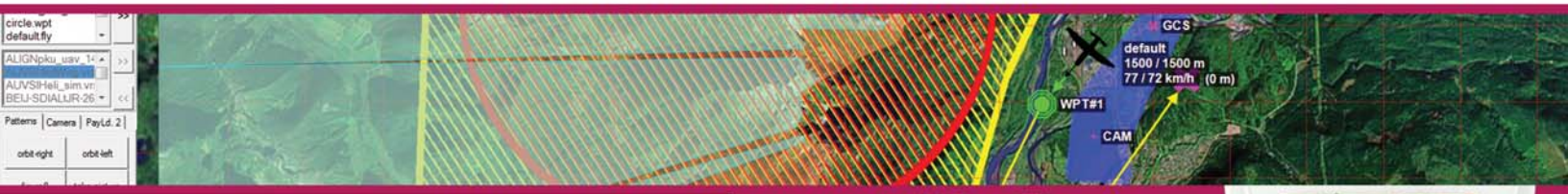
MicroPilot®

World Leader in Professional UAS Autopilots



HORIZON^{mp}

Ground Control Software

The HORIZON^{mp} ground control software is included with all MicroPilot autopilots and offers a user friendly point-and-click interface. Developed by MicroPilot specifically for our autopilots, HORIZON^{mp} runs on any Windows computer or laptop. HORIZON^{mp} allows the operator to monitor the MicroPilot autopilot, change waypoints, upload new flight plans, initiate holding patterns and adjust feedback loop gains all while the UAV is flying.

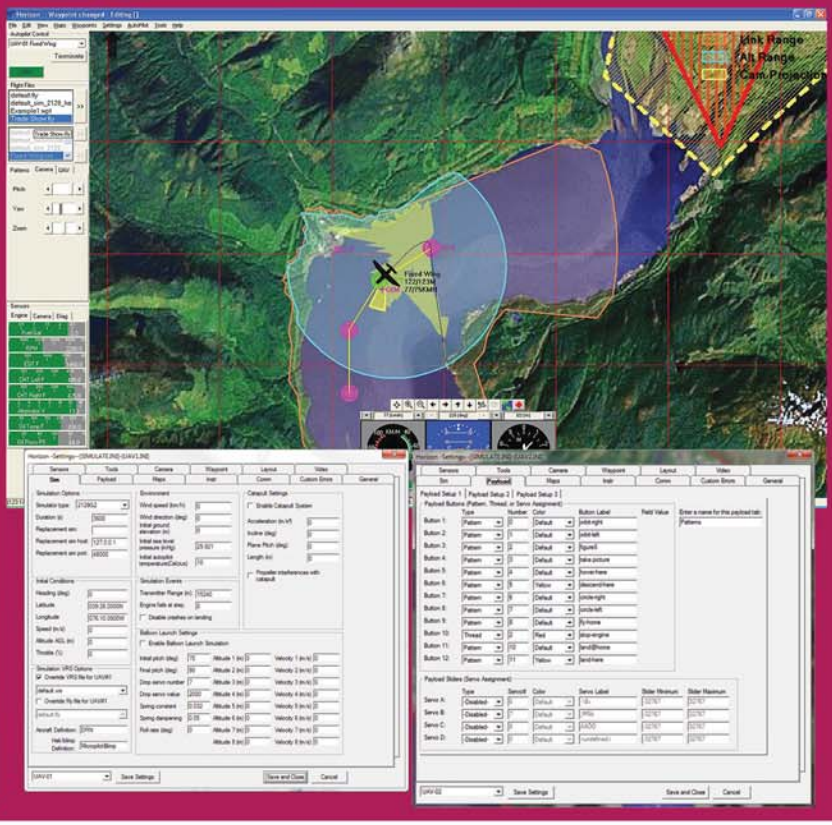
The MicroPilot autopilots, coupled with HORIZON^{mp} will get your UAV project off the concept page and into the air autonomously.

Features

- HORIZON^{mp} allows both the UAV developer and the end-user to access critical information in real-time. Up to eight user-defined sensors can be configured and displayed in three formats:
- Current Sensor values are displayed in an easy to read gauge format. Warning and danger levels can be set for each gauge.
- The Strip Chart graphs sensor specific variations over time.
- The Trace Route displays sensor data variations along the UAV's flight path.
- Offers superior configurability for the UAV developer:
- User configurable payload buttons and sliders initiate holding patterns and control servos
- Supports multiple laptop screen resolutions.
- User friendly ergonomic layout.
- Large map area.
- Extensive online help and tool tips.
- In-flight mission reprogramming.
- Waypoint move, insert delete and modify
- Joystick interface.
- In-flight gain adjustment.
- Multiple UAV profiles.
- Communication options support a wide range of radio modems.
- User definable holding patterns.
- Target altitude and speed can be changed during flight.

