With the most comprehensive lineup of avionics upgrades in the industry, Garmin offers solutions for most any budget and mission, all while providing state-of-the-art capabilities and improving decision-making like never before. We’re continually introducing new products and creative technologies that reduce complexity, enhance efficiency, underscore safety, shorten learning curves and vastly simplify cockpit management in all phases of flight.

From the industry’s first IFR approach-certified GPS to today’s newest touchscreen interfaces and advanced SBAS/WAAS systems that let pilots fly GPS LPV glidepath approaches into airports with no on-field electronic navaids of any kind, Garmin avionics are setting the pace and building toward a future that will take us from today’s ground-controlled and radar-supported ATC system to a more space-based, satellite-derived NextGen air traffic management environment.

As this vision takes shape, you can count on Garmin to keep building ever-higher levels of reliability, integration and pilot situational awareness into every panel- and remote-mount avionics system we offer. Our products are designed for pilots by pilots. Plus, they’re ready and approved for installation today in hundreds of makes and models of aircraft, including helicopters, by the FAA, Europe’s EASA, Canada’s TCCA and Brazil’s ANAC authorities.

Garmin Avionics. Onboard with the future of flight.
As the first manufacturer to certify touchscreen technology for General Aviation cockpits—and as the leader in touch-controlled avionics—Garmin brings a real edge in experience, value and innovation to its GTN™ 650 and 750 series of integrated avionics. Evolved from thousands of Garmin glass systems, this versatile GPS/Nav/Comm/MFD platform offers an ever-growing array of features and tools to help you make quicker, smarter, easier decisions in all phases of flight. Everything from available onboard digital color radar to ADS-B enhanced traffic alerting to worldwide connectivity links for weather, phone calls, text/email messaging and more—all are options that can now be incorporated, viewed and controlled right from your GTN display. Then, for even more touchscreen convenience, you can add a Garmin Flight Stream wireless gateway to your system, enabling select Connect™-capable¹ apps and Garmin portables such as Garmin Pilot® and aera® 660/796/795 to stream data to/from your GTN avionics via a Garmin Connect® BLUETOOTH® link.

With this wireless link, you can preload flight plans—including airways—onto your tablet for quick and easy uploading into your avionics. Plus, the link provides more robust GPS position data (streamed from the GTN) for apps such as Garmin Pilot and ForeFlight Mobile on your device, as well as the option to display weather, traffic and backup altitude information—so your tablet essentially becomes an extra control/display in the cockpit.

Additional GTN features include predictive logic to suggest airport and waypoint entries using current GPS position; simplified wireless database updating and synchronization; streamlined frequency entry; customizable checklists; fuel range rings; map track vectors; airspace altitude overlays on the moving map page; and shortcut access to frequently used data fields, functions, pages and more. Selectable “shortcuts” let you quickly access menu items directly from your moving map page, so you’re rarely more than a tap or two away from all primary pages and functions. You can quickly pan across the map display by simply swiping your finger across the screen. And integration capability for a wide array of avionics and sensors not only streamlines tuning and mode selection—but also, in effect, lets you utilize the GTN touchscreen as a virtual flight management system.

Key workload-reducing features include a handy “frequency lookup” function that allows you to enter any navaid or airport identifier and have the GTN look up the frequencies (Tower, Ground, ATIS, Clearance Delivery, etc.) associated with that location. Conversely, if you’re given a frequency by ATC, the lookup function will automatically provide the station identifier, so there’s never any question who you’re calling. (In fact, the built-in FastFind function will automatically start searching for the nearest identifier as soon as you start typing, so it’ll likely come up with the station ID even before you’ve entered all the digits.) The GTN’s database technology allows you to quickly pull up your most frequently or most recently used frequencies. Plus, the device will automatically decode a station’s Morse code signal to provide a positive identification—and ensure that you’ve got the right number.

¹Capabilities such as GPS, altitude, weather, traffic and flight plan transfer, Stream™ weather and audio control are limited to the version of Flight Stream, the avionics installed in the aircraft as well as portable device. Compatibility can change so you will need to check your portable device. Check the Flight Stream 510/210/110 page’s ‘Supported Devices’ tab for the latest feature and compatibility information.
enabling virtually all IFR flight procedures to be flown automatically — with added capability to program visual approaches, create holds and fly vertical descent navigation to published altitude constraints on approaches, as well as add common search and rescue operations including orbit, parallel line, expanding square and sector search types.

Then, once you’ve landed, georeferenced SafeTaxi® diagrams automatically provide easy directional orientation on hundreds of U.S., Canadian and European airports — including visual identification of airport hot spots that pose increased risk of conflicts. For European pilots, GTN even displays visual reporting points on the moving map.

For helicopter operators, there are special GTN versions available that meet the stringent environmental and vibration standards for rotorcraft. These units are available with right-seat screen formatting, enhanced low-altitude obstacles databases, right vision goggle (NVG) compatibility and high-resolution, five-color HTAWS terrain alerting with voice callouts of AGL altitude on descent. In addition, optional WireAware® wire-strike avoidance technology is available with the GTN products to give you added protection against powerlines. The basic helicopter database includes all hazardous obstacle transmission (HOT) lines, which span rivers and canyons in areas that can prove treacherous to low-flying pilots. However, with WireAware, these lines are clearly identified on the map page, with detailed information (including MSL and AGL line heights) available at the press of each wire segment on the display. For even more protection, adding HTAWS to the system enables both audible and visual alerting to call attention to wire hazards in proximity to your flight path.

No matter what you fly — whether it’s a helicopter or fixed-wing aircraft — the GTN product family gives you plenty of stack-maximizing options. The more compact GTN 650 series is contained in a 2.65” tall package that can prove treacherous to low-flying pilots. However, with WireAware, these lines are clearly identified on the map page, with detailed information (including MSL and AGL line heights) available at the press of each wire segment on the display. For even more protection, adding HTAWS to the system enables both audible and visual alerting to call attention to wire hazards in proximity to your flight path.
on-screen graphical flight plan editing makes it easy to add waypoints or modify your route. And a handy “rubber band” feature lets you stretch a flight plan to divert or amend your routing.

Geo-referenced Garmin FliteCharts come standard with a free initial trial on the large-format GTN 750 series⁶. Optional Jeppesen-format electronic charts are also available with Garmin ChartView⁷. These charts enable graphical overlay of geo-referenced approach plate procedures on your moving map.

Victor airways and high-altitude jet routes can be overlaid on the moving map — and airway segments can be selected on screen for easy entry into a flight plan. Advanced ADS-B display capability can be provided via the Garmin GTX™ 345-all-in-one ADS-B transponder or the Garmin GDL® 88 dual-link transceiver (sold separately), allowing you to access the FAA’s free uplink of aviation weather and traffic information. On the traffic display, our patented TargetTrend™ relative motion feature offers a faster, more intuitive way to judge direction and closure rate of targets in relation to your flight path.*

TargetTrend™ relative motion feature offers a faster, more intuitive way to judge direction and closure rate of targets in relation to your flight path.*

Sectional-like airspace depictions show altitude limits right on the moving map. And the Smart Airspace™ feature automatically highlights airspace details close to your current altitude, while de-emphasizing less relevant data at other levels.

SafeTaxi® airport diagrams come preinstalled on all GTN series products, providing geo-referenced aircraft guidance on hundreds of U.S., Canadian and European airports and visual identification of hot spots that pose particular risk for traffic conflicts.

A built-in elevation database on your GTN provides an extra margin of situational awareness in visualizing terrain/obstacle conflict situations. For even more comprehensive audible/visual alerting capability, optional TAWS A and TAWS B functionality is also supported.

A wide range of optional weather solutions can be displayed on your GTN touchscreen — everything from onboard digital radar to Stratus™ or worldwide satellite datalink products — as well as the subscription-free uplink of graphical and textual weather data via the U.S. ADS-B ground network.

To save vital inches in your stack, any GTN touchscreen can serve as a digital control head for compatible Garmin remote-mount ATC transponders. In addition, the larger GTN 750 can also provide on-screen control for remote OMA®-35 audio/intercom system (sold separately), which features 3-D audio sourcing and Telligence® voice command.

The customizable checklist feature on your GTN™ can be used to help ensure that everything is done “by the book” in your cockpit — from preflight and run-up checks to emergency procedures.

Wirelessly link your iPad® to your avionics: By installing a Flight Stream 510 or 210 wireless gateway with your GTN system, you can use Garmin Connext® technology to keep your flight plans in sync and stream weather, traffic, GPS and attitude information to select Connect-capable® apps and Garmin portables such as Garmin Pilot®, PFiPant Go, ForeFlight Mobile and aera® 660/796/795.
If you love the idea of flying a glass cockpit—but hate to think of parting with your current aircraft—this is clearly the retrofit option you’ve been waiting for the Garmin G500 TXi/G600 TXi.

