

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.