MicroPilot

The choice of over 850 clients in 70 countries



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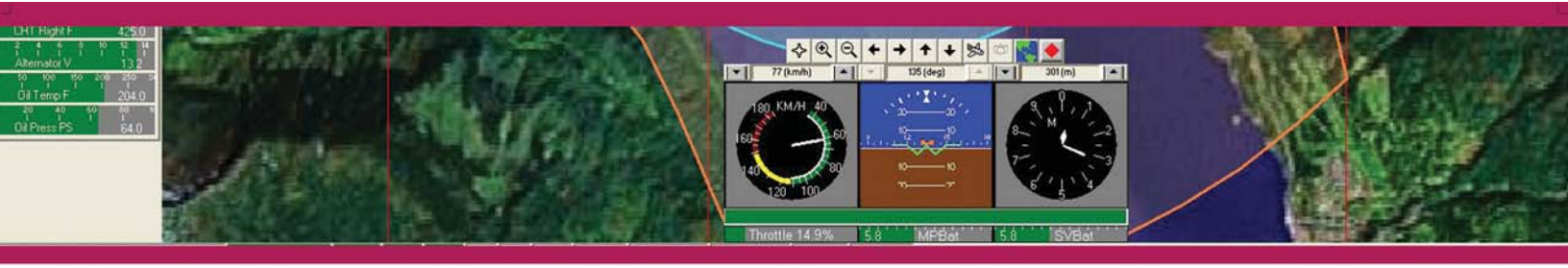
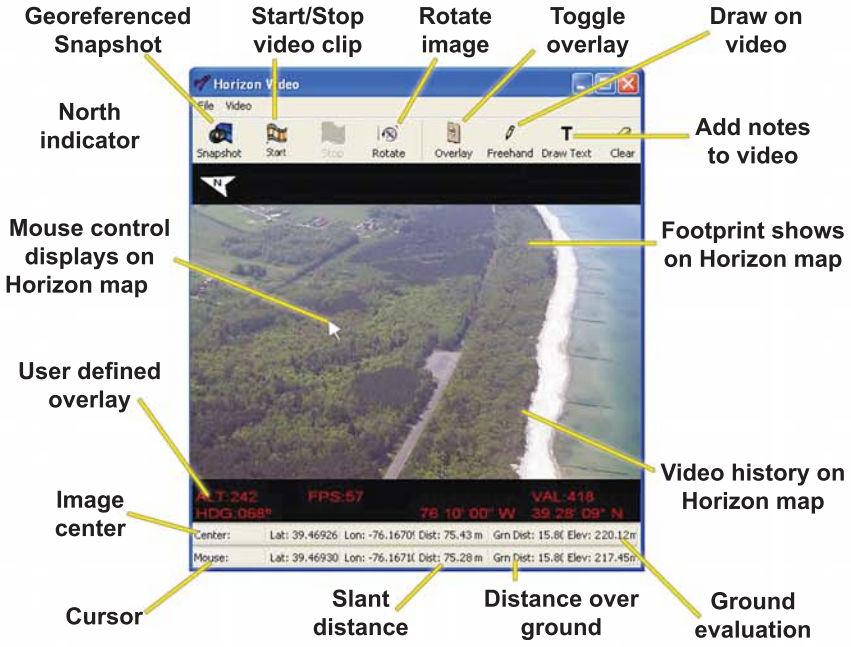


Video Friendly

Video is the most common, and the most important, UAV payload. HORIZON^{mp} offers fully integrated video support.



Video integration was no afterthought when HORIZON^{mp} was created. Tightly coupled video integration will let your UAV operators take full advantage of your UAV's video stream.

- Fly-by camera, orbit by camera and any speed follow me let your UAV operators focus on the video.
- Capture geo-referenced video clips and still images marked on HORIZON^{mp}'s map so you can retrieve them later for analysis.
- MPEG-4 compression video file minimizes disk space.
- Video annotation – free hand drawing, text or user defined icons allows UAV operators to highlight important features.
- User defined video overlay (includes on/off toggle) gives UAV operators the information they need without taking their eyes off the video window.
- Video image rotation assists UAV operators when maintaining spatial orientation
- Multiple pan tilt gimbal schemes ensure that your UAV is supported.
- Geo-Referenced video center and mouse location so UAV operators always know where they are looking.

