

## Beacons

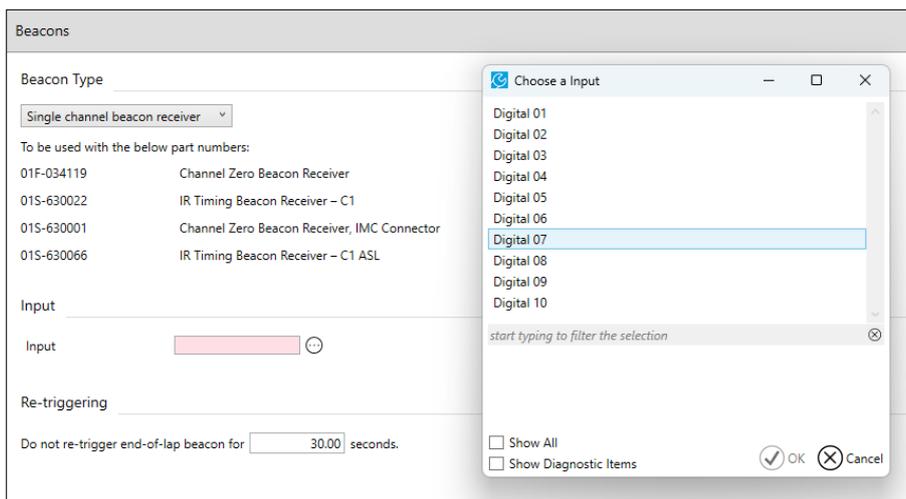
The **Beacons** node is used to configure the end of lap marker. The end of lap marker is used to divide *.pds* data files into laps. The node allows simple integration of a beacon to the setup with high flexibility for a range of multiple beacon types, including infrared beacons, GPS beacons, and virtual beacons:

- Single channel beacon receiver
- 10-channel beacon receiver
- 10-channel ASL beacon receiver
- 32-channel beacon receiver
- GPS beacon receiver
- Virtual beacon receiver

Select a beacon type to display a list of compatible parts. Contact Cosworth Electronics via the **Support** page on Cosworth website or e-mail [electronics.support@cosworth.com](mailto:electronics.support@cosworth.com) for copies of individual product information sheets.

### Single channel beacon receiver

A simple digital input beacon set up on the **Hardware Settings** node.



### 10-channel beacon receiver

10-channel receivers allow the flexibility to use up to ten different beacon codes to avoid conflicts with other teams using their own beacon transmitter locations. The 10-channel receiver is set up in the same way as the single channel receiver.

### 10-channel ASL beacon receiver

The 10-channel ASL receiver is like the standard 10-channel beacon receiver, but you can configure the end of lap beacon code in the software.

### 32-channel beacon receiver

This option allows the flexibility to select from 16 different end of lap beacon codes, to avoid conflicts with other teams using their own beacon transmitter locations, plus provision for up to 16 split beacon codes to calculate accurate split times at multiple points around the track using several C16s split beacons.

# GPS beacon receiver

**Beacons**

Beacon Type  
 32-channel beacon receiver

To be used with the below part numbers:

01S-630134	IR Timing Beacon Rx C16s
01S - 630053	IR Timing Beacon Tx C16s
01S-630034	IR Timing Beacon Rx C16s
01M-034103/-C/-R	32 Channel Sigma Beacon Rx (End of Life)

Input  
 Input

End-of-lap beacon code 0

Choose a Input

- Digital 01
- Digital 02
- Digital 03
- Digital 04
- Digital 05
- Digital 06
- Digital 07

*start typing to filter the selection*

Show All  
 Show Diagnostic Items

OK Cancel

**Split Beacon Codes**

<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3
<input checked="" type="checkbox"/> 4	<input type="checkbox"/> 5	<input type="checkbox"/> 6	<input type="checkbox"/> 7
<input type="checkbox"/> 8	<input type="checkbox"/> 9	<input checked="" type="checkbox"/> A	<input type="checkbox"/> B
<input type="checkbox"/> C	<input type="checkbox"/> D	<input type="checkbox"/> E	<input type="checkbox"/> F

**Re-triggering**

Do not re-trigger end-of-lap beacon for  seconds.