It’s a clean-sheet touchscreen design. One that builds on the proven capabilities of our original G500/G600 series glass display family to offer you a vastly expanded array of features, options and panel layout possibilities that make it easy to configure a reliable “glass cockpit” system that can grow with your needs without overstressing your budget.

G500 TXi/G600 TXi glass cockpits replace the old-style, maintenance-prone mechanical gyros in your system. Available in 7” portrait or landscape orientations, as well as in a larger 10.6” landscape format, TXi displays offer a variety of configurations to fit your panel and budget. The 10.6” displays offer pilot-selectable split-screen capability to accommodate primary flight (PFD) information and a multi-function display (MFD) within the same unit, and optional EIS engine and fuel flow readouts can also be viewed in a vertical strip alongside the PFD/MFD information. The 7” portrait format can be dedicated to PFD, MFD or EIS displays—or even a combined MFD/EIS. And the 7” landscape format is configured to provide a PFD or dedicated stand-alone EIS display.

In configuring your system, you can mix-and-match up to 4 of the high-resolution 10.6” or 7” touchscreen displays in your cockpit. Or you can start with a single 7” portrait display serving as your PFD, and expand the system’s capabilities by adding additional TXi displays over time. The variety of TXi screen sizes and display orientations can support over 25 different configured cockpit configurations. And each display offers the capability to have a built-in attitude heading reference (AHRS) along with an air data computer (ADC) module integrated on the back of the display. For aircraft already equipped with legacy G500/G600 series flight displays, full TXi compatibility with existing system sensors makes for an easy, cost-effective upgrade path.

Stand-alone or Integrated Engine Information

Whether it’s integrated in a split-screen view on the 10.6” display or shown on a dedicated 7” display, engine and fuel monitoring data is easy to access and interpret with G500 TXi/G600 TXi.

The optional EIS is compatible with most popular Lycoming or Continental 4-cylinder engines (whether normally aspirated or turbocharged) and can provide support for both single- and twin-engine aircraft. Prominent engine gauges on the display provide real-time indications and support for lean assist mode, pilot advisories and—more enabling you to optimize fuel economy while maintaining high efficiency and performance from your engine. EIS functionality is also compatible with select PT6A-equipped turboprop singles, and tailored features help reduce workload.

To help you maintain control over aircraft maintenance and operating costs, built-in engine data logging capability is included with the EIS options. When the EIS system is paired with a GTN® 650/750 and Flight Stream® 500, wireless gateway, the aircraft’s engine performance, trend and exceedance data will be automatically displayed with quick historical access, then downloaded and captured in the Garmin Pilot® app running on your compatible tablet or smartphone and made available for viewing at FlyGarmin.com. In addition to wireless transfer, this engine data can also be logged and stored on an SD card within a TXi display. By either method, this recorded data can be retrieved and used by you or your aircraft service technicians to identify performance issues or maintenance needs in time to help avert more costly repairs later.

Brighter, Faster, Easier, Better

Leveraging the experience gained in designing and fielding thousands of integrated flight displays, Garmin engineers built the TXi series from the ground up—with an intuitive menu interface that lets you use familiar knobs and/or touchscreen inputs to quickly access the functions, screen views and other flight information you want to see. Powerful core processors boost the system’s graphical display capabilities—whether it’s for flight planning and map rendering, Garmin SVT™ synthetic vision (optional on G500 TXi, and standard on G600 TXi) enables a 3D “virtual reality” landscape to be integrated on the PFD. Plus, modernized fonts and backlighting offer improved readability and increased display clarity to help lighten your flight visual workload.

To provide even more situational awareness, TXi puts an MFD-like perspective map view within the HSI portion of your primary flight display. In addition to the geographical map view you can also support the overlay of datalink weather from ADS-B and SiriusXM® datalinks1 as well as Connect datalink weather. Additional overlays include Saf-Taxi airport diagrams, traffic, terrain alerting, and more. HSI map control and onscreen navigation are a snap, thanks to a Garmin innovation that lets you zoom in or out on the map, using a single finger swipe gesture.

High-Level Avionics Integration

G500 TXi and G600 TXi were designed to interface with a wide range of avionics equipment, including popular autopilots and flight directors. You can use TXi touchscreens for control/display of heading, course and navigation source inputs, as well as autopilot mode annunciations and more (with compatible inputs). As an option, separate dedicated TXi mode controllers are also available to provide continuity with the autopilot system installed in the aircraft. G500 TXi/G600 TXi also offers advanced integration capability with GTX series transponders, providing full touchscreen continuity between the navigation, communication and flight display functions of the TXi system.

Backup Redundancy Adds Assurance

For extra redundancy in systems where multiple displays are installed, TXi is designed to enter a reversibility mode—allowing you to swap the 7” portrait or 10.6” display to present primary flight instrumentation and engine indications if EIS-equipped—in the unlikely event of a display failure or shutdown. The displays have backup GPS receivers built in, providing redundancy in the event of a display’s failure to your primary glass cockpit navigators in addition to an optional backup battery is available for the 7” displays. If there’s ever an unexpected loss of power to your avionics, this backup battery will provide power to your display for 30 minutes. With this backup battery capability, aircraft owners who install dual 7” displays generally have the flexibility to configure their TXi display setup to accommodate their specific use needs.

Backup battery power can offer you an additional level of safety, particularly in the form of additional redundancy in systems where multiple TXi displays are installed. For extra redundancy in systems where multiple displays are installed, TXi is designed to enter a reversibility mode—allowing you to swap the 7” portrait or 10.6” display to present primary flight instrumentation and engine indications if EIS-equipped—in the unlikely event of a display failure or shutdown. The displays have backup GPS receivers built in, providing redundancy in the event of a display’s failure to your primary glass cockpit navigators in addition to an optional backup battery is available for the 7” displays. If there’s ever an unexpected loss of power to your avionics, this backup battery will provide power to your display for 30 minutes. With this backup battery capability, aircraft owners who install dual 7” displays generally have the flexibility to configure their TXi display setup to accommodate their specific use needs.

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GPS NAVIGATORS THAT BRING IFR APPROACHES TO LIGHT AIRCRAFT

Big capabilities come in such a package with the GPS 175, GNC 355 and GNX 375 touchscreen IFR GPS navigators. With their bright, clear-resolution touchscreen displays, you have LPV approach capability to access more airports. You can even add advanced com radio capabilities with the GNC 355 or meet the requirements for ADS-B "Out" while experiencing the benefits of ADS-B "In" with the GNX 375. Each navigator’s slim 2’ height fits neatly into even compact panels — and in retrofit installations, you can keep most course deviation indicators to minimize installation cost.

Entering flight information is a cinch, and accessing every function is fast and easy. The moment you power up these navigators, you’ll see a familiar Garmin home page on the 1.5” tall display that puts the most important functions within only a few touches — including hot keys for Direct-to and flight plan access. Swipe left or right to scroll menus. Use your fingers to pan and zoom on the moving map. Enter waypoint data with the on-screen keyboard. And touch the home button to get you back to the main page at any time.

Building and modifying flight plans is simple as you enter waypoints, our FastFind feature automatically begins searching for the nearest identifier as soon as you start typing, so in most situations, a press or two reveals just what you were thinking. You can also create holds, insert Victor airways and corresponding exit options, and add departures, arrivals and runways, taxiways, hangar locations and more.

Advanced Approach to IFR

The SBAS/WAAS-certified GPS reciever in these navigators allows you to fly GPS-guided LPV glidepath instrument approaches down as low as 200’, greatly expanding your operational capability. You can also access newer lateral performance and all area navigation approaches. Precise course deviation and roll steering outputs can be coupled to Garmin GFC™ 500 and GFC™ 600 autopilots and select third-party autopilots, so IFR flight procedures such as holds, NextGen radar-to-fix legs and missed approaches may be flown automatically. In addition, you can create and execute custom holding patterns over an existing waypoint or user-defined waypoint.

Plus, when operating in VFR conditions, GPS 175, GNX 375 and GNC 355 can display advisory vertical approach guidance based on a published glidepath angle or a three-degree approach glideslope from the runway threshold, while considering terrain and obstacle clearance. With this advisory guidance, you’re able to fly more consistent and more precise course deviation indicators to keep most course deviation indicators to provide easy, cost-effective installation.

And for even more work-saving convenience, you can use our Connect™ connectivity to stream information via BLUETOOTH® wireless technology between your navigator and compatible Garmin portables and mobile devices running the Garmin Pilot™ or FltPlan Go. Create flight plans at home and download selected databases onto your mobile device, using the Garmin Pilot app.

Then, once you get to the airport, Flight Stream 510 will automatically establish a wireless connection to the Garmin Pilot app and upload the databases from your device to your navigator in minutes.

TerminalTraffic™ technology provides the most comprehensive picture of ADS-B-equipped aircraft and ground vehicles in the airport environment. ADS-B-equipped aircraft in flight are easily distinguished from ground vehicles and taxing aircraft, which are displayed using distinct colors and symbols. All information is presented on a simple, easy-to-understand SafeTaxi® diagram with reference to runways, taxiways, hangar locations and more.