Safety First

Video is the most common, and the most important, UAV payload. HORIZON^{mp} offers fully integrated video support.

- Map annotation and user definable no-fly zones let your UAV operators add the information they need to their maps.
- Digital terrain data ready: take advantage of digital elevation to simplify operation.
- Safe terrain range displayed on map so your UAV operators can tell where to fly.
- Safe comm. range and safe terrain range on map reduces UAV operator workload.
- Terrain look helps prevents terrain conflicts.
- No-fly zone look ahead warns users before they violate a no-fly zone.
- Comm link out of range look ahead helps prevent loss of link.
- Integrated software in the loop simulator provides a training mode: available at the push of a button
- Automatic safe return home altitude maximizes your ability to recover your UAV in the event of a loss of communications.

Operator Oriented

A powerful, easy to use interface lets UAV operators command their UAV with the click of a mouse.

- Point and click waypoint editor allows UAV operators to easily plan a flight.
- In-flight or pre-flight waypoint upload allows maximum flexibility.
- Drag and drop waypoint change allows UAV operators to modify a waypoint.
- Points of interest are marked with a simple push button so your UAV operators can easily record locations for future reference.
- Multiple recovery locations give your UAV operators flexibility to adjust to conditions.
- LAT/LON, UTM and MGRS coordinates – whichever is most convenient.
- Online, context-sensitive help provides the information your UAV operators need to understand HORIZON^{mp}.
- Go here feature sends UAV to a location just by clicking on the map.
- Multiple user defined rulers lets your UAV operators easily measure map distances.

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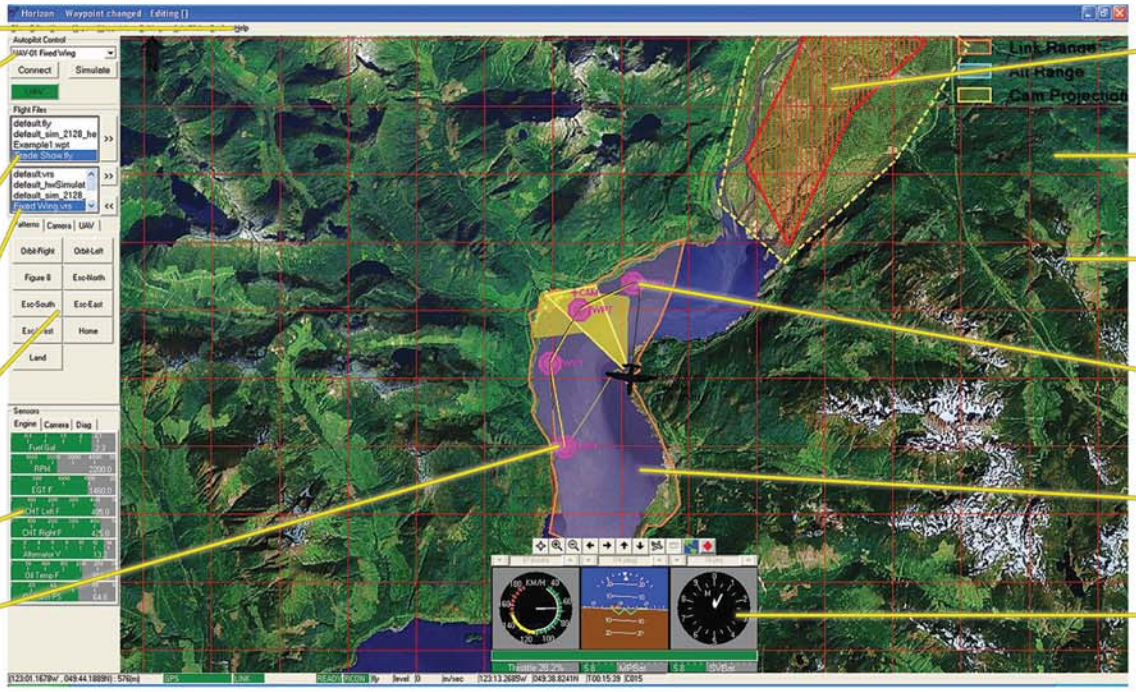


Context Sensitive Online Help

Multi UAV capabilities

Mission simulator supports multiple missions

Supports multiple UAV profiles

User defined action buttons

Inflight gain adjustments

Safe radio range

Warning and no fly zones

User friendly ergonomic layout

Large map area

Point and click waypoint editor

Safe altitude range

Easy to read instrument cluster and status gauges

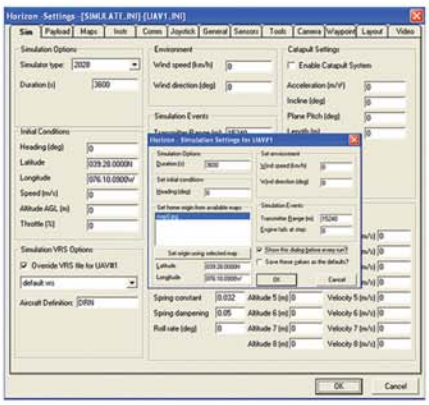
Multi-UAV Support

One is never enough! Sophisticated multi-UAV features makes sure all your UAVs are no more than a mouse click away.