Do not re-trigger split beacons for  seconds.

**Split Beacon Values**

Set a value to be used by the last received common value channel.

Code	Value
0	<input type="text" value="16"/>
1	<input type="text" value="17"/>
2	<input type="text" value="18"/>
3	<input type="text" value="19"/>
4	<input type="text" value="20"/>
5	<input type="text" value="21"/>
6	<input type="text" value="22"/>
7	<input type="text" value="23"/>
8	<input type="text" value="24"/>
9	<input type="text" value="25"/>
A	<input type="text" value="26"/>
B	<input type="text" value="27"/>
C	<input type="text" value="28"/>
D	<input type="text" value="29"/>
E	<input type="text" value="30"/>
F	<input type="text" value="31"/>

## Standard GPS beacon

A GPS input configured in the **NMEA 0183 Decode** node can be used to configure an end of lap beacon. You can select **Latitude** and **Longitude** channels configured in the **NMEA 0183 Decode** from the browse menu for the **Latitude** and Longitude inputs (1). You must also define a strategy to indicate when the GPS position is valid (2) and enter the coordinates of the beacon location for the start/finish line (3).

Beacons

Beacon Type

GPS beacon receiver

To be used with the below part numbers:

01F-050660 GPS 5Hz

015-630090 CSG10 (CAN Serial GPS)

Input Data

Select the channels which will provide the current longitude and latitude, and optionally a channel that gives information about when the values in the longitude and latitude channels contain valid information. It is recommended that you obtain all of these channels from a single NMEA 0183 Sentence.

Latitude NMEA RX Latitude 1

Longitude NMEA RX Longitude

Position valid when Car 2

Beacon Location

Either manually enter the latitude and longitude for the end points of the line that will generate a beacon when crossed, or select a file that contains such information and select an appropriate beacon line.

Track Name <Default>

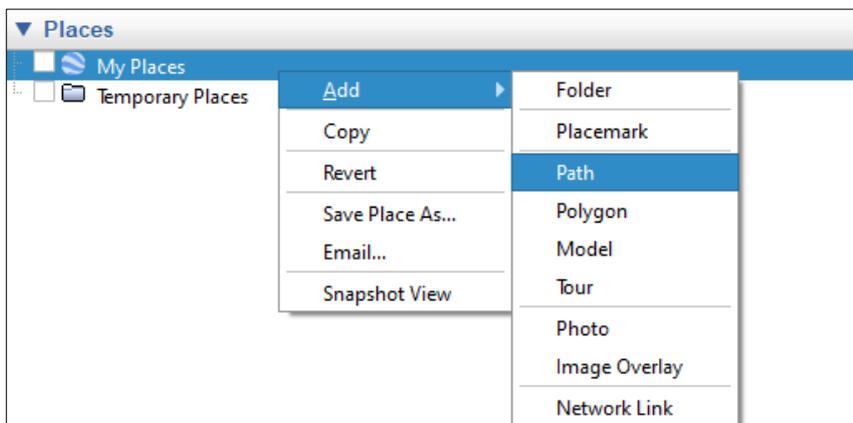
	Latitude	Longitude
Start	52.078862500000000	1.015234800000000
Finish	52.078862500000000	1.015234800000000

