

## ST3400H Terrain Awareness and Warning System for Helicopters



### The Perfect Fit

If you're looking for the best and the brightest, you've come to the right place.

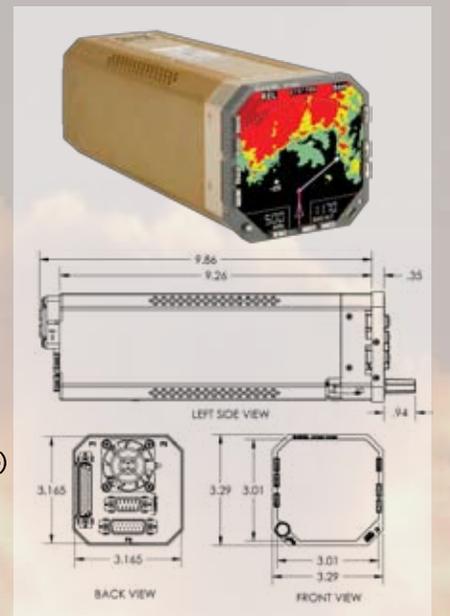
#### Key Features

- Replaces radar altimeter indicator for ease of installation
- Self-contained HTAWS and GPWS computer - TSO C194 and C151b certified
- Displays terrain, obstacles, flightplan and traffic overlay
- Based on the industry standard ST3400 Part 25 Class-A TAWS
- Ultra-high resolution 3 arc-second (300' grid) terrain
- Superior display performance - uses Sandel's beautiful high brightness 3-ATI display engine
- LED Backlight with 10,000+ Hour MTBF
- NVIS: Class B compliant per MIL-STD-3009

Combining TAWS expertise from thousands of installations in corporate and air-transport aircraft, and years of supplying civilian and military users with 3" and 4" primary displays, Sandel introduces the ST3400H Helicopter Terrain Awareness and Warning System. Certified to the new HTAWS TSO C194 specifically for helicopters, the ST3400H combines the most advanced HTAWS computer with the industry's best display technology to provide a single panel-mount, self-contained solution.

# ST3400H HELICOPTER TAWS

## SPECIFICATIONS & INTERFACES



### Display

Sandel LCD projection engine; LED-Backlight  
Daylight mode: Sunlight Readable  
NVIS mode: Class B compliant per MIL-STD-3009 (optional)  
2.9 lbs (1.31 kg)

### Weight Dimensions

Length: 9.86 in (25.04 cm) from rear of bezel  
(excluding Positronics 'D' connectors)  
Body: 3.165 in x 3.165 in (8.04 cm x 8.04 cm)  
Bezel: 3.285 in x 3.285 in (8.34 cm x 8.34 cm)

### Power Requirements Cooling Requirements Operating Environment

22-33 VDC, 27.5 VDC @ 1.2A (33W) nominal  
Internal fan, forced air not required  
-20° C to +70° C (-40° C on special order)  
+55,000 ft. max. altitude

### Mounting Certification Basis

Standard 3-ATI with clamp  
TSO C194 Helicopter Terrain Awareness and Warning System (HTAWS)  
TSO C151b (partial) Terrain Awareness and Warning System (TAWS)  
TSO C113a Airborne Multipurpose Electronic Displays  
RTCA/DO-160D/E/F Env. Cat: [A2F1Z]BBB[H(R)R(BB1G)]  
XXXXXXXXZBABBC[WW]M[XXE2F2X]XXAX  
RTCA/DO-178B Software Level C  
RTCA/DO-254 Hardware Level C

### Warranty Database

2 years  
Terrain: 3 arc-second horizontal resolution (300 ft. grid), 1 foot vertical resolution  
Obstacle: 1 foot vertical resolution  
Airports / Heliports  
Oil Platforms

### User Waypoints Required I/O

Supports user entered obstacles and landing sites

### GPS

ARINC 429, RS-232 (WAAS GPS receiver required)

### Optional I/O

### Heading VOR/Localizer

ARINC 429 or XYZ Synchro (installation option: for enhanced display features)

### Glide Slope

ARINC 429 or Low-level analog (installation option: for GPWS ILS alerting)

### Radar Altimeter

ARINC 429 or Low-level analog (installation option: for GPWS ILS alerting)

### Traffic

ARINC 429 or Analog (installation option: for display and GPWS alerting)

### Outputs

ARINC 429 (installation option: for traffic display overlay)

### Audio

600-ohm line-level

### Discretes

GND Discretes for Caution, Warning, TAWS Inhibit, RTC Enable, Radalt MINS

### Discrete Inputs

Remote TAWS Inhibit, RTC Enable

### Display Features

### Map Display

High-resolution map depicting GPS flight plan, terrain, obstacles, airports, heliports, oil platforms, user entered waypoints and traffic

### Terrain Display Modes

Map ranges from 0.5nm to 20nm full scale

Relative Mode (REL): Terrain color coded relative to current helicopter altitude

Predictive Mode (PRED): Terrain color coded based on current climb rate

Topographic Mode (TOPO): Terrain shown in standard sectional chart colors

Digital radar altitude. Pilot adjustable MINS setting

### Radar Altimeter Display

### Alerting Modes

### TAWS

Forward Looking Terrain Avoidance

Premature Descent Alert

TAWS alerting active at ground speeds >25 kts.

Mode 1: Excessive Rate of Descent

Mode 2: Excessive Closure Rate to Terrain

Mode 3: Altitude Loss After Takeoff or Missed Approach

Mode 4: Flight Into Terrain When Not in Landing Configuration

Mode 5: Excessive Downward Glide Slope Deviation

Mode 6: Altitude Callouts

### GPWS

Specifications subject to change without notice.

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