

Pilot Guide Addendum, MFD Evolution Software Version 2.3.1 Upgrade

This addendum is applicable to the following Multi-function Flight Display Pilot Guides:

- EFD1000/500 MFD Pilot's Guide
- EFD1000H/500H MFD Pilot's Guide

Evolution Software Version 2.3.1 incorporates several new features that enhance the functionality and operation of your Evolution Flight Display System. This Pilot Guide Addendum describes these new features and enhancements.

1. REV Mode Enhancements

NOTE: Not available for the EFD500 MFD

A feature has been added to Software Version 2.3.1 that allows the pilot to quickly configure the reverted MFD to match the configuration of the PFD. This Crossfill Feature (XFILL), allows the pilot to transfer the PFD settings information, including navigation sources and bug references.

XFILL mode is available immediately following MFD REV mode activation (reversionary PFD). An "undo" capability is provided to enable the pilot to restore the reversionary PFD to its previous configuration.

The Crossfill Feature is also able to transfer the last "known good" PFD configuration following a complete PFD failure.

A. To activate the crossfill feature:

1. Press the REV Button on the MFD (Figure 1)

"XFILL: Load PFD Settings. Any Key: Ignore." is displayed in the Data Bar and "XFILL" appears above the middle button

2. Press the middle button labeled "XFILL", to transfer the PFD settings to the reversionary PFD

NOTE:

The Crossfill function is cancelled if any other button, hot key, or knob is pressed or rotated. The function will also cancel if no action is detected for 30 seconds.



Figure 1

Following selection of XFILL, the changes may be undone while the XFILL mode remains active. After XFILL has been selected, the following annunciation is shown in the Data Bar: "BACK: Undo XFILL. Any Key: Accept." and "BACK" appears above the middle button.

- B. To undo the Crossfill
 1. Press the middle button labeled "BACK" (Figure 2)
 2. Press any other button, hot key or knob to exit the XFILL mode

NOTE:
The BACK function is cancelled if any other button, hot key, or knob is pressed or rotated. The function will also cancel if no action is detected for 30 seconds.



Figure 2

2. Airport Diagram Selection Improvements:

Software Version 2.3.1 adds an option to automatically present the airport diagrams at startup and following landing. The Airport Diagram (APD) Quick Access Function is configured via the "CHART SETTINGS A" page in the Menu. The APD Quick Access Function has three settings: AUTO, MANUAL, and OFF.

In the AUTO setting, the airport diagram is automatically presented at startup or after landing.

In the MANUAL setting, at startup or after landing, the airport diagram may be quickly selected via a single pilot action.

In the OFF setting, the Airport Diagram must be manually selected using the normal pilot selection procedures.

NOTE:
The AUTO and MANUAL configurations perform no action if there is no airport diagram for the current aircraft location.

- A. To configure the APD Quick Access Function:
 1. Press MENU Button and rotate the Right Knob to the "CHART SETTINGS A" page (Figure 3)
 2. Press "APD QUICK ACCESS FUNCTION:" and rotate the Right Knob to select AUTO, MANUAL, or OFF as desired then press Menu Button to exit



Figure 3

B. To use the APD Quick Access Function:

SETTING	BEHAVIOR
<p>AUTO</p>	<p>Upon startup or when reaching taxi speed after landing, the MFD will automatically switch to Page 1/3 and show the airport diagram for the destination airport (if available).</p> <p>OPTION: You may press middle button labeled "BACK" to cancel the APD Quick Access Function and the screen will return to the prior display.</p> <p>The auto-presented Airport Diagram is always oriented heading up with the aircraft ownship displayed.</p>
<p>MANUAL</p>	<div data-bbox="727 604 1485 1533" data-label="Image"> </div> <p>Figure 4</p> <p>Upon startup or when reaching taxi speed after landing, "APD: LOAD Airport Diagram." message is displayed in the Data Bar and "APD" appears above the middle button (Figure 4).</p> <p>Pressing the "APD" button will switch the MFD to Pg 1/3 and show the airport diagram oriented heading up with the aircraft ownship displayed.</p> <p>Pressing the middle button labeled "BACK" will cancel the APD Quick Access Function and return to the previously displayed MFD page.</p> <p>If any other button or key is pressed, the APD function is cancelled.</p>

3. Charts and METAR Selection Improvements

Software Version 2.3.1 adds Hot Key shortcuts in the CHARTS "List" and METARS "Text" view to allow rapid selection of departure, destination, or nearest airport information:

- A. To quickly access Chart data or METAR data from the CHARTS VIEW or METARS WEATHER VIEW:
 - 1. From the Charts View page, press the Hot Key labeled "LISTS" (**Figure 5**) or from the METARS Weather page, press the Hot Key labeled "TEXT" (**Figure 6**)
 - 2. The DEP, DEST, and NRST Hot Key labels are shown
 - 3. Press the desired Hot Key to view airport chart or weather data

NOTES:

If the information is unavailable for the departure airport, information from the nearest airport (from the current departure location) that has an instrument approach procedure and/or METAR information will be shown.

