



# TAS600

Traffic Advisory Systems  
with **Ryan** Active Surveillance



Avidyne's  
Dual-Antenna  
TAS600-series  
Traffic Advisory  
Systems bring  
affordable  
active-surveillance  
traffic detection  
to the flight  
decks of general  
aviation aircraft.



## Dual-Antenna TAS600 Sets a New Standard

Traffic Advisory Systems (TAS), which are based on the technology originally developed for air-transport category traffic alert and collision avoidance systems (TCAS), have been available for general aviation aircraft for several years, but have been cost-prohibitive for many owner-flown aircraft. Until now.

With the *Entegra* Traffic Series, Avidyne offers three different dual-antenna TAS systems, tailored for the type of aircraft you fly. These feature-rich, value-priced TAS600 systems are fully TSO certified, surpassing the performance capabilities of many higher-cost traffic systems and setting a new standard for active-surveillance traffic capability and affordability.



# TAS600

## Active Traffic Advisory Systems

### Active Innovation

Resulting from the merger with Ryan International, an industry innovator in the field of active-surveillance traffic systems, Avidyne's new TAS600-series, with Ryan Active Surveillance™ (RAS) technology, detects and actively interrogates other aircraft transponders within range, displays the surrounding traffic on a host of compatible display systems, and provides audible alerts in the event of a potential traffic conflict.

Active interrogation gives the precise location of nearby aircraft, providing real-time traffic information with no delay. Having an active traffic system is vital to providing a full measure of safety, in busy terminal areas as well as in non-radar airspace.

All TAS600 systems provide real-time traffic monitoring and advisories. The TAS600 system is not radar-coverage limited, and is not dependent on ground-based systems.



### Models

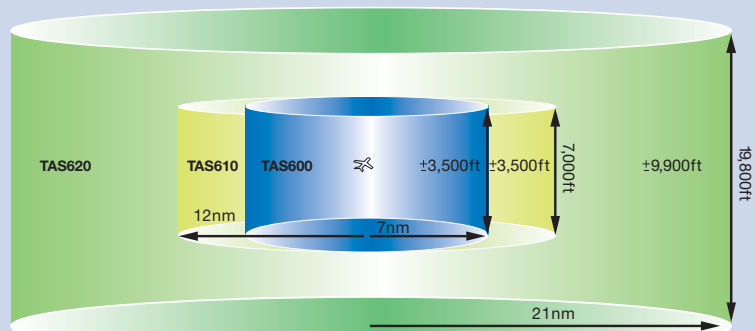
Avidyne's TAS600 series includes three models, designed for your specific aircraft needs:

**TAS600** Recommended for entry-level, single-engine piston aircraft, the TAS600 features a 7nm range, a 3,500-foot vertical separation maximum and 18,500-foot service ceiling.

**TAS610** Recommended for mid-performance aircraft and rotorcraft, the TAS610 features a 12nm range, a 3,500-foot vertical separation maximum and a 25,000-foot service ceiling. It accepts Arinc 429 Heading, permitting rapid repositioning of targets during high-rate turns.

**TAS620** Recommended for high-performance aircraft and rotorcraft, the TAS620 features a 21nm range, a 9,900-foot vertical separation maximum and a 55,000-foot service ceiling. It accepts Arinc 429 Heading, permitting rapid repositioning of targets during high-rate turns.

The TAS600, TAS610, and TAS620 are designed to meet the specific needs of each class of aircraft, providing a full 30-second decision time at a closure rate of up to 1200 knots. TAS600-series traffic systems interrogate transponders from nearby aircraft within their respective coverage volume (shown below), and provides a warning to the flight crew when the calculated time to closest approach (CPA) of any intruder and the protected area around the aircraft reaches the 30-second threshold.



### The Most Display Options

TAS600 systems provide traffic advisories by calculating range, bearing, and altitude of intruder aircraft relative to the host aircraft, and provide a graphical overlay view and traffic depiction with TCAS symbology on display systems from over 15 different manufacturers



## Seeing the Big Picture

The TAS600 provides three levels of alert, so pilots can monitor traffic before it ever becomes a threat. Each of these alerts also provides an altitude separation number and may also include an Arrow pointing up or down denoting that the target is climbing or descending at a rate of 500 feet per minute or greater.



**+09 Other Traffic (OT)** - Depicted as a hollow Cyan (or White) Diamond and represents traffic that is within the TAS600's surveillance area but it is beyond 6nm in range and has an altitude greater than  $\pm 1200$  feet relative to your aircraft and is not an immediate threat.

**-03 Proximity Alert (PA)** - Depicted as a solid Cyan (or White) Diamond on the traffic display, when the traffic is within a distance of 6nm range and its altitude is within  $\pm 1200$  feet, but it is still not considered a collision threat.

**+02 Traffic Alert (TA)** - Depicted as a solid Yellow Circle, a TA is displayed and an automated voice alert is activated when the calculated intercept course for altitude and direction is within 30 seconds, less than .55nm and less than  $\pm 800$ ft.



## Heads-Up Audible Position Alert™

When a traffic conflict is eminent, pilots need the right information in real time. First-generation traffic systems only provide a "Traffic Traffic" audible alert, which then requires the pilot to look down at the display to locate the relative bearing and distance of the intruder aircraft before looking out the window.

Avidyne's Heads-Up Audible Position Alert™ verbally indicates the conflicting aircraft's bearing, range and relative altitude for rapid visual acquisition of traffic. This automated voice alert uses the same alert terminology as Air Traffic Control:

*"Traffic! One o'clock! High! Two miles."*

This type of alert provides the data a pilot needs to keep his attention focused outside the cockpit, scanning for oncoming traffic.