Add Powerful Comm Capabilities

The GNC 355 offers 10 W transmission power with 25 kHz frequency channel spacing or 8.33 kHz channel spacing options (GNC 355A), and it incorporates a number of functions that can save you time and effort. Using the onboard frequency database, airport, weather, center and FSS frequencies are easy to find and can be loaded to standby by simply tapping them from the airport information or flight pages. Recent, nearby and saved frequencies are easy to access, too. And you’ll have added confidence knowing you’re talking to the desired facility every time with the automatic display of the station’s identifier right below the frequency, for example, KX00 ASDS or CHICAGO ACC.

With the stand-by frequency monitoring feature in the GNC 355, you won’t have to worry about missing an ATC call or other critical transmission. The GNC 355 allows you to listen to ATIS without leaving your assigned ATC channel. Swap your active and standby frequencies with a single screen touch. Press and hold the frequency transfer key to automatically set the emergency frequency as your active channel.

Cockpit Integration

The GPS 175, GNX 375 and GNC 355 interface with a variety of Garmin flight displays, including G3X Touch™, G5 and G500 TSO/G500 TSO, as well as select third-party displays. Plus, they’re compatible with your existing composite CDIs to provide easy, cost-effective installation.

Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>GPS 175</th>
<th>GNX 375</th>
<th>GNC 355</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display size</td>
<td>4.8” (122.5 mm) diagonal</td>
<td>4.8” (122.5 mm) diagonal</td>
<td>4.8” (122.5 mm) diagonal</td>
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<td>4.8” (122.5 mm) diagonal</td>
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<tr>
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<td>732 pixels (w) x 240 pixels (h)</td>
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<td>0.015 fL - 260 fL</td>
<td>0.015 fL - 260 fL</td>
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<td>Power specifications</td>
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<td>Maximum 0.9 A</td>
<td>Maximum 0.9 A</td>
<td>Maximum 0.9 A</td>
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<tr>
<td>Typical 0.6 A</td>
<td>Typical 0.6 A</td>
<td>Typical 0.6 A</td>
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<tr>
<td>Humidity</td>
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<td>95% non-condensing</td>
<td>95% non-condensing</td>
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<tr>
<td>Minimum altitude</td>
<td>35,000 ft</td>
<td>35,000 ft</td>
<td>35,000 ft</td>
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<tr>
<td>Input voltage range</td>
<td>9 VDC - 33 VDC</td>
<td>9 VDC - 33 VDC</td>
<td>9 VDC - 33 VDC</td>
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<tr>
<td>Maximum transmitter power</td>
<td>+4 dBm</td>
<td>+4 dBm</td>
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<td>BLUETOOTH specifications</td>
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<td>BLUETOOTH version</td>
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<td>Maximum transmitter power</td>
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<td>+4 dBm</td>
<td>+4 dBm</td>
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<tr>
<td>Unimpeded BLUETOOTH range</td>
<td>100 ft</td>
<td>100 ft</td>
<td>100 ft</td>
</tr>
</tbody>
</table>

*See supported interfaces tab at Garmin.com/aviation to verify compatibility.
Providing a cost-effective STC’d installation for Class I and II fixed-wing aircraft under 6,000 lbs — the G5 electronic flight instrument is the upgrade solution that thousands of GA pilots have been waiting for.

Approved for VFR and IFR flight operations, this space-saving, electronic flight instrument can serve as a stand-alone primary source for aircraft attitude information or a directional gyro/horizontal situation indicator in your fixed-wing GA aircraft.

- As a primary flight instrument, G5 combines attitude information with secondary information such as altitude, airspeed and vertical speed in a single digital display that makes flight information easier to scan.

- As a replacement DG/HSI, G5 pairs with Garmin GTN™ 750/650, GNS 530W/430W and GNS 530/430 series GPS navigators and GNC® 255 and SL30 VHF NAV/COMs to serve as a primary instrument for displaying magnetic heading, GPS course guidance and/or VOR/LOC guidance (based on nav source), as well as distance to the next waypoint and ground speed. Plus, it provides heading information to compatible legacy autopilots.

Installation of dual G5 electronic flight instruments can eliminate the dependency on failure-prone vacuum systems, and a secondary G5 can revert to attitude display in the unlikely event of a failure in the primary attitude indicator position. The G5 fits easily into a single 3-1/8" standard instrument cutout, taking up just a fraction of the space and weight previously required by conventional gyro-based instrument displays.

The G5 upgrade, now available for more than 600 individual aircraft models, is accomplished via supplemental type certificate (STC) with a comprehensive approved model list (AML).

Installation is simple and easy: G5 integrates with your aircraft’s existing pitot/static system, power and Garmin GPS¹ and NAV inputs, and it requires only the addition of a magnetometer to display magnetic heading — and a single magnetometer can supply two G5 electronic flight instruments simultaneously.

Within the display bezel, a crisp LCD screen offers brilliant color and easy readability, even in direct sunlight, thanks to its advanced LED backlight design. And in addition to serving as either primary attitude or primary navigation reference, G5 can also augment your existing instruments by consolidating inputs for airspeed, altitude, vertical speed, slip/skid, turn rate, ground track, configurable V-speed references, barometric setting and selected altitude, as well as visual alerts upon arrival at your preselected altitude. A built-in GPS receiver can provide GPS-based track and ground speed information², and a dedicated rotary knob allows for easy adjustments to attitude and heading bugs and barometric pressure settings on the display.

The unit takes up less than 3” behind the panel. And, as part of the STC, it comes with a standard backup battery pack capable of providing up to 4 hours of “get home” emergency power. Available battery power can easily be monitored by referencing the battery status indicator in the upper left-hand corner of the display.

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### G5 ELECTRONIC FLIGHT INSTRUMENT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical</td>
<td>14 or 28 VDC aircraft power</td>
</tr>
<tr>
<td>Unit size</td>
<td>3.4” w x 3.6” h x 2.6” d (86.4 x 91.4 x 66.0 mm)</td>
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<tr>
<td>Weight</td>
<td>8.8 oz (249.5 g), unit; 4.5 oz (127.6 g) battery (optional)</td>
</tr>
<tr>
<td>Display size</td>
<td>3.5” diagonal (88.9 mm diagonal)</td>
</tr>
<tr>
<td>Display resolution</td>
<td>320 x 240 pixels (QVGA), LED backlit color LCD</td>
</tr>
<tr>
<td>Receiver</td>
<td>High-sensitivity WAAS GPS</td>
</tr>
<tr>
<td>Maximum indicated airspeed</td>
<td>300 kts</td>
</tr>
<tr>
<td>Altitude range</td>
<td>-1,400 – +30,000 feet</td>
</tr>
<tr>
<td>Vertical speed range</td>
<td>±1,000 feet/minute</td>
</tr>
<tr>
<td>Throttle range</td>
<td>±20,000 feet/minute</td>
</tr>
<tr>
<td>Battery power</td>
<td>400'</td>
</tr>
<tr>
<td>Battery life</td>
<td>Up to 4 hours</td>
</tr>
</tbody>
</table>

¹ GPS navigation input requires installation of a Garmin GAD™ 29B.
² Optional installation requires external GPS antenna (not included) or input from a compatible navigator.
G3X TOUCH™: TOUCHSCREEN FLIGHT DISPLAYS FOR SINGLE-ENGINE PISTON AIRCRAFT

This is a game-changer. It's the price/capability breakthrough that owners and pilots of single-engine piston aircraft have been waiting for: G3X Touch flight displays are now approved and available for installation on hundreds of FAR Part 23 Class I certificated aircraft (typically, those weighing less than 6,000 lbs.). With supplemental type certification provided under an extensive approved model list, these 10.6” and 7” LCD displays make it easy and affordable to upgrade from legacy mechanical instrumentation to a modern glass cockpit solution.

Offering extensive integration options, the G3X Touch™ displays are available in a variety of panel configurations to fit your needs and budget. Each G3X Touch glass display features a bright, high-resolution color infrared screen with integrated touch-control interface that seamlessly blends with familiar buttons and knobs to pull all essential flight information at your fingertips. Standard features include our SVX™ synthetic vision display, database-generated terrain features and built-in wireless Connext® cockpit connectivity. Better still, the optional EIS provides display of primary engine instrumentation.

Multiple screen sizes and display formats let you grow your G3X Touch suite as your needs evolve. For space-limited panels, a single 10.6” or 7” display can accommodate both PFD and MFD windows within the same unit. The 10.6” display can also include an EIS strip for additional versatility. Another option allows two 7” screens to be installed side by side and accommodate PFD, MFD and optional EIS functionality. Or you can pair a 10.6” split-screen unit with a 7” format to provide even more flexibility to lay out your preferred arrangement of PFD, MFD and optional EIS displays. And to help simplify installation, the primary display also offers the capability to have an air data computer and attitude/heading reference system module integrated on the back of the unit.