If no flight plan is programmed in the GPS, information from the nearest airport (from the current departure location) that has an instrument approach procedure and/or METAR information will be shown.

Valid GPS position is required for the DEP, DEST, and NRST Hot Key functions to be displayed. If the GPS position is lost, the NRST Hot Key is removed.

CHARTS VIEW

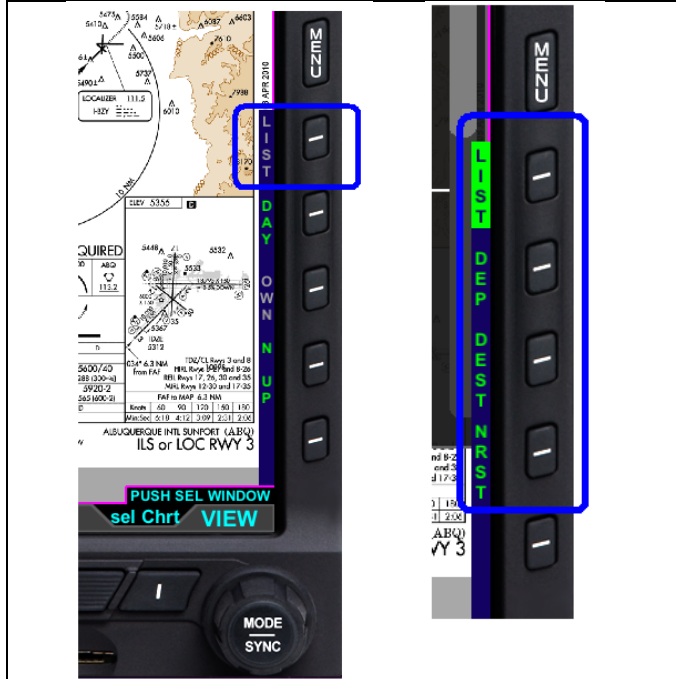


Figure 5

From CHARTS VIEW page, select “LIST”

“LIST” turns inverse green and displays DEP,DEST, NRST Hot Keys

METARS WEATHER VIEW



Figure 6

From METARS WEATHER VIEW, select “TEXT”

“TEXT” turns inverse green and displays DEP,DEST, NRST Hot Keys

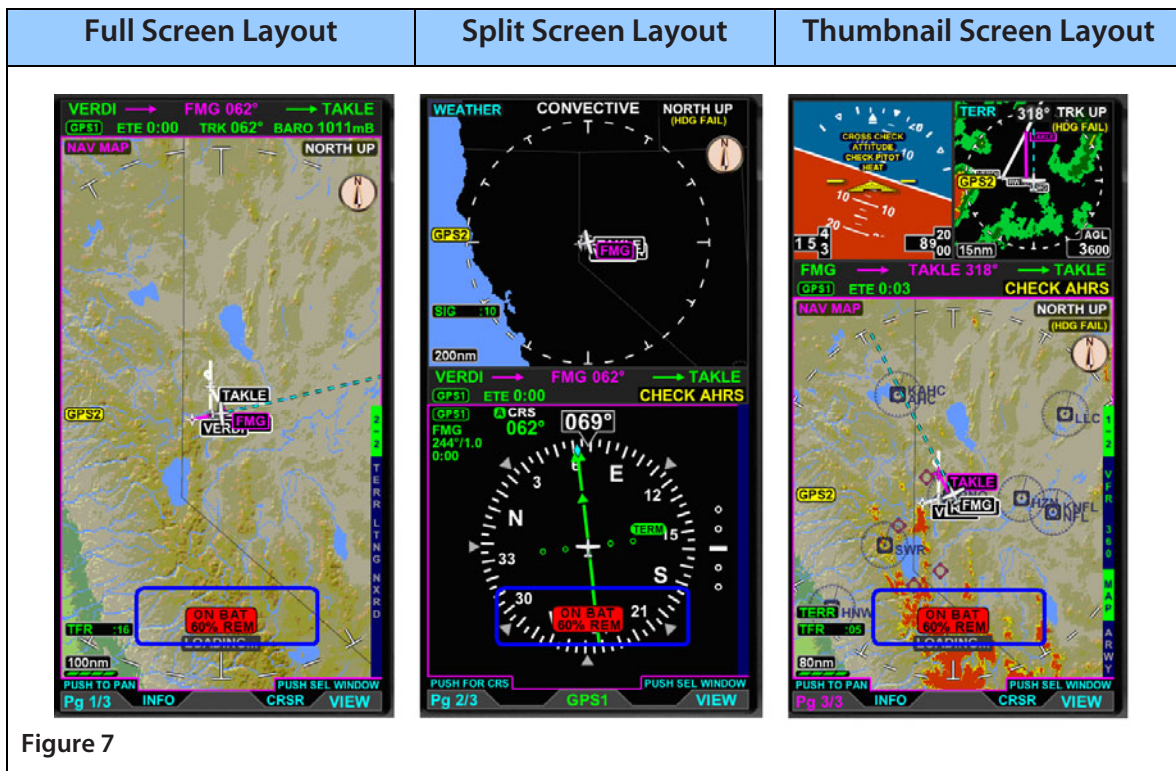
DEP	<p>Selects the departure airport identifier</p> <p>Rotate the Right Knob to scroll to the desired chart then push the knob to display</p>	<p>Selects and displays the departure airport identifier and METAR information</p>
DEST	<p>Selects the destination airport identifier</p> <p>Rotate the Right Knob to scroll to the desired chart then push the knob to display</p>	<p>Selects and displays the destination airport identifier and METAR information</p>
NRST	<p>Selects the airport identifier nearest to the aircraft’s current location that has an instrument approach procedure</p> <p>At startup, the nearest airport is the same as the departure airport</p>	<p>Selects and displays the airport identifier nearest to the aircraft’s current location that has METAR information</p> <p>At startup, the nearest airport is the same as the departure airport</p>

