



DFC90

ATTITUDE-BASED DIGITAL AUTOPILOT FOR ENTEGRA-EQUIPPED CIRRUS AIRCRAFT



THE DFC90 ATTITUDE-BASED DIGITAL AUTOPILOT

The DFC90 is Avidyne's new digital autopilot system that is designed specifically for Entegra-equipped Cirrus aircraft.

The DFC90 adds the precision of an attitude-based flight control system with Avidyne's innovative, safety-enhancing features such as speed-based Flight Envelope Protection.

The DFC90 has all the vertical and lateral modes you would expect in a turbine-class autopilot system, including Flight Director (FD), Altitude Hold (ALT), Airspeed Hold (IAS), Vertical Speed Hold (VS), Heading (HDG), and Navigation (NAV, APPR, LOC/GS, GPSS), and is designed to operate with the same user interface that Entegra-equipped Cirrus owners are already familiar with in the STEC55X system.

Avidyne's DFC90 Attitude-Based Digital Autopilot enhances precision of flight and improves safety for your Entegra-equipped Cirrus.

The DFC90 is attitude-based, rather than rate-based, in that it takes advantage of the instantaneous precision and accuracy of the Entegra PFD's integrated Air Data and Attitude/Heading Reference System (ADAHRS) for its reference signals.



THE DFC90 INCREASES THE VALUE AND ENHANCES THE SAFETY AND UTILITY OF YOUR ENTEGRA-EQUIPPED AIRCRAFT.

A NEW LEVEL OF PERFORMANCE & SAFETY

DFC90 is attitude based, with **better performance** at altitude, while maneuvering, and on the ILS due to **a) better algorithms b) digital ADAHRS c) improved servo control**, and **d) 'flight-condition dependent' tuning**.

DFC90 provides vastly-improved Flight Director performance which greatly



enhances your ability to hand-fly approaches, due to better algorithms, the digital ADAHRS, and elimination of the latency associated with the rate-based and pressure transducer-based computations.

DFC adds IAS mode - Airspeed Hold provides constant speed throughout climbs and descents and is a more elegant way to change altitudes. IAS Hold maximizes ground speed during climbs and descents, and makes it easy to precisely fly the POH-recommended climb speeds for optimal engine cooling and deck angle for best visibility. IAS hold also makes it easy during descents to arrive in the pattern at a specific airspeed to integrate nicely with other pattern traffic.



DFC90 provides Synchronized Heading Bug which means that HDG bug commands are in direct correlation with the direction and amount of knob spin. As an example, if you command a 270° right turn, the DFC90 will execute it precisely, rather than inadvertently flying a 90° left turn as other autopilots might do.

DFC90 eliminates need to reset your altitude-hold mode due to baro setting change. This is a nice workload reduction feature.



DFC90 has Straight & Level button which provides unusual attitude recovery. S&L is a significant safety enhancement that also provides additional peace of mind for your non-pilot passengers.

DFC90 has Speed-Based Flight Envelope Protection.

UNDERSPEED

This innovative new feature guards against inadvertent autopilot-induced stall and over-speed situations when autopilot is engaged. For flight envelope protection, available lift and speed margin are calculated constantly in the background whenever any modes, including Flight Director, are in operation. As the aircraft approaches stall, the autopilot acts unobtrusively to gradually reduce maximum bank and Vertical Speed just enough to keep the wing flying, while annunciating the condition to the pilot. As a result, departure from controlled flight is prevented with the least obtrusive impact on achieving mission level objectives like navigation, climb or approach. Overspeed is handled similarly, with anticipation and minimal but effective inputs. In Flight Director modes, all these actions appear as guidance cues with corrections blended into the "V-bar" commands.



*The DFC90 is a slide-in replacement for existing rate-based STEC 55X flight computers, meaning **no wiring changes**, and much lower installation costs.*

Upgrading to the DFC90 only requires that your existing EXP5000 PFD be updated to Release 8.0 (hardware & software).

SPECIFICATIONS

Dimensions

- Width: 6.25" (159mm)
- Height: 1.5" (38mm)
- Depth: 10.6" (279mm)

Weight

- 2.02 lbs (0.92 kg)

TSOs

- TSO-C9c Automatic Pilots
- TSO-C52b Flight Director Equipment



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Avionics installations require special skills and test equipment. Avidyne's limited warranty is valid only for equipment installed by an Authorized Avidyne Distributor. Avidyne reserves the right to make changes to product specifications and design features without notice.

Some products may require additional hardware for full feature capability.