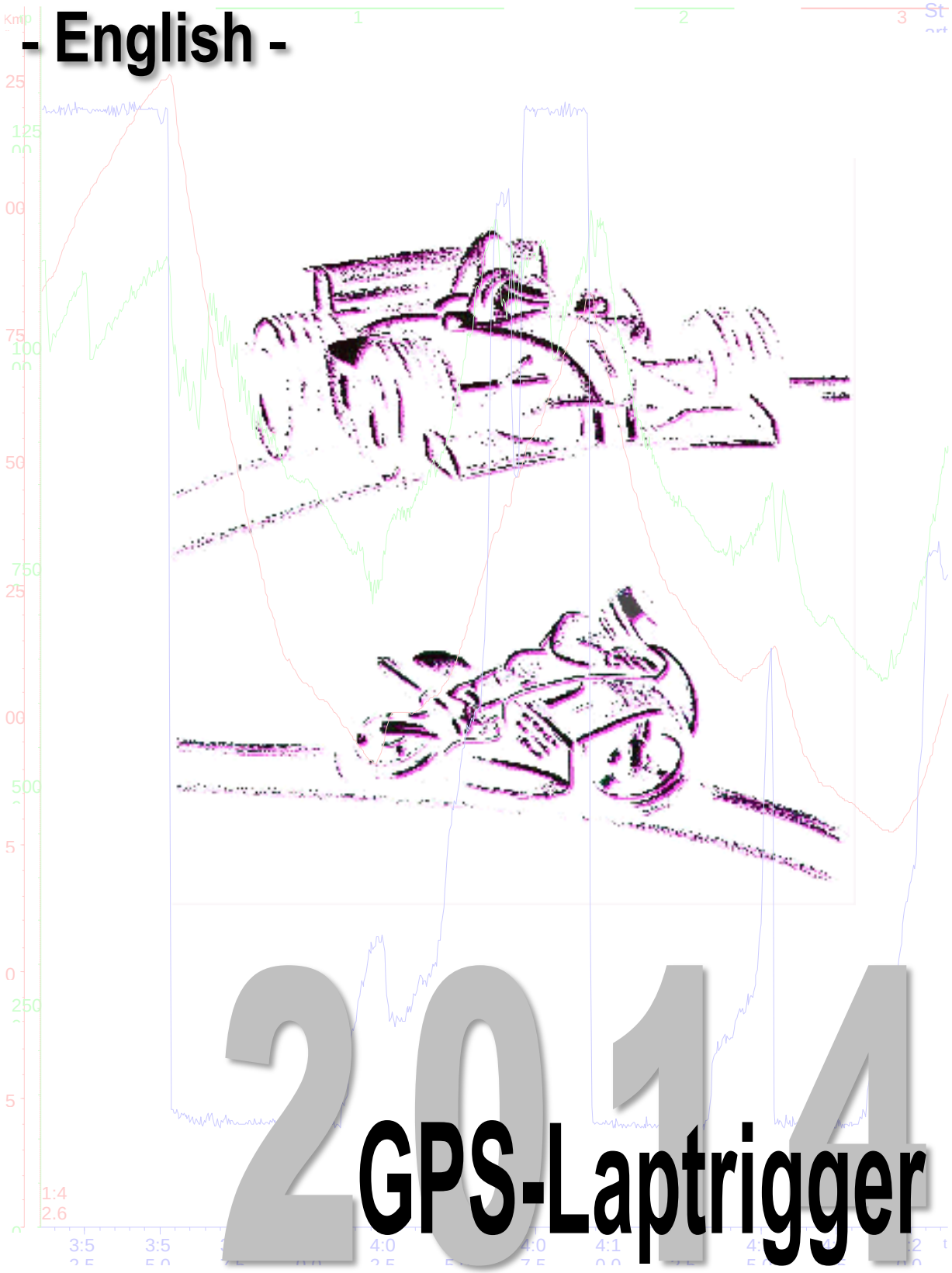
2d-datarecording.com

- English -



2014

GPS-Laptrigger

modified 07/08/14

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Symbols used in the text

These paragraphs contain tips and practical advice for working with the 2D system

In the paragraphs highlighted with this symbol, you will find additional information and it is very important that you follow the instructions given.

