

## Tele-Command Remote Control Kit

The Tele-Command Remote Control Kit is a powerful modular base system that permits outfitting virtually any vehicle with a reliable, robust, easy-to-use remote control and tele-op capability. It is the result of 20 years experience and over 30 fielded robot systems.

The base system provides remote control of vehicle transmission, steering, throttle, braking, and actuators, plus incorporates auto-safe, emergency shutdown, and remote recovery features. It collects and delivers vehicle and payload status information through analog and digital inputs, operates the vehicle-mounted video camera system and communications links (RF, with tethered option through fiber optic cable), provides power for a variety of extra payload devices (sensors, disrupters, etc.), and Input/Output for multiple self-powered payload devices.



Our Tele-Command technology has been applied to a variety of robotic programs including the MPR-150 (Multi-Purpose Robot Series), the Navy RECORM, Army RADV & TODS, EPA ROGUE, and J&T's ForkBot. The system incorporates state-of-the-art safety features, reliability, human engineering, and environmental hardening, with a 200 hour MTBCF typical. The standard kit and all customizations are designed to comply with the Human Engineering Standards of MIL-STD-1472 and include critical malfunction sensing and automatic vehicle safing. MIL-STD-810 and MIL-STD-461 guided the design for environmental and EMI requirements.



### Applications

- Remote Control Of Existing Equipment
  - Excavators
  - Forklifts
  - Skid Loaders
  - Boats
  - Bulldozers
  - Military Equipment
- Crisis Response
- Counter-terrorism
- Homeland Defense
- UXO/EOD and Range Remediation
- Countermine/Humanitarian Demining
- Hazardous Material Handling
- Physical Security/Infrastructure Protection
- Force Protection
- Agricultural Processes

### Benefits

- Safely Operate In Hostile Environments
- Safely Operate In Hazardous Chemical Environments
- Reduce or Eliminate Human Exposure Risks
- Deliver and Operate Sensors Under High-Threat Conditions
- Remotely Manipulate Large Items
- Minimize Manpower/Reduce Costs

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<p><b>Operator Unit Capabilities</b></p> <ul style="list-style-type: none"> <li>• Dual Axis Joystick for Steering, Brake, Throttle</li> <li>• Dual Axis Joystick for Actuator Control</li> <li>• Color Video Monitor, LCD, Sunlight Readable</li> <li>• Video Camera Pan/Tilt/Zoom Control</li> <li>• Vehicle Status Display, LCD</li> <li>• Microprocessor Controlled Command Transmitter and Data Link Receiver</li> <li>• 9600 bps Data Subcarrier</li> <li>• Vehicle Startup/Shutdown</li> <li>• Continuous Self-Test with Diagnostics</li> <li>• Field Reprogrammable</li> </ul>	<p><b>Operator Unit Technical Description</b></p> <ul style="list-style-type: none"> <li>• High Reliability PC/104 Modules</li> <li>• CPU: 66MHz 486DX, 16MB DRAM</li> <li>• RS-232/422/485 Serial Ports</li> <li>• Analog Inputs (12-bit, 40kHz)</li> <li>• Digital I/O Lines</li> <li>• 16-bit Counter/timers</li> <li>• Power Input 8-30VDC</li> <li>• Output Power +5VDC, ±12VDC</li> </ul>
<p><b>Vehicle Unit Capabilities</b></p> <ul style="list-style-type: none"> <li>• Microprocessor Controlled Command Receiver and Data Link Transmitter</li> <li>• Built-in-Test at Startup</li> <li>• Continuous Self-Test with Diagnostics</li> <li>• Servo Controllers for Linear and Rotary Actuators</li> <li>• Daylight Camera and Video Input</li> <li>• User's Manual for Installation and Programming</li> <li>• Field Reprogrammable</li> </ul>	<p><b>Vehicle Unit Technical Description</b></p> <ul style="list-style-type: none"> <li>• High Reliability PC/104 Modules</li> <li>• CPU: 66MHz 486DX, 16MB DRAM</li> <li>• 60VA and 240VA Relays</li> <li>• RS-232/422/485 Serial Ports</li> <li>• Analog Inputs (12-bit, 40kHz)</li> <li>• Analog Outputs (12-bit, 100kHz)</li> <li>• Digital I/O Lines</li> <li>• 16-bit Counter/timers</li> <li>• Power Input 8-30VDC</li> <li>• Output Power +5VDC, ±12VDC</li> </ul>
<p><b>Upgrades and Options</b></p> <ul style="list-style-type: none"> <li>• Customized Platforms/Manipulators and Installation to Vehicle Mechanical and Electrical Interfaces</li> <li>• Customized Payload Control Functions</li> <li>• Customized Programming with Option for Touch Screen Capability on Both LCDs</li> <li>• Night Vision Camera</li> <li>• Video Output for External Monitor and Video Recorder</li> <li>• Upgradeable CPU Module with Additional Memory and Storage</li> <li>• Installation of any User Specified PC/104 Module</li> <li>• Video Input and Switching Selection up to Four Cameras with PIP (picture-in-picture) viewing</li> <li>• Pulse Width Modulator, Controller Area Network, and GPS Capability</li> <li>• Fiber Optic or Coax Cable Link in addition to Radio Frequency</li> <li>• Sensor Acquisition with Data Overlay onto Video</li> <li>• Additional Analog and Digital Channels</li> <li>• Sensor Suites for Nuclear, Chemical, Biological and Explosive Environments</li> <li>• Sealed Designs for Quick and Effective Decontamination in any Environment</li> <li>• JAUS and JTA Compatibility</li> <li>• Certification to MIL-STD-810 for Temperature, Humidity, Dust, Salt Fog, Vibration, and Shock</li> <li>• Certification to MIL-STD-461 for Surviving Conducted and Radiated Susceptibility</li> </ul>	