



**Extreme precision.  
Live tracking and  
timing data  
without  
infrastructure**

## TECHNICALS SPECIFICATIONS

TRACKERS	GNSS RTK L1/L2 <sup>(1)</sup> (2) IMU 9 axes, 100Hz, 14 bits LPS par UWB
DATA TRANSMISSION	GPRS/ 2G/ 3G/ 4G RF 2,4GHz Crystal 8 <sup>(3)</sup> Bluetooth 5.0
STANDARDS <sup>(4)</sup>	CE/ FCC/ IP57/ World Rugby/ FIFA
BATTERY	LiPo 800 mAh
CHARGING	Charging case of 20 Qi technology chargers spots
DIMENSIONS ( l x w x h)	9.8 x 4.9 x 2.4 cm 89g
MEMORY	NAND Flash 1Gb

<sup>1</sup> Update rate: 10 Hz

Time-To-First-Fix: Cold start 26 s

<sup>2</sup> RTK Convergence Time: 10 s

<sup>3</sup> Crystal 8: proprietary data transmission protocol. No interference even in highly saturated RF environments.

<sup>4</sup> Certification in progress.

<sup>5</sup> Error measured on race test in a straight line at 15km/h in open space.

<sup>6</sup> 50% CEP in open space.

<sup>7</sup> 50% at 15km/h in open space.

<sup>8</sup> 50% at 5m/s<sup>2</sup> in open space.

<sup>9</sup> IMU: MEMS inertial unit :  
- accelerometer 3 axes: linear  
acceleration in g, +/- 16g

<sup>10</sup> accuracy: 1 BPM

range: 30 à 240 BPM

<sup>11</sup> 3h of training per day, 5 days/week

## FUNCTIONNALS SPECIFICATIONS

ACCURACY	
distance <sup>(5)</sup>	0.2%
location <sup>(6)</sup>	0.01m (outdoor) / 0.2m (indoor)
speed <sup>(7)</sup>	0.02m/s
acceleration <sup>(8)</sup>	0.1m/s <sup>2</sup>
IMU <sup>(9)</sup>	0.01g / 0.5deg/ 0.02deg/s
AREAS	stadium/ outside/ indoor
RANGE OF SIGNAL	100m (with antenna) 3G/4G all phone operator
AUTONOMY	4h live/ 6h offline 6days standby
CHARGING	80% in 2h / 100% in 3h
MAXIMUM USERS	live: 60u/ offline: 500u
STRENGTH	300kg/ submersible 1m
RESISTANCE	
OPTIONS	software Team Sport antenna live USB cardio <sup>(10)</sup>
INTERFACE	button/ screen OLED
MEMORY <sup>(11)</sup>	30days



## PACKAGE



HPv2 Tracker



Charging Case for  
20 trackers



Horse Racing  
Software

HPv2 the only centimeter precision tracking system, making less than 90g. This extreme precision is achieved by combining a very high-quality GPS (RTK L1 / L2) with relative distance measurements between trackers (UWB). This system is the subject of several patents owned by Mac-Lloyd. HPv2 does not require any heavy infrastructure installation on site. It can be used in a fixed system on a racetrack as well as in a mobile system. The tracking system combined with the course analysis algorithms provide a sectional timing of 1 / 100th of a second. This precision can be improved to 2 / 1000th of a second by positioning on the track of the reference terminals to the key gates. The system is multi-disciplinary, suitable for all disciplines: flat, obstacles, trotting, riding trot.

## OPTIONS



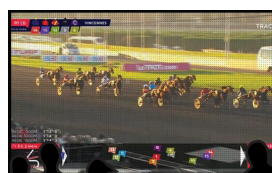
**CARDIO**  
Equine cardiofrequency scabbard. Stand around the saddle strap and communicate in BLE. Unique size.



**SECTIONAL TIMING**  
Reference terminal UWB makes it possible to increase the accuracy at passing gates at 2 / 1000th of a second.



**APP VIRTUAL REALITY**  
The race reconstituted in real time thanks to the tracking data. Put yourself in the caveman's shoes with a VR headset.



**INCREASED REALITY**  
Tracking data displayed in real time on the giant screen.