

# Soft Pedestrian Target™



The Soft Pedestrian Target (SPT) system is a portable belt propulsion mechanism which uses our patented Synchro™ technology to accurately and consistently play out NCAP and custom-made test scenarios.

The SPT system uses a standard AB Dynamics controller and steering robot motor to power the drive unit. It is programmed using Robot Controller Software, which is common to our portfolio of track testing solutions. Customers can use an existing steering robot as the drive motor or alternatively, versions with dedicated built-in motors are available and capable of speeds of up to 40 km/h. The SPT system can be powered by a 12V car battery and for higher performance, a mains power pack can be supplied (115v and 230v versions available).



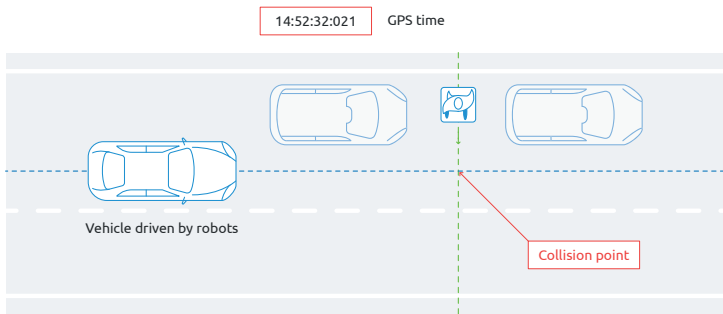
## Specifications

	SPT 20	SPT 20 Standalone	SPT 40 Standalone
External SR required	Yes - SR 60, SR 60 Torus	No, built in	
Maximum rated speed	20 km/h with 15 kg payload	20 km/h with 15 kg payload	40km/h*
Maximum acceleration	0.8 g with 15 kg payload		
Position measurement	Uses motor encoder: Typical dynamic accuracy at platform better than 2 cm		
Installation	Steering robot can be converted between SPT and steering use	No extra installation required other than belt setup	
Sled height	25 mm		
System protection	In built belt tension measurement system checks belt and stops motor if belt tension changes significantly		
Water resistance	Can be used in rainy conditions; case acts as a rain cover for motor	Motor box sealed, suitable for wet and icy conditions	
Mains power pack required	Recommended for longer runs at maximum performance		Yes - for maximum performance*

\*Optional mains power supply unit is recommended for high speed operation such as with a cyclist dummy

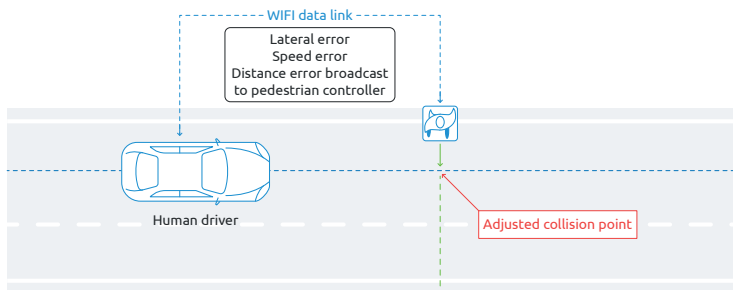
# Control modes

The Soft Pedestrian Target can operate in three control modes, according to the test requirements and the other available hardware.



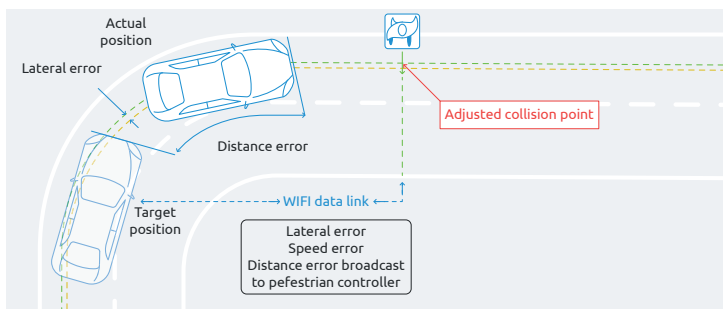
## Mode 1: Coordinated with robots using GPS time synchronisation

Vehicle is driven using steering robot (with path-following) and pedal robots for accurate positioning and speed control. Vehicle and target motion is started using a GPS time trigger. Both trajectories and speed profiles are pre-defined to give the synchronisation between vehicle and target, according to test requirements.



## Mode 2: Synchronised motion

Synchro sends GPS data from the vehicle to adjust the target speed and position in real-time. Thus, a human driver follows the approach path and the SPT controller adjusts to compensate for the vehicle's lateral and time error, ensuring the scenario takes place correctly.



## Mode 3: Non-orthogonal synchronised motion

Synchro enables the subject vehicle to travel along a non-linear path and intercept the target at various impact angles. Synchronisation happens again to adjust the target to compensate for both vehicle's lateral and time error, making sure that the scenario takes place correctly.

## About AB Dynamics

AB Dynamics is a leading global provider of automotive test and verification solutions that facilitate the development of vehicles that are safer, more efficient and sustainable. As part of the AB Dynamics Group of companies we enable customers to develop and test in virtual environments, validate on the track and then evaluate vehicles on public roads.

For more information:  
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