

TAG SYSTEMS TS8000 REAL CAR SIMULATOR



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THE SIMULATOR

TAG SYSTEMS TS8000 REAL CAR SIMULATORS ARE THE WORLD'S FIRST SIMULATORS THAT ALLOW YOU TO DRIVE A REAL VEHICLE WITHIN A VIRTUAL WORLD.

ALL OF THE CAR'S COMPONENTS ARE IN FULL OPERATION INCLUDING THE ENGINE, TRANSMISSION, STEERING, ACCELERATOR, BRAKES AND CABIN CONTROLS.

The TS8000 is designed to accommodate rear wheel drive vehicles and is fixed permanently in the ground.

It is designed primarily for indoor motor sport entertainment.

The vehicle is simply driven on to the system and is secured within seconds by TAG's Patented hold down system to a custom designed dynamometer. The dynamometer sends data for power, speed, torque and braking to the TAG systems computers while the steering is detected by TAG's Patented Twin Laser Sensors or by a potentiometer that detects the angular movement of the vehicle's front wheels. Surrounding imagery is projected on to three massive 4 metre x 2.25 metre screens that give the driver a 200 degree wrap around view of the virtual world moving past in real time.

After each race/event the vehicle is released from the dynamometer, and driven forward off the system through the middle screen (which is automatically raised by pneumatics) allowing for the next entrant to drive into the lane. Turn around time from releasing one vehicle to loading the next can be under one minute.

The general public is able to use their own rear wheel drive vehicle on the system or drive high performance V8, Nascar, or Formula 1 type vehicles. All of which can be supplied by TAG Systems.

This model can also be supplied as a transportable, demountable above ground system and both versions can be used for driver training applications.

TAG Systems TS8000 – the ultimate in driving real cars in a virtual world.



LEADING THE WORLD IN SIMULATION TECHNOLOGY

The Dubai Government Roads and Transport Authority conducted an independent and uncommissioned evaluation of TAG Systems Simulators and concluded:

- TAG Systems Simulators are advanced, highly developed simulators that are considered world class performers.
- There were no issues, failures or unexplained events with the performance over the full evaluation period and the system performed faultlessly.

THE REASONS WHY!

A FULLY OPERATIONAL MOTOR VEHICLE

TAG Systems simulators are the only ones in the world where the driver is in control of a fully operational motor vehicle. Unlike “mock-up” or “half-cabin” cars and desktop simulators, the occupant drives a TAG System simulator vehicle the same way as they would in the real world with the engine and transmission in operation along with full use of steering, accelerator, brakes and cabin controls. This ensures the ultimate in realism.

CUSTOM DESIGNED IMAGERY AND SCENARIOS

Whilst all TAG Simulators come with complete operating software and educational road networks, our in-house software development team offers the services to individualize the virtual world imagery to the customer's precise requirements. From replicating exact road networks and landmarks, to user defined driving hazards and scenarios, the purchaser can have complete control over the virtual world contents to suit their end goals.

INTERACTIVITY

Multiple systems can be networked together to allow for full interaction between multiple drivers in the same virtual world. This adds a human element to the driving within a scene.



THE VIRTUAL WORLD

The motor sport entertainment and driver training requirements of all clients are not the same. With the software design and implementation all developed and controlled in-house by the TAG Systems team, the range of imagery and driving scenarios for racetracks, drag strips, rally tracks and driver training road networks can be designed specifically for the end user's needs.

Purchasers can be confident that the operating, entertainment and driver training software that is supplied with all TAG Systems Simulators is extensive and includes, amongst other scenarios, the following:

MOTOR SPORT ENTERTAINMENT

CIRCUIT RACING

Drivers experience an exhilarating and powerful adrenalin rush being behind the wheel of a Formula 1 type race car or a V8 super car racing around a range of challenging racetracks. The vehicle's noise and vibrations along with the genuine 200 degree wrap around vision will have you thinking you are doing laps around Albert Park, Monaco or Mount Panorama.



DRAG RACING

Each driver stages at the "Christmas Tree", the lights illuminate from red through amber and green and the accelerator is slammed to the floor. Seconds later a brilliant flash of light indicates you've reached your ¼ mile destination. Results are immediately overlayed on to the huge screen in front of the driver indicating your race time. Reaction times, race placings, horsepower and 60 foot time are also displayed giving the driver immediate acknowledgement of the performance of themselves and the vehicle.

This data is also printed out on hardcopy and given to each driver at the completion of each race.



