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Avionics that bring the future into focus.

It's one thing to speculate where the future of general aviation is heading. But it's quite another to be totally engaged in creating that future right now. Garmin is totally engaged. From the industry's first IFR approach-certified GPS to today's advanced WAAS-certified systems that let pilots fly ILS-like glidepath approaches into airports with no ground-based navaid systems of any kind – Garmin continues to set the pace for innovation in avionics.

Our full line of industry-leading panel-mount and remote-mount equipment offers pilots a wide range of VFR and IFR choices. All of which add extra margins of safety, convenience and fun to any flight. Feature-rich and logical to operate, Garmin avionics are clearly designed for pilots by pilots. And as new technologies keep emerging, you can count on Garmin to further extend its leadership – combining ever-higher levels of reliability, integration and pilot situational awareness for tomorrow's ATC environment.

Bringing the future into focus: It's what we're all about here at Garmin. And when you combine that vision with our uncompromising quality in manufacturing and service, well it's easy to see why we've quickly become the #1 avionics company serving the owner-flown aircraft market.

Now more than ever, the future flies with Garmin.

Retrofit glass is now within your grasp.

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 G600. Or its lower-cost lookalike, the G500.

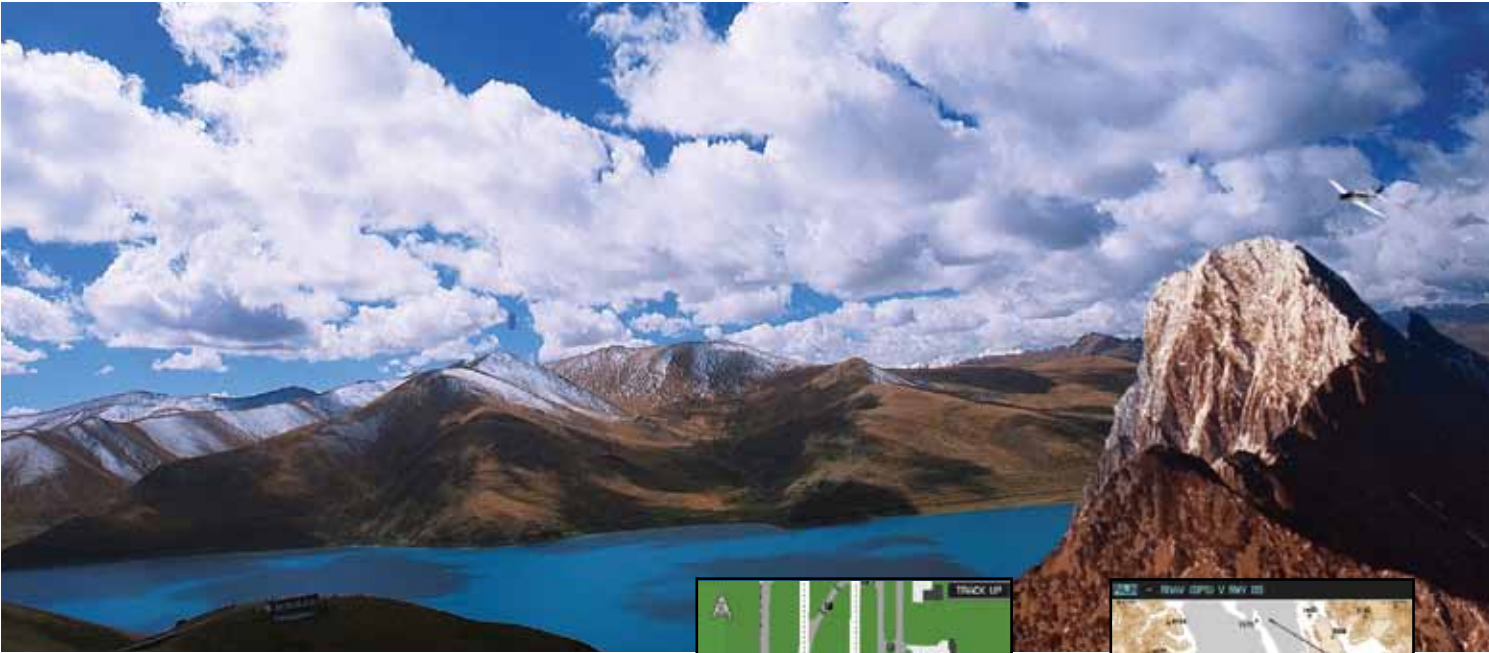
Leveraging our industry-leading G1000™ integrated cockpit technology, these twin-screen Garmin units combine primary flight (PFD) and multifunction (MFD) display capabilities in one easy-to-install, 10-inch wide bezel – providing a perfect-fit replacement for the standard gyro cluster in your panel. The PFD’s attitude display is over 50% larger than those of traditional 3-inch flight instruments. And for easier scanning, both the PFD and MFD are paired directly in the pilot’s field of view.

Instrument data comes from ultra-reliable digital AHRS and Air Data Computer reference. While built-in terrain and mapping databases add graphic navigation detail. Garmin FliteCharts® and SafeTaxi® come pre-installed as standard. Or, if you prefer, optional geo-referenced ChartView™ instrument approach plates and airport surface charts are also available (JeppView™ for MFD subscription required). All onscreen navigation functions are easily integrated with the WAAS-certified GNS 430W or 530W units in your stack. And optional inputs let you overlay XM™ satellite weather¹, TAWS-B terrain alerting,

Garmin’s SVT™ 3-D synthetic vision renders terrain-alerting data into a realistic virtual landscape, showing obstacles, traffic, airports and more. A scaled version of SVT is standard on G600; optional on G500.



HOW THE UNITS COMPARE:	G 500	G 600
• Approved for Class 1 Aircraft (typically piston singles under 6,000 lbs.)	Yes	Yes
• Approved for Class 2 Aircraft (typically piston twins and turbine aircraft under 6,000 lbs.)	Yes	Yes
• Approved for Class 3 Aircraft (typically piston or turbine aircraft between 6,000 lbs. and 12,500 lbs)	No	Yes
• Software design assurance level	Level C	Level B
• Garmin SVT Synthetic Vision Technology	Optional	Standard
• GAD 43 replaces select A/P gyro attitude with AHRS references and provides bootstrap heading, yaw information, and baro corrections	Optional	Standard
• GWX 68 Radar interface (radar LRU sold separately)	Optional	Standard
• Internal TAWS-B terrain alerting	No	Optional



Electronic display of Garmin SafeTaxi® airport diagrams depicts the current aircraft position in relation to runways, taxiways, hangars, etc.



Standard Garmin FliteCharts® provide over 14,000 NACO-format approach plates, which can be viewed on the G600's 6.5-inch MFD².

onboard radar, traffic alerts or other data. For even more flight integration, ARINC 429 support is offered for selected autopilots and flight directors. A Garmin GAD 43 adapter unit (standard on G600; optional on G500), provides enhanced autopilot interface – allowing AHRS to drive your autopilot in place of a gyro-mechanical ADI (such as the familiar KI-256). The GAD 43 can emulate the many existing gyro interfaces, using far more reliable AHRS data to provide the required attitude, heading, yaw input, baro correction, and alerting information to the autopilot. This typically enables the system's costly ADI to be replaced on the panel with a far more affordable (and space-saving) attitude indicator as one's backup instrumentation.

Best of all, a scaled version of Garmin's SVT™ Synthetic Vision Technology now comes standard on the G600 – or as an option on the G500. With SVT, pilots are offered a realistic 3-D virtual reality display of terrain, obstacles, runways and traffic information, all shown in context on the PFD. It's like having a clear-day “out-the-window” view in any weather or flight situation. And it promises to bring a whole new level of situational awareness to your Garmin retrofit glass cockpit.

¹ XM subscription required (sold separately).
² Included U.S. FliteCharts® will disable when data is over 6 months out-of-date. Updates available on single-cycle or annual basis

specifications	
Display features • Dual 6.5 inch diagonal color LCD displays • RGB LED backlighting technology • High resolution 640x480 VGA (921,600 RGB dots) • 65,536 simultaneous colors • Direct sunlight readable • Auto, manual or lighting bus inputs for dimming	Electrical • 10-40 VDC, reverse polarity protected • 55 watts typical
Physical - GDU 620 display • 6.7 inches high • 10.0 inches wide • 3.25 inches deep • 6.4 lbs.	Environmental • -20C to +55C operating temp • -55C to +85C storage temp • 2 degrees C per minute temp variation • 95% at 50C humidity • 35,000 feet max altitude • internal cooling, external cooling not required
System Architecture • Position source: Requires external WAAS GPS, such as GNS 480 or 400W/500W series unit. • Supported interfaces include GDL 69/69A XM datalink weather, GWX 68 digital weather radar, GTX 330 Mode S transponder, and others • Supported AHRS: GRS 77 • Supported Air Data Computer: GDC 74	Certification Criteria • STC via Approved Model List (AML) for over 800 airframes with G600 and over 600 airframes with G500 • G500 is approved for most Class 1/Class 2 aircraft (under 6,000 lbs). G600 is approved for most Class 1, Class 2 and Class 3 aircraft (including piston and turbine aircraft between 6,000 lbs and 12,500 lbs MTOW). • TSO-C2d, TSO-C3d, TSO-C4c, TSO-C6d, TSO-C8d, TSO-C10b, TSO-C34e, TSO-C36e, TSO-C40c, TSO-C41d, TSO-C43c, TSO-C52b, TSO-C63c, TSO-C113, TSO-C147, TSO-C151b (G600 only)

Price, features and specifications subject to change without notice.

