

SEA-TRAK HD – High Definition GPS Overlay

**** Requires user supplied GPS ****

Sea-Trak® HD: GPS On-Screen High Definition Video Overlay



Description:

Sea-Trak® HD is a standalone on-screen HD video overlay device that overlays GPS (Global Positioning System) latitude, longitude, heading (track), speed, altitude, date, time, and depth below transducer as well as a custom user message onto any incoming AHD, HD-TVI, and HD-CVI 720p / 1080p video source such as a video camera. All RS-232 NMEA 0183 compatible GPS receivers are supported.



Specifications:

| | |
|--------------------------------|--|
| Dimensions: | 5 1/2" x 3 1/2" x 1 1/4" |
| Weight: | 9.7 oz. |
| RoHS compliant: | Yes |
| Input voltage: | 8.0 to 14.0 volts DC (150 ma max.) |
| DC plug: | 2.1 mm x 5.5 mm, center tip positive |
| Operating temperature: | -20C to +60C |
| Video formats: | AHD, HD-TVI, HD-CVI (720P and 1080P) |
| Video level: | 1 volt peak to peak |
| Video impedance: | Input 75 ohm, output 75 ohm resistively terminated |
| GPS input: | NMEA 0183. GPRMC, GPGGA, and SDDBT sentences. 4,800 - 38,400 baud. |
| Speed format: | MPH, KPH, and knots |
| Altitude format: | Feet and meters |
| Depth below transducer format: | Feet and meters |
| Heading (track) format: | Compass cardinal points (e.g. NW) and degrees |
| Time format: | UTC with user time zone adjustment |
| Date format: | MM/DD/YY and DD/MM/YY |
| User custom message length: | 10 characters |

Connections:

Sea-Trak® HD has five connectors

| Connector | Hookup |
|-----------|---|
| VIDEO IN | <ul style="list-style-type: none"> Attach noise free AHD, HD-TVI, HD-CVI (720P and 1080P) video source |
| VIDEO OUT | <ul style="list-style-type: none"> Attach to HD video monitor, DVR, video transmitter, etc. |

| | |
|------------|--|
| SERIAL IN | <ul style="list-style-type: none"> Pin 2 - Attaches to GPS receiver serial output Pin 5 - Attaches to GPS receiver serial ground |
| SERIAL OUT | <ul style="list-style-type: none"> Serial data pass-through |
| DC IN | <ul style="list-style-type: none"> +8.0 to +14 volts VDC 2.1 mm x 5.5 mm DC coax plug, center tip positive |

DIP Switch Configurations:

Sea-Trak® HD has 8 internal DIP switches. To access the DIP switches disconnect all cables from the Sea-Trak® HD unit then remove the 2 screws from the rear of the enclosure. The rear panel and bezel with the circuit board will slide out.

Note: DIP switches are only checked during power-up.

| DIP # | Description |
|-------|---|
| 1 - 6 | Reserved |
| 7 | Factory Reset OFF = Normal operation ON = Factory Reset |
| 8 | Firmware flash update OFF = Normal operation ON = Firmware flash mode |

Operation:

- Apply power to the Sea-Trak® HD. During power-up the yellow “GPS Fix” LED will blink for 10 seconds.
- An on-screen “X” icon appears if there is no valid communications with the external GPS receiver
- An on-screen “?” icon appears if there is a valid connection to the external GPS receiver but no satellite fix
- The on-screen GPS fields will update after each valid NMEA GPRMC, GPGLA, and SBDBT sentence is received from the external GPS receiver. The yellow “GPS Fix” will illuminate.
- Press the MENU button to enter the on-screen menu configuration (see below)
- Simultaneous press the UP/DOWN buttons to configure the incoming video input source (see below)

Configuring the incoming video source:

- The Sea-Trak® HD unit must be configured to match the incoming video input source (AHD, HD-TVI, and HD-CVI 720p or 1080p)
- To match the incoming video input source press and release the UP/DOWN buttons simultaneously to cycle through the video options until stable text is visible on-screen (you will see an on-screen menu)
- Press the ENTER button and wait until for the normal operation screen
- The configuration information is stored in non-volatile memory so information is retained even with loss of power to Sea-Trak® HD

Status Icon:

If the “Show Status” option is enabled (by default) the following icons may appear:

| Icon | Status |
|------|---|
| X | No or invalid communications with the attached GPS receiver |
| ? | The attached GPS receiver does not have a satellite fix |

“GPS Fix” LED:

The yellow “GPS Fix” LED illuminates when the attached GPS receiver has a fix with a minimum of 4 satellites. A GPS fix is required for on-screen GPS information to update.