Streamlined Cockpit Management
Making things easier and better for pilots in the cockpit is what G3X Touch is all about. That is why G3X Touch displays integrate the controls for many popular Garmin avionics. Large on-screen touchpoints and familiar graphic icons help simplify all your data entry and menu selections — allowing you to easily see and control Comm frequency selection as well as transponder settings and code entry. Growth-oriented avionics choices you use to provide these functions include our GTR 225 Comm transceiver, GTX 255 Nav/Comm, GTNs series GPS/Nav/Comm, GNX™ 375 and GTN™ 355/365 series ADS-B enabled transponders.

Valid for use in VFR and IFR capable installations, the certified G3X Touch displays are designed to interface with select autopilots, including our GFC 500 digital autopilot. Fully coupled LPV/LNAV/VNAV approaches — including missed approach procedures — can be accessed when the G3X Touch displays are paired with the GFC 500 autopilot and a compatible navigation source, such as the GTN 750/650 series. G3X Touch can also display ADS-B “T” weather and traffic information when connected with the new GNX 375, GTX 345 transponder or the GDL® 69/GDL 52 receiver.

This includes our exclusive TargetTrend™ and TerminalTraffic® technology, giving you a faster, more intuitive way to monitor ADS-B traffic targets. With GDL 59/GDL 52, you can also receive and display Stratus® aviation weather as well as listen to audio entertainment³.

In configurations where multiple displays are installed, the G3X Touch system offers a peace of mind. In the unlikely event of a display shutdown or failure, a reversionary mode enables your remaining operational touchscreens to consolidate and present all essential flight information, including EIS data when installed. The displays have backup GPS receivers built in as well, providing extra redundancy. (Note: The GPS receiver built into the display is certified for VFR navigation only.) When installed with an optional G5 electronic flight instrument¹ as backup instrumentation, G3X Touch will automatically synch data and settings as well as provide miscompare alerts. Additionally, the GFC 500 autopilot¹ can even remain operational using only the G5, in the unlikely event of a display failure.

Dynamic Maps and Charts
G3X Touch flight displays also incorporate dynamic moving map capability, enabling you to view terrain features, airports, airspace boundaries, navdavs, flight plan routings and more — with an aircraft reference symbol overlaid on your current position. To suit your preference, G3X Touch also has the ability to display VFR sectional and IFR en route charts². Our FliteCharts™ database or optional Chartless charts from Jeppesen® also offer you georeferenced approach plates and procedures³. Plus, when your aircraft touches down, our built-in SafeTaxi™ diagrams help you navigate the airport environment safely, with your aircraft’s position overlaid onto taxiways, runways, ramps and other accessible locations⁴.

Wireless Cockpit Connectivity
For even more capability, G3X Touch displays feature built-in wireless Connext cockpit connectivity that lets you stream information between your avionics and select Garmin portables or mobile device apps such as Garmin Pilot®, FIPLan Go and ForeFlight Mobile. This wireless feature makes it easy to use your tablet or smartphone to control flight plans ahead of time in the comfort of your home or office, then quickly upload the data to your avionics while you’re preflighting at the airport. You can also use the Connect link to stream GPS position and backup attitude information.

Reliably Reversible
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TRUSTED, HIGH-PERFORMANCE RETROFIT AUTOPILOTS

GFC™ 500 AUTOPILOT
FOR CERTIFIED GA SINGLE-ENGINE PISTON AIRCRAFT

The Garmin GFC™ 500 is exactly the right product, at the right price, to make a real difference for budget-minded pilots flying popular certified light GA aircraft. Boasting a superior feature set, the GFC 500 incorporates a number of safety-enhancing technologies, including electronic stability and protection (ESP), underspeed and overspeed protection, automatic return-to-level (LVL) mode, flight director (FD) command cues and more. Incorporating the crisp, easy-to-read 3.3” Garmin G3X electronic flight display, the GFC 500 autopilot’s scalable architecture lets you select a pitch/roll option with an option for pitch trim and in select installations, yaw damper as an option to support the level of capability you want. The GFC 500 will interface with GNC® 255 and Ili, 30 Nav/Comm radios, as well as GTN™ 750/650 and GNS 430/530 (WAAS and non-WAAS) series navigators (with the addition of an optional GND* 29B nav data adapter), for full flight director integration — allowing the system to calculate and display the appropriate pitch and roll attitudes required to intercept and maintain a course or approach path. These flight director cues are displayed as command bars on the G5 electronic instrument. The command bars are always in view when the autopilot is doing the flying — and may also be used for visual guidance when you’re hand-flying the aircraft as well. With guidance from your GTN or GNS navigation database, the GFC 500 can automatically fly a wide range of precision, non-precision and GPS-guided approaches as well as holds, procedure turns, missed approaches and more. The GFC 500 also includes built-in GPS roll steering capability, allowing smoother navigation tracking and eliminating the need for external roll steering converters. For installations including a compatible flight display such as G500 TXi/G600 TXi, flight director cues are displayed as command bars and are always in view when the autopilot is doing the flying — and may also be used for visual guidance.

Additional redundancy in the event of a disruption to the flight display.

The GFC 500 system employs “smart” servos that are digitally controlled, using ADAHRS reference, to give you ultra-smooth roundouts and intercepts, fail-passive reliability and the most comfortable ride you’ll find in this class of autopilot. Drawing on patented top-end Garmin flight control technology, the servos are lighter and quicker responding than those typically used in competitive systems. They also provide virtually no control system friction with the autopilot turned off, decoupling the motor drives so you can hand-fly or override the system without fighting the controls. For maximum reliability, the servos incorporate brushless DC motors and electronic torque limiting that virtually no control system friction with the autopilot turned off, decoupling the motor drives so you can hand-fly or override the system without fighting the controls. For maximum reliability, the servos incorporate brushless DC motors and electronic torque limiting that eliminates the need for a mechanical slip clutch.

The list of aircraft currently approved for GFC 500 installation is growing quickly. To check the status of your aircraft, visit Garmin.com/GFC500.
The GTX™ 345 all-in-one ADS-B transponder offers ES ADS-B “Out” with options for built-in WAAS, as well as dual-link ADS-B “In,” which unlocks the full capabilities of ADS-B traffic, weather, and advanced ADS-B traffic, incorporating exclusive features such as TargetTrend™ and TerminalTraffic™, on a variety of current and legacy Garmin displays, including select G1000® Integrated Flight Decks, G500/600 and advanced ADS-B traffic, and G500/600 NG™ 430W/530W navigators. When paired with an active traffic system, the GTX™ 345 also combines ADS-B traffic targets and active traffic targets to display a comprehensive traffic picture, and it can be integrated into the aircraft’s audio panel. TargetTrend™ allows pilots to see other aircrafts’ flight paths in relation to their own, giving pilots an idea of where other aircrafts are heading. TerminalTraffic™ feature is available with SafeTaxi® to enhance the pilot’s traffic situational awareness in the terminal environment by displaying surface targets for ADS-B-equipped taxiing aircraft and ground vehicles on the airport diagram.

ALWAYS KNOW WHO YOU’RE TALKING TO

Incorporating a groundbreaking frequency lookup database, these GTX/GNC series “smart” radios from Garmin bring whole new levels of efficiency and convenience to your cockpit management. For example, with the units’ handy “frequency lookup” function, you can simply enter the navaid or airport identifier to find the frequency (or frequencies) associated with that location: tower, ground, ATIS, clearance delivery and so on. Moreover, with a compatible GPS input, the lookup function will automatically provide the station identifier once you’ve dialed in the frequency. So it’s easy to verify who you’re talking to. To access this feature, simply press and hold the “frequency” button on the remote control. You can choose from several different locations by pressing the “location” button on the remote control.

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Garmin Connext is an evolving family of "connected cockpit" solutions designed to seamlessly interface people, devices and information — on the ground, in the air, from anywhere. Using data links, satellites, BLUETOOTH® and other emerging technologies, Garmin Connext brings together a whole spectrum of wireless networking options: Whether it’s enabling an iPhone® or smartphone to upload flight plan data into your cockpit avionics — or offering worldwide weather, position reporting and voice/text messaging via satellite, or remotely controlling action cameras and streaming live video to your flight displays — the world of Garmin Connext is simply a smarter, more user-friendly environment for those who fly.

Using a BLUETOOTH link, Garmin Connext lets you take advantage of close-range wireless capabilities already built into many tablet computers and smartphones, enabling information to flow back and forth between those devices and your Connext-capable avionics in the panel. For example, with our Garmin Pilot® app on your tablet or smart device, it’s easy to create and preload your flight plan from the comfort of your home or office. Then, once you arrive at the airport, simply use Connext, via our Flight Stream 510 or 210 cockpit-mounted gateways, to wirelessly upload the information — waypoints, airways routing and all — into your plane’s GTN™ or GNS series avionics during preflight. You save time. You get airborne more quickly.