The future flies with WAAS

For years the GNS 530 and its slightly smaller sibling, the GNS 430, have set the industry standard for multitasking, integrated avionics. Now, with its “W” versions of these units, Garmin brings these two best-selling GPS systems into the WAAS age.

Allowing glidepath approach capability similar to a Category One ILS, the FAA’s growing Wide Area Augmentation System, or WAAS, offers pilots the ability to fly GPS-guided LPV approaches down to decision heights as low as 200 feet – providing access into thousands of U.S. runways not currently served by ground-based ILS approaches.

These WAAS LPVs already outnumber ILS approaches in the U.S. airspace system – opening the world of IFR flying to more all-weather landing options than ever. Not only does WAAS bring glidepath approach access to scores of smaller GA airports, but it also serves as a great backup for existing ILS procedures.

Beyond their WAAS-certified GPS navigation capabilities, the versatile GNS 530W and 430W also feature built-in 2280 channel capable VHF comm (with 10- or optional 16-watt output), plus 200 channel ILS/VOR with localizer and glideslope. Their expandable architecture also welcomes weather, lightning and traffic enhancements – with available data link options that bring flight-critical weather updates directly to the cockpit for instant access to NEXRAD weather graphics, METARs, and more¹. They can even link to XM Satellite Radio for the latest music, news and entertainment². All GNS 430W/530W systems now provide basic visual terrain advisory data. In addition, another upgrade option on the GNS 530W lets buyers augment its built-in terrain elevation database with full Class-B TAWS alerting – to provide an extra margin of safety in steering clear of terrain/obstacle conflicts.

The Garmin GNS 430/530 “W” series: Today’s ultimate one-box solutions for a whole new era in point-to-point navigation.

¹GDL 69A XM receiver sold separately.
²XM subscription required (sold separately).



Built-in terrain elevation database can be augmented with optional Class B TAWS alerting capability on the GNS 530W.



With autopilot-coupled roll steering, both the GNS 430W and 530W can automatically fly the aircraft through holding patterns, procedure turns and other position-critical IFR flight procedures.



specifications

Safety

Emergency Search: 25 nearest airports, VORs, NDBs, intersections, and user waypoints; 5 nearest ARTCC and FSS frequencies

Alarms: Terrain and TAWS (530W); airspace messages at 10 minutes, 2nm, and inside airspace; arrival timers

User customization

Waypoints: 1000 user-defined

Flight Plans: 20 reversible; up to 31 waypoints each optional flight plan management tool

Physical

Unit Size: 430W, 2.66”h x 6.25”w x 11.00”d
530W, 4.58”h x 6.25”w x 11.00”d
Depth is behind panel with connectors

Unit Weight: 430W, 6.2 lb; 530W, 8.2 lb

Display: Color LCD

Power: 14/28 VDC

Data Storage: Separate internal battery protects stored data for up to five years

Performance

GPS: TSO-C146a, Class 3

VOR: TSO-C40c

LOC: TSO C36e

GS: TSO-C36e

VHF COMM: Transmitter TSO C37d, Class 4 and 6 Receiver TSO C38d, Class C and E

GPS Receiver: 15 channel, including 3 WAAS

Acquisition Time: TTFF 1:45 minute typical (cold), 10sec reacquisition

Update Rate: 5 per second

Accuracy: <2 meters RMS typical with WAAS (horizontal/vertical)

Dynamics: 1000 knots max

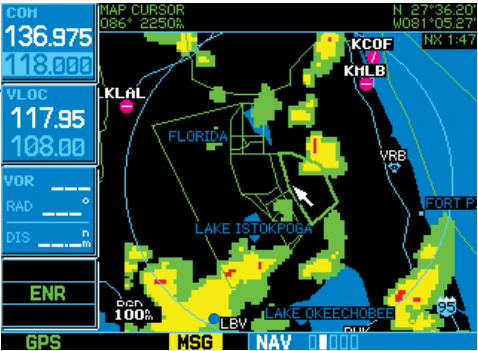
Nav Features: Navigation with flight plans and direct-to waypoints, approach navigation using published approaches stored on the NavData card, terminal navigation using DPs and STARs from NavData card, closest point of flight plan, arrival and departure frequencies, turn advisories and arrival annunciations

Planning Features: Trip and fuel planning, true air speed, density altitude, winds aloft, flight timers, trip statistics, checklists, sunrise and sunset, RAIM availability, advisory vertical navigation (VNAV)

Interfaces: ARINC 429, RS-232, CDI/HSI, RMI (digital), altitude input (serial: Icarus, Shadin-Rosetta; encoded Gillham / gray code), fuel sensor, fuel / air data, GDL 69/69A XM, GTX 330/330D, L-3 Stormscope, L-3 Skywatch, Avidyne TCAD, GAD 42, and others.

Map Datums: WGS-84

Garmin’s GNS 430W and 530W units combine the best features of a moving-map multifunction display with takeoff-to-touchdown navigation and radio communication capabilities.



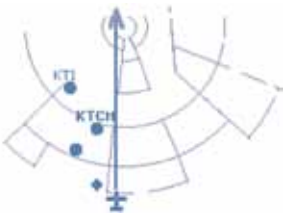
GPS 500W



GPS 400W



GNC 420W



More ways to go with WAAS.

For pilots who want the freedom and flexibility of WAAS navigation in a budget-friendly moving map GPS (minus the VHF nav and comm of the GNS 430W/530W integrated units), Garmin offers the GPS 500W and its slightly smaller companion, the 400W.

Both offer FMS-like capabilities, with graphic orientation features that make navigation simple. And both are now TSO'd to the FAA's most stringent C146a criteria for GPS en route, terminal and approach phases of flight – including WAAS glidepath vertical and lateral approach guidance into thousands of U.S. runways previously inaccessible in IFR conditions.

On both the GPS 500W and 400W, important en route and approach information is shown in easy-to-interpret color graphics. By adding optional sensors, overlaid weather, lightning and traffic data can also be displayed along your route. And with onboard help from a Garmin datalink receiver, (sold separately) it's easy to keep an eye on satellite NEXRAD weather for your home airport, destination airport, or any other location you choose within the continental United States¹.

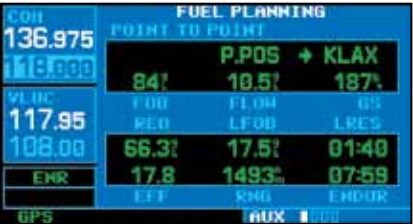
Powered by robust 15-channel GPS receivers generating five position updates per second, the GPS 400W and 500W units offer incredible accuracy, speed and performance. Each features an extensive Jeppesen® database, updated with front-loading data cards, for detailed graphical reference that includes navaids, published approaches, arrival and departure procedures, and more.

Then, for those who want to consolidate more functions, there's the GNC 420W. It adds a TSO'd 760-channel comm transceiver to the GPS/color map combination – offering a choice of 10- or optional 16-watt¹ comm transmit power versions. When panel space is at a premium, the GNC 420W is one highly productive, WAAS-capable solution.

¹XM subscription required (sold separately).



Frequency page is automatically sorted by sequence flown. Just highlight desired frequency and press enter to load into COMM standby.



Fuel planning page can be used manually or becomes automatic when interfaced with approved fuel flow systems.



Runway diagram page contains all runway surface data including runway lighting frequency.

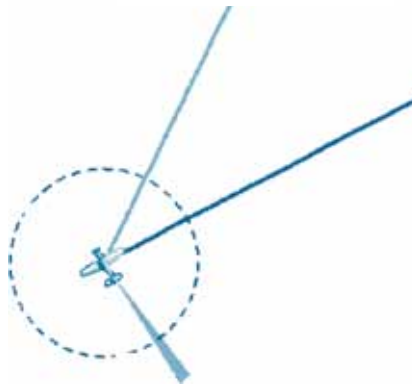
specifications	
Safety	
Emergency Search:	25 nearest airports, VORs, NDBs, intersections, or user waypoints; 5 nearest FSS and ARTCC frequencies
Alarms:	Arrival timers; airspace alarms at 10 minutes, 2nm and inside airspace
User customization	
Waypoints:	1000 user-defined
Flight Plans:	20 reversible; up to 31 waypoints each optional flight plan management tool
Physical	
Unit Size:	Width = 6.25"; Height = 4.58"; Depth = 11.00" behind panel, with connectors
Unit Weight:	500W, 6.8 lb; 420W, 5.5 lb; 400W, 5.0 lb
Display:	Color LCD
Power:	14/28 VDC
Data Storage:	Separate internal battery protects stored data for up to five years
Performance	
GPS:	TSO-C146a, Class 3
VOR:	TSO-C40c
LOC:	TSO C36e
GS:	TSO-C36e
GPS Receiver:	15 channel, including 3 WAAS
Acquisition Time:	TTFF 1:45 minute typical (cold), 10sec reacquisition
Update Rate:	5 per second
Accuracy:	2 meter RMS lateral typical, 2 meter vertical, with WAAS
Dynamics:	1000 knots max
Nav Features:	Navigation with flight plans and direct-to waypoints, approach navigation using published approaches stored on the NavData card, terminal navigation using DPs and STARs from NavData card, closest point of flight plan, arrival and departure frequencies, turn advisories and arrival announcements
Planning Features:	Trip and fuel planning, true air speed, density altitude, winds aloft, flight timers, trip statistics, checklists, sunrise and sunset, RAIM availability, advisory vertical navigation (VNAV)
Interfaces:	ARINC 429, RS-232, CDI/HSI, RMI (digital), altitude input (serial: Icarus, Shadin-Rosetta; encoded Gillham / gray code), fuel sensor, fuel / air data, GDL 69/69A XM, GTX 330/330D, L-3 Stormscope, L-3 Skywatch, Ryan TCAD, GAD 42, and others.r
Map Datums:	WGS-84



Optional Chartview™: Electronic display of Jeppesen® approach plates is enabled through Garmin's ChartView™ option (subscription required). Instrument approaches and airport surface diagrams can be viewed with the aircraft position overlaid on the GMX 200 display. Based on the flight plan, the GMX 200 will automatically load the approach charts for the destination airport. Standard Instrument Arrival and Departure procedures (STARs and DPs) are also provided.

