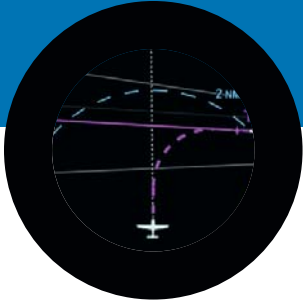


*Flight Management System  
with WAAS/RNP GPS & VHF NAV/COM*



*The Entegra FMS900w combines the simplicity of Avidyne's graphical user interface with the power of a full-function WAAS/RNP Flight Management System.*



### *Avidyne's new Single-Pilot IFR FMS*

Designed for the second century of flight, the all-new Entegra FMS900w Flight Management System (FMS) delivers highly-advanced, yet easy-to-use FMS capability for single-pilot IFR flight in single-engine piston through light jet aircraft.

Utilizing a fully-modular architecture, the FMS900W is an enhancement to Avidyne's Entegra Integrated Flight Deck platform and is designed specifically to take advantage of Entegra's large-format displays and Byteflight peer-to-peer databus architecture.

The FMS900w combines Avidyne's WAAS Gamma 3 GPS receiver and a fully-digital, all-software programmable VHF NAV/COM radio into an integrated package, and includes an intuitive flight planning interface, easy-to-use bezel controls, and an optional control/display unit. Its large-display interface design avoids the confusion of pop up windows and complex menus found in many of today's navigators that were originally designed primarily for smaller displays.

The FMS900w is compatible with all domestic and international airspace requirements and provides the capability to easily grow to meet the needs of future airspace changes. The FMS900w meets Required Navigation Performance (RNP) for en route, terminal and approach modes, and supports curved approaches.



*The optional ACD215 Control Panel provides easy access to all the FMS and radio tuning functions.*



*Light-weight, remote-mount LRU houses GPS and VHF NAV/COM radios.*

# FMS900w – Easy-to-Use, Single-Pilot IFR FMS

## Flight Plan Entry Made Simple

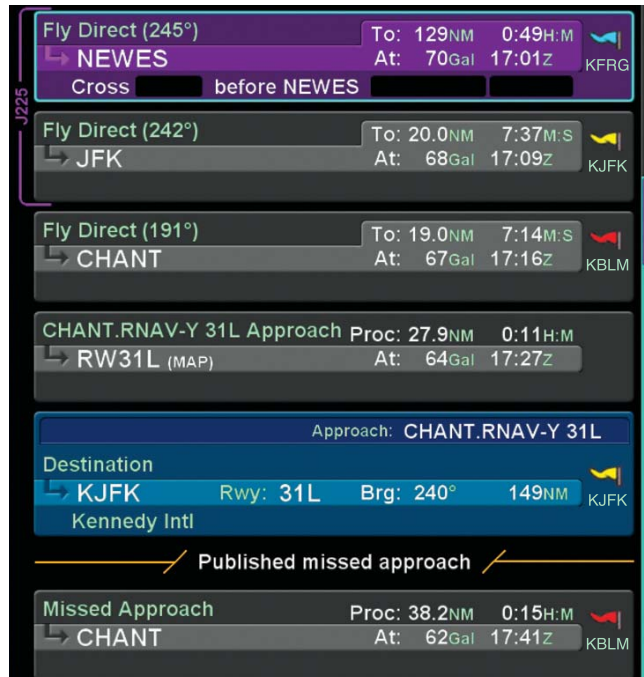
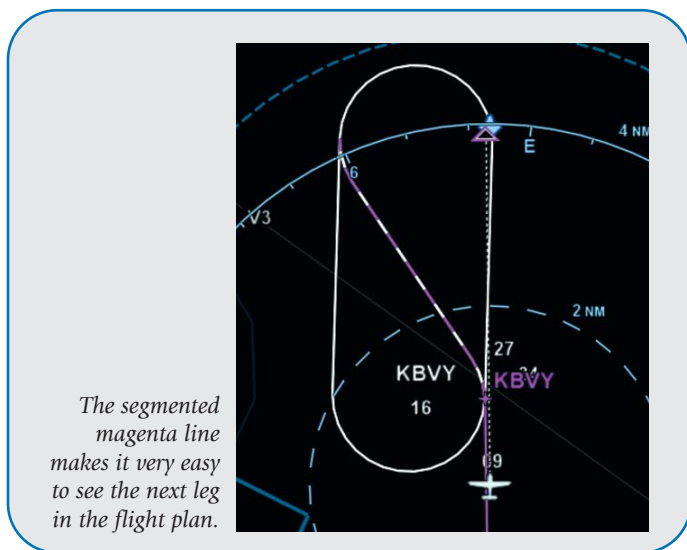
Creating and editing Flight Plans is quick and intuitive with the FMS900w. All basic functions are easily accessible through the MFD bezel controls or through the optional ACD215 Control/Display Unit. All FMS operations can be performed without removing your hand from the knob of the MFD. All drop down menus are context sensitive and choices are displayed in a prioritized order. Even the cursor is context sensitive and provides a clear indication of whether the operation is intended to insert a leg or to modify an already existing waypoint. This avoids the use of menus and provides a completely intuitive method for performing basic editing functions.

