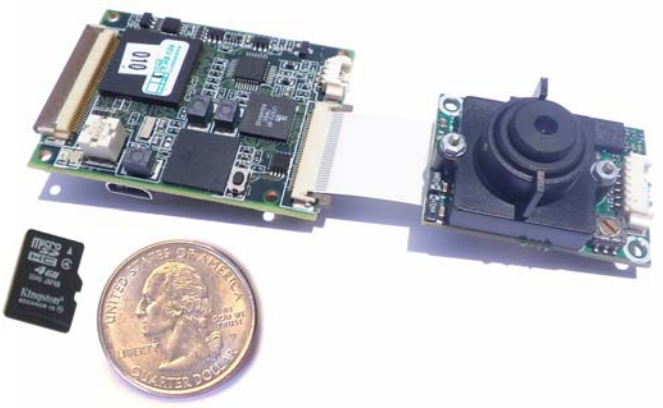
500 S. Geneva Rd., Vineyard UT 84058 · (801) 224-5713 FAX (801) 437-0182 · www.procerus.com

OnPoint™ ONBOARD

## OnPoint OnBoard™

Vision Suite v3.0



**OnPoint VPU™**
1.9" x 1.35"
11 grams (.4oz)
2.1 watts

**ePTZ - 5mp Imager**
1.3" x 0.9"
9.2 gram (.32oz)
2.25 watts

## Features:

- Target Tracking
- Video Stabilization
- Target Geo-location
- Click 'n Fly (clicking in video points gimbal & flies UAV)
- Terminal Guidance (available add on – sold separately)

- OnPoint VPU™ - Onboard vision processing unit
  - Digital video input
  - USB camera interface
  - Analog video input / output
  - Micro SD card slot, USB2.0 OTG, SPI, GPIO, Ethernet, Serial
  - Dual Core OMAP ARM/DSP processor (2Gb Flash, 1Gb DDR)
  - High speed recording of synchronized video and telemetry
  - Joystick control, Fixed track of commanded Lat/Lon, Video overlay
  - Electronic image stabilization and target tracking using advanced image processing
  - SDK provides bench test cables, USB joystick, video card, and gimbal control software
  - Integrated with Kestrel autopilot for seamless Click 'n fly / Terminal Guidance operation

- 5MP ePTZ Digital Imager
  - Electronic Pan/Tilt/Zoom
  - 4x digital zoom levels
  - High resolution still images
  - Inertial measurement aided stabilization & tracking
  - Gyro aided stabilization (gyros onboard imager)
  - Support for single or multi-Focal plane configurations

## Benefits:

- Able to track through loss-of-link
- Able to track through noisy video
- Low latency feedback
- High performance tracking
- Save video/images onboard Micro SD
- Small & light weight
- Multiple video feeds, tracking targets simultaneously with OnPoint Onboard

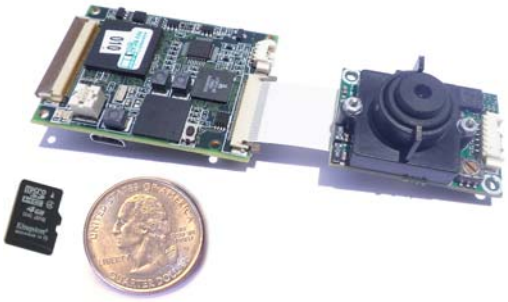
Virtual Cockpit 3D with integrated OnPoint Onboard GUI – multiple video feeds

Fly Light

Small, Lightweight, Powerful vision processing systems for UAS

## Procerus Perceptor DG™

Digital Gimbal



**OnPoint VPU™**
1.9" x 1.35"
11 grams (.4oz)
2.1 watts

**ePTZ - 5mp Imager**
1.3" x 0.9"
9.2 gram (.32oz)
2.25 watts

- Electrical Pan / Tilt / Zoom (digital gimbal – no moving parts)
- Gyro aided stabilization
- Micro SD card slot
- Common software for all Gimbal options
- Support for single or multi-focal plane configurations
- OnPoint VPU™ (Vision Processing Unit)
- OnPoint GUI: video record, playback, gimbal steering
- Joystick control, fixed track of commanded Lat/Lon and terrain aware geo-location of image center
- The OnPoint GUI application provides 3D maps for terrain data for situational awareness
- Gimbal developer's kit provides bench test cables, USB joystick, video card, and gimbal control software
- Advanced feature plug-ins provide object tracking, video stabilization, geo-localization, click 'n fly operation, and simulation/training interfaces

** Users may upgrade to full OnPoint OnBoard™ feature set.
(Target Tracking, Geo-location, Video Stabilization. Terminal Guidance available as separate add-on)

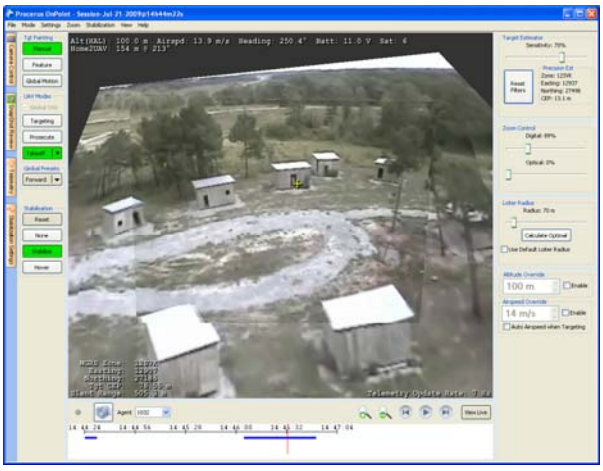
## OnPoint™ TARGETING

Procerus' OnPoint™ Targeting application, our ground based version for vision processing (runs on your laptop) brings Object Tracking, Geo-localization, Video Stabilization, and Virtual Hover to small UAV platforms. OnPoint is innovative in its vision-centric focus to UAV guidance and control – easy to use vision-based "Click 'n Fly" operation to fly the UAV and point the gimbal at desires targets, with a simple click of the mouse within the video (significantly reduces user load). This includes a "Virtual Hover" mode in which the video is presented from an unchanging vantage point, providing the perspective that would be achieved using a stationary hovering platform

**Video:**
Tracking Car: www.procerus.com/video/track_car.wmv
Virtual Hover: www.procerus.com/video/virtual_hover.wmv

- Object Tracking, Geo-location, and Video Stabilization
- Click 'n Fly operation (clicking in video points gimbal & flies UAV)
- New highly configurable GUI w/ dockable windows
- TIVO-like video pause / playback / record
- Snap shots appear in Virtual Cockpit GCS as clickable icons
- Improved Kalman filter target position / velocity estimation
- Position uncertainty estimates shown on video overlay

Ground Based Product: (runs on laptop)
www.procerus.com/Downloads/OnPoint2.0_Features.pdf



OnPoint Targeting application

Fly Light

Small, Lightweight, Powerful vision processing systems for UAS