3

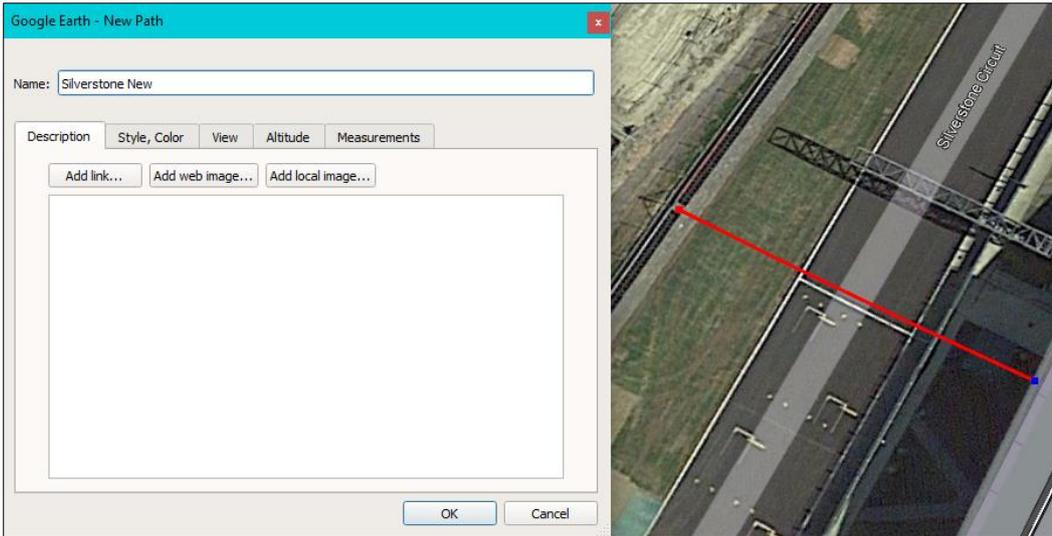
Decimal degrees  Degrees minutes and seconds

## Create a GPS beacon

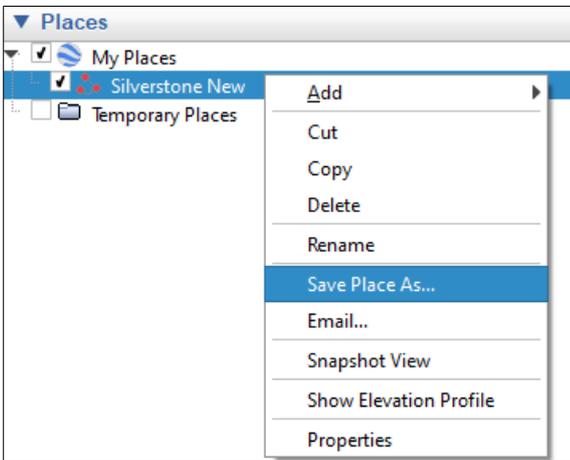
You can also use Google Earth to create a start/finish line to generate beacon events. Open Google Earth, and then right-click on **My Places > Add > Path**.



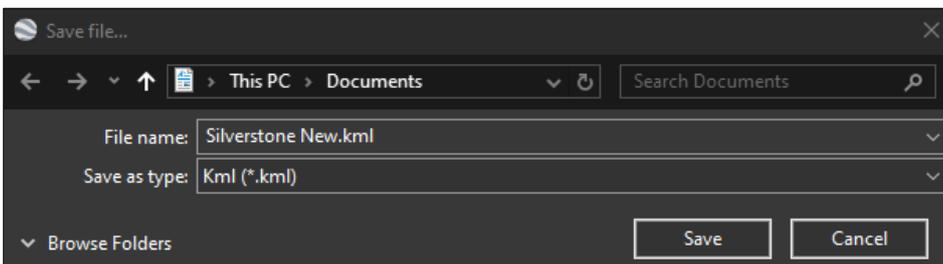
The **Edit Path** window is displayed. Enter a name for the start/finish line, and then use the mouse to draw the start/finish line on the map. This line must cross the track in the required location. A beacon is triggered every time this line is crossed.



When the new start/finish line is created, you must export it. Right-click **Path**, and then **Save Place As...**



**Note:** Make sure that you select the *Kml (\*.kml)* option from the **Save as type** dropdown menu.



When you select the GPS Beacon Receiver from the **Beacon Type** drop down box in the **Beacons** node you can select the **Latitude** and **Longitude** channels configured from the **NMEA 0183 Decode** option from the browse menu for the Latitude and Longitude inputs (1). The strategy for when the GPS position is valid must also be defined (2).

Import the start/finish line file using the import tool icon (1), and then select the beacon path from the **Beacon** drop down menu (2). You use the 'bin' tool (3) to delete the start/finish line. The start/finish line coordinates are automatically populated from the *.kml* file.

## Virtual beacon receiver

You can configure virtual beacons in Toolset to use a user-defined channel as a beacon input. This could be a Maths, Logic or CAN channels.

## Split beacons

There is also an option to add split beacons to the setup, triggered from a virtual source.