## GeoFill™ Reduces Data Entry Time

GeoFill intelligently predicts the next leg or waypoint on your flight—not based on its order in the database, but on its proximity to your current location or the previous waypoint in your flight plan—eliminating the fumbling through irrelevant NAVAIDs common to other systems. Auto-filling the remaining characters in the entry—based upon distance from the current position and avoiding the cumbersome need to go through obviously “bad” choices (too far away) to get to the desired entry—dramatically reduces the number of pilot actions. In fact, there is a high probability that it will display your desired waypoint on the initial suggestion.

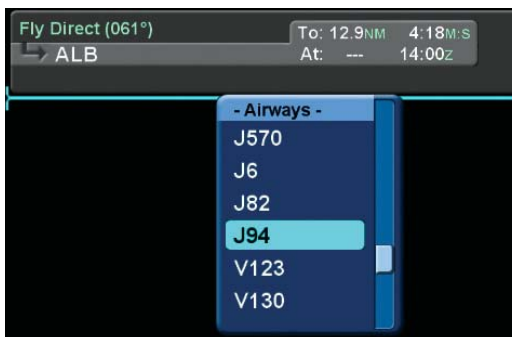


As an example, the logical GeoFill choice based upon the existing route is HNK rather than an irrelevant waypoint such as HM – Haneida NDB in Japan which an older system would have suggested because it is alphabetically ahead in the database.



Graphical METAR flags are shown for each leg of the flight plan providing at-a-glance weather updates all along the route of flight. Simply selecting a specific METAR flag icon with the FMS cursor automatically brings up the full textual METAR in plain English.

## Airways & Procedures



Airway flight planning is easily performed via the FMS900w's simple-to-use drop down menu system. After entering the "TO" waypoint, the VIA edit field will drop down and display all airways and procedures (Victor, Jet, and Q routes) that contain the entered fix (as shown in the image above). Rotating either knob will move the cursor through the list and selecting (pushing the rotary knob) will select the airway and prompt for the termination fix. If the termination fix is already the next waypoint in the route, the FMS will automatically link the airway to that waypoint and close up all menus.

