

# MVSS

## MOBILE VIDEO SURVEILLANCE SYSTEM

Impenetrable border control and surveillance without costly construction. Trusted, 24-hour mobile, remote and portable security by land and sea. The Mobile Video Surveillance Solution (MVSS) puts technology of the future at your command today. As versatile as it is innovative, MVSS provides the most comprehensive reconnaissance and target acquisition system available, combining thermal and day cameras, unattended ground sensor lasers, radar, remote video, MIMO radio technology, drones, and map-based software to thwart illegal activity and threats. From mast systems that can be rapidly deployed in remote areas to tracking and imaging tools that can be scaled to any situation, MVSS proves security is more than meets the eye.

### Mobile Video Surveillance System (MVSS)

Rugged and ready for land or sea, our signature MVSS features a telescoping mast with 6 meter vantage, long-range day and night imaging, lasers for ranging and night spotting and overhead obstruction/power line detection. Optional self-leveling and gyro stabilization along with a vehicle mounted laptop and sophisticated surveillance suite includes detailed terrain and nautical maps. The ability to auto detect and track multiple targets along with onboard storage of 30+ days of video data is available. Can be remotely controlled with line of sight transmission up to 20 miles. When not in use, the mast system is fully stowable into the bed for maximum covertsness and no clearance issues.

### Gateway Technology & Software

At the heart of MVSS lies sophisticated surveillance software utilized for perimeter protection of critical facilities and infrastructure. The content analysis software leverages geospatial information to geo-locate targets of interest. Critical target features are derived while the gateway transmits collected information to Central Control for remote monitoring to enable real-time decision-making. The software integrates all of the hardware components to provide an optical-based detection, classification, and location based ISR system unique in the market.

### Camera Platforms

The system is available with several camera payloads, including EO (visible color camera), MWIR (cooled) and LWIR (uncooled) from multiple camera suppliers. Choices include fixed and zoom lens options with maximum human classification distances ranging from 2 km – 8 km.



## FEATURES

- Integrated Command and Control
- Video Detection, Classification & Tracking
- Continuous Slew-to-Cue: Radar, UGS, GPS
- Long Range Camera Control & Tracking
- Dynamic Geospatial Display Situational Awareness
- Integrations: Spotlight, Laser, LRAD, GPS
- Rugged, Reliable, Remote Surveillance

## APPLICATIONS

- Border Surveillance
- Tactical Reconnaissance
- Mobile Security
- Off-shore Activity
- Guard Sensitive Facilities
- Event Security
- Homeland Security

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SYSTEMS®



### Drone Technology

To safely survey a situation, an optional drone can be added that can automatically deploy to a target location for a multi-angle view of the situation (e.g., whether weapons are present). Drones can hover at low altitude, store video for more than 30 days, auto-return, and self-charge for the next mission. The alarm can originate from a variety of sensor sources capable of providing a location including PureActiv geospatial video analytics, radar, acoustic buried/fence sensor, UGS, access control, contact alarm, and user input. In addition to automatic dispatch, the system includes fully automated drone start, take off and return, flightpath, live video, automatic drone stand off distance and altitude calculation for fixed camera payloads to ensure view of target, as well as the ability to maintain target in the camera field of view via drone heading control. Additional features include remote PTZ control in hover, drone position tracking, route display and drone status indication.

### Connectivity

The wireless subsystem provides 802.11 wireless connectivity to a wireless central monitoring base station. The antenna is an omnidirectional antenna, capable of at least 5 kilometers range with throughput of 1GB per second. The base station provides 360 degrees of coverage and can connect to multiple wirelessly equipped vehicles. The wireless radios and antennas are ruggedized and waterproof designed to operate in the toughest conditions. Other communication options include LTE and MIMO radio technology.

### Laser Range-Finder and Pointer

With its built-in laser and dual-antenna GPS, the MVSS range finder pinpoints the precise location of a threat and illuminates the target with a laser point seen only by investigating agents.

### Unattended Ground Sensor Network (UGS)

Future enhancements will include seismic, acoustic, infrared, and magnetic UGS to create an underground surveillance network that silently identifies multiple targets at once. Designed with long-battery life, sensors are nearly impossible to detect and can be drop-deployed or buried.

### Ready When You Are

Whether you need a fleet of mobile surveillance units and ground sensors to span a national border, advanced technologies for stealth military operations, or cutting-edge security to safeguard assets and events, discover how PureTech Systems can supply a revolutionary, cost efficient solution for you.