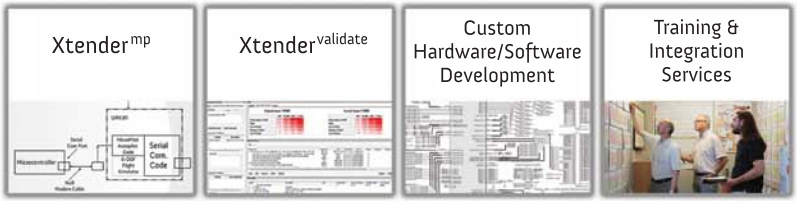
- Automatic waypoint synchronization among multiple copies of HORIZON^{mp} keeps UAV operators up to date
- UAV Ownership/Release capabilities allows multiple UAV operators to coordinate multiple UAVs.
- Multi-UAV ready simulator available at the push of a button for easy training.
- Flexible communication architecture supports one-to-many, many-to-one and many-to-many topologies and conforms to your requirements.
- Supports UAV names so UAV operators can easily identify individual aircraft.
- Supports heli, fixed-wing and multirotor UAVs simultaneously for better flexibility.
- Simultaneously simulate multiple types of UAVs included heli and fixed wing allows to train in realistic operating environments.

Advanced Simulation

Simulation is increasingly recognized as an essential training tool for UAV operators. An integrated UAV Autopilot simulator has been part of HORIZON^{mp} since its very first release and is available to the UAV operator at the touch of a button. This UAV simulator is derived from our autopilot code and includes all of the functionality of our autopilots.



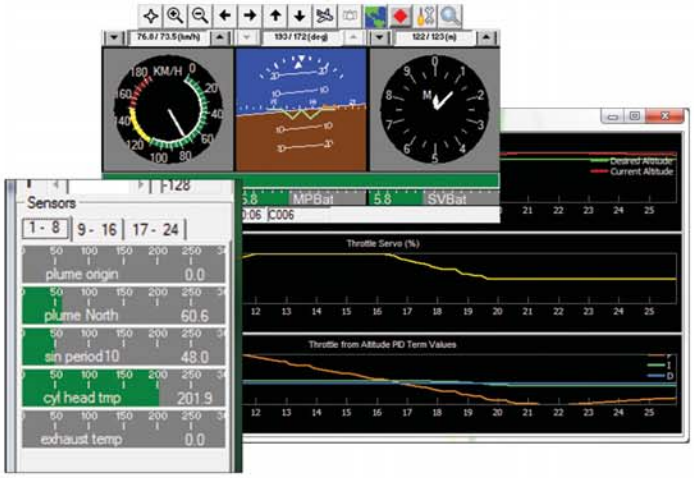
- Balloon launch, runway takeoff and catapult simulator allows you, and your customers, to simulate your environment.
- Supports MP2128^{g2} and MP2128^{HELI2} maximum simulation accuracy.
- Software-in-the-loop simulator provides a training tool for you and your customers.
- Simulator is integrated into HORIZON^{mp} and is available at the push of a button.
- Automatic selection between integrated fixed-wing, helicopter and blimp simulators enhances ease of use
- Quasi-hardware-in-the-loop simulator provides an excellent development tool and helps speed your UAV to market.
- trueHWIL provides highest fidelity simulation available in the industry and provides a tool to show the reliability of your UAV to yourself, your customers and regulators.