Likewise, your Flight Stream also lets you use your iPad to wirelessly access data from your avionics for display in Garmin Pilot®, PFP/Fly or ForeFlight Mobile apps, as well as Garmin aera® 660/760/795/796 portable devices. So you can enhance the device’s map and flight displays with graphical weather, traffic, GPS position reference, AHRS for backup attitude and 3D synthetic vision displays — virtually turning your mobile touchscreen into an extra control/display in the cockpit. And with a Flight Stream 510 — a patented multimedia card enabled with WiFi® and BLUETOOTH® technology that installs easily into your GTN™ or TXi card slot — you get wireless database transfer to and from the avionics and Garmin Pilot app. Via Database Concierge, you can wirelessly download your new avionics databases to your Apple® mobile device at home, then upload them to your GTN quickly at the airport. And if you have other compatible Garmin avionics, those new databases are synchronized behind the scenes; you even get immediate access to the departure, approach and arrival charts you need for your flight with chart streaming, even while those databases are still synchronizing.

On a vastly more far-reaching scale, Garmin Connext integrated satellite and ground network links can be used to provide a world of seamless connectivity solutions — everything from Connext satellite weather and automatic position reporting to inflight text messaging and voice calling through your headsets with Garmin Pilot that uses your mobile device’s contacts.

### FLIGHT STREAM SPECIFICATIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>FLIGHT STREAM 110</th>
<th>FLIGHT STREAM 210</th>
<th>FLIGHT STREAM 510</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Size (W x H x D)</td>
<td>0.94&quot; x 1.30&quot; x 0.30&quot;</td>
<td>0.94&quot; x 1.30&quot; x 0.30&quot;</td>
<td>0.94&quot; x 1.30&quot; x 0.30&quot;</td>
</tr>
<tr>
<td>Effective unimpeded Wi-Fi Range</td>
<td>65 ft (20 m)</td>
<td>65 ft (20 m)</td>
<td>65 ft (20 m)</td>
</tr>
<tr>
<td>Wi-Fi Specifications</td>
<td>Class: 802.11 a/b/g/n, Effective unimpeded Wi-Fi Range: 65 ft (20 m)</td>
<td>Class: 802.11 a/b/g/n, Effective unimpeded Wi-Fi Range: 65 ft (20 m)</td>
<td>Class: 802.11 a/b/g/n, Effective unimpeded Wi-Fi Range: 65 ft (20 m)</td>
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<tr>
<td>BLUETOOTH® Specifications</td>
<td>Class: 3.0, Class: 2, Effective unimpeded BLUETOOTH® range: 33 ft (10 m)</td>
<td>Class: 3.0, Class: 2, Effective unimpeded BLUETOOTH® range: 33 ft (10 m)</td>
<td>Class: 3.0, Class: 2, Effective unimpeded BLUETOOTH® range: 33 ft (10 m)</td>
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### FLIGHT STREAM 510 ACCESSORIES

<table>
<thead>
<tr>
<th>Feature</th>
<th>FLIGHT STREAM 110</th>
<th>FLIGHT STREAM 210</th>
<th>FLIGHT STREAM 510</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault-tolerant GPS</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>ADS-B weather and traffic</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM-1 weather service</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM audio remote control</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM audio remote control</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>SXM audio remote control</td>
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<tr>
<td>SXM audio remote control</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM-1 weather service</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM audio remote control</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Two-way flight plan transfer</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>US-16 and COLT AIA compatible</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>SXM-16/30S/50S compatible</td>
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<td>X</td>
<td>X</td>
</tr>
<tr>
<td>SXM series compatible</td>
<td>X</td>
<td>X</td>
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</tr>
</tbody>
</table>

**Capabilities such as GPS, ADS-B weather, SXM-1 weather and flight plan transfer, ADS-B weather and a voice audio control terminal are limited to the coverage of Flight Streams, the areas enclosed in the blue marked areas on the map and the areas published via FAA's High Altitude VFR (HA-VFR) Support System Database for the limited features or compatibility information.**

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The Garmin family of innovative audio panels offer the latest in digital features to enhance safety of flight and improve communications between flight crews, ground controllers and passengers.

Our newest top-of-the-line model, the GMA™ 350c, is the most technologically advanced audio switching system we’ve ever introduced. Featuring built-in BLUETOOTH® wireless connectivity, it can be used with your smartphone (or other compatible devices) to make calls from the ramp or stream great audio entertainment through your cabin headsets. It can also pair on independent frequencies. Plus, both are easy to install with Garmin 3-D audio processing, which is under license. iPad, iPhone and Apple are trademarks of Apple Inc., registered in the U.S. and other countries.

**With Garmin 3-D audio processing**, sound reception in your stereo headset can have a directional effect. For example, Comm 1 may sound as if it’s coming from your 1 o’clock position, Comm 2 from your 1 o’clock, co-pilot intercom from 3 o’clock, and so on. The 3-D feature can be enabled/disabled to suit pilot’s preference. Experience it at Garmin.com/3DAudio.

### BETTER COMMUNICATION STARTS WITH SMARTER AUDIO CONTROL

The Garmin family of innovative audio panels offer the latest in digital features to help streamline cockpit management, seek and split comm capability for pilot and co-pilot, LED-illuminated button controls for audio selection and focus on top-priority communications from among the many audio inputs in a busy cockpit.

For superior inflight audio at an affordable price, GMA™ 345 series digital audio panels feature 3-D spatial sound processing, BLUETOOTH connectivity and a USB charging port (GMA 345) or 3.5 mm audio jack (GMA™ 342), marker beacon receiver, advanced auto squelch, clearance playback and impressive audio mixing and distribution features. Furthermore, they support as three-comm radio support and corresponding three modes of isolation, and provide split-comm modes (1/3 and 2/3) to accommodate a third transceiver.

For helicopter cockpits or others that need to address multiple-comm installations, Garmin also offers the GMA 350c. It includes the same core features as the standard GMA 350c, plus it offers night vision goggle compatibility with green annunciation and backlighting — as well as three-comm radio support and corresponding split-comm modes (1/3 and 2/3) to accommodate a third transceiver.

**SHARED SPECIFICATIONS**

- **Altitude range:** to +55,000 ft. MSL unpressurized
- **Power input:** 11-33 VDC input
- **Temperature:** -45° C to +55° C (normal operating), -55° C to +70° C (short-term operating)
- **Largest GTN touchscreen, when doubling as the primary flight display, serves to reduce the total stack height of the control panel for your GMA 35c audio system, allowing for easier cockpit management, seeking and split comm capability for pilot and co-pilot.
- **Keyed/Manual (on-glass) controls:** as three-comm radio support and corresponding three modes of isolation, and provide split-comm modes (1/3 and 2/3) to accommodate a third transceiver.
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### COMPARISON TABLE

<table>
<thead>
<tr>
<th>Feature</th>
<th>GMA 342</th>
<th>GMA 345</th>
<th>GMA 35</th>
<th>GMA 350</th>
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<tbody>
<tr>
<td>Model</td>
<td></td>
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<tr>
<td>Seat Positions</td>
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<tr>
<td>COMs</td>
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<tr>
<td>Receivers</td>
<td>5/4</td>
<td>5/4</td>
<td>5/4</td>
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<tr>
<td>Alerts (unlatched)</td>
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<td>4/4</td>
<td>4/4</td>
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<tr>
<td>Speaker</td>
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<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>3-D Audio</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Dedicated Music Volume</td>
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<td>3-G Audio</td>
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<td>Auto Speaker/Volume</td>
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<tr>
<td>Telligence</td>
<td>No</td>
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**Note:** GTN 750 series GPS navigators perform as the flight management system (FMS) for all Garmin GMA 35c, GMA 350c and GMA 350Hc audio systems. They feature built-in FLIGHT MODE support and function as the primary flight display. Telligence voice control feature that enables you to activate certain key audio functions by using spoken commands. By simply pressing a switch on the yoke and saying “Comm One” or “Comm Two,” you can select the radio you want — without interrupting your visual scan or taking your hands off the controls during those busy times in flight.

**Garmin GTN™ 750 series GPS navigators.**

**The Garmin 3-D audio processing, sound reception in your stereo headset can have a directional effect. For example, Comm 1 may sound as if it’s coming from your 1 o’clock position, Comm 2 from your 1 o’clock, co-pilot intercom from 3 o’clock, and so on. The 3-D feature can be enabled/disabled to suit pilot’s preference. Experience it at Garmin.com/3DAudio.**

For superior inflight audio at an affordable price, GMA™ 345 series digital audio panels feature 3-D spatial sound processing, BLUETOOTH connectivity and a USB charging port (GMA 345) or 3.5 mm audio jack (GMA™ 342), marker beacon receiver, advanced auto squelch, clearance playback and impressive audio mixing and distribution features. Furthermore, they support as three-comm radio support and corresponding three modes of isolation, and provide split-comm modes (1/3 and 2/3) to accommodate a third transceiver.