The GMX 200 is designed to interface with most manufacturers' GPS navigation equipment, as well as other onboard sensors and data systems. Four versions of the GMX 200 – Standard, Traffic, Radar/Traffic, and Radar/Traffic – are available to support various sensor configurations.

For help in navigating unfamiliar U.S. airports, Garmin SafeTaxi® airport diagrams identify runways, taxiways and hangars, as well as the aircraft's location on the field



Getting the big picture just got easier

Offering an impressive list of features and nav graphic interfaces, the GMX 200 multifunction display is a fully integrated "big picture" pilot information center.

The large color AMLCD display expands a full 6 inches diagonally, with 640 x 480 pixels for the highest resolution in its class. Multiple charting options provide an extra margin of safety. Affordable Garmin FliteCharts® let pilots quickly find and view all U.S. National Aeronautical (NACO) terminal procedures and approaches on the MFD. Or, with the optional ChartView™ format – available through a JeppView™ for MFD subscription – pilots can track their progress with a geo-referenced aircraft symbol that's overlaid on the electronic approach procedure or airport diagram.

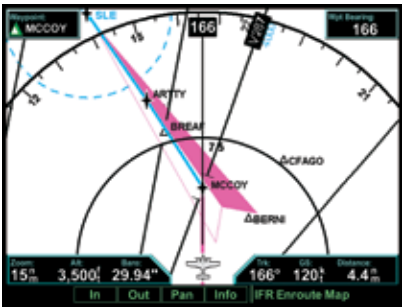
While enroute, flight progress is depicted on a realistic moving map display. The system's built-in terrain database color-codes relevant ground features in relation to your aircraft altitude, alerting you as you approach rising terrain. For added capability, the GMX 200 will also integrate with various onboard weather radar systems (see Garmin's GWX 68), plus lightning, traffic awareness, and datalink systems that enable uploading of real-time graphical weather information and NEXRAD radar summaries.

The GMX 200 will interface with most manufacturers' GPS navigation equipment¹. When coupled to Garmin GPS and VHF nav systems, the GMX 200 provides extra features and levels of convenience that exceed those of systems costing many times more.

¹Check with your Garmin dealer for compatibility information.



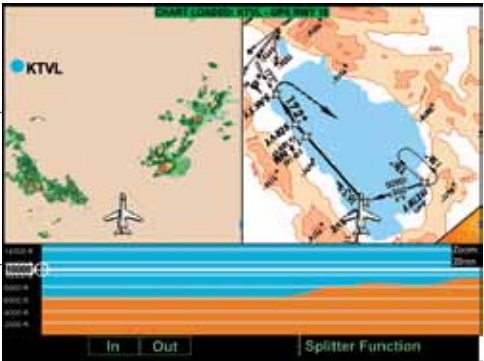
Custom map feature allows the pilot to overlay some or all of the GMX 200 features.



Optional IFR charting feature depicts low and high altitude airways.



FIS map displays graphical NEXRAD weather along the route and nationwide weather summary charts.



For added situational reference, the latest GMX 200 offers a unique split-screen view – allowing side-by-side displays of any two GMX 200 charting functions. In addition, a vertical profile view of terrain peaks and obstructions relative to the current flight level can be displayed across the lower portion of the screen.

specifications

Display Features

- 6.5" Diagonal color AMLCD
- Ultra-High resolution 640x480 (921,600 RGB dots)
- 65,536 simultaneous colors
- Direct sunlight readable
- Auto/Manual dimming
- Field upgradable software

Position Source

- External GPS via RS-232
- 4 bi-directional high speed RS-232 ports
- 1 bi-directional high speed RS-422 port
- 4 ARINC 429 high/low speed (with Traffic and Radar models)

Physical

- 5.00 inches high
- 6.25 inches wide
- 8.00 inches deep
- 4.30 lbs. GMX 200 Standard
- 4.60 lbs. GMX 200 Traffic, Radar, & Radar/Traffic

Electrical

- 10VDC to 40VDC, reverse polarity protected
- 40 watts typical

Environmental

- 20C to +55C operating temperature
- 55C to +85C storage temperature
- 2 degrees C per minute temperature variation
- 95% at 50C humidity
- 5,000 feet maximum altitude
- internal cooling, external cooling not required

Certification

- STC for over 800 airframes
- TSO-C110a, TSO-C113, TSO-C63c, TSO-C118, TSO-C147

GNC 300XL



GNC 250XL



(shown with reverse display for optimal night time viewing)

Three-in-one design efficiency

Picture perfect GPS/comm technology. That’s what you get with these popular VFR and IFR Garmin panel-mount units with moving map graphics. The 80 x 240 pixel display shows airports, cities, rivers, railroads, controlled airspace and much more in vivid detail. Higher resolution means jagged lines disappear and smooth arcs and crisp alphanumeric characters prevail. For optimum viewing, a built-in photocell reads the light level and adjusts the display from black-on-yellow to yellow-on-black for nighttime viewing.

The GNC 250XL offers VFR-equipped aircraft the chance to combine GPS navigation with a TSO’d 760-channel transceiver and a high resolution DSTN moving map display. The GNC 250XL shares all the efficiencies of the GNC 300XL at a lower price for the VFR pilot. It’s avionics you can count on. The GNC 300XL adds IFR enroute and non-precision GPS approach capability to the GNC 250XL.

Pilots get their choice of Americas or International coverage from a huge Jeppesen® database. And like other Garmin panel-mount units, the GNC 250XL and GNC 300XL feature front-loading data cartridges, so you can make data updates without removing the unit from the rack.

The GNC 250XL and GNC 300XL. Three-in-one convenience in space-saving units.



Situational awareness on display

The best value in panel mount GPS reveals a lot about Garmin ingenuity. That’s because Garmin’s GPS 150XL and GPS 155XL add moving map graphics to a fast, efficient GPS receiver.

Like all Garmin avionics, these units are characterized by logical, intuitive operations. Dedicated function keys, illuminated rotary knobs and a front-loading data cartridge for easy Jeppesen® data updates are part of the product feature set that makes these units pilot favorites.

The real draw of these navigators is the detailed mapping capabilities from the high-resolution DSTN display. The 80 x 240 pixel display offers high contrast and makes for graphics that are more refined and easier to read. A built-in photocell adjusts the contrast and even reverses the background from light to dark for the best viewing in bright light or low-light situations.

All of this display technology makes for the finest in situational awareness. In addition to the map itself, the database reveals airports, VORs, NDBs, intersections, SUAs and more. You can also choose to display speed, heading, track and distance information.



(shown with reverse display for optimal night time viewing)

The GPS 150XL offers VFR aircraft an accurate GPS with moving map graphics. The GPS 155XL is IFR certified. And both units offer great value in a compact user-friendly package.

specifications

Safety		Performance	
Emergency Search: 9 nearest airports, VORs, NDBs, intersections, or user waypoints; 2 nearest FSS with frequencies; 2 nearest ARTCC frequencies		Certification: TSO C37d Class 4 (VHF Transmitter) TSO C38d Class C (VHF Receiver) TSO C129a, Class A1 (en route, terminal and approach) GNC 300XL only	
Power Backup: Optional battery pack automatically powers unit in case of electric power failure		VHF Transceiver: 760-channel, aviation band 118-136.975 MHz 5w minimum transmitter power	
Alarms: Arrival, proximity, timers, SUAs less than 10 minutes, 2nm and inside SUA		GPS Receiver: PhaseTrac12®, 12 parallel channel receiver tracks and uses up to 12 satellites	
User Customization		Acquisition Time: 15 seconds (warm), 45 seconds (cold)	
Waypoints: 1000 user-defined		Update Rate: 1/second, continuous	
Flight Plans: 20 reversible routes of up to 31 waypoints each		Accuracy: Position—15 meters (49 feet) RMS, 1-5 m w/ DGPS corrections Velocity—0.1 knot RMS steady state	
Comments: Storage for comments on up to 250 waypoints		Dynamics: Velocity—999 knots Acceleration—6G	
Checklists: 9 user checklists of up to 30 items each		Comm. Features: Auto squelch control, standard headset output with sidetone and audio leveling, stuck mike transmission timeout, emergency channel select, ‘autotune’ frequency selection	
Messages: 9 scheduled user messages		Navigation Features: Search and Rescue Operation (ladder search), pilot-defined course selection and waypoint hold, Closest Point of Approach, dep. & arr. frequencies	
Physical		Moving Map Features:	
Size:		14 map scales from 0.5 to 300 nm, with nearby waypoints, nav aids and sectorized airspace, runway, and navigation data displayed. Autozoom feature automatically keeps present position and destination on the map, with user-selectable track up, north up or DTK up display	
Unit: 6.25 x 5.8 x 2 inches 159 x 147 x 51 mm		Planning Features: True Airspeed, Density Altitude, Winds Aloft, RAIM Availability, Sunrise/Sunset Calculations, Trip, Fuel and VNAV Planning	
Rack: 6.32 x 5.64 x 2 inches 161 x 143 x 51 mm		Interfaces: ARINC 429, RS232, Plotting (NMEA 0183 v.2.0), Aviation, PC Interface, Altitude Serializer, Fuel Sensor, Fuel/Air Data Computer, Gray Code	
Weight:		Map Datums: 124 pre-defined and 1 user-defined (Stored on NavData® Card)	
Unit: 2.6 lbs. (1.16 kg)			
Rack: 0.7 lbs. (0.31 kg)			
Display: 80 x 240 double super twist nematic with six times the contrast of typical DSTN displays. Automatic contrast adjustment with reverse display mode for exceptional readability in direct sunlight or at night			

