

Government & Military Flyer

2005
NEWSLETTER
VOLUME 2



Electronic Flight Bags for the Mission-Oriented User

By Rodi Von Barby, EFB Product Manager

What is an Electronic Flight Bag?

The Electronic Flight Bag (EFB) is the future of data integration that brings computing to the flight deck in a manner designed to streamline a flight crew's workload. EFBs are comprised of:

- 1) Hardware that may range from a simple laptop to a hardware system designed for use on the flight deck.
- 2) Software that is specifically designed for in-cockpit use.
- 3) A supporting infrastructure designed to assure that the flight critical data that provides the foundation for the various software applications is distributed to the right assets at the right time.

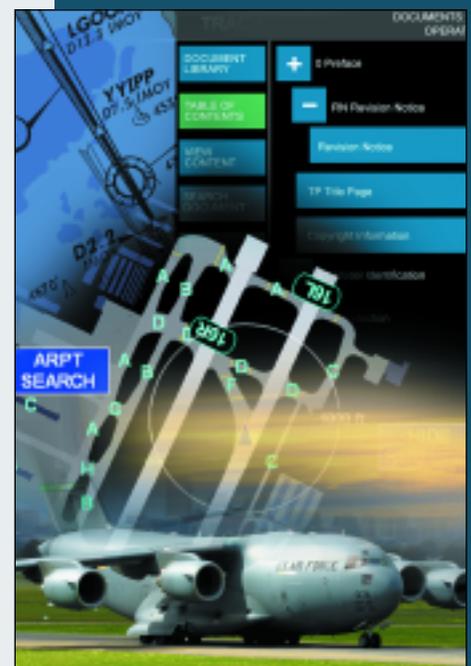
Throughout the past decade, aircraft avionics have shown significant growth in their sophistication and capabilities. However, due to the nature of these systems and their ability to interface with critical aircraft systems, there are many regulatory limitations placed on installed avionics that limit what capabilities they offer the flight crew. The nature of these systems is

responsible for the emerging need for EFBs. Operators that are currently evaluating EFBs are doing so for two key reasons: they hope to experience operational efficiencies through the distribution of digital data and they hope to gain entirely new capabilities onboard their flight decks including the reduction of pilot workload.

EFB Guidelines

Electronic Flight Bags are loosely regulated by the Federal Aviation Administration, European Aviation Safety Agency (formerly JAA), and other civil aviation authorities to the extent that there are documents that provide guidance on the use of the technology such as the FAA's Advisory Circulars AC120-76A. The U.S. Military and other military operators are currently evaluating EFB technology with the intent to publish military-specific regulations for their respective organizations for which the EFB is easily adapted to meet any changes in requirements and regulations.

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Dom's Desk

Dominic R. Custodio,
Vice President,
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*Welcome to the 2nd Edition of the
GMS 2005 Newsletter!*

Jeppesen's Government and Military Services (GMS) division was created to focus on the distinct needs of the war fighter and government agencies that support aviation. This effort began in 2003 with consistent efforts to look for new and innovative ways to support the missions of our customers.

The GMS team is committed to understanding our customer's needs in order to recognize where we can add value. We have been in constant contact with our customers, identifying their needs and using the information to enhance our solutions.

We have accomplished quite a bit in our short period of existence. We have deployed flight operations solutions that range from a PC-based, deployable solution to a fully-integrated operations center. We have created Class 2 and 3 Electronic Flight Bag solutions, as well as charting solutions. We also have the ability to develop sophisticated airspace design solutions, which include procedure design and obstacle evaluation.

It is our commitment to you, our customer, to provide the most value-added solutions for your mission. Your input will lead the way in providing innovative and leading-edge solutions. We will be attending several trade shows in the months to come. We hope to see you there!

Electronic Flight Bags for the Mission-Oriented User *(continued from page 1)*

One of the key components of AC120-76A is the definition of three classifications of EFBs.



Class 1 – a portable computer device that is not mounted or installed on the aircraft and does not interface with any aircraft systems.



Class 2 – a semi-portable computer that may be mounted on the flight deck and may interface with aircraft systems to the extent that it can receive information from aircraft busses.



Class 3 – a device permanently installed in the aircraft that is permitted to both receive and transmit information to aircraft systems.

While all three classifications of EFB are capable of running similar software, there are a few differences. One of these differences is that in the Class 3 system, you are permitted to run a moving map spotter showing the position of your aircraft. While a Class 2 EFB receiving positional information from the aircraft systems is certainly capable of displaying the aircraft spotter, it is currently not permitted by controlling agencies and, therefore, is disabled in the software.