For helicopter cockpits or others that need to address multiple-comm installations, Garmin also offers the GMA 350c. It includes the same core features as the standard GMA 350c, plus it offers night vision goggle compatibility with green annunciation and backlighting — as well as three-comm radio support and corresponding split-comm modes (1/3 and 2/3) to accommodate a third transceiver.

For superior inflight audio at an affordable price, GMA™ 345 series digital audio panels feature 3-D spatial sound processing, BLUETOOTH connectivity and a USB charging port (GMA 345) or 3.5 mm audio jack (GMA™ 342), marker beacon receiver, advanced auto squelch, clearance playback and impressive audio mixing and distribution features. Furthermore, they support as three-comm radio support and corresponding three modes of isolation, and provide split-comm modes (1/3 and 2/3) to accommodate a third transceiver.
Flying with angle of attack (AOA) information provides important potential safety advantages. You can see when the angle between your aircraft’s wing and the oncoming airflow becomes too great to support the plane in flight. Or, in other words, you can see when the wing is approaching a stall, at any flight attitude or airspeed. This is vital — and potentially life-saving — information. Thanks to Garmin AOA innovation, this technology has become more easily accessible to General Aviation pilots and their aircraft. Supporting the FAA’s recent move to encourage and streamline AOA approvals for GA cockpit installations, the capable-yet-affordable Garmin AOA system is designed to enhance awareness of critical wing airflow characteristics — and alert pilots before a dangerous aerodynamic stall can occur. The Garmin AOA system is comprised of three components: the GI 260 indicator, the GAP 26 AOA probe and the GSU 25 air data computer. Using a combination of colors and chevrons, the Garmin GI 260 AOA indicator offers a quick, at-a-glance indication of trending airflow characteristics during the most critical phases of flight — with audible alerts further compelling pilot attention when things get extra busy in the cockpit. Supplemeting traditional airspeed indicators and stall warning systems, the Garmin AOA system provides an instantaneous readout of the wing’s stalling margin, giving pilots the most accurate real-time picture of their aerodynamic situation. When approaching an impending stall, the Garmin AOA indicator provides progressive audible and visual alerts as the aircraft nears the critical angle of attack — with flashing red chevrons pointing down to indicate an imminent loss of lift. Unlike less capable lift reserve indicators, our system uses industry-leading normalized AOA technology to provide superior performance, precision and reliability throughout all phases of flight. Better still, it’s an easy system to install — thanks to our universal inspection plate mounting bracket for the GAP 26 under-wing AOA probe.
In busy, high-density airspace, pilots need every possible advantage when it comes to “seeing and avoiding” traffic conflicts. That’s why Garmin developed the GTS™ family of ADS-B enhanced traffic advisory (TAS) and traffic collision avoidance (TCAS) systems. Featuring exclusive Garmin CLEAR CAS™ technology, these attractively priced systems provide accurate, dynamic surveillance of nearby transponder-equipped aircraft — with spoken audio alerts similar to those given by ATC to help pilots quickly respond to potential flight path encroachments.

The GTS systems use a synthesis of both active and passive surveillance (including 1090 MHz ADS-B) to correlate target data and pinpoint traffic threats, so they’re able to provide advanced real-time traffic information to the cockpit — and augment reports from radar-based air traffic control.

The systems can display traffic symbols and advisories on a variety of compatible navigation or multi-function display products. Passive surveillance with ADS-B “T” capability is available with installation of the GTX™ 335 ES for passive surveillance (including 1090 MHz ADS-B) to correlate target data and pinpoint traffic threats for these features is growing; however, some products will not be upgradeable.

With Garmin SVT-capable flight displays, traffic can be depicted in a 3-D format. As targets get closer, the symbols get larger. With Garmin SVT-capable flight displays, traffic can be depicted in a 3-D format. As targets get closer, the symbols get larger.

**SEPARATION SOLUTIONS FOR HIGH-TRAFFIC AIRSPACE**

In busy, high-density airspace, pilots need every possible advantage when it comes to “seeing and avoiding” traffic conflicts. That’s why Garmin developed the GTS™ family of ADS-B enhanced traffic advisory (TAS) and traffic collision avoidance (TCAS) systems. Featuring exclusive Garmin CLEAR CAS™ technology, these attractively priced systems provide accurate, dynamic surveillance of nearby transponder-equipped aircraft — with spoken audio alerts similar to those given by ATC to help pilots quickly respond to potential flight path encroachments.

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**SPECIFICATIONS**

**Physical**
- Unit Size: 3.99"h x 3.02"w x 11.62"d (10.13 x 7.67 x 29.52 cm)
- Includes mounting rack
- Mounting: Mounting rack and hardware supplied
- Unit Weight: 3.5 lb. with mounting rack

**Environmental**
- Temperature: -55° C to +85° C (Operating);
- Altitude range: 25,000 ft maximum
- Power requirements: 14 or 28 VDC input; 13.75 watts maximum

**Other Specifications**
- Altitude Accuracy: ± 1.5 ft (3 - 100 ft AGL); ± 2% (> 100 - 2500 ft AGL)
- Altitude Range: -20 - 2550 ft AGL
- Horizontal Velocity: 0 - 200 knots maximum
- Vertical Velocity: 20 ft/sec maximum (up to 100 ft AGL); 25 ft/sec maximum (above 100 ft AGL)
- Pitch Angle: ± 20° maximum
- Roll Angle: ± 20° maximum (with published altitude accuracy limits); ± 20° to ± 30° (with ± 20% altitude accuracy limits throughout entire altitude range)

**IT’S AFFORDABLE TECHNOLOGY FOR KEEPING YOUR HEIGHT IN SIGHT**

Utilizing the same patented technology as our higher-end GRA™ 5500 radar altimeter, the affordable GRA 55 system offers a great value in digital AGL measurement for most GA aircraft and helicopters. When paired with the stand-alone GI 205 indicator, the GRA 55 provides a reliable, highly accurate radar altimeter solution without the need to equip your cockpit with a complete glass flight display system. However, if you do plan to install such a system — or if you already have one — the GRA 55 will also integrate with such popular Garmin flight displays as the G500/G500H/G600 and G500 TXi/G600 TXi systems — as well as other industry-standard compatible displays. Yet, no matter which display option you choose, the GRA 55 conveniently puts your AGL readout right where you need it for optimum visibility in high-workload landing situations. The GRA 55 is designed to work in a full range of demanding environments — allowing you to go from rough terrain to tree canopies, from sand to choppy water, while always knowing precisely how much room you have to maneuver. And thanks to patented self-testing technology that continuously monitors incoming data and system integrity, you can be assured that the altitude provided is highly accurate, even in low-visibility conditions. What’s more, in most installations this self-testing technology virtually eliminates the need for pilot input or interaction with the GRA 55 in any way. It simply provides a smooth, reliable, highly accurate altitude readout to help keep your AGL awareness as safe and dependable as you’ve always wanted it to be.

Designed to integrate with the GI 205 stand-alone indicator, as well as compatible glass flight displays, the GRA™ 55 radar altimeter offers a complete and accurate height-above-terrain tracking solution at a value price. Featuring a vibrant OLED display with full 180-degree viewing angle, the GI 205 indicator offers easy readability in all types of flight conditions, day or night. A knob on the face of the display offers easy selection of decision height (DH). And upon arrival at DH, a “minimums, minimums” voice callout or traditional audible tone is available. For added situational awareness, a graphical trend indicator conveys vertical velocity information at a glance.
Displaying four times more color gradients than traditional four-color radars, the Doppler-enabled GWX™ 75 radar helps take the guesswork out of real-time weather tracking and analysis. The additional colors provide a far more nuanced interpretation of storm cell dynamics. Plus, this high-definition target contouring combines with exceptional range and adjustable scanning profiles — both horizontal and vertical — to allow you to more accurately assess a storm threat via your compatible flight deck or multifunction display. The fully stabilized GWX 75 offers horizontal scan angles up to 120 degrees to locate and evaluate convective weather activity. Also, the altitude-compensated tilt feature helps streamline your in-flight workload by eliminating the need to reset the antenna tilt after altitude changes. Set it once to the tilt angle you want, and the radar will automatically adjust to that level after any climb or descent.

The radar’s vertical scanning mode aids in analyzing storm tops, gradients and cell buildups at various altitudes. In addition, our Weather Attenuated Color Highlight (WATCH®) technology helps identify the shadowing effects of short-range cell activity — highlighting areas where radar signals are weakened, or attenuated, by intense precipitation (or large areas of lesser precipitation) and may not fully reflect the “storm behind the storm.” With these capabilities, the GWX 75 radar makes it easier to scan large geographic areas and make sound weather-related decisions. Plus, a handy ground mapping mode lets you use GWX 75 to scan terrain features for visual navigation.