In addition to displaying standard traffic symbology, Avidyne's EX500 (left), EX5000, and the MHD300 (far left) also have the ability to display the transponder squawk codes, as well as N-numbers of Mode S equipped aircraft (in US airspace), making it even easier to identify specific targets.

## Top and Bottom Antennas

Standard with all TAS600 systems, Avidyne's patented directional top and bottom antennas provide optimum signal coverage around the host aircraft, enabling faster updates, providing enhanced performance over single-antenna systems, and maximizing safety.



Avidyne's ATD150 'half 3-AT' Digital Display provides a compact alternative for displaying traffic threats when panel space is at a premium.

including Avidyne's *Entegra* and EX-Series MFDs, Garmin's G1000 and 400/500-Series, and displays from Honeywell, Collins, Chelton, Sandel, Avalex, and others.



## Functionality

| Feature                                 | TAS600 | TAS610 | TAS620 |
|-----------------------------------------|--------|--------|--------|
| Range                                   | 7 nm   | 12 nm  | 21 nm  |
| Vertical Range                          | ±3,500 | ±3,500 | ±9,900 |
| Service Ceiling                         | 18,500 | 25,000 | 55,000 |
| Number of Targets Displayed             | 9      | 9      | 9      |
| Number of Targets Tracked               | 50     | 50     | 50     |
| Active Interrogation                    | Yes    | Yes    | Yes    |
| Voice Annunciation                      | Yes    | Yes    | Yes    |
| Heads-Up Audible Position Alerting™     | Yes    | Yes    | Yes    |
| – Target Bearing Annunciation           | Yes    | Yes    | Yes    |
| – Target Relative Altitude Annunciation | Yes    | Yes    | Yes    |
| – Target Range Annunciation             | Yes    | Yes    | Yes    |
| Mute Update                             | Yes    | Yes    | Yes    |
| Top and Bottom Directional Antennas     | Yes    | Yes    | Yes    |
| ARINC 429 Output Interface              | Yes    | Yes    | Yes    |
| Altitude Alerting                       | Yes    | Yes    | Yes    |
| Dynamic Shields                         | Yes    | Yes    | Yes    |
| Yoke Mount Mute                         | Yes    | Yes    | Yes    |
| N-Number Capability                     | Yes    | Yes    | Yes    |
| Ground Mode                             | Yes    | Yes    | Yes    |
| Weight On Wheels                        | Yes    | Yes    | Yes    |
| Target Transponder Ident Squawk         | Yes    | Yes    | Yes    |
| ARINC 429 Heading Input*                | No     | Yes    | Yes    |

## MHAS6000-Multi-Hazard System

As a safety enhancement for the industry-leading EX500 or EX5000 MFD, consider the advantages of the MHAS6000 Multi-Hazard System.

The MHAS6000 is a specially-priced safety enhancement suite comprised of an EX500 or EX5000 MFD and any of Avidyne's new TAS600-Series Traffic Avoidance Systems.

MHAS packages are also available with Avidyne's MLB700 Broadcast Datalink Receiver, MLX770 Two-Way Datalink Transceiver, and TWX670 Tactical Lightning Sensor.

With the MHAS6000, you'll have the best situational awareness and safety system available for general aviation at an even greater value.



EX5000  
Multi-Function Display



EX500  
Multi-Function Display



TAS600  
Traffic Awareness  
System



MLB700  
Broadcast Datalink  
Receiver



TWX670  
Tactical Lightning  
Detection



MLX770  
Two-Way  
Datalink Transceiver

## Technical Specifications

### Applicable TSOs

- TSO C147
- Traffic Advisory System (TAS)

### Processor Physical Dimensions

3.1H x 7.25W x 11.675D  
(7.9cm x 18.4cm 29.6cm)

### Processor Weight

6.8 lbs (3.1 kg)

### Power Requirements (Max)

- 2.90 Amp @ 14VDC
- 1.55 Amp @ 28VDC

### Environmental

- DO 160D
- -20C to +55C Operating
- +70C Short Term

### Cooling

- None Required

### Warranty

- 2 Years parts & labor included

### Antenna Specs

2.76"H x 3.24"W x 5.14"D  
(7cm x 8.2cm x 13.1cm)

Top (single blade): 10.5 ounces (.3kg)

Bottom (dual blade): 12 ounces (.34kg)

### MHD300 - Multi-Hazard Display

- TSO C110A Airborne Passive Thunderstorm Detection
- TSO C113 Multi Purpose Display
- TSO C118 TCAS I
- TSO C147 Traffic Advisory System (TAS)  
3.18"H x 3.18" x 7.36"D  
(8.1cm x 8.1cm x 18.7cm)  
8.5"D (21.6cm) with connectors
- NVG compatible
- Available in gray or black bezel

### ATD150 Digital Display

1.55"H x 3.26"W x 6.75"D  
(3.9cm x 8.3cm x 6.75cm)  
1 pound (2.2kg)

**NOTE:** The TAS610 and TAS620 each have a Heading Input, which permits rapid repositioning of targets during high-rate turns, providing optimal performance for helicopter operations.

*Avionics installations require special skills and test equipment. Avidyne's limited warranties are valid only for equipment installed by factory-authorized service centers. Avidyne reserves the right to make changes to product specifications and design features without notice. Some products may require additional hardware or software for full feature capability.*

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