Documentation reference

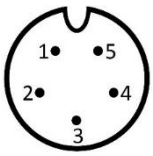
- A user manual reference number is provided so the user can seek further assistance

1 Introduction

The GPS-Laptrigger is used to generate lap trigger signals via GPS. You can use the predefined start lines of more than 300 race tracks or create your own start line position.

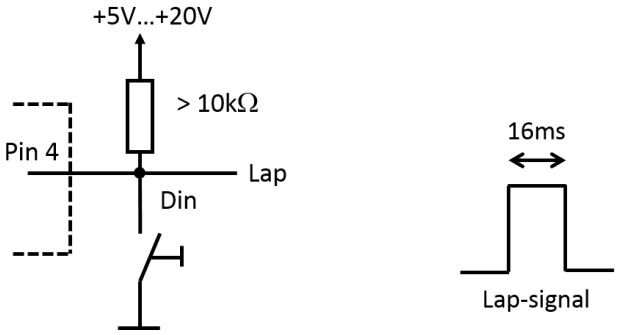
2 Connecting the Laptrigger

The following table shows the connector layout of the GPS-Laptrigger. Pin4 has a combined input/output function. The input function is used for manually defining lap positions. The output function is used for sending the lap-trigger signal.



Binder 712M, 5 pin

Pin	Name	Description	Wire color
1		Do not use!	
2		Do not use!	
3	GND	Ground	black
4	Button/LAP	Push-button in/LAP out	yellow
5	Vext	Power in (8 V – 18 V)	red



3 Defining a GPS-Laptrigger-Position

There are two ways of input of the GPS coordinates for defining a lap trigger position:

a) Automatic: the GPS-Laptrigger searches for matching start line coordinates in its table of predefines race tracks.
b) Manual: you can define your own start lines by pushing the button.

As soon as the GPS Laptrigger has found the satellite´s signal, it checks if the last used trigger coordinates are valid for the actual position (within a radius of 5 km). If the position is valid, it will be used to create a lap trigger. Otherwise the module searches if there is a matching start line stored in its GPS coordinates table. Have a look at the appendix (section 5) for the race track start lines which are stored in this table.

If there is no matching start line stored or you want to use another position you can manually define a position. To define a positon you push the button (refer to section 2) while driving/riding (speed > 5 km/h) – for longer than 0.5 s. The module will then use the actual position of the vehicle (at the start of pushing) as a trigger position.

Manually defined lap trigger positions will not be stored in the table!

You receive the trigger signal for further use on “LAP”. Refer to section 2.

To delete the actual used lap trigger position you push the button while the vehicle does not move (speed < 5 km/h). Then the GPS Laptrigger will search again for matching start lines in its table of predefined race tracks.

4 Blink codes

There are three different blink codes implemented:

1) If there is no valid GPS signal the blink frequency is 1 Hz
2) If the GPS signal is valid the blink frequency is 5 Hz
3) If the GPS signal and the trigger coordinates are valid the blink frequency is 12 Hz

5 Appendix – predefined tracks - 18.06.2014

Abbeville
Achna Speedway
Adelaide
Adria
Ahvenisto
Aiginio
Aintree
Alastaro
Albacete
Albert Park
Alcarrás
Ales
Almeria
Anglesey
Anhembi - Sao Paulo
Anneau du Rhin
Ansan
Arctic Circle Raceway
Ascari
Aschheim
Assen
Atlanta Motor Speedway
Autodromo da Salta
Autodromo Goianina
Autodromo Hermanos Rodrigues
Autopolis
Bahrain
Barbagallo
Barber Motorsports Park
Baskerville
Bathurst
Bay Meadows
Beave Run Motorsports Complex
Bedford Autodrome
Belle Isle
Bilster Berg
Blackhawk Farms
Blyton Park
Bombarral
Botniaring
Braga
Brainerd
Brands Hatch
Brasilia
Bresse
Bristol
Brno
Broadford
Bruntingthorpe
Buddh International Circuit
Bukernieki
Buttonwillow Raceway
Cadwell Park
Calabogie
Calafat
Calder
California Speedway
Campo Grande
Cape Town
Carolina Motorsport Park
Cartagena
Cascavel
Castelloli
Castle Combe
Catalunya
Charlotte
Chayka
Chelsea Handling Track
Chennai
Chenviers
Chicago
Chicagoland
Chuckwalla Valley Raceway
Circuit of the Americas
Croft
Croix-en-Ternois
Curborough
Curitiba
Darlington Speedway
Darwin
Daytona
Dijon
Donington Park
Dover
Dreux
Dubai
Dunsfold
East London
Eastern Creek
Ebisu South
Elvington
Enna Pergusa
Estoril
Eurospeedway Lausitzring
Eusebio
Fay de Bretagne
Fiorano
Folembray
Fort Devens
Franciacorta
Fuente Alamo
FujiSpeedWay
Gateway International
Gellerasen Circuit
Gingerman Raceway
Goodwood
Gotland Ring
Grattan
Grobnik
Guadix
Guapore
Hampton Downs
Hastings Motorsport Park
Hawai Raceway
Heartland Park of Topeka
High Plains Raceway
Hockenheim
Homebush
Homestead
Honjo
Hungaroring
Imola
Inde Motorsports Ranch
Indianapolis
Infineon Raceway
Interlagos
Istanbul Park
Jacarepagua
Jarama
Jennings
Jerez
Johor
Jyllandsring
Kansas Speedway
Kartodromo Fatima
Katar- Losail
Kemora
Kentucky Speedway
Kinnekulle
KIP-Palmela
Knockhill
Knutstorp
Korea Intertional Circuit
Korfez
Kyalami
LaFerteGaucher
Laguna Seca