With its digital design, the GWX 75 system offers reduced power consumption and extended service life compared to previous generations of magnetron-based radars. While magnetron tubes degrade or burn out over time, the solid-state technology in GWX 75 maintains a consistent weather picture over its entire life cycle — all while using only 40 watts of transmission power. The weight-saving, all-in-one antenna/receiver/ transmitter unit is available with 10”, 12”, 14” or 18” phased array antenna plates, so GWX 75 can enable wireless remote tuning via iPad®, iPhone or even more flexibility, Garmin’s optional Flight Stream 510/210/110 BLUETOOTH® gateways can control their SiriusXM Radio channels and volume from anywhere in the cabin.

You can’t control the weather. But at least you can stay on top of it — with the help of satellite updates from the GDL® 69 datalink receiver. Supplying graphical and textual weather information to the panel mount GTN™ 750/650 series avionics, as well as the G3X0/G500, G3X0/TX6/G500/TX multifunction displays, the GDL 69 helps pilots make timelier and more strategic weather avoidance decisions.

Data uplink service is provided through the Sirius XM® Satellite Weather Service, using location-specific Sirius XM® information. Sirius XM’s powerful B-band stationary satellites deliver seamless, near real-time coverage at any altitude across the continental United States and parts of Canada¹. Thus, you’re able to receive and view high-resolution color graphics offering detailed NEXRAD and METARs data, as well as current reports on precipitation, lightning, winds aloft, echo tops, TFRs and more.

For pilots who want the latest in SiriusXM Satellite Radio capability, Garmin offers the sound-enabled GDL 69A. This receiver combines Sirius XM’s satellite weather link with a complete digital audio package — so passengers can enjoy more than 170 channels of continuous news, sports, music and entertainment, while flying anywhere in the XM coverage area². The GDL 69A will interface through a variety of Garmin panel-mount cockpit displays. And for even more flexibility, Garmin’s optional Flight Stream 510/210/110BLUETOOTH® gateways can enable wireless remote tuning via iPad® or other compatible mobile devices, so listeners can control their SiriusXM Radio channels and volume from anywhere in the cabin.

¹ Display compatibility for Canadian WX support varies by unit. See display product configuration for details.
² Display compatibility for SiriusXM AudioLink® and Apple® devices may also vary by unit and display product. Please contact Garmin for details.

**OPERATING**

| Physical | Unit Size | 6.15” w x 1.05” h x x 7.20” d | 15.62 x 2.67 x 18.29 cm |
| MOUNTING | Mounting rack and hardware supplied | | |
| Weights | 1.86 lbs. unit (.84 kg), 2.81 lbs. (1.27 kg) unit and rack |
| Environmental | Temperature: -55° C to +70° C (Operating) | -55° C to +48° C (Storage) |
| Humidity | 95% non-condensing |
| Altitude range | -15,000 ft to +55,000 ft |
| Power requirements | 6 to 32 VDC input, 4.2 watt maximum |
| Other Specifications | Satellite receiver frequency: 2332.5 to 2345 MHz |
| Overlink data rate | 38.4K bits per second |
| Software Certification | RTCA DO-178B Levels B and D |
| Enviromental Certification | RTCA DO-160D |

**SPECIFICATIONS**

- Environmental Certification: RTCA DO-160D
- Software Certification: RTCA DO-178B Levels B and D
- Power requirements: 6 to 32 VDC input
- Overlink data rate: 38.4K bits per second
- Environmental Certification: RTCA DO-178B Levels B and D
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- Mounting | Mounting rack and hardware supplied |
- Weights | 1.86 lbs. unit (.84 kg), 2.81 lbs. (1.27 kg) unit and rack |
- Temperature: | -55° C to +70° C (Operating) |
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- Other Specifications | Satellite receiver frequency: 2332.5 to 2345 MHz |
- Overlink data rate | 38.4K bits per second |
- Software Certification | RTCA DO-178B Levels B and D |
- Environmental Certification | RTCA DO-160D |
An enabling technology for the growing Garmin Connext family of datalink and wireless connectivity solutions in the cockpit, the GSR 56 Iridium datalink brings the benefits of on-demand satellite weather — as well as onboard text/voice communications, aircraft position tracking and more — to aircraft operators worldwide.

Available weather products include meteorological terminal aviation routine weather reports (METARs) that provide current temperature, dew point, precipitation, wind speed and more, as well as terminal aerodrome forecasts (TAFs) that show predicted weather for up to 30 hours in advance. Pilot reports, or PIREPS, allow pilots to share routine or urgent weather observations with each other. And throughout most of Europe, Canada, Australia and the U.S., Garmin Connext can also enable high-resolution radar imagery, which displays in full color on the G1000®, G1000® NXi, G500/G600, G500 TXi/G600 TXi and GTN™ 750/650 series of displays. Additional radar coverage areas are being added continually⁴.

Moreover, for pilots and passengers who want to stay in touch from the far-reaching corners of the earth, Garmin Connext offers a full range of phone and messaging options. Your Garmin Connext datalink may be used to provide two-way text messaging via SMS connection with any compatible mobile phone or two-way text messaging device². You can send and receive text messages while airborne to maintain constant contact with clients, ground support or your team at the home office. Likewise two-way voice calling options, integrated with the aircraft’s audio/intercom system, enable you to easily make or receive calls through your headset — or through cabin handsets — while in flight. Efficient and cost-effective, Garmin datalink technology provides the messaging and voice solutions you need to do business in today’s competitive, globally connected world.

¹ Service levels, areas and rates are subject to change. Contact Garmin for the current service areas and rates.
² Coverage subject to network agreements with mobile service providers. All services and capabilities listed may not be available on all Garmin flight deck platforms. Check with Garmin for specific availability.
³ To view radar imagery on the G1000®, G1000® NXi, G500/G600, G500 TXi/G600 TXi and GTN™ 750/650 series of displays. Additional radar coverage areas are being added continually.
⁴ For pilots and passengers who want to stay in touch from the far-reaching corners of the earth, Garmin Connext offers a full range of phone and messaging options.

GSR 56
GLOBAL VOICE, TEXT, WEATHER AND MORE

<table>
<thead>
<tr>
<th>SPECIFICATIONS</th>
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<tr>
<td><strong>Physical</strong></td>
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<td>Altitude range</td>
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<td>Power requirements</td>
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<td><strong>Other Specifications</strong></td>
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<tr>
<td>Satellite receiver frequency</td>
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<td>Downlink data rate</td>
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<tr>
<td>Environmental Certification</td>
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The Garmin GDL® 82 is the easy, affordable ADS-B “Out” solution you’ve been waiting for. Now you can meet minimum FAA requirements with your current transponder and this small, lightweight, nonintrusive design that installs quickly into your airplane with only minimal modifications.

Once installed, the GDL 82 provides a WAAS-enabled position source that provides your precise location to air traffic control and other ADS-B “In” equipped airplanes in your vicinity using the universal access transceiver frequency. And with integrated patented AutoSquawk technology, it syncs its squawk code to your transponder, so there’s no second code to enter, which reduces your workload, and no additional remote control to install in your panel. That means it meets the toughest requirements of all: your budget and your needs. And you’ve never had a smarter ADS-B “Out” solution.

Completely installed, the GDL 82 is a low-cost way to meet ADS-B requirements for aircraft flying below 18,000 ft. The GDL 82 is ready to install in hundreds of fixed-wing aircraft models using an FAA-approved STC and memorandum addressing ADS-B installation, and installation is easy. The GDL 82 fits inline between your existing transponder and transponder antenna. And if you don’t already have a GPS antenna installed, one is included for installation.

From there the GDL 82 is the perfect complement to Garmin GDL® 52 series portable ADS-B “In” receivers, without replacing your transponder or adding another transponder antenna. And with ADS-B “Out,” the FAA provides traffic to your aircraft from ADS-B Ground stations, providing you the most comprehensive display of ADS-B traffic available. In addition, it offers an optional anonymous mode, which masks your aircraft ID from ADS-B “In” equipment when your aircraft is squawking VFR (1200).