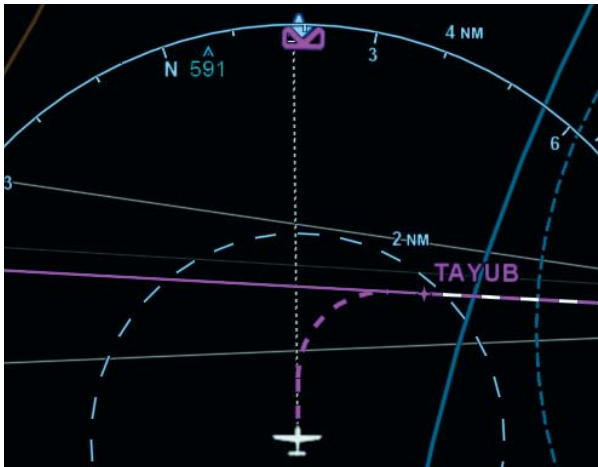
With the FMS900w's Airway Flight Planning, combined with GeoFill capability, it takes 75% fewer keystrokes to enter a flight plan.

# FMS900w - Simplified Navigation & Communication through All Phases of Flight

## FMS Vectors™ -

### Fly the Magenta Line All The Time

The FMS900w provides an easier way to fly with Avidyne's innovative new FMS Vectors feature. With FMS Vectors capability, the FMS900W calculates the transition from the en route GPS phase of flight to the ILS intercept, draws a curved intercept flight path on the display and provides wind-corrected roll steering commands to the autopilot. In previous-generation navigators, the pilot must often artificially suspend navigation between an en route GPS-guided course and the terminal phase of flight to a VHF navaid such as an ILS.



During the transition between the en route and terminal phases of flight, these systems are essentially "coasting" in a heading mode, which is not corrected for wind and ground track. As a key feature of Avidyne's Flying Made Simple™ philosophy, the pilot is given FMS guidance for the entire route of flight, from 200 AGL to 200 AGL, without the need to suspend or interrupt guidance to the Autopilot, enhancing safety and eliminating "modes' confusion. The pilot simply "flies the magenta line" all the time.



Avidyne's FMS900w allows the selection and guidance to all ARINC 424 leg types, including constant radius arc (RF) legs used in curved RNAV/RNP procedures.

## Easy to Edit

In order to minimize heads down time, any changes to the flight plan are immediately applied if they do not affect the active leg. A two-step activation process provides confirmation for any edits or changes to the active leg. All other edits are immediately applied to the flight plan as entered. Editing of an active route using the Avidyne FMS900w is simpler with its easy-to-understand insert cursor, which makes it extremely intuitive to know exactly where a new waypoint will be added.

The FMS900w allows the pilot to insert any planned alternates into the flight plan and even add instrument approaches to the alternate as part of the primary flight plan. In addition, the FMS intelligently analyzes the route of flight and will graphically warn the user of any discontinuities between the airway structure and the entered route.

In dual-system installations, multiple instances of the FMS run concurrently, providing fully-synchronous and redundant FMS processes.

## ACD215 - Control/Display Unit



While the FMS900w is optimized to use the dual concentric rotary knobs and line select keys on the MFD bezel, one or more ACD215 Control/Display Units can be added to facilitate alphanumeric data entry and meet the aircraft operational demands. The ACD215 contains the basic control keys for radios and FMS, including Direct-To, PROC, Vectors, and NRST functions, as well as the map range and pointer control.

## FMS900w - Powerful VHF NAV/COM Capability

The FMS900w Remote LRU includes Avidyne's GPS723 WAAS GPS Receiver Module and a DVX740 Radio Module for VHF NAV/COM.

Originally certified in 2006 and flying on hundreds of light jets, the DVX740 module is a fully-digital software-programmable aviation radio. It features a 16 Watt High Efficiency Transmitter w/8.33 kHz spacing and is fully upgradable to support NEXCOM next generation datalink protocols including VDL Mode 2, 3, and 4.



FMS900w Remote LRU

Avidyne's DVX740 NAV/COM is the third generation of digital avionics radios, incorporating innovative digital signal processing on the actual RF in software. This digital technology eliminates the need for single channel tuning synthesizers, allows multiple receive channels that can mix voice and data, and easily upgrades to support new data formats such as VDL Mode 3 (NEXCOM).