specifications

Safety		Performance	
Emergency Search: 9 nearest airports, VORs, NDBs, intersections, or user waypoints; 2 nearest FSS with frequencies; 2 nearest ARTCC frequencies		Certification: TSO C129a, Class A1 (en route, terminal and approach) GPS 155XL only	
Power Backup: Optional battery pack automatically powers unit in case of electric power failure		GPS Receiver: Phasetrac 12®, 12 parallel channel receiver tracks and uses up to 12 satellites (GPS 165 TSO uses MultiTrac 8® receiver)	
Alarms: Arrival, proximity, timers, SUAs less than 10 minutes, 2nm and inside SUA		Acquisition Time: 15 seconds (warm), 45 seconds (cold)	
User Customization		Update Rate: 1/second, continuous	
Waypoints: 1000 user-defined		Accuracy: Position—15 meters (49 feet) RMS, 1-5 meters w/DGPS corrections Velocity—0.1 knot RMS steady state	
Flight Plans: 20 reversible routes of up to 31 waypoints each		Dynamics: Velocity—999 knots Acceleration—6G	
Comments: Storage for comments on up to 250 waypoints		Navigation Features: Search and Rescue Operation (ladder search), Course Selection Capability via mechanical and EFIS HSI*, Closest Point of Approach, Approach Navigation using published approach procedures stored on data card*, Terminal Navigation using SID/STAR from data card*	
Checklists: 9 user checklists of up to 30 items each		Moving Map Features:	
Messages: 9 scheduled user messages		14 map scales from 0.5 to 300 nm, with nearby waypoints, nav aids and sectorized airspace, runway, and navigation data displayed. Autozoom feature automatically keeps present position and destination on the map, with user-selectable track up, north up or DTK up display	
Physical (GPS 150XL / 155XL)		Planning Features: True Airspeed, Density Altitude, Winds Aloft, RAIM Availability, Sunrise/Sunset Calculations, Trip, Fuel and VNAV Planning	
Size:		Interfaces: ARINC 429, Plotting (NMEA 0183 v.2.0), Aviation, PC Interface, Altitude Serializer, Altitude Encoder*, Fuel Sensor, Fuel/Air Data Computer	
Unit: 6.25 x 5.8 x 2 inches 159 x 147 x 51 mm		Map Datums: 124 pre-defined and 1 user-defined (Stored on NavData® Card)	
Rack: 6.32 x 5.64 x 2 inches 161 x 143 x 51 mm		* GPS 155XL only	
Weight:			
Unit: 1.7 lbs. (0.77 kg)			
Rack: 0.7 lbs. (0.31 kg)			
Display: 80 x 240 double super twist nematic with six times the contrast of typical DSTN displays.			

GTX 330



GTX 330 Mode S digital transponder with TIS capability

GTX 328



GTX 328 Mode S digital transponder for Europe (shown with reversed display)

GTX 327



GTX 327 Mode C digital transponder (shown with reversed display)

GTX 320A



GTX 320A Class 1A transponder solid state reliability

Technology everyone can identify with

With all solid-state designs and powerful 250- to 250-watt transmitters, the Garmin family of GTX series transponders brings ATC aircraft surveillance to new levels of precision, reliability, and performance.

What’s more, since receiving the industry’s first TSO-C166a authorization for 1090 MHz Extended Squitter (ES) transmission capabilities optionally available, Garmin has taken the lead in providing an affordable pathway to ADS-B compliance for the FAA’s proposed Next Generation airspace system. Automatically transmitting aircraft flight ID, position, altitude, velocity, climb/descent, and heading information, Garmin’s ES capable GTX 330 and GTX 33 transponders provide precise dynamic reference to Air Traffic Control, as well as to other ADS-B equipped aircraft sharing the airspace.

The 1090 MHz ES upgrade preserves all of the existing GTX 330 and GTX 33 features, including a Mode S Traffic Information Services (TIS) interface that allows you to keep an eye on traffic in or near some of the busiest airports in the U.S. The Garmin GTX 33 is a remote-mount unit, designed for use with integrated GPS/COMM/NAV systems which provide built-in transponder code selection. The GTX 330 is a panel-mount unit. Another option, the Garmin GTX 328 is similar to the GTX 330, but is designed to satisfy the European mandate for a VFR/Class 2 Mode S solution. It does not offer TIS traffic or ADS-B datalink functionality.

For Mode C operation, Garmin offers the GTX 327 panel-mount transponder with dedicated pushbutton keys for code selection. A remote-mount version, the GTX 32, is also available. Finally, for budget-conscious buyers, there’s the GTX 320A. It’s a low-cost, panel-mount Mode C unit that uses traditional twist knobs for Squawk code selection.

Think slim

When panel space is at a premium, these Slimline comm and nav/comm transceivers fit a lot of capability in a surprisingly small package.

The Garmin SL30 is a full-function nav/comm, featuring a 760-channel VHF comm transceiver and 200-channel VOR/LOC/GS nav receiver with DME display. It’s the only panel-mount nav/comm with a standby frequency monitoring feature providing the capability of two nav/comms in one. With the primary VOR/LOC frequency providing guidance to your HSI or CDI, the standby frequency can be tuned to a second VOR to display the current radial on which your aircraft is flying. This allows the pilot to cross check position fixes with just one receiver.

The companion SL40 comm transceiver is packed with innovative features, including: active and standby flip-flop frequency tuning, direct sunlight-readable alphanumeric display, easy access to NWS broadcasts, a two-place intercom, and more. Its frequency monitor function allows you to monitor ATIS or emergency frequencies – without leaving your assigned ATC channel. So you never miss a transmission. With 8 watts of transmit power and only 35-watt DC input, the SL40 is cool and efficient. Maximum sophistication in minimum space: that’s the Garmin Slimline series.



specifications

Navigation Radio Features (SL30 NAV/COMM)

- 200 channel Nav with solid state DSP technology.
- With VOR/Localizer and Glideslope receivers.
- Built-in VOR/Localizer converter.
- VOR receiver displays to/from and radial.
- Digitally decoded OBS setting.
- Sunlight readable full alphanumeric display.
- User selectable back course approach mode that provides “chase the needle” operation.
- Automatic display of station ID by decoding Morse code.
- Design and operation consistent with SL line.
- Interfaces to most CDI (w/resolver), HSI, and autopilot systems.
- TSO: C34e; C36e; C40c.
- Accepts 10 to 40 VDC input.

Physical Specifications

- Size:** 1.3”(H) x 6.25” (W) x 10.5” (D)
- Weight:** 2 lbs., SL40; 3.3 lbs., SL30

Comm Radio Features (SL30 and SL40)

- 760 Communications channels.
- Frequency Range 118 to 136.975 MHz.
- Active and Standby Flip/Flop Frequencies.

- Volume Control.
- Tunes to National Weather Service Broadcasts.
- Transmit Status Indicator.
- Back-lit Keypad Control.
- Automatic Display Intensity Control.
- 2X8 Frequency Memory and Recall:
 - Stores/Recalls 8 User Defined Frequencies
 - Stores/Recalls Previous 8 Frequencies Used
- Frequency Monitor Function (listens to standby while monitoring active).
- Dedicated Emergency Channel Selector.
- Squelch Test Function.
- Stuck Mic Time-out.
- 12 Watt Audio Amplifier.
- Includes Two Place VOX intercom.

Comm Radio Performance Specifications (SL30 and SL40)

- Transmit Power 8 Watts (Carrier Power).
- Input voltage Range 10 to 40 VDC.
- Operating Temperature Range –20°C to +55°C.
- Certified TSO C37d (transmitting).
- Certified TSO C38d (receiving).
- Certified TSO C128 (stuck mic).

specifications

GTX 330 / GTX 328 / GTX 33

- TSO compliance:** C112
- Temperature Range:** -20°C to +55°C
- Altitude:** 55,000 Feet
- Transmitter Freq.:** 1090 MHz
- Transmitter Power:** 250 watts nominal at unit
- Receiver Frequency:** 1030 MHz
- Receiver Sensitivity:** -74dBm nominal for 90% replies
- Mode A Capability:** 4096 ident codes
- Mode S Capability:** 25 foot resolution with suitable serial data from -1000 to 62,700 feet
- Ext. Suppression Input:** Lo < 0.5V; High > 8V
- Weight (GTX 330):** 4.2 lbs. (1.9 kg) installed with rack and connectors

- Dimensions (GTX 330):** Bezel Width = 6.25” (159 mm) Bezel Height = 1.65” (42mm) Depth = 11.25” (286 mm) behind panel, with connectors

GTX 327 / GTX 32

- TSO Compliance:** C74c Class 1A
- Temp Range:** -20° C to +55°C (Continuous Operation)
- Power Requirements:** 11-33 VDC; Max Power Input: 15 Watts
- Humidity:** 95% @ +55°C for 16 Hours; 85% @ +38°C for 32 Hours

