

Government & Military Flyer

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The Jeppesen Military Electronic Flight Bag

A suite of mission management tools that enables full digital transformation of information in the cockpit, increases situational awareness and enhances safety and mission effectiveness

Digital Transformation in the Cockpit

The amount and complexity of information now available to the military pilot in the cockpit has grown exponentially over the last several years. Thus, aircrews require a better way to channel and organize the essential information required to meet mission objectives. In addition, military organizations require a way to ensure the delivery of the right digital mission package to the right aircraft and the right aircrew. Information delivery to the cockpit and information management in the cockpit is critical to the success of today's military operation.

The Jeppesen Military Electronic Flight Bag (EFB)

The Jeppesen Military EFB provides modular and bundled software application and information management solutions, enabling information management for transport, tanker, maritime patrol, VIP, special mission, and other aircraft to operate smoothly in today's networked operations environment. Jeppesen Military EFB software applications and Data Distribution Management (DDM) infrastructure provide cross-platform commonality, reduce administrative tasks, and connect aircraft to the flow of digital information that defines today's military operations

What is an EFB?

Electronic Flight Bags are electronic systems designed to display aviation and mission data in the cockpit. Jeppesen collaborates with multiple hardware vendors and installers to provide a comprehensive Military EFB solution. EFB Classes are defined by the United States Federal Aviation Administration in Advisory Circular, AC 120-76A, summarized here:

- **Class 1** – Portable equipment with restrictions on usage, connectivity to aircraft power and other aircraft systems.
- **Class 2** – Hardware attached to the aircraft by a mounting device that may be connected to aircraft power and data ports.
- **Class 3** – An installed system that requires AIR approval.

Jeppesen is the first and only supplier to offer operationally-approved EFB applications for all three classes of EFB, and we have developed production solutions for both Airbus and Boeing commercial airframes. We are also the first and only company to have navigation charts deployed on EFB systems in commercial revenue flight and military operations.

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Photo courtesy of CMC Electronics

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The Jeppesen Military EFB

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Software, Data Services, and Data Management and Delivery Systems

The Jeppesen Military EFB is a solution consisting of software, standard and tailored data services, data management and delivery systems, and related support. Jeppesen's software application bundle is comprised of:

- **Optimized Application Manager:** framework software with a Human-Machine Interface optimized for flight deck operation
- **Airport Moving Map:** the industry's only operationally-approved moving map offering taxi position awareness in the airport ground environment
- **Moving Map for Government & Military Users (enroute):** a comprehensive moving map application for enhancement of situational awareness during mission execution
- **Jeppesen Terminal Charts:** vector-based, world-wide digital terminal chart library
- **Document Browser:** digital document management and browsing tool that enables presentation of different document types and formats
- **FLIP Chart Viewer:** management and display of FLIP terminal charts in a digital format
- **Data Distribution & Management System:** comprehensive information management infrastructure that serves as the foundation for digital transformation

Jeppesen also publishes a comprehensive Software Development Kit (SDK) for our EFB user community. The SDK enables integration of existing or future applications into the application management framework on the EFB. With

this capability, users (or their contractors) can integrate practically any windows-based situational awareness or mission software, such as FalconView/PFPS or existing mission planning applications, into the Jeppesen EFB.

A Cost Effective Upgrade Option

Many operators are deploying EFB solutions during ongoing cockpit and avionics upgrades. When considering the cost of making modifications to avionics, installing a removable EFB to the side of the cockpit or on the yoke, in positions where pilots already view and store their flight publications, may be very cost effective. It also provides an exceptional platform for enhancing flight deck capabilities in the future.

Mission Efficiency

Military operators around the world are considering significant savings in weight, document management efforts, and time, in addition to mission efficiency and effectiveness gains, as they embark on projects to deploy EFB systems across their fleets. An effective Military EFB offers considerable value to an operation currently using paper charting and documents in the aircraft. One of our customers' most important goals is to reduce or eliminate as much paper from the cockpit as possible by providing electronic access to all in-flight publications, manuals, and charts.

The Jeppesen EFB solution provides the ability to perform force or fleet-wide data management and version control. This means that at any given level, commanders have the assurance that all their aircrews

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Tech Talk

The Jeppesen Moving Map for Government & Military Users

Pull all of your government charts, planned route information, weather and imagery into one cockpit-optimized and easy to use map

With the addition of the Jeppesen Moving Map for Government and Military Users to our Electronic Flight Bag (EFB) software bundle, the Jeppesen Military EFB software suite is ready for release to our military customers. The newest component to the software suite offers one key capability in the military cockpit – flexibility!