On-Screen Menu Configuration:

At any time press the MENU button to enter the on-screen menu configuration. The UP, DOWN, and ENTER buttons move the cursor and change the settings. All configuration information is stored in non-volatile memory so information is retained even with loss of power to Sea-Trak® HD.

Main Menu:

| Menu Option | Action / Setting |
|--------------------------|---|
| Enable GPS Overlay | OFF = Display the overlay text ON = Pass video through without displaying the overlay text |
| Display Options Menu... | Display the Options Menu |
| Field Formatting Menu... | Display the Field Formatting Menu |
| GPS Settings Menu... | Display the GPS Settings Menu |
| Save Changes and Exit | Save changes and exit the Main Menu |
| Discard Changes and Exit | Discard changes and exit the Main Menu |

Display Options Menu:

| Menu Option | Action / Setting |
|---------------------------|--|
| Screen Layout | On-screen GPS field layout formats <ul style="list-style-type: none">• Standard - Fields are displayed on the top and bottom of the screen• Top - Fields are displayed on the top of the screen• Bottom - Fields are displayed on the bottom of the screen• Left - Fields are displayed on the left side of the screen• Right - Fields are displayed on the right side of the screen• Custom - Future enhancement |
| Show Status | OFF = Do not display the GPS receiver status on-screen ON = Display the GPS receiver status on-screen |
| Show Altitude | OFF = Do not display altitude on-screen ON = Display altitude on-screen |
| Show User Msg | OFF = Do not display the user defined message on-screen ON = Display the user defined message on-screen |
| User Message | Enter an optional 10 character on-screen message <ul style="list-style-type: none">• MENU button to decrement cursor position• ENTER button to increment cursor position• UP / DOWN buttons to cycle through characters |
| Download Custom Layout... | Future enhancement |
| Main Menu | Return to Main Menu |

Field Formatting Menu:

| Menu Option | Action / Setting |
|-------------|---|
| Altitude | Altitude formats <ul style="list-style-type: none">• Meters• Feet |
| Speed | Speed formats <ul style="list-style-type: none">• Meters• Feet |
| Heading | Heading formats <ul style="list-style-type: none">• Degrees (e.g. 90)• Compass (e.g. NW) |
| Date | Date formats <ul style="list-style-type: none">• MM-DD-YY• DD-MM-YY |
| UTC Offset | Time offset from UTC (-12 through +12) e.g. -5 is EDT <ul style="list-style-type: none">• ENTER button to increment value |
| Main Menu | Return to Main Menu |

GPS Settings Menu:

| Menu Option | Action / Setting |
|-------------------------|--|
| Baud Rate | External GPS receiver baud rate (4,800 - 38,400) |
| Override Alt With Depth | OFF = Display altitude ON = Display depth to transducer |
| Diagnostics... | Display GPS diagnostics screen |
| Main Menu | Return to Main Menu |

Warranty & Service:

If the product fails to perform as described in our product description or specification, within 1 year from the date of shipment to the buyer, we will repair or replace the product and/or accessories originally supplied. Failure due to improper installation, misuse, abuse or accident is not covered by this warranty. Incidental and consequential damages are not covered by this warranty. The buyer must first obtain a Return Material Authorization number by calling Seaviewer Cameras Inc. Tampa FL 33619 for RMA. The unit should then be returned "postal paid" with the RMA on the outside of the box and detail description inside.

To:

Seaviewer Cameras Inc
6012 E Columbus Dr
Tampa FL 33619 USA
813.242.6160

NOTE: RS232 INPUT/OUTPUT

When using the unit without a pass-through connection you can use EITHER the INPUT/OUTPUT connection for your GPS Unit.