



DFC90

ATTITUDE-BASED DIGITAL AUTOPILOT
FOR ENTEGRA- & ASPEN-EQUIPPED AIRCRAFT



DFC90 DIGITAL RETROFIT AUTOPILOT

The DFC90 is Avidyne's new digital autopilot system that is designed as a retrofit upgrade for general aviation aircraft.

With the DFC90, pilots can add the precision of an attitude-based flight control system, along with the innovative, safety-enhancing features of Straight & Level (S&L), Envelope Protection (EP) and full-time Envelope Alerting (EA).

The DFC90 has all the standard vertical and lateral modes of operation of 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 it's easy to use.



VERSATILE DISPLAY OPTIONS

The attitude-based DFC90 autopilot flies the aircraft using reference signals from the integrated Attitude/Heading Reference System (AHRS) in an Avidyne Entegra EXP5000 Primary Flight Display (PFD) or from an Aspen Avionics Evolution Pro PFD. This display versatility allows the DFC90 to be installed in a growing number of general aviation aircraft, and provides a new level of Precision and Safety for general aviation pilots.

*Avidyne's DFC90
Attitude-Based
Digital Autopilot
enhances Precision
of Flight & Improves
Safety for a growing
list of aircraft.*



PROVIDES TURBINE-CLASS AUTOPILOT CAPABILITY WITH AVIDYNE'S LEGENDARY EASE OF USE.



Actual Size



MODE ANNUNCIATIONS IN COLOR

Armed modes are displayed in Cyan (blue) while Engaged modes are clearly displayed in Green on both the DFC90 and on the PFD, which eliminates much of the modes confusion associated with legacy autopilots.

IMPROVED FLIGHT DIRECTOR PERFORMANCE

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.

DFC90 ADDS IAS MODE

Airspeed Hold provides constant speed throughout climbs and descents and most pilots find it to be the preferred 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.

SYNCHRONIZED HEADING BUG

With the DFC90, all 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 thinking you want to do a 90° left turn as with most legacy GA autopilots.

IMPROVES PERFORMANCE & SAFETY

STRAIGHT & LEVEL



The DFC90's Straight & Level (S&L) button provides unusual attitude recovery, and can act as a last-ditch effort to get the aircraft under control in the event the pilot becomes confused or disoriented. S&L is a significant safety enhancement that also provides additional peace of mind for your non-pilot passengers.



ENVELOPE PROTECTION (EP) & FULL-TIME ENVELOPE ALERTING (EA)

Envelope Protection (EP) is an innovative new autopilot feature that significantly reduces the likelihood of inadvertent autopilot-induced stall (underspeed) and over-speed situations.

With the DFC90, available lift and speed margins are calculated constantly in the background. As the aircraft approaches stall, the autopilot, when engaged, 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 and Excessive Bank warnings are handled similarly, with anticipation and minimal but effective inputs.

The DFC90 uses knowledge of flap position to dynamically compute true stall speed and provide better-defined underspeed protection & alerting. The DFC90 will also provide a Flap Overspeed alert.

In Flight Director modes, all these actions appear as guidance cues with corrections blended into the "V-bar" commands. Even when the autopilot is off, the DFC90's Envelope Alerting (EA) provides aural and visual cues to the pilot when envelope exceedences are approached.



The DFC90 was initially certified as a replacement for the STEC55X in Entegra-equipped Cirrus SR20 & SR22 aircraft.



Entegra-equipped Piper PA-46 Matrix and Mirage aircraft can now upgrade to the DFC90.



With the addition of an interface to the Aspen EFD1000 Pro, the DFC90 is becoming available to a growing list of aircraft including the Cessna 182 (above), the Beech Bonanza, and the Beech Baron.

"THE DFC90 IS A JOY TO FLY. ROCK-SOLID PERFORMANCE. MY PLANE FLIES APPROACHES AS IF IT WERE ON RAILS. I COULDN'T BE HAPPIER."

- RICK R. - CIRRUS OWNER

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



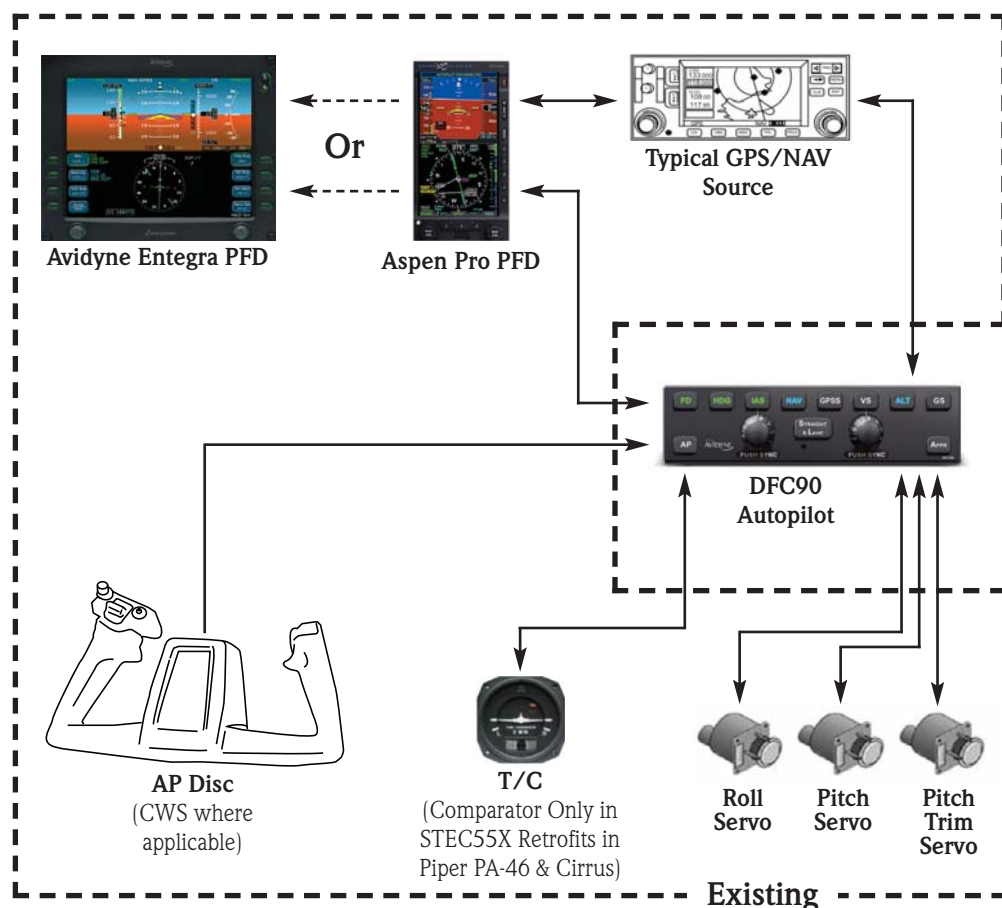
The DFC90 is designed as a slide-in replacement for the STEC 55X, and as a retrofit for a growing list of autopilot systems.

Depending on aircraft and configuration, some additional wiring may be required, but overall, the DFC90's plug-and-play capability results in significant performance improvements with much lower installation costs.

For Entegra-equipped aircraft, the DFC90 requires that your existing EXP5000 PFD be updated to Release 8.0 (hardware & software).

For Aspen-equipped aircraft, the DFC90 requires the Aspen Pro PFD with Software V2.6 or later.

TYPICAL SYSTEM DIAGRAM



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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.

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