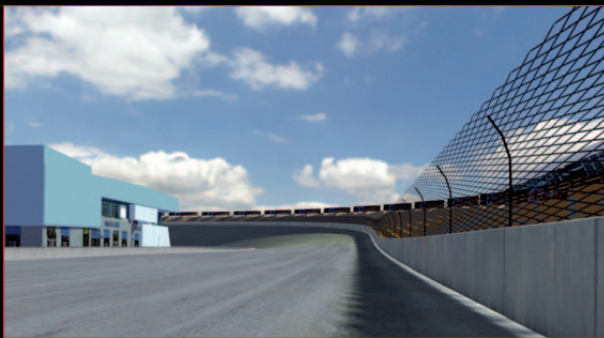
RALLY CROSS

Point to point rally cross racing through amazing scenery on surfaces from gravel roads to grid steel bridges. Test your skill in negotiating narrow tracks on the edge of mountains where one slight over steer results in crashing down hundreds of metres of rough terrain. This is an addictive timed event where you will always be determined to go that split second faster next time around!



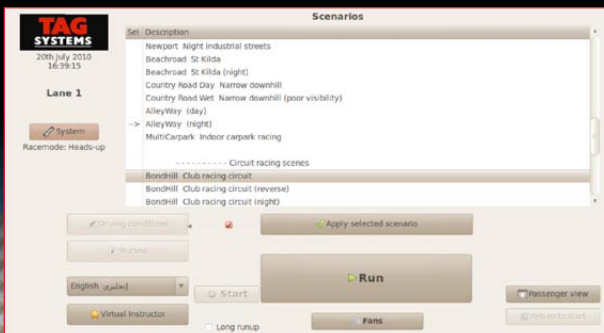
NASCAR

Nascar racing is both challenging and demanding and not just about speed. It's about subtle jockeying for position, deft maneuvering and the art of delicately nudging an opponent off course. Tight banked turns stimulate all your Daytona senses.



EASE OF OPERATION

The TAG Systems software development team have designed the programs with absolute ease of operation in mind. Simple mouse clicks on easily defined tabs ensures the system is extremely user friendly, from changing racing formats and tracks to printing race results.



DRIVER TRAINING

THE DRIVING ENVIRONMENT:

- A variety of driving scenes in day and night format from open country settings to freeways, busy narrow industrial streets, dirt tracks and multi lane highways.



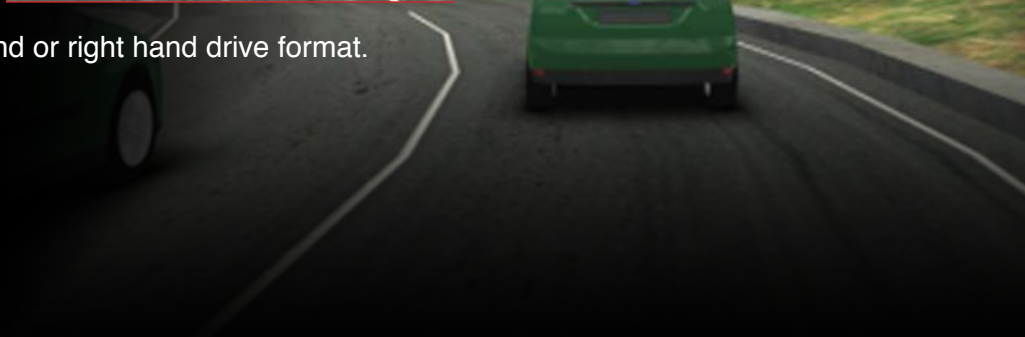
- Scenes feature hills, tunnels, off camber corners and various road surfaces.
- The road network includes all types of controlled and uncontrolled intersections ranging from Traffic Lights, Stop and Give Way Signs through to Roundabouts (single and multilane).



- Varying weather conditions such as fog, rain, snow and sand storms are continuously variable throughout the drive and have the appropriate effect on the road surface grip.