100% NON ITAR PRODUCTS ITAR
ISO 9001:2008 REGISTERED QUASAR
Since 1994

Informative

HORIZON^{mp} allows both the UAV developer and the end-user to access critical information in real-time. Up to eight user-defined sensors can be configured and displayed in three formats:

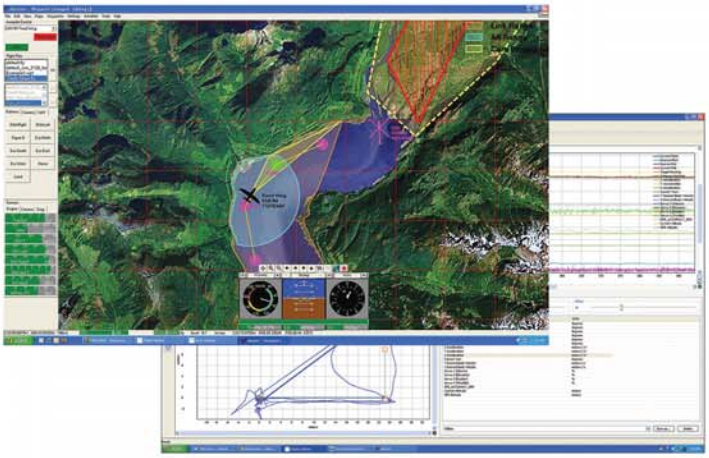


- Current sensor values are displayed in an easy to read gauge format. Warning and danger levels can be set for each gauge
- The strip chart graphs sensor variations over time
- The trace route displays sensor data variations along the UAV's flight path

Data from your MicroPilot autopilot is also recorded for post-flight analysis.

User friendly

HORIZON^{mp} is specifically designed for ease of use:

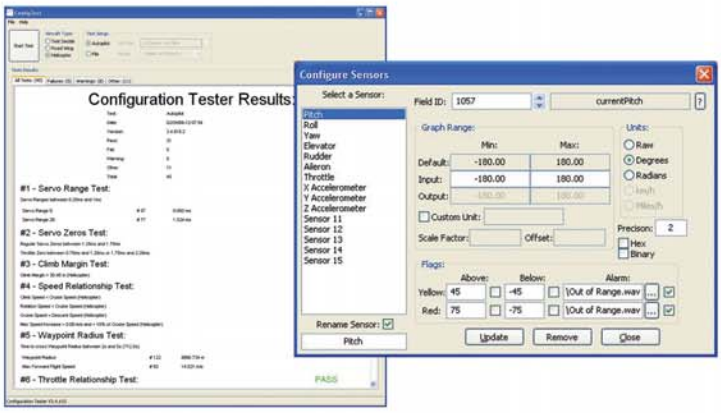


- Point and click waypoint editor/mission planner
- Mission simulator for testing and training purposes
- User definable units (imperial/metric)
- RPV mode overrides navigation for more flexible reconnaissance
- User friendly ergonomic layout
- Large map area
- Extensive online help and tool tips

The combination of the mission simulator and user-friendly design will accelerate the learning curve for the UAV developer and simplify roll-out to the end user.

Configurable

HORIZON^{mp} offers superior configurability for the UAV developer:

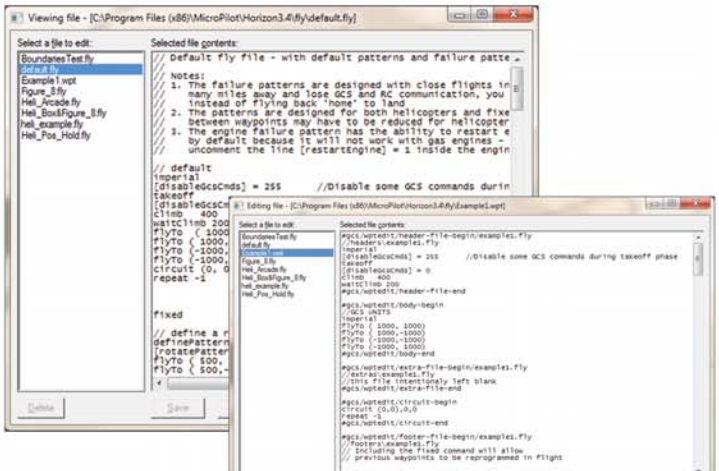


- User configurable payload buttons and sliders initiate holding patterns and control servos
- Supports multiple laptop screen resolutions
- Features can be enabled or disabled according to the application and user requirements

HORIZON^{mp} accommodates both the end-user and the UAV developer.

Capable

HORIZON^{mp} is a proven, capable and effective tool:



- Inflight mission reprogramming
- Joystick interface
- Inflight gain adjustment
- Multiple UAV profiles
- Communication options support a wide range of radio modems
- User definable holding patterns
- Target altitude and speed can be changed in flight
- Telemetry logs indexed by time and video frame number

The combination of the MicroPilot autopilots and HORIZON^{mp} speeds your development time and gets your UAV off the ground quickly and with minimum risk. Together, MicroPilot autopilots and HORIZON^{mp} give your UAV the capabilities it needs to exceed all expectations.