- Altitude:** 50,000 Feet
- Transmitter Freq.:** 1090 MHz
- Transmitter Power:** 200 Watts Nominal
- Receiver Freq.:** 1030 MHz
- Receiver Sensitivity:** -74dBm Nominal for 90% replies
- Mode A Capability:** 4096 Ident Codes
- Mode C Capability:** 100 Foot Increments from -1000 to 63,000 feet



TIS coverage

- Ext. Suppression Input:** Lo ≤ 0.5V; High ≥ 8V
- Weight:** 3.1 lbs (1.4 kg) installed with rack & connectors
- Dimensions:** Bezel Width = 6.25” (159 mm) Bezel Height = 1.65” (42mm) Depth = 8.73” (222 mm)

GTX 320A

- TSO Compliance:** C74c Class 1A
- Temperature Range:** -20° C to +55°C (continuous operation)
- Humidity:** 95% @ +55°C for 16 hours; 85% @ +38°C for 32 hours
- Altitude:** 50,000 Feet
- Transmitter Freq.:** 1090 MHz
- Transmitter Power:** 200 watts nominal
- Receiver Frequency:** 1030 MHz
- Receiver Sensitivity:** -74dBm nominal for 90% replies
- Mode A Capability:** 4096 ident codes
- Mode C Capability:** 100-foot increments from -1000 to 63,000 feet

- Ext. Suppression Input:** Input - Lo < 0.5V; High > 8V Output - > 18V Pulse

- Weight:** 2.2 lbs.
- Dimensions:** 8.2”L x 6.25”W x 1.63”H (208 x 159 x 42mm)

GMA 347



GMA 340



GMA 240



Technology that has everybody talking

The Garmin family of solid-state audio panels offer the latest in digital features to help streamline cockpit management, enhance safety of flight, and improve communications between flight crews, ground controllers and passengers.

The top-of-the-line GMA 347 features a unique digital voice recorder – which automatically captures the last two-and-one-half minutes of audio switched through the panel. So, if a pilot should ever miss an assigned frequency or clearance detail, a press of the “Play” button recalls the message for instant review.

The GMA 347 and its lower-cost variant, the GMA 340 (without voice recorder), both feature convenient, LED-illuminated button controls for audio selection – as well as split comm capability for pilot and co-pilot.

And finally, for pilots of experimental and light sport (LSA) aircraft, there’s our lowest-cost option: the GMA 240. It’s a non-TSO’d unit that will support dual COMM, dual NAV, dual AUX receivers, and dual music audio inputs – plus up to three unswitched inputs for telephone ringers or other alerts. A multifunction phone/audio mini jack on the front allows cellphone calls or iPod/MP3/XM Radio players to be routed through the pilot’s headset – with selectable instant muting when radio transmissions are received from ATC.

Staying on course

These high-quality Course Deviation Indicators (CDIs) display rectilinear needle movements and contain integral GPS, NAV and VLOC mode annunciators. The Garmin GI 102A boasts a VOR/LOC/GPS needle, TO/FROM indicator and NAV warning flag. The GI 106A and MD 200 units build on these capabilities by adding a Glideslope needle and flag.

The GI 102A/106A are typically used in for GNS 430W/530W system certification. The MD 200 is designed for use with Garmin SL 30 nav/comm installations.



GI 106A



GI 102A



MD200

specifications

General

TSO Compliance: GMA 347, GMA 340: TSO-C50c, TSO-C35d
GMA 240: Non-TSO'd

Power Requirements:

Supply voltage: 11V-33V

Vdc Operating current:

GMA 340: 2.2A max (13.8V, spkr on);
GMA 347: 3.75A max (13.75V, spkr on)
GMA 240: 0.54A max (13.8V)

Temp. range:

GMA 347: -45°C to +70°C (normal operation)
GMA 340: -20°C to +55°C (normal operation)
GMA 240: -20°C to +55°C (normal operation)

Altitude:

GMA 347: 55,000 MSL unpressurized
GMA 340: 50,000 MSL unpressurized
GMA 240: 55,000 MSL unpressurized

Physical

Weight:

GMA 347: 2.4 lbs. installed
GMA 340: 1.7 lbs. Installed
GMA 240: 15.5 oz

Depth behind panel:

GMA 347: 7.79" (with connectors)
GMA 340: 7.12" (with connectors)
GMA 240: 7.12" (with connectors)

Bezel width: 6.29"

Bezel height: 1.3"

Audio Panel

Transceiver inputs: 3

Receiver inputs:	Unswitched inputs:
GMA 347: 6	GMA 347: 4
GMA 340: 5	GMA 340: 2
GMA 240: 4	GMA 240: 3

Input impedance: 500 ohms

Input isolation: 60 dB min

Intercom

Positions:

GMA 347: 6 (pilot, copilot, 4 passengers)
GMA 340: 6 (pilot, copilot, 4 passengers)
GMA 240: 4 (pilot, copilot, 2 passengers)

Volume controls:

GMA 347, 340: 3 (pilot, copilot, pssengers)
GMA 240: 3 (pilot, copilot/passengers, music)

VOX level controls: 2 (pilot, copilot/

passengers)

VOX circuits: GMA 347, 340: 6 (one per mic input)
GMA 240: 4 (one per mic input)

Music inputs (stereo): 2 (one input mutable)

Intercom isolation modes:

GMA 347 – 4 (pilot, copilot, crew, all)
GMA 340 – 3 (pilot, crew, all)
GMA 240 – 2 (pilot, all; or crew,all)

Headphone Outputs

Output amplifiers: GMA 347, 340: 3, stereo (pilot, copilot, passengers)
GMA 240: 2, stereo (pilot, copilot/passengers)

Power: GMA 347, 340: 100 mW per stereo channel, each headset, into 150 ohms with not more than 5% distortion, any normal supply voltage.
GMA 240: 100 mW per stereo channel, each headset, into 150 ohms with not more than 7% distortion, any normal supply voltage.

Frequency response:

Music: GMA 340: 100 Hz to 15 kHz nom ;
GMA 347: 50 Hz to 20 kHz nom

A/C radio: GMA 340: 100 Hz to 6 kHz nom
GMA 347: 200 Hz to 6 kHz nom

MASQ™: Processing for noise reduction

Special functions: PA Mode, pilot selectable

Speaker Outputs (GMA 347, 340 only)

Outputs selectable: One, pilot selectable

Output power: 10 Watts into 4 or 8 ohms, any normal supply voltage.

Freq. response: 350 Hz to 6 kHz nom

Special functions: PA Mode, pilot selectable

Marker Beacon Receiver (GMA 347, 340 only)

Frequency: Crystal controlled at 75 MHz

Sensitivity: LO: 1000 uV hard HI: 200 uV hard

Selectivity: 6 dB @ +/- 10kHz min.
40 dB @ +/- 200kHz max.

Input impedance: 50 ohms

External lamp drive: 125 mA max each output

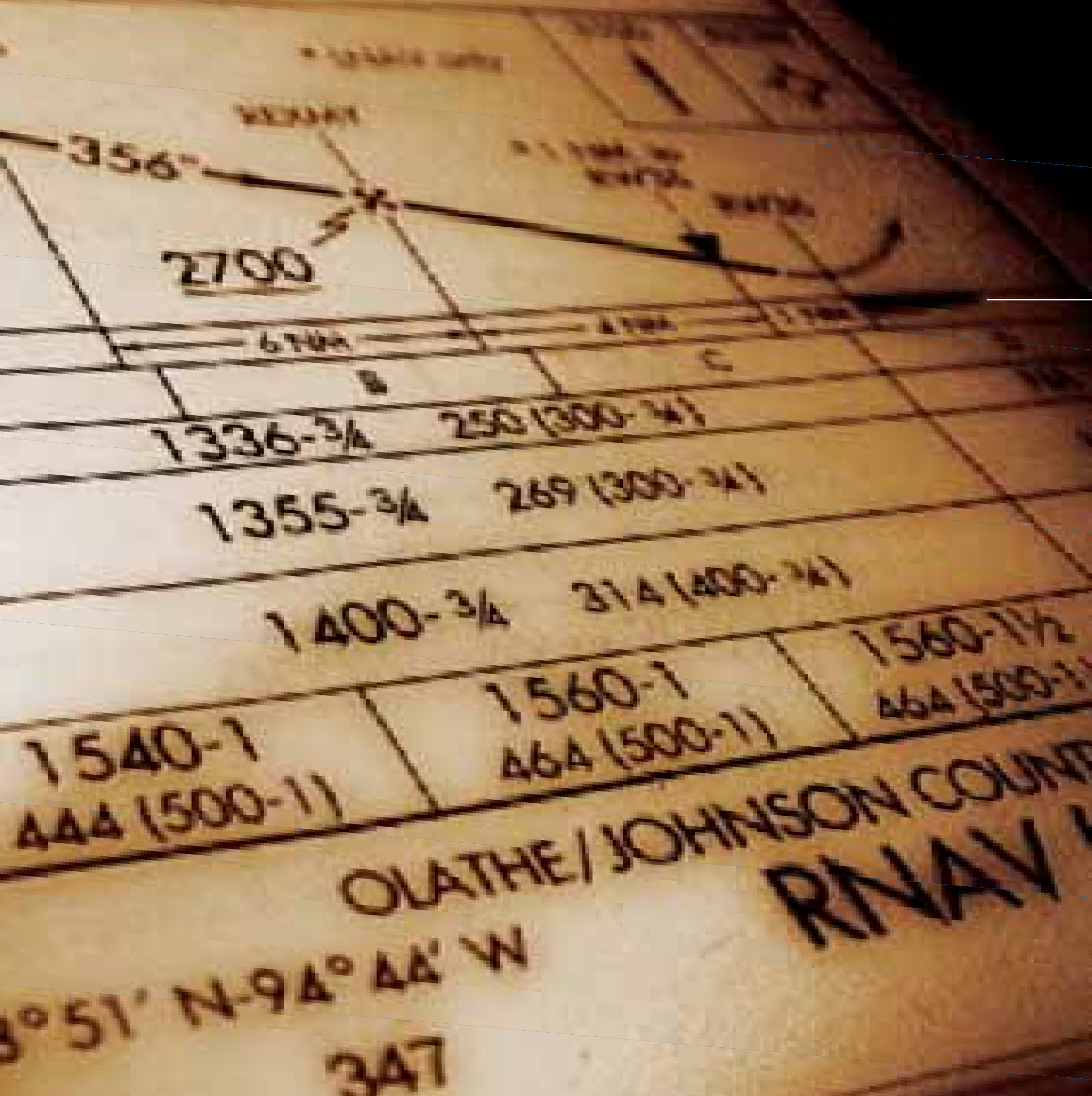
SmartMute™: Marker audio muting

Other outputs: Middle MKR sense;