With the GDL 82, you can fly confidently — to 2020 and beyond.
INTEGRATED DATALINK SOLUTION TO ADS-B COMPLIANCE

Garmin has developed the GDL 88® and GDL® 84 series of datalinks to help aircraft meet ADS-B requirements as easily and affordably as possible in a wide range of aircraft. Not only can these devices be used to satisfy the FAA’s regulatory criteria for ADS-B “Out” transmission capability — both offer an optional built-in WAAS GPS receiver — but they also provide the ADS-B “In” dual link. That enables you to view, on a compatible cockpit display (GDL 88 only) or on a BLUETOOTH® linked iPad®, other Flight Stream enabled tablet/mobile apps or Garmin portables¹ (GDL 88 and GDL 84), the same dynamic traffic data that ATC ground controllers are monitoring on their scopes. That means, in addition to audible target alerts (“Traffic. Two o’clock. High. Two miles.”), you can see the latest in ADS-B traffic awareness. Our patent-pending TargetTrend™ relative motion tracking technology, for example, offers a faster, more intuitive way of judging aircraft trajectories and closure rates in relation to your aircraft’s flight path. Likewise, within the airport environment, the geo-referenced TerminalTraffic™ feature lets you monitor ADS-B equipped aircraft and ground vehicles as they move on the taxiways and runways. Plus, our patented AutoSquawk technology allows these datalinks to wirelessly interface with a wide range of GA transponders to automatically synchronize squawk code and identity. Thus, there’s no need for duplicate code entries or additional cockpit controls. And there’s no extra installation cost associated with a duplicate remote control entry. The datalinks’ support for ADS-B “In” also enables use of the FAA’s free uplink of aviation weather reports, graphical NEXRAD imagery, and various other flight information services. The weather content available on this subscription-free “FIS-B” link (Flight Information Service – Broadcast) is comparable to the basic subscription services offered by leading commercial satellite weather providers. Which means there’s a real economic advantage to be gained with the Garmin GDL 88 and GDL 84 series as solutions to ADS-B compliance in your aircraft.
A valuable feature of the Garmin G500/G600, G500 TXi/G600 TXi, GTN™ 750 and other compatible MFD screens is the ability to display approach plates and airport surface diagrams. Affordable Garmin FliteCharts®, which feature electronic versions of Aeronautical Information Services, NAV CANADA and EUROCONTROL terminal procedures charts, come standard with many Garmin navigators. In addition, Garmin SafeTaxi® airport diagrams are included to help pilots navigate hundreds of U.S., Canadian, Brazilian and European airports with confidence — by clearly depicting their aircraft’s exact location on the field. As an alternative, you can select optional ChartView™ instrument approach plates and airport surface charts (Jeppesen® JeppView, subscription required). Both Garmin FliteCharts and ChartView™ have the ability to overlay a geo-referenced aircraft symbol on the electronic approach chart, providing a visual crosscheck of your progress inbound.

With the Garmin G500 TXi, G600 TXi and GTN 750 series navigation displays, FliteCharts and ChartView take geo-referencing even further — enabling a graphical view of your approach plate to be overlaid on the MFD moving map for integrated guidance cues throughout the procedure. Based on the active flight plan, each compatible Garmin MFD automatically loads the approach plates for the destination airport, allowing the pilot to quickly select the ATC-assigned approach procedure. ChartView can also display the destination airport’s surface diagram — a real help at unfamiliar airports. In addition to the airport and approach charts, standard instrument arrival and departure charts (STARs or DPs) are also incorporated. ChartView functions and updates for the G600/G500, G500 TXi/G600 TXi and GTN 750 are available through Jeppesen’s JeppView subscription service.
FLYGARMIN.COM

48 49

Wi-Fi® is a registered trademark of the Wi-Fi Alliance.

Standard w/ Garmin FliteCharts® X X X X X

Standard w/ Jeppesen JeppView X X X X X X

Standard X X X X X

Standard w/ Garmin FliteCharts X X X X X X

Standard X X X X X

FliteCharts® (electronic terminal procedures on select Garmin products include Garmin capabilities. In addition, other databases found serve as the mainstay of their moving map come with extensive navigation databases that

WITH EASY ONLINE UPDATES

KEEP YOUR DATA CURRENT WITH EASY ONLINE UPDATES

Many of your Garmin panel-mounted avionics come with extensive navigation databases that serve as the mainstay of their moving map capabilities. In addition, other databases found on select Garmin products include Garmin FliteCharts® (electronic terminal procedures charts), Garmin SafeTaxi™ (airport taxiway diagrams), VFR sectional/IFR enroute charts, terrain, towns/obstacles and more.

Over time, as information changes, your databases will require updating.

Fortunately, Garmin makes the process easy — by offering updates online — as well as wirelessly for select products — via our website: fly.Garmin.com.

To make updating even more affordable, we’re offering bundled packages for your entire panel at a cost-effective price. A Garmin OnePak offers every database for your Garmin certified panel-mount avionics in your cockpit — including GTN™ 650/750 series, G500/G600 and G500 TXi/G600 TXi and even Garmin GNS 430W/530W navigators — plus all databases for one qualified Garmin portable aviation device registered to your fly.Garmin.com account and a one-year Garmin Pilot™ Premium upgrade on Apple® or Android™ mobile devices if you’re already a Garmin Pilot Standard subscriber.

Or, if you prefer Jeppesen products, we’ve teamed up to create PilotPak™. With PilotPak, all the databases within a selected package are provided for a single annual price for Jeppesen JeppView® and/or Garmin FliteCharts®. Lite, Standard, and Standard + Garmin FliteCharts packages can be purchased and downloaded at fly.Garmin.com, and Lite, Standard and Standard + Jeppesen JeppView can be purchased and downloaded from Jeppesen’s website, www.Jeppesen.com/ GTN.

Once you’ve selected your database package, with Database Concierge, you’ll streamline the update process for updating your GTN navigator via the Flight Stream 510 WiFi® connection. At home, you can select individual databases on the Garmin Pilot app, download them, and store them to your mobile device for later.

When Flight Stream establishes a connection in the airplane, it transfers your up-to-date databases directly to the GTN in minutes, where they’ll wait in standby until their effective date. If you have a second GTN, G500/G600 or G500 TXi/G600 TXi glass flight display, you’ll enjoy additional benefits from database synchronization. The GTN acts like a computer server to automatically transfer and synchronize your databases to the flight display and navigator, behind the scenes. In the meantime, you can view and use a departure, approach or arrival chart immediately — even if the databases are still synchronizing.

TRIP SUPPORT WITH FLTPLAN.COM

With aviation support services from the industry-leading FLTPLAN.com team at Garmin, pilots and fleet owners can now streamline their operations with a full suite of web-based logistics solutions. These offerings range from flight planning, filing and predeparture clearances to advanced trip support, flight tracking, airport and FBO information, weather briefings, navigation logs, eAPIS and international handling, and more.

As one of the largest and most trusted electronic flight planning services in the U.S., FLTPLAN.com files more flight plans per year than any other provider. The FLTPLAN Go electronic flight bag app is seamlessly integrated and wirelessly integrates with Garmin avionics. The Garmin Pilot™ app provides additional integration and wireless connectivity. By creating a free FLTPLAN.com account and syncing it with Garmin Pilot, users can easily create flight plans and routings — then wirelessly transfer the data from their mobile device to their avionics, saving valuable time prior to any flight. To save even more time between filing and takeoff, pilots can also take advantage of FLTPLAN’s FAA-approved pre-departure clearances, which allow them to skip clearance delivery entirely — and receive their flight plan approval wirelessly, approximately 20-30 minutes prior to the filed departure time.

Many countries require advanced notification for entry into their country, typically referred to as eAPIS, and each country has its own system and requirements for notification. The FLTPLAN team has years of experience handling these complex international trip logistics with the U.S. Customs and Border Protections and similar agencies in Canada, Mexico and other countries to streamline international travel. Better yet, this system integrates conveniently with FLTPLAN.com to simplify manifest submissions. For more comprehensive support, let our experts in international flight planning manage your operations from takeoff to touchdown for a single, predictable price without any hidden fees. The FLTPLAN team has decades of experience working logistics in multiple countries, so we know what to expect to help mitigate operational risks, save time and provide peace of mind during your travels. Our expertise can help you operate confidently while flying between the U.S., Mexico, Central America, and the Caribbean. The service accounts for airspace fees, overflight and landing permits, optimized flight planning, ground handling and much more. International handling integrates seamlessly with FLTPLAN.com; simply request a quote after adding the proposed flight plan with an eligible destination to get the process started.
When you fly with Garmin avionics, you never fly alone. We're committed to making sure you have a terrific experience with any and every Garmin product you select — whether it's a single component or a complete cockpit retrofit.

That's why you can count on us not just to support you, but also to embrace you: with comprehensive service and technical expertise in virtually every corner of the globe.

To help you get the most from your avionics, we offer a variety of product training and familiarization programs — everything from hands-on, face-to-face road shows and user classes to YouTube videos and webinars that you can easily access online. We make a real effort to provide the answers and the information you need to feel totally confident with the avionics you're flying. Because, we know that it's the total support we put behind every product in our lineup — and every pilot using our equipment — that turns first-time Garmin buyers into loyal, long-term Garmin customers.

Likewise, we back every product in our avionics lineup with a rock-solid Garmin warranty. Then we make that warranty mean even more by attracting and hiring some of the industry's brightest technical minds to serve in our factory support positions. Their troubleshooting expertise is available by phone, fax or online — whenever you have a question or service issue that demands the right answer, right now!

These experts work as a team with hundreds of Garmin Authorized Service Centers around the world. Individually, they are the top shops in the business. Collectively, they form the most professional, most comprehensive avionics service network available to support you anywhere you fly. And we never stop looking for ways to make our team even better.

To see for yourself, we invite you to call or visit your nearby Garmin dealer. You'll be doing your future a favor.

LOOKING AHEAD, REACHING BEYOND