4. RSM GPS Sharing

In the event that all of the panel-mounted GPSs experience a failure, Software Version 2.3.1 improves the RSM GPS intercommunicated capability by sharing the RSM GPS position among all of the Evolution Displays. This “sharing” feature permits any EFD (as configured by the installer) to receive and display the RSM GPS position data, thus assuring the pilot continuous navigational awareness.

5. Battery Annunciation and Overvoltage Protection

- A. Software Version 2.3.1 moves the Battery Annunciation to the bottom center tile on the MFD Full Screen, Split Screen, and Thumbnail Layout (**Figure 7**).



NOTE:

The Battery Annunciation (if displayed) will be removed when a Traffic Advisory (amber circle) is shown. The Battery Annunciation will reappear when the Traffic Advisory is removed.

- B. In the event of an overvoltage condition in the aircraft’s electrical system, (greater than 33 volts) the MFD will automatically switch to its battery power and continue to operate without any pilot action required. Operation from the aircraft electrical system will not be possible while the overvoltage condition is present. When aircraft power decreases below 33 volts, pilot action is required to manually switch from the MFD battery power to the aircraft power. To restore aircraft power to the MFD, go to the POWER SETTINGS page of the Main Menu and select EXT PWR.

6. Traffic Overlay

Software Version 2.3.1 combines the Traffic Overlay Display and the Traffic Altitude Filter Levels to a dedicated Hot Key. The Traffic Overlay is Off when the TRFC Hot Key Label is shown as gray. The Traffic Altitude Filter function is ON when the Hot Key label is shown as inverse green.

Pressing the TRFC Hot Key will cycle through TRFC - TFCN - TFCU - TFCA - TFCB in a round-robin sequence. (Table 1)

Hot Key Label	Altitude Filter Level Display
TRFC	OFF *
TFCN	Normal
TFCU	Unrestricted
TFCA	Above
TFCB	Below
* TRFC (Traffic OFF) Hot Key is not available in Traffic VIEW page	

Table 1

A. To change the Traffic Altitude Filter:

1. Select the 2 /2 Hot Key Menu
2. Press the TRFC Hot Key to select the desired Altitude Filter

7. Pitot Obstruction Monitor

Software Version 2.3.1 introduces alternate implementations for the Pitot Obstruction Monitor operation, allowing the Pitot Obstruction Monitor to behave differently on different applications such as rotorcraft.

The alternate Pitot Obstruction Monitor implementation will present a "CROSS CHECK ATTITUDE" annunciation and retain the display of attitude data. This implementation has been found to be preferable in some rotorcraft applications.

With this alternate implementation, when a rotorcraft is flying slow, (generally less than 10 KIAS) yet has a ground speed greater than 30 knots, the Evolution System will compare the airspeed to the groundspeed and annunciate a "CROSS CHECK ATTITUDE" message on the Attitude Display (Figure 8).



Figure 8

During this slow flight condition, the Attitude Display will continue to present the attitude information. The "CROSS CHECK ATTITUDE" message will generally extinguish as the airspeed increases to 30 KIAS.

Refer to the RFMS (Rotorcraft Flight Manual Supplement) or the AFMS (Airplane Flight Manual Supplement) to determine how the Pitot Obstruction Monitor is configured for your aircraft.

NOTE: The fixed wing Pitot Obstruction Monitor operation remains unchanged.

8. Persistent Settings

The Auto Range Enable setting, the NAVMAP Hot Key Menu settings (1/2 and 2 /2), and the Hazard Awareness (EHA) settings that were previously reset over a power cycle are now retained as last configured by the pilot.

We thank you for your continued support of Aspen Avionics and confidence in the Evolution Flight Display System.



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