passengers)	
VOX circuits:	GMA 347, 340: 6 (one per mic input) GMA 240: 4 (one per mic input)
Music inputs (stereo):	
	2 (one input mutable)
Intercom isolation modes:	
GMA 347 – 4	(pilot, copilot, crew, all)
GMA 340 – 3	(pilot, crew, all)
GMA 240 – 2	(pilot, all; or crew,all)
Headphone Outputs	
Output amplifiers:	GMA 347, 340: 3, stereo (pilot, copilot, passengers) GMA 240: 2, stereo (pilot, copilot/passengers)
Power:	GMA 347, 340: 100 mW per stereo channel, each headset, into 150 ohms with not more than 5% distortion, any normal supply voltage. GMA 240: 100 mW per stereo channel, each headset, into 150 ohms with not more than 7% distortion, any normal supply voltage.
Frequency response:	
Music:	GMA 340: 100 Hz to 15 kHz nom ; GMA 347: 50 Hz to 20 kHz nom
A/C radio:	GMA 340: 100 Hz to 6 kHz nom GMA 347:200 Hz to 6 kHz nom
MASQ™:	Processing for noise reduction
Special functions:	PA Mode, pilot selectable
Speaker Outputs (GMA 347, 340 only)	
Outputs selectable:	One, pilot selectable
Output power:	10 Watts into 4 or 8 ohms, any normal supply voltage.
Freq. response:	350 Hz to 6 kHz nom
Special functions:	PA Mode, pilot selectable
Marker Beacon Receiver (GMA 347, 340 only)	
Frequency:	Crystal controlled at 75 MHz
Sensitivity:	LO: 1000 uV hard HI: 200 uV hard
Selectivity:	6 dB @ +/- 10kHz min. 40 dB @ +/- 200kHz max.
Input impedance:	50 ohms
External lamp drive:	125 mA max each output
SmartMute™:	Marker audio muting
Other outputs:	Middle MKR sense;



specifications	
Performance	
To/From Flag Input:	±40 mV flag in view; load resistance 200 ohms ±10%
NAV Flag Input:	In view at 125 mV, out of view at 260 mV; load resistance 1,000 ohms ±10%
Annunciation:	Green for “GPS” course deviation; white for “VLOC” or “NAV” course deviation; yellow for “SC”
Deviation Indications:	Rectilinear movements for ease of interpretation
VOR Deviation Input:	±150 mV for 5 dot deflection; meter resistance 1,000 ohms ±10%
OBS Resolver:	30Hz, ORZ'd at 300
Glideslope Deviation Input:	±150 mV for 5 dot deflection; meter resistance 1,000 ohms ±10% (GI 106A only)
Glideslope Flag Input:	In view at 125 mV, out of view at 260 mV; load resistance 1,000 ohms ±10% (GI 106A only)
Physical	
Size:	3.25" W x 3.25" H x 4.75" L (82.6 mm x 82.6 mm x 120.7 mm)
Weight:	GI 102A —1.4 lbs (0.64 kg) GI 106A —1.4 lbs (0.64 kg)
Display Lighting:	4.3 W at max intensity, 14 VDC at 0.31 A (typical) or 28 VDC at 0.155 A (typical)
Operating Current:	0.1 A (with one annunciator illuminated)
Environmental	
Temperature:	—55°C to +70°C (—67°F to +158°F)
Altitude:	16,764 m (55,000 ft) operating
Cooling:	Convection
Relative Humidity:	95% non-condensing
Shock:	
Operational: 6 g (11 ms duration) Crash safety: 15 g (11 ms duration)	



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 I) Systems. Featuring exclusive Garmin CLEAR CAS™ technology, these attractively priced systems provide accurate, dynamic surveillance of nearby transponder-equipped aircraft – with ATC-like spoken audio alerts 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 “In”) to correlate target data and pinpoint traffic threats. Thus, 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 “In” capability is available with installation of Garmin’s GTX 330 ES transponder (sold separately). It enables the system to receive the target aircraft’s flight ID, GPS position, relative altitude and direction of flight. Course trend vectors and vertical climb or descent information (if available) can also be displayed. Thus, instead of just seeing random targets, pilots can now identify and track specific aircraft flight trajectories with much greater precision. So, in busy airspace, they’re able to fly with a much clearer tactical picture of their immediate traffic situation.

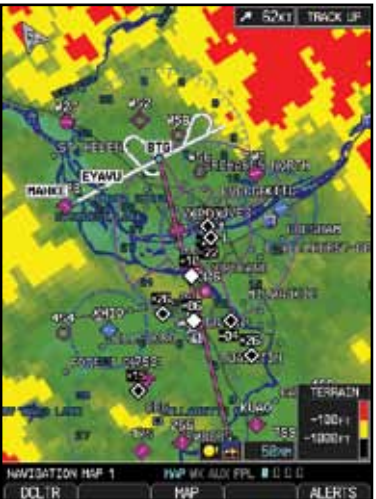
All GTS 800/820/850 units will operate to 55,000 feet – so they’re not constrained by the much lower altitude limits imposed on some competitive TAS/TCAS systems. The Garmin GTS equipment can track up to 60 traffic targets simultaneously – and display up to 30 intruder threats at a time, depending on the specific capabilities of the display system being used. (There is no dedicated panel instrument for Garmin TAS; it interfaces with your existing navigation displays.) Targets are depicted using familiar TCAS-defined symbology. And selectable horizontal display ranges let pilots configure the presentation to their specific flight requirements.

Instead of the generic “Traffic, traffic” voice alerts of some earlier-generation systems, the GTS series’ exclusive CLEAR CAS technology provides for expanded audio messaging in an ATC-like verbal format: “Traffic. One o’clock. High (or Low or Same Altitude). Two miles.” If surveillance bearing information is not available on the intruder, “Traffic, No Bearing” is annunciated.

By vocalizing more specific traffic-spotting information, the GTS series lets pilots know instantly where to look without going “eyes-down” to focus on the cockpit display. This can save vital split-seconds in a fast-converging situation. And sometimes split-seconds can mean all the difference.



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



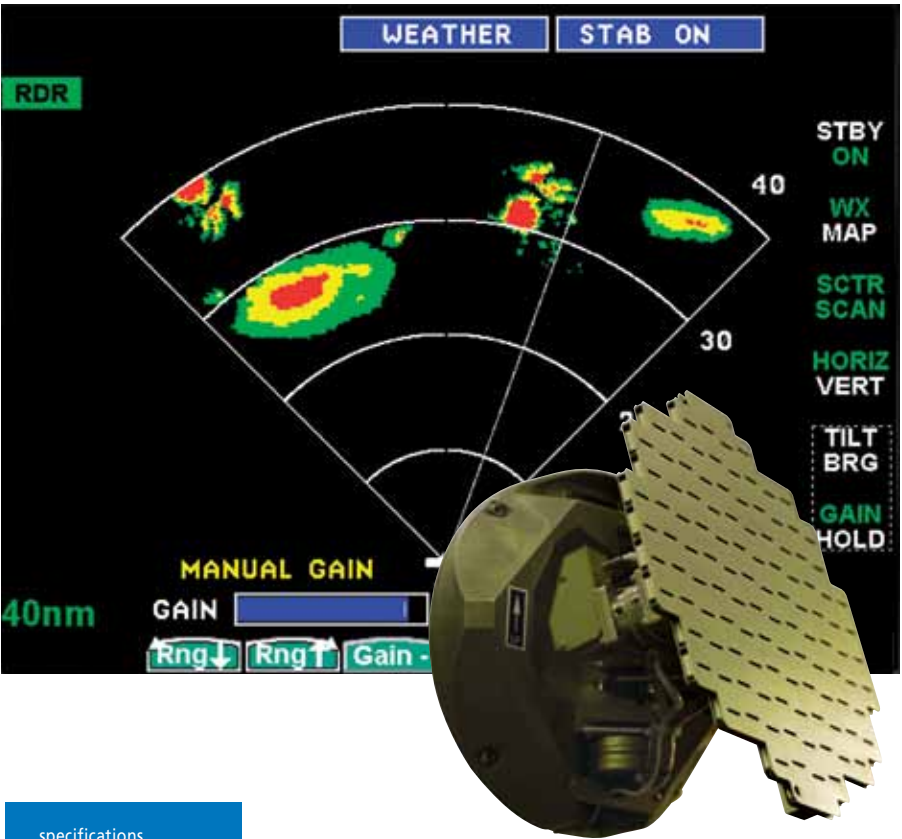
Integration of traffic, terrain and obstacle alerting on a Garmin moving-map display gives pilots a comprehensive picture of potential flight path conflicts.