Jeppesen's EFB

For over 70 years, Jeppesen has been a leading provider of aeronautical information to the aviation industry. The EFB is a natural extension of Jeppesen's traditional services. The EFB is a single source capable of accessing Jeppesen's repository of aeronautical information in various electronic formats designed to replace the traditional paper-based services. Core EFB applications Jeppesen has developed include electronic terminal approach charts, an airport moving map based on entirely new, high-fidelity airport diagrams, electronic documents, and enroute moving maps. The enroute moving map application is a very powerful and flexible application that allows the display of your current position, your planned route of flight, data driven charts that can be modified to display only the information pertinent to your mission, and the ability to overlay weather graphics such as satellite images and much more.

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Electronic Flight Bags for the Mission-Oriented User *(continued from page 2)*

In addition to EFB software applications, Jeppesen has focused on developing important support infrastructure components, which are critically important to managing EFB data. As an operator implements EFBs on multiple aircraft, the data management associated with maintaining each device becomes more and more complex. Ensuring each device has the information sets pertinent to that particular aircraft is a significant challenge. Further, ensuring each device has received the latest updates provides another logistical challenge, especially when those updates come from different suppliers at different update intervals and when various aircraft are only available for updates at different times. Jeppesen realized these challenges early on in the EFB program development and created an extensive set of ground tools that will help manage the administrative tasks required to support EFBs.

Supporting Future Operations

While EFBs may initially help an operator's transition from a paper-based environment to a paperless cockpit, they are also capable of supporting future growth requirements. Unlike traditional avionics systems that are limited by stringent software certification requirements, new software can be deployed to an EFB quickly and at a greatly reduced expense. In this sense, EFBs offer operators the ability to deploy new capabilities to the flight deck more efficiently than ever before.

Jeppesen recognizes that a key goal of our mission oriented customers is to enable Network Centric Operations (NCO). The ability to get the right information to the right people at the right time all in an effort to help make the right decisions, is vital to future operations. The EFB is positioned to enable NCO on aircraft as it allows the exchange of real-time information while decreasing the workload for flight crews. In addition, EFBs can be installed on the flight decks of new production aircraft, as well as retrofit aircraft bringing cross-platform functionality, which is a primary requirement for NCO.

While Electronic Flight Bag requirements continue to evolve, it is also maturing. Software is available for all three classifications and offers commonality across all classifications. More and more, hardware options are designed to fit almost every desired aircraft and operational requirement, and the supporting infrastructure is now in place to ensure ongoing management needs are easily addressed. If you're ready to learn more about EFBs and how they can enhance your mission capabilities, call your Jeppesen representative today.



Enroute Moving Map-beta application



Year-End Money

By John Kinsman,
Sr. Manager, Global Business Development
Jeppesen Government and Military Services

In January of 2003, Jeppesen established the Government and Military Services Business Unit. We have listened to your requirements and are now able to offer a full suite of commercial and military products and services that meet your unique needs. Many of our customers are using the following products to enhance their mission effectiveness:

MilPlanner - A government/military specific flight planning tool that combines the power of our world-class flight planning engine with Jeppesen's industry leading global electronic charts. In addition, the MilPlanner flight planning tool contains specific functionality for our air refueling and airborne early warning and surveillance users.

Mission Ops eCharts - Earlier this year, Jeppesen released Mission Ops eCharts, the first global electronic terminal and enroute charting product specifically designed for the government and military market.

Class 2 Electronic Flight Bag (EFB) - Paper aeronautical charts are a thing of the past with the introduction of the Jeppesen EFB. A small investment in two tablet PCs and Jeppesen's EFB software gives you flight deck access to a wide variety of electronic information including electronic terminal and enroute charts, enroute moving maps, and electronic documents.

OpsData - The Jeppesen OpsData website provides quick and easy access to engine-out departure procedures and maximum takeoff weight information for airports worldwide. In addition, you can now access the famous Jeppesen Airport Qualification charts electronically through the same website.

If you feel that any of these solutions can enhance your operations, contact your Jeppesen account executive.

Tech Talk *European Flight Planning*

By Andy Owen, Sr. Account Executive for Operations Services, Government and Military Services

Operating within Europe is extremely complex, but Jeppesen has a number of features within their flight planning products that should assist you to make the planning of these flights that much easier.

The complex airway structure within Europe is laid down by Eurocontrol. In an effort to better utilize the congested airspace Eurocontrol have strict routing requirements that must be adhered to. Military traffic operating within GAT (General Air Traffic) airspace needs to be able to flight plan efficiently while operating within ECAC (European Civil Aviation Conference) airspace. The routing requirements for Europe are laid down in the Route Availability Document (RAD). This is the source of all routes that should be flown within Europe above FL245.

