# GARMIN

# GNS 530/530A


*16 watt comm available on the GNS 530 "A"*

The Garmin GNS 530 represents the single biggest idea in integrated avionics in years. Traditionally, it would take a host of components to provide the capabilities represented in this one sophisticated box. It is a WAAS upgradeable IFR GPS, comm, VOR, LOC and glideslope with color moving map and MFD capabilities all rolled into one.

At the center of the system is Garmin's WAAS-capable, 12-channel GPS receiver. The GNS 530 "A" offers 16 watts of comm transmitting power while the GNS 530 is a 10-watt comm. Fault Detection and Exclusion (FDE) software on the GNS 530 and 530A provide for Oceanic Approval and both units offer a choice of 25 kHz or 8.33 kHz spacing for 760 or 2280 channel configuration respectively. A huge Jeppesen database (which can be updated with front-loading data cards) contains all airports, VORs, NDBs, Intersections, FSS, Approach, SIDs/STARs and SUA information. The GNS 530 makes practical use of this information with features like intelligent frequency nominating.

In addition, turbine aircraft operators can easily satisfy the FAA's mandate for a Class-B Terrain Awareness and Warning System with the optional TAWS upgrade on their GNS 530 series. Comparing flight path information with the system's onboard terrain database, TAWS-B provides forward-looking terrain/obstacle alerting for enhanced flight safety and situational awareness.

The brilliant colors of the GNS 530's five inch display make the pilot-critical information easy to read and interpret. It's especially true of the 530's basemap – which clearly depicts your position relative to cities, highways, railroads, rivers, lakes and coastlines. But even more importantly, the appropriate use of color separates land data, terminal areas, route and approach information for easy pilot scanning and reduced pilot workload. The GNS 530 incorporates advanced procedure types usually found only in high-end FMS systems.

The GNS 530's intuitive software and logical layout prove that this is a system built for pilots, by pilots. So much information. So easy to use. It will change the way you look at avionics.

## GNS 530/530A specifications

**Jeppesen database**

| | |
|---|---|
| **Coverage:** | Americas, International or Worldwide |
| **Airports:** | Identifier, city/state, country, facility name, lat/long, elevation, fuel service, control, approach information |
| **VORs:** | Identifier, city/state, country, facility name, lat/long, frequency, co-located DME/TACAN, magnetic variation, weather broadcast |
| **NDBs:** | Identifier, city/state, country, facility name, lat/long, frequency, weather broadcast |
| **Intersections:** | Identifier, country, lat/long, nearest VOR |
| **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 |
| **Runways:** | Designation, length, width, surface, lighting, pilot-controlled lighting freq. |
| **FSS:** | Identifier, reference VOR, freq., usage |
| **ARTCC:** | Identifier, freq., usage |
| **MSA:** | Minimum safe altitude along and in proximity to active flight plan |

# GNS 530/530A specifications

**Approaches:** Non-precision and precision approaches throughout the database coverage
**SIDs/STARs:** Contains all pilot-nav SIDs and STARs
**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

**GPS performance**
**Receiver:** PhaseTrac12,™ twelve parallel channel receiver, simultaneously tracks and uses up to 12 satellites
**Acquisition time:** 12 seconds (warm), 45 seconds (cold)
**Update rate:** Once per second, continuous
**Accuracy:** Position—15 meters (49 feet) RMS velocity—0.1 knot RMS steady state
**Dynamics:** Velocity (max)—999 knots Acceleration (max)—6 g
**Nav features:** Pilot-defined course selection and waypoint hold, closest point of flight plan, departure and arrival frequencies, approach navigation using published approach procedures stored on NavData card, terminal navigation using SIDs/STARs from NavData card
**Planning features:** True airspeed, density altitude, winds aloft, RAIM availability, sunrise/sunset times, trip and fuel planning, vertical navigation (VNAV)
**Interfaces:** ARINC 429, aviation RS-232, CDI/HSI, RMI (digital: clock/data); superflag out, altitude (serial: Icarus, Shadin-Rosetta, encoded Gillham/Greycode), fuel sensor, fuel/air data, BFG WX 500 StormScope,™ BFG SKY 497 SkyWatch™, Ryan 9900B TCAD and GDL 49
**Map datums:** 124

**Safety feautures**
**Emergency search:** 9 nearest airports, VORs, NDBs, intersections, or user waypoints; 5 nearest FSS and ARTCC frequencies
**Alarms:** Arrival timers; airspace alarms at 10 minutes, 2 nm and inside airspace

**User customization**
**Waypoints:** 1000 user-defined
**Flight plans:** 20 reversible; up to 31 waypoints each

**VOR performance**
**Frequency display:** Active and standby
**Frequency range:** 108.00 MHz to 117.95 MHz
**VOR/LOC composite:** 0.50 Vrms/0.35 Vrms
**CDI output:** ±150 mV full scale
**Centering accuracy:** ±2.0°
**Flag sensitivity:** –103.5 dBm
**DME channeling:** 2x5, BCD, Slip, Narco 890/891, King serial
**Audio sensitivity:** –103.5 dBm for 6 dB S/N with 1 kHz 30% mod.
**Audio output:** 100 mW minimum into 500 ohm load; external amplifier required

**GS performance**
**Frequency range:** 329.15 MHz to 335.00 MHz
**CDI output:** ±150 mV full scale
**Centering accuracy:** 0 ddm ± .0091 ddm

**LOC performance**
**Frequency range:** 108.10 MHz to 111.95 MHz
**CDI output:** ±150 mV full scale
**Centering accuracy:** <4.5 mV
**Flag sensitivity:** –103.5 dBm
**Audio sensitivity:** –103.5 dBm for 6 dB S/N with 1 kHz 30% mod.
**Audio output:** 100 mW minimum into 500 ohm load; external amplifier required

**VHF COM performance**
**Frequency display:** Active and standby
**Channels:** 760 (25 kHz spacing); configuration for 3040 channels (8.33 kHz spacing) also provided
**Frequency range:** 118.000 MHz to 136.975 MHz
**Transmit power:** 16 watts minimum (GNS 530A) 10 watts minimum (GNS 530)
**Modulation:** 70% minimum
**Receive sensitivity:** 2.0 µV for 6 dB S/N with 1 kHz 30% mod.
**Squelch sensitivity:** 2.0 µV typical
**Audio output:** 100 mW minimum into a 500 ohm load; external amplifier required

**Certifications**
**GPS:** TSO C129a, Class A1 (en route, terminal and approach)
**VOR:** TSO C40c
**LOC:** TSO C36e
**GS:** TSO C34e
**VHF COM:** Transmitter TSO C37d, Class 4 and 6 Receiver TSO C38d, Class C and E
**TAWS:** TSO-C1516 Class B

**Physical specifications**
**Unit size:** Width = 6.25" Height = 4.60" Depth = 11.00" behind panel, with connectors
**Unit weight:** 8.5 pounds installed
**Display:** Color LCD
**Power:** 11–33 VDC
**Data storage:** Separate internal battery protects stored data for up to five years

**Environmental**
**Temperature:** –20°C to +55°C (operating range) –20°C to +70°C (short-term operation)
**Humidity:** 95% non-condensing
**Altitude range:** –1,500 ft to 50,000 ft

**Components**
**Standard package:** GNS 530 and NavData card
GPS antenna
Installation rack and connectors
Pilot's guide
Quick reference guide
Database subscription packet
**Options:** User data card
TAWS-B Terrian Alerting

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