GTS series traffic alerts can be displayed on Garmin’s popular 400W and 500W series navigators.

GARMIN TAS/TCAS COMPARISON:		GTS 800	GTS 820	GTS 850
• Traffic system type		TAS	TAS	TCAS I
• Transmitter power output (nominal)		40 watt	250 watt	250 watt
• Active surveillance range (typical)		12 nm	40 nm	40 nm
• Number of targets tracked		60	60	60
• Number of targets displayed (dependent on display system capability)		30	30	30
• Display range		2/6/12	2/6/12/24/40	2/6/12/24/40
• Range accuracy		+/- .05 nm	+/- .05 nm	+/- .05 nm
• Bearing accuracy		5° RMS	5° RMS	5° RMS
• Altitude accuracy		+/- 200 ft	+/- 200 ft	+/- 200 ft
• Altitude resolution		+/- 100 ft	+/- 100 ft	+/- 100 ft
• Max vertical separation		+/- 10,000 ft	+/- 10,000 ft	+/- 10,000 ft
• Audible target threat position callouts		Yes	Yes	Yes
• 1090ES ADS-B receiver (requires ADS-B “Out” capability)		Yes	Yes	Yes
• Correlated display capability		Yes	Yes	Yes
• Selective Mode-S interrogation		No	Yes	Yes
• Maximum Operating Altitude		55,000 ft.	55,000 ft.	55,000 ft.

specifications	
GTS 800/820/850 Processor LRU	
Unit Size:	6.25"W x 2.7"H x 12.7"D (15.87 x 6.86 x 32.25 cm)
Weight:	9 lb (4.08 kg) LRU; Vert. Rack 1.05 lb (0.48 kg); Horiz. Rack 1.94 lb (.088 kg); excludes connectors
Temperature:	-55°C to +70°C
Operating Altitude:	To 55,000 feet
Power Input:	14 or 28 VDC 40 watts max. (GTS 800); 45 watts max. (GTS 820, 850)
Cooling Input:	Integrated
Environmental Compliance:	RTCA DO-160E
Software Compliance:	RTCA DO-178B Level C
Hardware Compliance:	RTCA DO-254, Level C
TSO Compliance:	GTS 800,820 TAS: TSO-C147, TSO-C166a, DO-197A, DO-260A GTS 850 TCAS I: TSO-C118, TSO-C166a, DO-197A, DO-260A
GA58 Directional Antenna	
Unit Size:	4.03"W x 2.97"H x 5.63"D (10.24 x 7.54 x 14.30 cm)
Unit Size:	0.8 lb (0.36 kg); excludes connectors
Omni-Directional Antenna (optional)	
Unit Size:	0.98"W x 3.30"H x 4.00"D (2.49 x 8.38 x 10.16 cm)
Weight:	0.24 lb (0.10 kg); excludes connectors
GPA 65 PA/LNA Module (GTS 820/850 only)	
Unit Size:	4.25"W x 1.00"H x 8.00"D (10.8 x 2.54 x 20.32 cm)
Weight:	1.75 lb (0.79 kg); excludes connectors

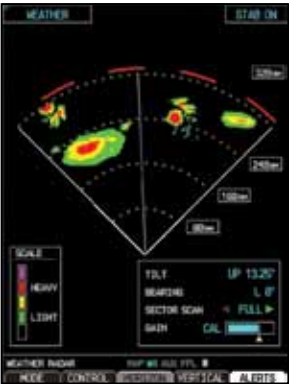


Sweeping improvement to weather avoidance

Bringing 4-color storm cell tracking to your compatible Garmin GMX 20, GMX 200, G600, G500 or G1000 multifunction display, the GWX 68 digital radar is a powerful weather avoidance tool.

It combines excellent range and adjustable scanning profiles with high-definition target display – for reliable, easy-to-interpret, real-time weather analysis. Available with either a 10-inch or 12-inch phased array antenna, the GWX 68 fits a wide variety of aircraft radome configurations. The compact, all-in-one antenna/receiver/transmitter unit saves space and simplifies installation. Also, to keep your weather picture tracking smoothly during climbs or turns, the system offers full radar stabilization to 30 degrees of pitch and roll (when interfaced with your aircraft’s analog gyro or AHRS system.)

To focus radar scanning on the areas you want to watch, the GWX 68 offers pilot-adjustable horizontal scan angles of up to 90 degrees. What’s more, the system also includes a vertical scanning function to help you analyze storm tops, gradients and cell buildup activity at various altitudes.



GWX 68 - With 6,500 watts of magnetron muscle, Garmin's GWX 68 digital radar (sold separately) can provide an extra measure of onboard weather protection. The radar interface is included with the G600 system; an optional enabling card is available for the G500.

Taking weather awareness to new heights

You can’t control the weather. But at least you can stay on top of it – with the help of instant satellite updates from Garmin’s GDL 69 datalink receiver.

Supplying graphical and textual weather information to Garmin’s panel-mount GNS 400 and 500 series navigators, G600 and G500, as well as the GMX 200 multifunction display, the GDL 69 helps pilots make timelier, safer, and more strategic weather avoidance decisions.

Data uplink service is provided through XM Satellite Radio’s XM WX Weather Service, using location-specific WxWorx information¹. XM’s four powerful S-band geostationary satellites deliver seamless, near real-time coverage at any altitude across the continental United States. The weather suite’s high-resolution color graphics offer 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 ultimate in XM Satellite Radio capability, Garmin offers the sound-enabled GDL 69A. This receiver combines XM WX’s weather link with a complete XM digital audio package – so passengers can enjoy over 170 channels of continuous news, sports, music and entertainment, while flying anywhere in the country¹. The GDL 69A will interface through Garmin’s GMX 200 and GNS 430W/530W series panel-mount products. And for even more flexibility, Garmin’s optional GRC 10/GRT 10 wireless remote system lets listeners control XM Radio channels and volume from anywhere in the cabin.

¹ GPS 400W, GNC 420W, GNS 430W, GPS 500W and GNS 530W units will only display products with Aviator Light Package of XM Subscription and Music.



GRC 10 - This optional remote controller offers wireless access to XM Radio channels from any seat in the aircraft.



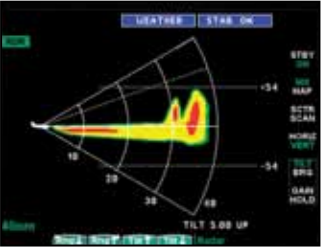
GNS 530W - NEXRAD image overlaid on moving map improves safety with early deviation planning



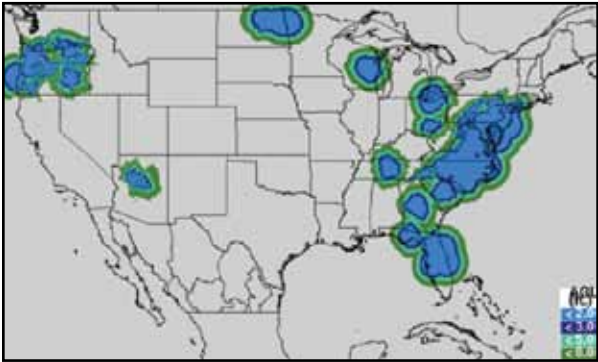
G600 - Textual METARs keep you up to date with destination weather



GMX 200 - Visual cloud top graphic gives excellent overview of cloud coverage and areas to avoid

specifications	
General	
Operational mode:	Weather (WX): Green, Yellow, Red, Magenta Mapping (MAP): Cyan, Yellow, Magenta, Blue
Display Ranges:	Selectable 2.5, 5, 10, 20, 40, 80, 160, and 320 nm (MX 20; GMX 200). Selectable 2.5, 5, 10, 20, 40, 60, 80, 100, 120, 160, 240 and 320 nm (G1000, G600).
Performance Index:	12-Inch Antenna: 217 dB (Nominal per DO-173) 10-Inch Antenna: 214 dB (Nominal per DO-173)
Weather Avoidance Range:	12-Inch Antenna: 305 nm max 10-Inch Antenna: 270 nm max.
Rx Sensitivity:	-110 dBm MDS
Manual Gain:	+12 to - 64 dB (G1000) +3.5 to - 28 dB (MX 20; GMX 200)
Antenna Beamwidth:	12-Inch Antenna: 7.8 degrees 10-Inch Antenna: 9.0 degrees
Horizontal Scan Angle:	Pilot adjustable; 20, 40, 60 or 90 degrees (G1000); 20 or 90 degrees (MX 20; GMX 200)
Scan Centerline:	Pilot adjustable
Scan Rate:	12 looks per minute
Manual Tilt:	+/- 15 degrees
Vertical Scan Angle:	60 degrees (G1000); 10 – 60 degrees (MX 20, GMX 200)
	