COM and NAV tuning are tightly coupled to the FMS. Based on your current flight plan, the FMS900w is constantly nominating the most appropriate COM and NAV frequencies into the active position. A single button press transfers the frequency into the active position. A Frequency Nomination function provides a list of the most appropriate agencies/frequencies that the pilot can manually select and insert right into the active transmitting frequency position.

The FMS90w automatically identifies and monitors the tuned frequencies and provides a visual display in plain text of the station name corresponding to the tuned frequency (e.g. "IBED"). If desired, manual tuning can be conducted for COM and NAV via the MFD bezel controls or via the ACD215 Control/Display unit.

### FMS900w Capabilities

- ✓ Airway Flight Planning
- ✓ Direct-TO and Intercept Leg
- ✓ SID and STAR procedure entry (with transitions)
- ✓ Holding pattern entry/modification (leg time, leg length, turn direction, in course)
- ✓ All 23 ARINC 424 Leg Types
- ✓ Storage of up to 100 user defined routes – each with up to 128 Legs
- ✓ Flight Plan Invert
- ✓ Up to 200 user definable waypoints
- ✓ 4 COM / Datalink channels operating simultaneously
- ✓ 4 NAV (VOR, LOC / GS) channels operating simultaneously
- ✓ Automatic COM and NAV tuning and identification
- ✓ First integrated 100% direct digital sampling, synthesis software radio

## Technical Specifications

### FMS900w LRU

#### Multi-channel VHF Voice, Data Transceiver Specifications

- 16 Watt transmitter (Class 3, 5), 20 Watt typical
- Capable of simultaneous reception of up to four channels, voice or data
- 8.33KHZ or 25KHZ Operation (Class C, E) including offset carrier
- 118 MHz to 136.975 MHz operation
- Upgradeable to VDL Mode 2, Mode 3, Mode 4 VHF Datalink channels without adding antennas
- Sensitivity set to -107dBm (1 microvolt)
- Auto-squelch set to -101dBm (2 Micro volts)
- Wide dynamic range receiver allows operation while offside COM is transmitting
- Meets RTCA DO-186A requirements for Class C3, E5 Certification:
- Transmitter TSO C37d Class 3, 5
- Receiver TSO C38d Class C, E

#### VHF Localizer Receiver Specifications

- Digital Ident Morse Code decoder
- Wide dynamic range receiver allows operation while COM is transmitting
- Flag sensitivity set to -101dBm (Actual sensitivity exceeds -107dBm)
- 108.1 MHz to 111.95 MHz operation
- Meets RTCA DO-195 requirements
- Certification: TSO C36e

#### UHF Glideslope Receiver Specifications

- Flag Sensitivity Set to -86dBm (Actual Sensitivity Exceeds -107dBm)
- 329.15 MHz to 335.00 MHz operation
- Meets RTCA DO-192 requirements
- Certification: TSO C34e

#### VOR Receiver Specifications

- Digital Ident Morse Code decoder
- Wide dynamic range receiver allows operation while COM is transmitting
- Flag sensitivity Set to -103dBm (Actual sensitivity exceeds -107dBm)
- 108.0 MHz to 117.95 MHz operation
- Meets RTCA DO-196 requirements
- Certification: TSO C40c

#### GPS Specifications

- TSO C146b
- WAAS Gamma 3

**Dimensions:** 6.0in × 8.0in × 1.5in  
(152mm × 203mm × 38mm)

**Weight:** 4.8 lbs. (2.18kgm)

**Power:** 18-32 VDC  
1.0 A @ 28 VDC Rvc  
5.0 A @ 28 VDC Xmit

#### ACD215

**Dimensions:** 6.25in × 6.0in × 2.5in  
(158mm × 152mm × 63mm)

**Weight:** 1.8 lbs. (0.82kgm)

**Power:** 18-32 VDC  
0.4 A @ 28 VDC Rvc

*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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