DRONE DISPATCH



LONG-RANGE SENSOR CONTROL



LOCATION-BASED VIDEO ANALYTICS



FULLY STOWABLE PAYLOAD

## PAYLOAD

- Six meter (6m) Telescoping Mast
- Auto Leveling System hydraulics for two axis automatic leveling
- Fully lay down in bed design for covertness
- 3000 pound rated hydraulic pump/valves and actuators
- System Power Supplies
- Dual Channel Trimble GPS module
- Dual GPS antennas
- Self coiling weather proof nycoil data conduit
- Mast Control Electronics (Mast control/Overhead height obstruction/Power Line Sensor control/Battery monitoring)
- Internal Batteries w/ 50AH capacity for 12 hours continuous operation (if not connected to vehicle power)
- Integral Bed Mounting Frame for F150
- Integral bed cover with automatic flip up design to provide 100% coverage of entire system (requires 8ft bed truck)

## VEHICLE CAB COMPUTER SYSTEM

- Rugged GETAC laptop
- Rugged Troy Mount laptop mount kit for F-150
- Installed PureTech Systems surveillance s/w suite for dual camera control w/ 30 days video/data storage
- Installed terrain maps for 50 mile radius area (additional map modules upon request)
- Auto target detection/tracking functionality

## COMMAND AND CONTROL

- Map-Based Command and Control with animated sensor display and target tracking
- Camera Pan, Tilt, and Zoom control through Xbox controller and on-screen joystick
- GIS Map for enhanced situational awareness
- Precise target range and geolocation with no other sensor than a camera
- Laser Range Finder and Laser Spotlight controls
- On-screen and recorded telemetry data
- Live IR and EO Full Motion Video display in vehicle and remotely over wireless connection
- Network Video Recording and Playback capabilities
- Vehicle Location Reporting (to other agents)
- Digitally stabilized Live and Recorded video
- Optional Radar Integration

## VIDEO ANALYTICS

- Long Range Recognition / Classification (person, car, truck, small boat, large boat, etc)
- Automated Pan-Tilt-Zoom lock-on-Target tracking
- Slew camera to a Cued location / Scan Area for Target
- Intrusion Detection (360 degree) for Tower

## TELESCOPING MAST

- Mast raiser/lower control software (raise and lower mast from inside the cab via laptop)
- Mast overhead obstruction warning and mast raise automatic stop
- GPS Status
- Mast "No Stowed" alarm if vehicle is attempted to be moved when mast not stowed
- MVSS battery display and lower level warning alarms

## TRANSFER KIT

- Forklift straps for lifting and installing system into pickup truck



## VEHICLE INTERCONNECT

Battery relay power cable assembly

Charge port kit to use vehicle power to charge MVSS batteries when vehicle idling (allows continuous operation without ever charging MVSS)

Bed to Cab interconnect cable (to run from Bed to Cab laptop thru vehicle chassis frame)

## ACCESSORY KIT

External battery charger (charges MVSS batteries from 110VAC outlet)

Mast Pendant (allows raising and lowering the mast) if laptop control is lost

5/8" Wrench (for manual mast raise and lowering)

## OPTIONS

Option 1 – Day/Night Sensor Payload

SD IR Camera with 700mm CZ lens ( >6 mile detection range for human item of interest)

HD Hitachi Day Camera with 500mm CZ lens

Dual Video encoder

Laser Range Finder with max 15 km range

Eyesafe laser spotter (out to 6 mile range)

Option 2 – 4G LTE Add-on Communications Package

Option 3 – On-site Integration and Training (30 days max)

Option 4 – Surveillance Drone with Dispatch to Alarm capability and map-based tracking

Option 5 – Radar



The screenshot displays the PureTech software interface on a tablet. It features a central map view with various overlays and controls. On the left side, there are panels for 'Camera Control', 'Full Motion Video', 'Sensor Control', 'User Hierarchy', 'Video Tracking', 'Active Alarm List', and 'Playback Controls'. On the right side, there are panels for 'Target Tracking', 'Viewshed', 'Drone Dispatch', 'User Markers', 'Radar Integration Routes', 'Range & Bearing', 'Map-Based Control', 'Live Camera', 'Alarm Video', 'Alarm Image', 'Alarm Detail', and 'Alarm Management'. The interface includes a top menu bar with 'File', 'View', 'Tools', 'Window', and 'Help' options, and a bottom status bar with system information.