ANTENNA/RECEIVER/TRANSMITTER	
Mechanical:	
Size:	Width: 10.0 in. (25.4 cm.) diameter at base Depth: 6.3 in. (16.0 cm.) Antenna: 10 in. or 12 in. diameter flat-plate
Unit Weight:	12-Inch Antenna: 9.1 lbs. (4.13 kg) 10-Inch Antenna: 9.0 lbs. (4.08 kg)
Environmental:	
Operating Temperature Range:	-55 Degrees C to +70 Degrees C
Humidity:	95% non-condensing
Altitude Range:	-1,500 feet to 50,000 feet
TSO Compliance:	C63c, Class 7
Environmental Category:	RTCA DO-160C
Electrical:	
Power Requirements:	28 VDC; 2.0 amps
Magnetron Power:	6.5 kW nominal, 5.0 kW minimum
Output Frequency Range:	X-Band
Pulse Width:	4 Microseconds (nominal)
STC Logic:	Effective to 80 nm
Extended STC:	80 nm to 320 nm (Modifies targets from end of STC to maximum range)
Stabilization:	+/- 30 Degrees combined pitch, roll and manual tilt
Max. Altitude:	50,000 feet (unpressurized)
Target Alert:	(G1000 only) Annunciates targets (between 80 and 320nm) that are beyond displayed range on radar screen
Interface:	Garmin HDSB (G1000, G600 installations); ARINC 429/453 (MX 20, GMX 200 installations)

specifications	
Physical	
Dimensions:	7.20" D x 6.15" W x 1.05" H
Mounting:	Mounting rack and hardware supplied
Weight:	1.86 lbs. unit, 2.81 lbs. unit and rack
Environmental	
Temperature:	-55° C to +70° C (Operating) -55° C to +85° C (Storage)
Humidity:	95% non-condensing
Altitude range:	-15,000 ft. to +55,000 ft.
Power requirements:	9 to 33 VDC input 4.2 watts maximum
Other Specifications	
Satellite receiver frequency:	2332.5 to 2345 MHz
Downlink data rate:	38.4K bits per second
Software Certification:	RTCA DO-178B Levels B and D
Environmental Certification:	RTCA DO-160D



ADS-B data link:
Another Garmin first

With the introduction of general aviation’s first certified ADS-B data link transceiver, Garmin brings the idea of “Free Flight” one step closer to reality.

The Garmin GDL 90 is designed to transmit, receive and decode Automatic Dependent Surveillance – Broadcast (ADS-B) messages via onboard data link. ADS-B is a key enabling technology for Free Flight – an airspace management concept that will ultimately bring about a more flexible, yet higher capacity, air traffic environment.

Meanwhile, current benefits to the pilot include more extensive and more tactical surveillance data for traffic and hazard avoidance. This includes the ability to receive continuous graphical and textual weather, as well as Temporary Flight Restriction (TFR) data, and TIS-B traffic/ conflict information (uplinked from ground radar). Being able to see and react to the same traffic picture that controllers are watching on their radar scopes provides pilots with a vital extra margin of safety in the air. And since the government currently offers this data free of charge, the added safety comes at a real savings over similar commercial uplink services¹.

The GDL 90 broadband transceiver includes an internal WAAS GPS sensor that can feed other devices with highly accurate positioning information. The remote-mount unit is designed to interface with Garmin’s popular GMX 200 color multifunction display (MFD) or other approved cockpit screen presentation.

¹Subject to change.



Nearby terrain features improve situational awareness

Chart View automatically loads the approach charts for the destination airport

Optional ChartView™ provides a geo-referenced overlay of aircraft position on Jeppesen-format electronic approach charts.



GMX 200: The Garmin FliteCharts® database provides over 14,000 NACO-format approach plates for over 2,900 U.S. airports. FliteCharts® are not geo-referenced (no aircraft position overlaid on chart).



G600: Optional ChartView™ provides a geo-referenced overlay of aircraft position on Jeppesen-format electronic approach charts.



GMX 200: Electronic display of Garmin SafeTaxi® airport diagrams seamlessly depict the current aircraft position in relation to runways, taxiways, hangars, etc.

Cockpit efficiency goes
off the charts

A valuable feature of the Garmin G600, G500 and GMX 200 multifunction displays is the ability to display approach plates and airport surface diagrams. Affordable Garmin FliteCharts®, which feature electronic versions of U.S. National Aeronautical (NACO) terminal procedures charts, come standard with many Garmin GPS products. These charts are teamed with Garmin SafeTaxi® airport diagrams to help pilots navigate over 900 U.S. airports with confidence – by clearly depicting their aircraft’s exact location on the field. As an alternative, pilots can select optional ChartView™ instrument approach plates and airport surface charts powered by Jeppesen (subscription required). ChartView is unique in its ability to overlay a geo-referenced aircraft symbol on the electronic approach chart, providing a visual crosscheck of your progress inbound. Based on the active flight plan, the GMX 200 automatically loads the approach plates for the destination airport, allowing the pilot to quickly select the ATC-assigned approach procedure. Then, when you land, ChartView will automatically 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 and GMX 200 are available through Jeppesen’s JeppView® for MFD subscription service.



specifications	
Physical	
Height:	7.42 inches (18.84 cm)
Width:	3.54 inches (8.97 cm)
Depth:	12.64 inches (32.11 cm)
Weight	
(with mounting tray):	6.4 lb (2.9 kg)
(mounting tray only):	1.2 lb (0.54 kg)
Electrical	
Power:	20 Watts
Voltage:	10-40 VDC
Input Current	
(typical):	1.5 A @ 14 VDC 750 mA @ 28 VDC
UAT performance	
TSO Compliance:	TSO-C154
Frequency:	978.00 MHz
TX Power:	40 W (+44 dBm nominal)
Data Rate:	1.04 Mbps
99% Power Bandwidth:	1.3 MHz
GPS/WAAS receiver performance	
TSO Compliance:	TSO-C145a (RTCA/DO-229C)
Number of Channels:	15 (12 GPS and 3 GPS/WAAS/SBAS)
Frequency:	1575.42 MHz L1, C/A code
Lat/Long	
Position Accuracy:	2 meter RMS typical with WAAS (horizontal/vertical)
Velocity:	1000 knots maximum (above 60,000 ft)
TTFF	
(time to first fix):	1:45 min. typical with current almanac, position, and time
Reacquisition:	10 seconds typical
Position Update Interval:	0.2 sec (5 Hz)
Datum:	WGS-84
SATCOM	
Compatibility:	Compatible on aircraft equipped with SATCOM Antenna Power Supply 35 mA typical, 40 mA max at 4.7 VDC

Keep your data current with easy online updates.

Your Garmin panel-mount GPS comes complete with an extensive Jeppesen® database. It's the mainstay of your unit's moving map navigation capabilities. In addition, other databases found on select Garmin units include: Garmin FliteCharts® (electronic terminal procedures charts) and Garmin SafeTaxi® (airport taxiway diagrams), plus terrain alerting and towers/obstacles databases.

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

Fortunately, Garmin makes the process easy – by offering online updates via our website: fly.garmin.com.

Using the Internet connection from your home computer and a Garmin PC interface cable accessory, you can select and update your database in just a matter of minutes. Simply follow the online prompts. After logging onto fly. Garmin.com, the home page will give you a quick synopsis of your registered products and whether or not the databases are current. If a database needs updating, you can purchase and download directly from the site in just a matter of minutes. Simply follow the online prompts.



What could be easier?

Computer geniuses and net novices alike will appreciate online database updates. Whether you opt for an annual subscription or individual updates, Garmin offers the system resources you need – to assure the latest and best in navigation from your GPS. And it all comes to you with the speed and convenience of the Internet. Check it out at fly.garmin.com.

Jeppesen® database specifications

Coverage:	Varies by product	Frequencies:	Approach, arrival, control area, departure, Class B, Class C, TMA, TRSA with sector, altitude and text usage info; also, ASOS, ATIS, AWOS, center, clearance delivery, ground, pre-taxi, tower, unicom, localizer and ILS
Airports:	Identifier, city/state, country, facility name, lat/long, elevation, fuel service, control, approach information	ARTCC:	Identifier, freq. usage
VORs:	Identifier, city/state, country, facility name, lat/long, frequency, co-located DME/TACAN, magnetic variation, weather broadcast	MSA:	Minimum safe altitude along and in proximity to active flight plan
NDBs:	Identifier, city/state, country, facility name, lat/long, frequency, weather broadcast	Approaches:	Non-precision and precision approaches from FAF to MAP
Intersections:	Identifier, country, lat/long, nearest VOR	Airspaces:	Class B and C with sectors, International CTA and TMA with sectors; all special-use airspace, including MOA's, prohibited and restricted areas with controlling agency and airport
Runways:	Designation, length, width, surface, lighting, pilot-controlled lighting freq.		
FSS:	Identifier, reference VOR, freq. usage		



Flip. File. And fly.

Now, your cell phone can help you get airborne faster – by putting detailed weather briefings and flight plan filing right in the palm of your hand.

With Pilot My-Cast® by Garmin, you can check current and forecast National Weather Service data at your departure airport, your destination, or at any terminal waypoint in the continental U.S. Then, using DUAT(s), aviation's Direct User Access Terminal Service, you can file a flight plan right from your cell phone.



Pilot My-Cast makes it easy to page through surface meteorological reports, terminal forecasts, observations and advisories – instantly as they're issued. Available weather data includes animated radar coverage for the U.S. and Canada, plus METARs, TAFs, PIREPs, TFRs, winds aloft, NOTAMs, and much more.

Pilot My-Cast® was developed by pilots. And it shows. The information-rich features are easy to access. The user interface is intuitively simple. And unlike other web-based services, Garmin's weather engine receives a direct data stream from the National Weather Service, plotting both current and forecast weather to 1km resolution. As a result, commercial and general aviation pilots can now instantly access the precise, personalized reports they need to make better-informed flying decisions before they take off.

Adding Pilot My-Cast to your existing wireless service is easy. The service is compatible with most Java™ and Get-It-Now/BREW-enabled mobile phones, and is supported by all major providers.

Pilot My-Cast. It's all about staying ahead of the weather.





Looking ahead, reaching beyond.

When you fly with Garmin avionics, you never fly alone.

We're committed to making sure you have a terrific user experience with any and every Garmin product you select – whether it's a single unit or a complete avionics stack.

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

After all, 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.

And we can never have too many of those.

So, 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 and products 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.