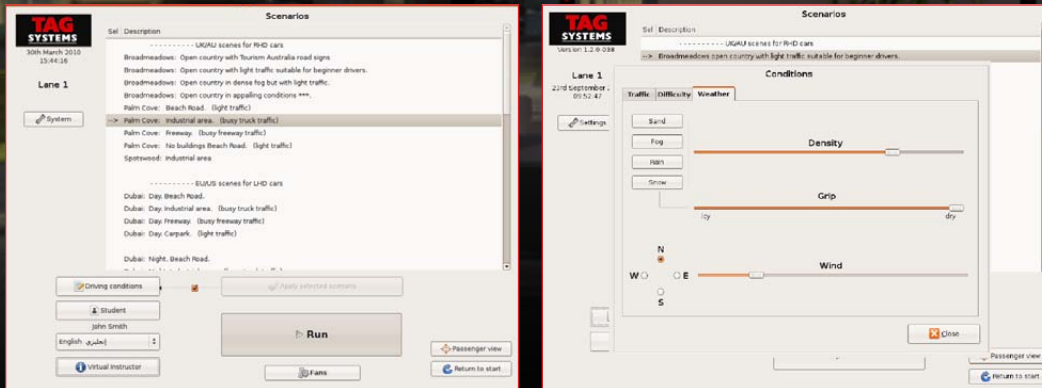


- Road networks can be in left hand or right hand drive format.



EASE OF OPERATION:

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THE TRAFFIC:

- The Artificial Intelligence (AI) cars and trucks within the scene behave just like real life road users but the operator has the ability to alter their driving behaviour and density throughout the drive.
- Vehicles can be programmed to obey all traffic rules such as speed limits, give way, keep left, stop etcetera, or they can be controlled to disobey certain aspects of correct driving procedures. Examples of which are:

- Aggressive AI vehicles may exceed the speed limit, fail to give way and tail gate.
- AI vehicles may react to the students driving behaviour, for example apply the brakes if the student is following too close.
- Vehicles may cross over the centre line in order to turn or may pull out from side streets or driveways without warning.



- Vehicles can be paused to allow driving through “frozen” traffic.
- The density of traffic on the road is also variable.

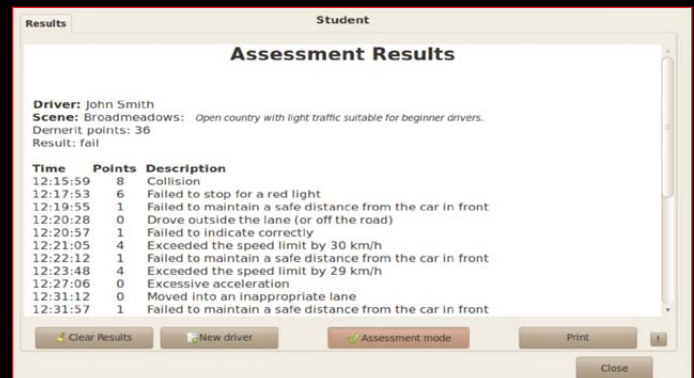
THE VIRTUAL INSTRUCTOR:

- Students can learn to drive with an instructor in the passenger seat, but the simulator also features a “virtual instructor”. The virtual instructor is an audible in car voice prompt to give routing instructions to the student.
- The virtual instructor also gives voice warnings for speeding or following too close etcetera.
- Research shows that 25% of provisional driver crashes involve colliding with the rear of another vehicle travelling in the same direction (New South Wales Road Traffic Authority figures). To teach students the recommended safe stopping distances required while driving, TAG systems has introduced the “safety zone”; a transparent overlay on the road ahead. It is green when the student is following a vehicle at a safe stopping distance or approaching an intersection at a speed to safely stop. The “safety zone” turns red if the student does not leave enough distance behind a vehicle or time to stop safely. This feature can be turned on or off by a simple click of the mouse on the operators console, before or during the drive.



STUDENT MONITORING:

