



# PVU-Mariner

- **Video Tracking**
- **Gyro Stabilization**
- **Radar Tracking**
- **AIS Tracking**



The PVU-Mariner is the brain of your Vessel Camera System. Our flagship product can be used with either a Quickset or Directed Perception pan/tilt to accomplish precision video, radar and AIS tracking, while stabilizing the pan/tilt in two axes against vessel yaw pitch and roll motion.

#### Video Tracking:

PVU-Mariner has a multitude of advanced video tracking techniques designed to allow you to zoom in and precisely track distant boats, aircraft, vehicles or people. Examples of the tracking techniques include traditional contrast and correlation algorithms, and hand crafted algorithms for tracking boats on the water and airplanes in the sky. In all cases, the objective is to zoom in and follow the object of interest precisely.

#### Gyro Stabilization:

PVU-Mariner connects to either a Fiber-Optic-Gyro (FOG) or a MEMS gyro via a serial interface to obtain vessel yaw, pitch and roll motion. PVU-Mariner allows for 2-axis stabilization at 30Hz. The system maintains a target in a 3 degree FOV image while the host vessel undergoes up to  $\pm 20$  degrees of pitch/roll motion and 360 degrees of yaw motion.

#### Radar Tracking:

PVU-Mariner receives data from a radar that produces a NMEA message and points the camera at radar targets. Upon selecting a radar track, the camera is pointed at the object and the estimated bearing, range, course and speed are extrapolated at 30Hz and displayed to the user. Up to 99 radar tracks can be handled by the system.

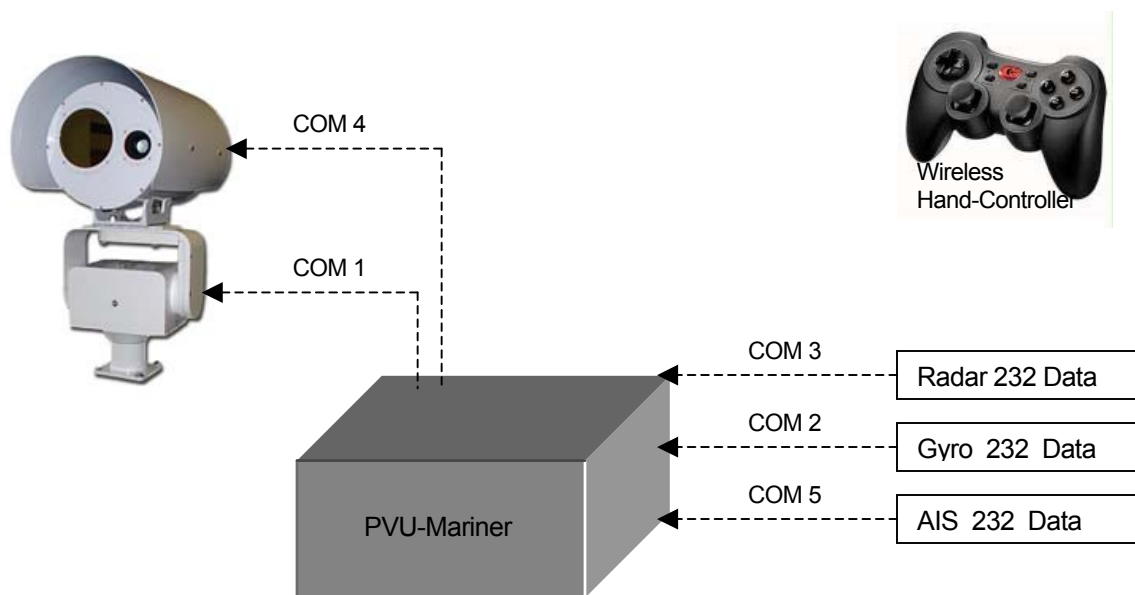
#### AIS Tracking:

PVU-Mariner receives data from an Automatic Identification System (AIS) receiver and automatically points the camera at AIS targets. Upon selecting an AIS track, the camera is automatically pointed at the object and the estimated bearing, range, course and speed are extrapolated at 30Hz and displayed to the user. Up to 99 AIS tracks can be handled by the system at any one time.



# PVU-Mariner

The PVU-Mariner is controlled with an ergonomic, wireless, hand-controller/joystick and the system provides annotated full screen video to the user for a simple interface. The system connects to the gyro, radar, AIS, camera and pan/tilt device via five RS232 ports and two NTSC / RS170 video inputs. Additionally, PVU-Mariner is a small (6.3 x 7.5 x 2.6 in.) fan-less device, which can withstand rugged conditions and is powered by 10-30 Volts DC.



## Hardware Features

- Celeron M – 1.0 GHz
- 256MB DDR-RAM
- 6x USB V2.0 (2 front, 4 rear)
- COM1, COM2, COM3, COM4, COM5
- LAN Ethernet 10/100Base-T
- Up to 3 Video channels in (NTSC / RS170)
- Video Display VGA out
- Standard operating temp 0°C - +50°C
- Extended temp of -40°C to +70°C available
- Less than 3.0 KG weight
- Small Dimensions: 160 x 190 x 66mm (6.3 x 7.5 x 2.6 inches)
- 10 – 30 Volts DC