Getting an ATC Flight Plan accepted by Eurocontrol can be a frustration, especially if crews are away from their normal base and without access to charts or a flight planning department. However, Jeppesen hopes to assist in making aircrew's lives a lot easier by the creation of the ERAD Function within the JetPlan® engine that we hope will dramatically reduce the effort required to obtain a "first time ATC flyable" flight plan.

Jeppesen has created the environment where the dissemination of the Eurocontrol RAD annexes are processed and converted into a form that the JetPlan engine can translate and apply the respective restrictions. At the same time as recognizing the numerous airspace restrictions, optimisation is still being applied so that "compliance" does not compromise economy.

In conjunction with the Jeppesen "Preferred Departure and Arrival Procedures" (PDAP) Database, which allows us to factor in unique terminal area airspace dynamics, Jeppesen has advanced automated flight planning to the extent that we are confident your operation will benefit greatly from this new feature.

In all our flight planning applications, including JetPlan "Interactive," JetPlan.com, JetPlanner, and OPSControl, we are providing the easy access to the ERAD function.

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Tech Talk: European Flight Planning (continued from page 4)

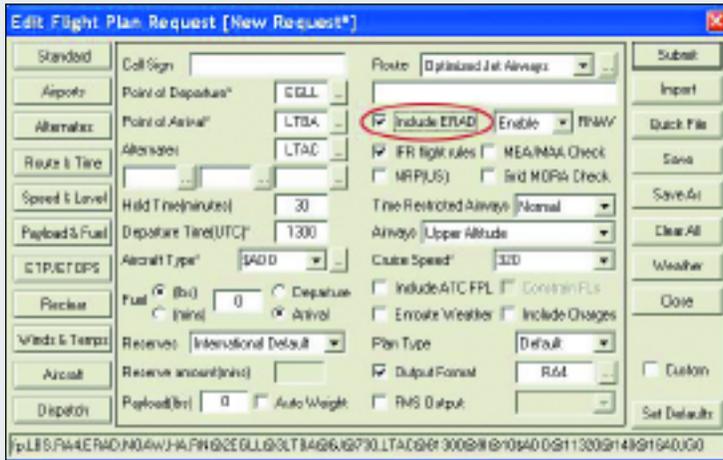
Methods of Utilizing the ERAD Function

1) JetPlan “Interactive”

O1 Options FP, ERAD

2) JetPlanner

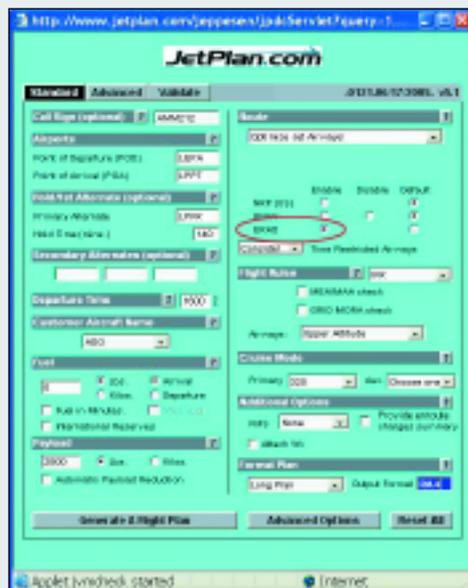
When using the request template select the box “Include ERAD”



3) JetPlan.com

When using the wizard, select the box - ERAD

A 100 percent acceptance rate will not initially be possible and the following caveats should be recognized when using the ERAD feature.



- Only HIGH altitude flights are supported with the ERAD feature.
- Route inputs are currently limited to:
 - J or J, checkpoint, checkpoint
 - J, D, checkpoint or J, checkpoint, D, checkpoint are NOT supported.
- The use of the SRS (Supplemental Route Selector) or combination routes are not presently supported.
- The use of Customer Route Databases are not currently supported.

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Upcoming Events Mark Your Calendar

MOSCOW AIR SHOW (MAKS)
16-21 August 2005
Moscow, Russia

JEPPESEN CUSTOMER SEMINAR
5-8 September 2005
Frankfurt, Germany

NASAO CONFERENCE
11-14 September 2005
Des Moines, IA, USA

ACI-NA CONFERENCE
18-21 September 2005
Toronto, Ontario

**AIRLIFT/TANKER
ASSOCIATION CONFERENCE**
27-30 October 2005
Nashville, TN, USA

NBAA
15-17 November 2005
New Orleans, LA, USA



