



DATA SHEET

Pronto4™ Strap-on Autonomy System

**Creates an optionally unmanned ground system
on any existing vehicle or vessel with a steering wheel**

The Pronto4™ Strap-on
autonomy System* makes
any existing vehicle or vessel
with a steering wheel an option-
ally unmanned, drive-by-wire
system in less than four hours.

- Semi-autonomous or tele-operation
- Field installable and qualifiable
- Dual-use: Human and drive-by-wire
- Flexible mission capability
- Weighs less than 100 lbs.
- Standard driving speeds to 60 mph
- Software, comms and video independent
- Uses 12 or 24 vdc power source

* The Pronto4™ Strap-on Autonomy System and related technologies are patent-pending.



A Pronto4™ Strap-on Autonomy System Series 2 installed on a military HMMWV.

Pronto4™ Strap-on Autonomy Features and Technical Specifications

- Multi-mission capable (dull, dirty or dangerous)
- Utilizes existing vehicle supply chain
- Reduces total cost of ownership
- High-quality performance
- Simple, cost-effective system
- Immediately available autonomous solutions
- Ideal for steering-wheel based vehicles or vessels
- Weighs less than 100 lbs.; 12 or 24 vdc source
- JAUS interoperable
- Compact, modularly-constructed hardware system with adaptable software capability
- Open architecture, Windows-based interface
- Minimal power and computing requirements
- Scalable manufacturing to match build standard of the vehicle; best commercial practices to MIL-STD-810F
- 90° lock to lock steering-wheel angle (+ and - 45°)
- System operates via a 115.2K baud stream
- PentiumM 1.6Ghz Processor
- Brake and throttle response time of command (0-100-0%) is less than one second
- Steering response time (lock to lock) when vehicle is moving is less than two seconds
- Command latency about 150 ms
- Uninstalled kit fits in a 24" x 20" x 12" envelope
- Works with ProntoJAUS

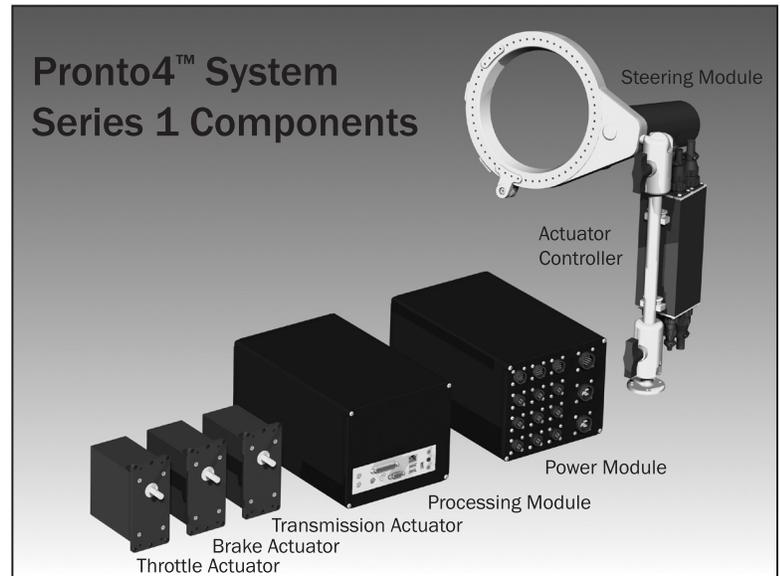
(MORE INFORMATION ON REVERSE SIDE)

Pronto4™ Strap-on Autonomy System

The patent-pending Pronto4™ Strap-on Autonomy System is a simple, cost-effective, immediately available solution that meets the military and security demand for unmanned ground systems.

Additional Features and Specifications

- Four sub-systems: Power, Computing, Vehicle and Actuation
 - Actuators control steering, brake, throttle and transmission functions
 - Steering actuator runs off the vehicle's battery power
- Field installable in less than 4 hours
 - Eliminates the need for depoting
 - Facilitates local storage of auxiliary parts for easy component exchange
 - Reduces logistics and cost
 - No special equipment needed for kit transportation
- City, highway and off-road dual-use: human / drive-by-wire
 - Tapping the brake returns the vehicle to manual mode (just like cruise control driving)
 - Eliminates the need for special training or button pushing to achieve manual mode
- COTS technologies
 - Reduces end of life and supply chain issues
- Minimally invasive installation
 - 4 holes are drilled into the floor of the vehicle
 - Requires minimal space inside the vehicle / vessel
 - No de-installation required for manual use
 - Vehicle / vessel cannot be visually identified as unmanned by foe
 - Vehicle / vessel exterior is un-modified
- Compatible with Kairos Autonomi and third party pathing products
 - Connects via serial and USB 2.0 peripherals
- Primary ancillary functions: lights, turn signals and horn
 - Provides for RPV and RGV use after dark
 - Conforms to visual and auditory signals expected by drivers in manned vehicles
- Compact, modularly constructed hardware system with adaptable software capability



- Video sharing capability
- Open architecture, Windows-based interface fully configurable with scripting languages
 - Visual Basic, Visual Studio 6, Visual Studio 2005, Visual C++, Delphi, C#
- Computing system: PentiumM 1.6Ghz processor
 - Can also be used to link with GPS, local video active graphic annotation and other software and sensor technologies
- Built-in safety features ensure the vehicle conforms to standard operating procedures
 - Hardwired external E-stop safety system
 - Remote E-stop system also supported
 - Run, pause and disable mode
- Additional hardware options
 - Ancillary functions (door locks, wipers, windshield fluid spray and electric windows, etc.)
 - MP3 sounder
 - Video subsystem and video annotation
 - Sony VTR control
 - 900Mhz radio system with a 1-2 mile line of sight (LOS) communications range
 - Commercial grade GPS

With the Pronto4™ Strap-on Autonomy System, you can have a superior, affordable, unmanned solution right now.