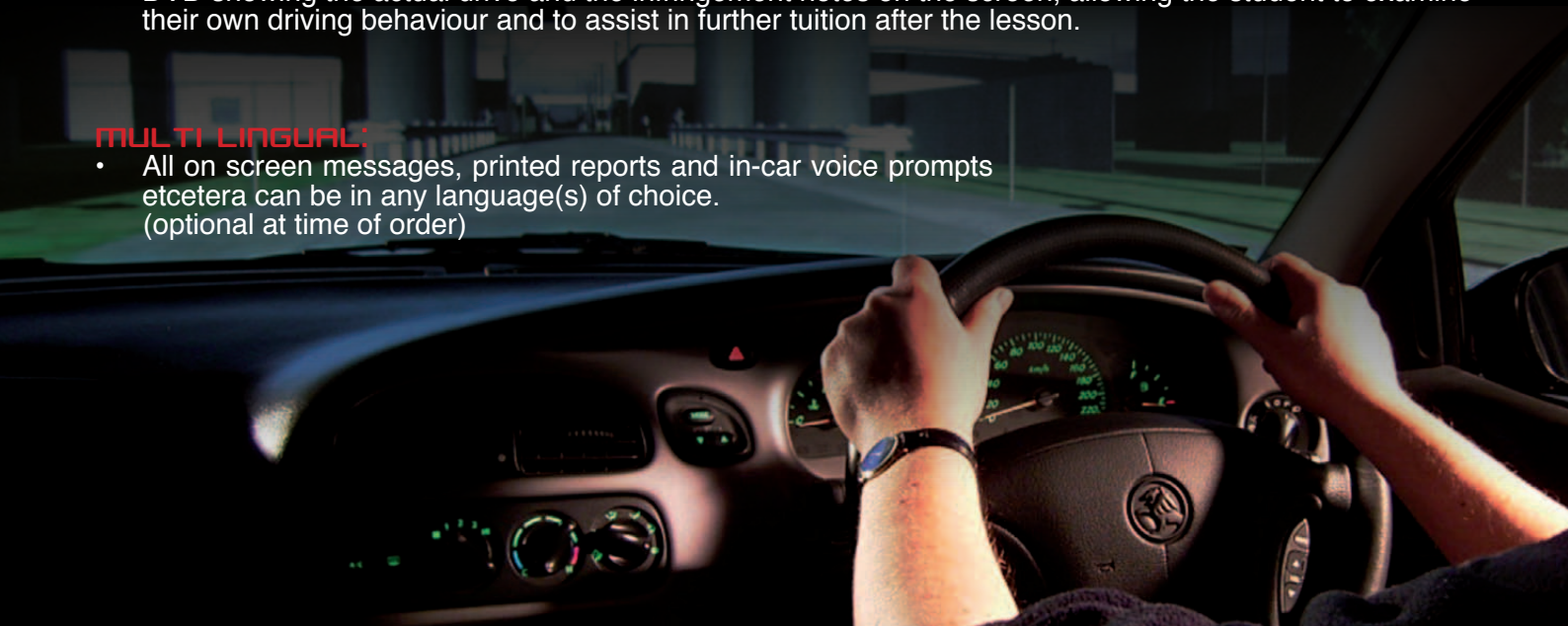
- The system is aware of the driver's adherence to the road rules, their position within the lane, appropriate use of acceleration and braking and cornering speeds etcetera. This is continuously measured and recorded by the system's computers.
- The driver's behaviour is also continuously monitored and any noted driving infringements are displayed on the rear audience monitor.
- A printed report is available post drive in two formats:
 - 1/ Summary report noting mistakes and how many times they occurred. For example, failing to stop at stop signs, speeding – by what speed, for what distance and in what speed zone.
 - 2/ Assessment report listing every infringement in chronological order with any demerit points incurred with an optional pass/fail statement.



- All monitored data can be exported to an industry standard file format for collating or research.
- Measurements can be obtained in metric or imperial formats.
- The driver's entire lesson is recorded from the rear audience monitor view. This can be produced to a DVD showing the actual drive and the infringement notes on the screen, allowing the student to examine their own driving behaviour and to assist in further tuition after the lesson.

MULTI LINGUAL:

- All on screen messages, printed reports and in-car voice prompts etcetera can be in any language(s) of choice. (optional at time of order)

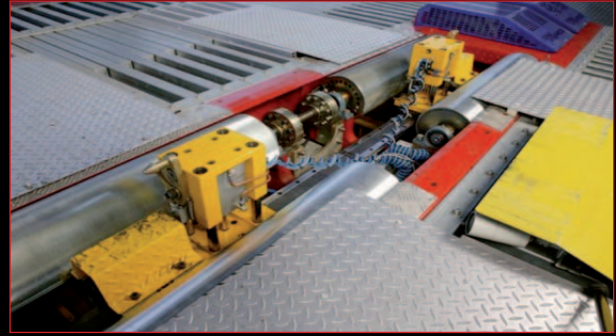


THE PHYSICAL WORLD

The Simulator is built in-ground to a preformed pit that houses the Dynamometer while the surrounding screens and projectors are secured to aluminium truss work. A separate control room enables the operator to run the simulator/s from one vantage point.

THE DYNAMOMETER

- Rear wheel drive dynamometer capable of handling motor vehicles up to 4500kg in weight and 900kW (1200 hp) in power (with optional twin retarder). This dynamometer is customized to house the World Patented TAG Systems quick lock/release motor vehicle hold down securing system.



