

## Garmin G1000 / NAV III Solid State EFIS System

1. PFD/MFD Control Display Units (CDUs) - Consisting of two 10.4 inch XGA displays offering the highest resolution (1024 x 768) in their class.
2. Dual NAV/COM Integrated 16 watt transceivers with selectable 8.33 kHz channel spacing.
3. Dual GPS - IFR Enroute/Approach Certified and WAAS upgradeable units built on proven GNS430/530 technology.
4. Fully Integrated Mode S Transponder with Traffic Information System (TIS).
5. Digital Audio Panel with 3 x COM, 2 x NAV, Pilot/Crew Isolation intercom capability with 6 place audio, DME, ADF, HF, Sat-phone, Entertainment, and audio playback capability (2.5 minutes).
6. Attitude Heading & Reference System (AHRS) - Solid state system capable of in flight and on the move initialization.
7. Solid state three-axis magnetometer providing full three-axis vs. two-axis magnetic field information in all flight attitudes.
8. PFD/MFD reversionary mode. In the unlikely event of display failure, PFD/Engine data can be swapped between displays providing seamless transition and increased safety.
9. Each CDU is equipped with an infrared port to accommodate data entry (flight plans etc.) and engine trend monitoring via a handheld Garmin PDA in development.
10. Stormscope - Standard WX 500 displayed on both the PFD and MFD.
11. Weather - Flight Information System (FIS) utilizing the next generation DGL 69A satellite weather data link with XM Radio entertainment. XM Radio and Weather Works (WxWorx) subscription optional.
12. EICAS - Engine/Airframe Indication and Crew Alerting System. Features a trend monitoring interface through Infrared (IR) port using optional handheld Personal Digital Assistant (PDA) in development.
13. Solid State Digital Air Data Computer (ADC) to compute and display TAS, CAS, VSI, TAT, wind direction and velocity.
14. Topographic relative terrain and obstruction clearance mapping to enhance situational awareness and safety.
15. Re-designed electrical system for enhanced safety with a standby battery to power the PFD, AHRS, ADC, magnetometer and one NAV/COM/GPS for up to one hour.
16. "Jet-like" lighted switch and circuit breaker panels.
17. Increased safety and redundancy through a dual battery design and traditional standby airspeed and altimeter instrumentation and non-electric engine driven vacuum attitude gyro.
18. Simplified Line Replaceable Unit (LRU) system architecture which includes identical and interchangeable CDUs and various remote mounted equipment to minimize down time and cost of operation.
19. System utilizes proven Ethernet architecture for safe and reliable operation with room for future expansion.
20. Optional - Terrain Awareness and Warning System (TAWS B) providing enhanced situational awareness with aural warning. Software upgrade. (EOY '04)
21. Optional - 3D Terrain further enhancing situational awareness. This feature will most likely be bundled with TAWS B requirements. (EOY '04)
22. Optional Traffic Advisory System (TAS) with integration of KTA 870 TAS. (EOY '04).
23. Optional Automatic Direction Finder (ADF). (EOY '04)



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## Garmin G1000 (Cessna)

## Avidyne Entegra (Cirrus)

Displays	XGA CAM LCD Digital	SVGA CAM LCD Analog
PFD / MFD Size	10.4" Diagonal	10.4" Diagonal
PFD Resolution	1024 X 768 (16,000,000 Colors)	800 X 600 (65,536 Colors)
PFD / MFD Weights	7 lbs. / 7 lbs.	12 lbs. / 6.75 lbs.
PFD / MFD Commonality	Identical (Switchable)	Different (Non-Switchable)
PFD / MFD Reversionary Capability	Yes	No
PFD / MFD Altitude Limitation	55,000 ft.	25,000 ft.
PFD - Traffic/Terrain/Weather Display	Yes	No - MFD Only
PFD AI / HSI Divider	Horizon Line	Divider Line (Reduces AI Size)
PFD/MFD Combined Power Consumption	2.5 A @ 28VDC	6.0 A @ 28VDC
MFD - Full Overlay Capability (Traffic/Terrain/Weather/Stormscope)	Yes	Yes
MFD Display Ranges	23	19
AHRS Initialization	On the Move / In Flight - Up to 20 Deg. of Bank	Stationary (3-5 minutes)
AHRS Alignment Time	~ 45 Seconds	3-5 Minutes
Nav/Com #1 / Nav/Com #2	Integrated Remote 16 Watt Transceivers	Non Integrated Panel Mount Dual GNS430s - (10 Watts) <sup>1</sup>
Integrated Transponder	Yes	No
Ethernet High Speed Digital Data Bus	Yes	No
X-scale microprocessor w/high performance graphics accelerator	Yes	No
Infrared Port (PDA Data Entry)	Yes	No
Audio	GMA 1347 - 6 Place (3 X Com / 2 X Nav)	GMA 340 - 6 Place (3 X Com / 2 X Nav)
Audio Playback	Yes - 2.5 Minutes	No
Trend Indicators Air/Att/Hdg	Yes - 6 Seconds	Yes - 6 Seconds
Marker Beacon O - M - I displayed on PFD	Yes	No
Outside Air Temperature (OAT) Display	PFD	MFD
Nearest Airport Feature	Up to 25 Airports Within 200 NM	All Airports Within 60 NM
Engine Monitoring	Yes - PFD/MFD Display Capabilities	Optional - Emax Displayed on MFD Only <sup>2</sup>
Backup Battery	Yes	Yes
Backup Mechanical Instruments (AIR/ATT/ALT)	Yes - Vacuum (Engine Driven)	Yes - Electric
Traffic System	TIS (Std) / TAS (Opt)	Skywatch TAS (Opt)
Terrain System	Yes - Aircraft Relative Terrain Shading and Topo	Yes - Color Contoured (topo) only
Weather System	XM Weather - <b>Broadcast</b> <sup>3</sup> (Higher Bandwidth)	FlightMax - ORBCOMM <b>Narrowcast</b> <sup>4</sup> (Lower Bandwidth)
Weather Data Link	Open Architecture (GDL 69A)	Built-in (FlightMax)
Nexrad Resolution	1 KM / 5 Color	1 KM / 5 Color
Stormscope Interface	WX-500 (With Strike Aging) <sup>5</sup>	WX-500
XM Satellite Radio	Yes	No
<b>FUTURE OPTIONS</b>		
Terrain (TAWS B)	Option - EOY '04	No
3D Terrain	Option - EOY '04	No
Electronic Charts	Future Upgrade	Future Upgrade
Traffic (TAS)	Option - EOY '04	Option - Available

**Definitions**

PFD - Primary Flight Display  
MFD - Multi-function Display  
HSI - Horizontal Situation Indicator  
AHRS - Attitude Heading Reference System  
AI - Attitude Indicator  
XGA - Extended Graphics Array - Highest Resolution  
Display in its Class  
SVGA - Super Video Graphics Array - Older Display Technology  
CAM (TFT) LCD - Color Active Matrix Liquid Crystal Display  
TIS - Traffic Information System (Radar Environment Traffic)

**Footnotes**

TAS - Traffic Avoidance System (XPDR Based Traffic)  
TAWS B - Terrain Avoidance and Warning System  
(Enhanced Terrain/Obstacle Aural Alerting)

<sup>1</sup> Garmin Produces 16 Watt Versions of the GNS 430/530 Units

<sup>2</sup> Cirrus MFD - EX5000C with Emax System

<sup>3</sup> Broadcast Weather - All Weather Regardless of Route Can Be Viewed

<sup>4</sup> Narrowcast Weather - Only Route Specific Weather is Displayed

<sup>5</sup> Strike Aging is a Garmin Stormscope enhancement