The advantages of ADS-B:

Garmin GTS™ 800/820/850 series products feature built-in Automatic Dependent Surveillance - Broadcast (ADS-B) receiver technology which is enabled with installation of a Garmin GTX 330 Extended Squitter (ES) transponder, or other complimentary class of ADS-B “Out” equipment, such as Garmin’s USA-20 Universal Access Transponder (UAT). To be “full participant”, the GTS-800/GTS-820/GTS-850 series products must be “Out”-equipped and an “In”-equipped ADS-B unit means the aircraft is equipped to receive other aircraft broadcasts, as well as transmissions from ground stations, and then properly display that information in the cockpit.

Garmin GTS™ traffic alerting engines, depicted on a G1000 flight display with electronic King KI-256 Traffic Advisory System (TAS) symbology, provide accurate and timely traffic advisories to the pilot from any other ADS-B equipped aircraft. Three transponder modes (Mode C, Mode S, and Selective Availability) are generated by the aircraft’s transponder to allow for a clear and comprehensive picture of traffic and navigation aids.

ADS-B “In” means the aircraft is equipped to receive other aircraft broadcasts, as well as transmissions from ground stations, and then properly display that information in the cockpit. ADS-B “Out” means the aircraft is equipped to receive other aircraft broadcasts, as well as transmissions from ground stations, and then properly display that information in the cockpit.

ADS-B “Out” capability, aircraft on a traffic display, relative direction and altitude, plus trend vectors for target aircraft (on compatible displays). Thus, instead of just seeing an icon target on a display, pilots can see identify and track specific aircraft flight trajectories. Targets within the active surveillance range equipped with ADS-B capability can be displayed for greater accuracy. As pilots are given a much clearer tactical picture of their current air traffic situation.

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Avoidance (TCAS I) Systems can make all the difference. Target data from the GTS™ 800 series traffic systems

Based on technology originally developed for air-transport category aircraft, the Garmin GTS series

beats having an extra set of “electronic eyes” to help detect and display the position of

When flying in busy airspace – with fast-moving aircraft converging in sometimes less-

can’t be graphically displayed on Garmin’s new generation

real-time traffic information to the pilot. Displaying traffic symbols and advisories on a variety of

format: “Traffic: 10 O’Clock, High (or Low or Same Altitude), 2 miles.”

range, bearing, and relative altitude, plus vertical and course trend vectors

locate the intruder aircraft on the display before looking out the window

provided a basic “Traffic, Traffic” audible alert. So, pilots had to visually

in a fast converging situation.

the pilot precisely where to look for traffic can save vital “eyes down” time

remote transmitter/receiver computer LRU and a single top-mounted directional

and helicopters.²

requirements. All three Garmin systems will operate to 55,000 feet –

1GTX 330, GDL 90 or other ADS-B “Out” equipment sold separately. ²Check with your Garmin dealer for compatibility information.

• Active surveillance range (typical)

• Number of targets displayed (dependent on display system capability)

• Display range

• Bearing accuracy

• Elevation accuracy

• Altitude resolution

• Isolatable target position (yes/no)

• Isolatable 1090 MHz receiver (yes/no)

• Consolidated display capability

• Selective discriminator (yes/no)

• IKARUS (Advanced Tracking, IKARUS)

Let’s look at the systems:

The Garmin GTS Group features three distinct system configurations, each tailored to a specific range of aircraft and/or performance requirements. All three Garmin systems will operate with 15,000 feet – but they’re not constrained by the much lower altitude limits imposed on some competitive TA/C/TACAS systems.

GTS 800: A low-cost option with performance suited to most light aircraft and business jets, the GTS 800 offers 40 nm of transponder power, ±10,000 ft. altitude resolution, and a typical active surveillance range of 12 mi. In addition, traffic surveillance is provided with available 978 MHz extended squitter A/C & S “capable.” The basic GTS 800 system consists of a single top-mounted remote receiver antenna, which provides the maximum amount of unobstructed

real-time traffic information to the pilot. Displaying traffic symbols and advisories on a variety of

format: “Traffic: 10 O’Clock, High (or Low or Same Altitude), 2 miles.”

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• Elevation accuracy

• Altitude resolution

• Isolatable target position (yes/no)

• Isolatable 1090 MHz receiver (yes/no)

• Consolidated display capability

• Selective discriminator (yes/no)

• IKARUS (Advanced Tracking, IKARUS)

The antennas and technology used by Garmin GTS and TAS are designed to help maintain frequency coherence and enhance signal reception. Moreover, an array of available configured antennas allows the system to be optimized for specific types of aircraft. The system works by sending out transponder interrogations and listening to the responses. Once an intruder is picked up by another aircraft’s transponder, it can send back a reply. Your traffic system’s computer uses this reply to calculate distance, direction, altitude and range; so help prevent target drop out during turns and maneuvers. For high-performance, optional air data profile directional antenna systems are also available. By making these antenna transmissions directional, the system is able to reduce the number of transponders being interrogated simultaneously, and thus increase the probability of gaining a clear 1090 MHz frequency band. With the capability supplied by GTS 800 and GTS 820 systems, 1090 MHz systems provide “leadership to the rear and fanning clashing targets.

The antennas incorporated by Garmin TAS/TCAS include a 40 nm ring of monitored 1090 MHz transponder interrogation reduces

displays (not included)

compatible MFDs and cockpit

forward-looking coverage

2/6/12/24/40

TCAS

Yes

60

Better technology for higher safety.

The Garmin GTS200 of TAS/TCAS I systems offers a host of traffic surveillance capabilities to help specific aircraft and operational requirements. For example, the Garmin TAS/TCAS system selected by the aircraft operator is in no way constrained by the much lower altitude limits imposed on some comparable TAS/TCAS I systems. These include 1090 MHz “out of lock” capabilities, inclination and reduction by altitude, geographic and altitude and high-density displays. So, by minimizing those forms of interference, Garmin GTS 800 is “in the flow” to help you get the most accurate possible traffic data communications.

FEATURES AT A GLANCE

• Choice of 12 or 40 nm forward-looking coverage range

• Generates both visual and visual traffic advisories

• Expanded alert capability can specify include target bearing, target altitude (optional), range and rate

• Active and passive (ADS-B) surveillance technologies

• Tracks up to 50 traffic targets simultaneously

• Displays up to 30 target advisories

• Selectable horizontal display range

• TAS/TCAS-like symbology

• Interfaces with a variety of compatible MFDs and cockpit displays (not included)

• Selective discrimination (optional) capability

• High-Data Rate Data (HDSR) or ARINC 429 interface capability

• Vertical or horizontal (HSI) ball marking

• IKARUS (Advanced Tracking, IKARUS)