VEHICLE SECURING SYSTEM

- The World Patented TAG Systems quick lock/release motor vehicle securing system comprises of custom designed hook shaped brackets attached to the motor vehicles rear suspension chassis. Built into the dynamometer are 2 pneumatic operated hold down heads which travel both horizontally and vertically within the dynamometer. Once the motor vehicle is in position, a control operator remotely guides the hold down heads into the hook brackets via infrared cameras located below ground level at the rear of the dynamometer and applies the appropriate pneumatic downward pressure to secure the vehicle. The time frame from releasing one motor vehicle to securing another can be under 1 minute.



STEERING DETECTION

- A quickly attachable potentiometer simply hooks to the front tyre to detect the angular movement of the vehicle's front wheels.

VISUALS

- Three 4 metre wide screens each with a high quality Digital Light Processing (DLP) projector provide a wrap around 200 degree field of view of the virtual world.
- An additional 4 metre screen and projector mounted above the system provides the audience with a television style race coverage and live vehicle information (e.g. race times, speed, horsepower etcetera).



- The driver's middle screen automatically retracts to allow the car to be driven forward off the system.

COMPUTERS

- Five standard high end consumer PC systems integrated with “off the shelf” electronics for data acquisition and control.

OPERATORS CONSOLE

- A computer for system operation.
- Monitors for viewing the vehicle securing system under the car.
- Vehicle securing system operating controls.

EXHAUST EXTRACTION

- Automatic Gates close at the rear of the vehicle to deflect exhaust fumes to the extraction system.
- All fumes are extracted using an industrial strength extraction fan and are expelled into the open air ensuring occupational health standards are met.

ENGINE COOLING

- Cooling of the vehicle is ensured by an industrial strength cooling fan mounted directly in front of the vehicle's radiator and engine assembly. This fan is enclosed by a regulated safety cage structure to ensure occupational health standards are met.
- This fan automatically retracts to allow the car to exit.

SCANNER STATION

- Identifies the driver details and the motor vehicle specifications to accurately configure the dynamometer for each individual car.

DIMENSIONS

- Floor space: 8 metres x 8 metres
- Height: 5 metres

THE TAG ASSURANCE

All TAG System simulators are supplied with full warranties and complete training. Numerous Patents throughout the globe along with exclusive operating territories for purchasers ensures your investment is protected.



OTHER PRODUCTS

TS4000

SMALLER TRANSPORTABLE DRIVER EDUCATION MODEL

The simulator is housed in a custom designed 20' High Cube Shipping Container and operates on single phase power. This transportable model comes as a complete turn key operation which includes a new motor vehicle and is designed to be set up and operable within minutes.

A robust steel frame is mounted on to a turntable on the floor of the Container. This frame houses the motor vehicle, the computers, the three 65" driver's view plasma screens, the exhaust extraction and the cooling fans as well as the TAG engineered roller system, all of which are designed to be mechanically simple and robust for long life and minimal maintenance.



TSF1-4000

THE TRANSPORTABLE ENTERTAINMENT EXCITEMENT MACHINE!

Formula 1 "wanna-be" race car drivers this ones for you!

Driving this simulator is an exhilarating, powerful adrenalin rush. It comes supplied with a custom designed and built open wheel Formula 1 type race car which, like all TAG Systems simulators has the engine and transmission running while in operation. This vehicle revs to 16,000 RPM!

The noise, vibrations and genuine 180 degree wrap around vision will have you thinking you're doing laps around Monaco, Albert Park or Silverstone. Fully transportable by road or sea, the TSF1-4000 is the ultimate travelling roadshow. Perfect for amusement, corporate entertainment, promotions and product launches to name a few.

This system comes with a choice of vehicles from V8 race cars through to the Formula 1 type open wheel car.

TS6000

MIX THE EDUCATIONAL AND ENTERTAINMENT APPLICATIONS OF THE TS4000 SERIES AND BUILD THE SIMULATOR IN-GROUND IN A LARGER, FULLY ENCLOSED CELL AND YOU HAVE THE TAG SYSTEMS TS6000.

With a choice of rear wheel drive motor vehicles to be supplied with the system, this model is for the business that wants to operate education, entertainment or a mix of both from a permanent venue.

TAG SYSTEMS

More detailed information on these models
can be found on the TAG Systems website or
by contacting a TAG Systems representative.

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