25
1|43642431|167579033|339|9.112|1345|1284887268|17|1|105|-2.2|0|59|24|25
[... some samples "1" and "5" removed]
5|43643929|167583617|21|5.5|1340|1284887288|38|1|269|-3|0|59|47|45
1|43643929|167583617|21|5.5|1340|1284887288|38|1|269|-3|0|59|48|45
5|43644013|167583778|21|5.5|1339|1284887289|38|1|269|-3|0|59|49|46
5|43644075|167583922|18|4.225|1339|1284887290|40|1|279|-3.3|0|59|50|47
5|43644112|167584039|14|4.225|1339|1284887291|41|1|279|-3.3|0|59|51|48
5|43644132|167584128|12|3.584|1339|1284887292|42|1|284|-3.5|0|59|52|49
1|43644132|167584129|12|2.427|1339|1284887293|43|1|286|-3.8|0|59|53|50
1|43644132|167584129|12|0|1339|1284887298|46|1|286|0|0|59|54|55
1|43644132|167584129|12|0|1339|1284887303|46|1|286|0|0|59|55|60
9|1284887245|46|286|1284887303|6.209|9.445|0|-5|0|0|-2.1|-3.8|0|0|0|1349|1338|0|0.3|0|0|0|0|242|56|60
1|43644132|167584129|12|0|1339|1284887308|46|1|286|0|0|59|56|65
1|43644132|167584129|12|0|1339|1284887313|46|1|286|0|0|59|57|70
1|43644132|167584129|12|0|1338|1284887318|46|1|286|0|0|59|58|75
1|43644132|167584129|12|0|1338|1284887323|46|1|286|0|0|59|59|80
1|43644132|167584129|12|0|1338|1284887328|46|1|286|0|0|59|60|85
1|43644132|167584129|12|0|1338|1284887333|46|1|286|0|0|59|61|90
1|43644132|167584129|12|0|1338|1284887338|46|1|286|0|0|59|62|95
1|43644132|167584129|12|0|1338|1284887343|46|1|286|0|0|59|63|100
1|43644132|167584129|12|0|1339|1284887348|46|1|286|0|0|59|64|105
1|43644132|167584129|12|0|1339|1284887353|46|1|286|0|0|59|65|110
1|43644132|167584129|12|0|1339|1284887358|46|1|286|0|0|59|66|115
1|43644132|167584129|12|0|1338|1284887363|46|1|286|0|0|59|67|120
1|43644132|167584129|12|0|1338|1284887368|46|1|286|0|0|59|68|125
9|1284887245|46|286|1284887368|6.209|9.445|0|-5|0|0|-2.1|-3.8|0|0|0|1349|1338|0|0.3|0|0|0|0|242|69|125
1|43644132|167584129|12|0|1338|1284887373|46|1|286|0|0|59|69|130
1|43644132|167584129|12|0|1339|1284887378|46|1|286|0|0|59|70|135
[----- file CCC.trc ends here]
```