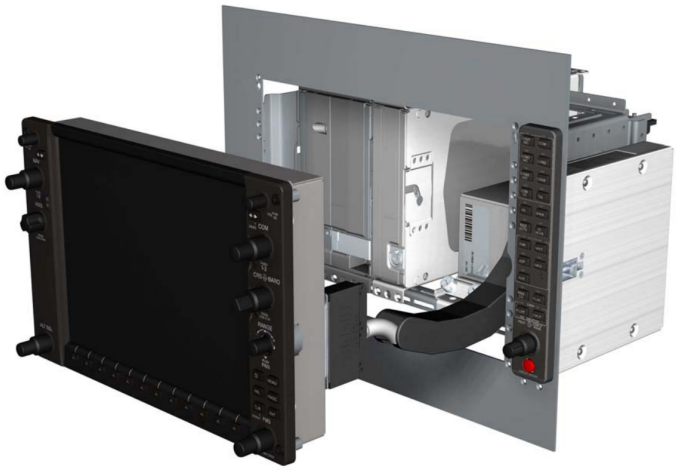
G1000 (CESSNA NAV III) OUTLINE
GARMIN SUITE GDC 74A (ADC) AND GRS 77 / GMU 44 (AHRS)



IN REFERENCE TO 190-00498-06 REVISION B GARMIN G1000 PILOT'S GUIDE FOR CESSNA NAV III
APPLICABLE TO CESSNA C172R/C172S/C182

Computer Type	Components	Provided Indications
GDC 74A [1] Air Data Computer	Pitot Head or Mast Solid-state Pressure Transducers Temperature Sensor Interface (OAT) Microprocessor Data Computer	Airspeed (IAS/TAS/Mach) Altitude Vertical Speed Outside Air Temperature (OAT)
GRS 77 (Including GMU 44) [2] Attitude Heading Reference System	IMU 3-Axis Solid-state Gyroscopes IMU 3-Axis Accelerometers Microprocessor with Kalman Filter	Attitude Indication Rate of Turn Slip/Skid Indications
GMU 44 (Interfaces with GRS 77) [3] Magnetometer	3-Axis Magnetometer Sensors [4]	Raw Magnetic Heading Data to GRS 77 for Magnetic Heading Indication

[1] The GDC 74A receives standard pitot and static system inputs through a solid-state pressure transducer to compute airspeed, altitude, and vertical speed indications. The Outside Air Temperature (OAT) probe is typically a GTP 59 OAT, which provides the measurement for an accurate computation of OAT and TAS/Mach.
[2] The GRS 77 consists of a tri-axial solid-state gyroscope which measure angular rate (how fast an aircraft is rotating around a given axis) such as rate of yaw from the yaw gyro, thereby providing attitude changes and turn rate information. In the GRS 77, this is a solid-state Micro-Electro-Mechanical System (MEMS). A tri-axial accelerometer is also installed, which senses linear acceleration in relation to gravity. The accelerometer supplies the gravity vector for tilt compensation and is used to correct gyro drift. In order for the GRS 77 AHRS to compute heading information, it requires raw data from the GMU 44.
[3] The GMU 44 is a tri-axial magnetometer sensor which measures the earth's magnetic field vector in X, Y, and Z directions. This raw data is sent to the GRS 77 which through the use of the GRS 77 accelerometers (tilt of aircraft relative to gravity) and GRS 77 solid-state gyroscopes allow for a magnetic heading to be output towards the G1000 PFD component. Note that GMU 44 does not output heading, only field vector.
[4] AHRS systems that power glass cockpits use a solid-state directional gyro that is corrected by a magnetometer (an antenna device that directly senses the relative direction of the magnetic field) rather than a floating magnet. This makes them impervious to the types of error commonly seen in floating compasses such as acceleration or turning errors.

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