

# PANDORA

PRODUCT

PROTOTYPE

RESEARCH AND DEVELOPMENT



Pandora™, is an urban firefighting, police and military reconnaissance and assessment, and military counter-terrorism system. Pandora was developed at Carnegie Mellon University. The tread-driven platform incorporates the latest in panoramic camera and acoustic sensing, and computer and control technologies. The treads can be reconfigured to allow the system to negotiate large obstacles, ditches, steps, curbs, etc. Pandora is optimized for rough terrain and is light, portable, and agile. Wireless communications, and radio frequency video and audio feedback, allow the system to be used from a safe distance.

Pandora is based on a central environmentally-sealed enclosure, with external actuation systems to power the individual articulating tread modules. A centrally retractable mirror-camera provides 360 degrees of view at all times without any moving parts. A top mounted carbon-kevlar shell provides protection. The system is able to drive upside down and can self right. The system can climb 16 inch obstacles or 300% grades. Maximum flat-floor speeds can reach 5 mph. Front mounted cameras provide tele-operation feedback. A high-powered computing system is programmable to allow autonomous operation of the robot platform by way of its camera- and surrounding acoustic sensory systems. Replaceable drive-modules allow the use of wheels, tracks, belts or even legs to handle any type of complex terrain. Custom feet, treads, or tires can be accommodated at the request of the customer.

Pandora has undergone preliminary testing in realistic urban environments. Please contact us for additional technical information and availability.

## SPECIFICATIONS

**Size:** 32"L x 16" W x 8"H

**Weight:** 60 lbs., portable

**Power:** Li-ion rechargeable battery pack

**Computing:** PC Pentium onboard

**Locomotion:** Treads, wheels, or legs

**Obstacles:** Up to 16"H

**Grades:** +/- 300% @.5mph

**Enclosure:** Sealed, submersible

**Sensors:** OmniCamera & stereo

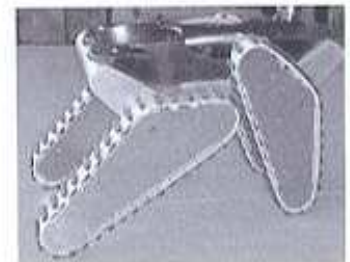
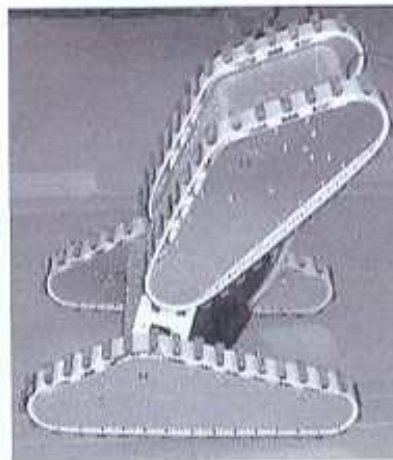
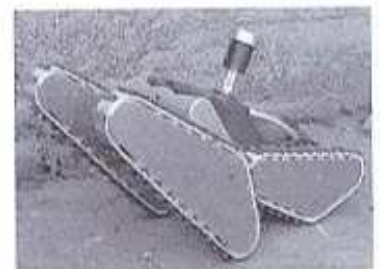
**Safety Features:** Tip-over & self-righting

**Materials:** Al & carbon-kevlar

**Sensors and Feedback:** Wireless audio/video (360° FOV)

**Communications:** Wireless serial

**Interface:** Miniature console



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