Lakeside Queensland
Las Vegas Motor Speedway
Ledenon
LeMans
Lime Rock
Ljungbyhed Park
Llandow
Loheac
Lonato
Londrina
Loudon
Lydden
Magione
Magny Cours
Mallala
Mallorca-Rennarena
Mallory Park
Manfeild
Mantorp
Martinsville Speedway
Mas du Clos
Maze
Megara
Memphis
Mendig
Miachkovo
Michelin Laurens Proving Grounds
Mid America
Mid Ohio
Midvaal
Miller Motorsports Park
Milwaukee
Misano
Mittsverigebanan
Modena
Mont Tremblant
Monteblanco
Montreal
Monza
Morgan Park
Mornay
Moroso
Mosport
Most
Motegi
Motopark
Motorland Aragon
Motorland Suzuka
Mugello
Myrtle Beach
Nakhonchaisri
Nardo
Nashville
Navarra
Nazareth
Nelson Ledges
New Jersey Lightning
New Jersey Thunderbolt
Nikko
Nogaro
Nola Motorsports Park
Norisring
Nürburgring
Okayama
Oran Park
Oschersleben
Oulton Park
Padborg Park
Palm Beach
Pannoniaring
Park Algar
Pau Arnos
Paul Ricard
Paw
Penbry International
Phillip Island
Pinarbasi
Pittsburgh
Pocono Raceway
Pomposa
Port Elizabeth
Portland
Poznan
Prestwold Hall
Pukekohe
Pukekohe Park Raceway
Putnam Park
Quensland
Ramenskoe
Red Bull Ring
Reno Fernley
Riberao Preto
Rijeka
Ring Djursland
Rioveggio
Road Atlanta
Roberto Muras Circuit
Rockingham
Ruapuna
Rudskogen
Sachsenring
Saellandsringen
Salzburg
Samara-Ring
San Luis Potosi
Sandia
Sandown
Santa Cruz do Sul
Sauga Circuit Auduring
Schleizer Dreieck
Sebring
Seinajoki
Sendai Highland
Sentul
Sepang
Serres
Shanghai
Siena
Silverstone
Slovakia Ring
Snetterton
Spa Francorchamps
Spa Nishiura Motor Park
Spring Mountain
St Petersburg Street Circuit
Sturup
Sugo
Summit Point Motorsports Park
Surfers Paradise
Sviestad
Symmons Plains
Talladega Superspeedway
Taruma
Taupo
Teretonga
Texas Motor Speedway
Three Sisters
Thruxton
Thunderhill Raceway Park
Timaru
Tocancipa
Tokachi
Track
Troronto Motorsports Park
Tsukuba
Valencia
Valerbanen
Valkenswaard
Vallelunga
Varano
Velo Citta - Mogi Guacu
Velopark
Virginia International Raceway
Wakefield Park
Waneroo
Waterford Hills
Watkins Glen
Welkom
Wesbank Raceway
Willow Springs
Winton
Yas Marina
Zandvoort
Zolder
Zuhai
Zwartkops Raceway