At its core, the Moving Map is digitally rendered using Jeppesen's world leading aeronautical data in a dynamic vector format that retains the proper orientation of text and data elements when you manipulate the map, or when the aircraft heading changes the map's orientation. The advantage of this dynamic framework is that it will allow you to view any other geo-referenced, graphical data you wish. This may include government charts, weather, planned route depiction, even satellite imagery.

An Example – Exporting a Planned Flight within Portable Flight Planning Software to the EFB

One of the concepts of operations we talk about with our customers is the ability to plan a flight within Portable Flight Planning Software (PFPS) and export to the EFB.

You accomplish this by:

1. Saving your planned flight within PFPS to a thumb drive or other memory media.
2. During your preflight at the aircraft, insert the thumb drive into the EFB device and open the Moving Map application.
3. Select the folder icon and you will get a selection of formats that can be loaded into the Map. You can load the Jeppesen RoutePack format if you have exported your mission from any one of Jeppesen's mission planning tools, or you can use the Common Route Definition (.crd) format used by other mission planning tools like PFPS.
4. Once you have selected the format you will see a standard Windows™ dialogue that will allow you to navigate to your thumb drive.
5. Select your route and open it. Within a few seconds your route will appear on the Moving Map.

Meet GMA



Kim Cross is our Strategic Account Manager for North America, the Pacific Rim, Australia, New Zealand and Canada.

Kim spent four years on active duty in the United States Air Force as a crew chief on F-16s at Edwards Air Force Base. Kim then transferred into the United States Air Force Reserves as a crew chief on the C-141s at Norton Air Force Base and March Air Force Base. In 1994 she transferred into the Air National Guard in Cheyenne, Wyoming where she became a Flight Engineer on the C-130. Kim retired on July 5, 2008 after 22 years of service.

Kim has been employed at Jeppesen for three years and came to our team from the Business Aviation Strategic Account Management team.

Contact Kim at kim.cross@jeppesen.com.



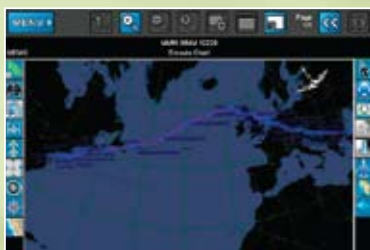
Michael Hess is a Business Development Executive for Global Programs.

Michael is responsible for all business and capture team activities throughout the acquisition lifecycle and defines the strategic direction of airborne products by acting as liaison between the government and military users and Jeppesen's business and technical leadership

Michael joined Jeppesen in June 2003 after a successful career as a Naval Flight Officer where he served as a P-3 Mission Commander. Upon joining Jeppesen, Michael initially served as a systems engineer and technical lead for large government and military programs that included electronic flight bag and mission planning solutions.

Michael holds a Bachelor of Science degree in physics from the University of Utah, and a Master of Arts degree in business economics from the University of Oklahoma.

Contact Michael at michael.hess@jeppesen.com.



Moving Map

In the same fashion, you can import CDRG charts, Jeppesen Terminal Charts, graphical weather, and virtually any other graphical files and overlay them seamlessly into the Jeppesen Moving Map.

The Moving Map is a platform for growth. With an open architecture designed to accept new software modules and plug-ins, flexibility truly is the key. Jeppesen plans to add capability in the near future that will enable in-flight re-planning, display of aerial refueling and other organized tracks, and many other capabilities that add value to the military operator. Contact us for a Military EFB with Moving Map demo or no-cost test and evaluation software setup to see how this exciting capability can help you execute your missions safer and more efficiently.



Moving Map

Did You Know?

Jeppesen is the First and Only Recipient of FAA Approval for Moving Maps in Class 2 EFB Devices

In March Jeppesen received FAA approval for our Airport Moving Map application for Class 2 EFB devices. We are the first and only company to have received approval. Jeppesen Airport Moving Map uses a detailed database to dynamically render maps of the airport surface, and through the use of GPS technology, show pilots their position ('own-ship') on the airport surface. The result is much improved positional awareness among flight crews, which is a critical safety factor for reducing runway incursions during ground operations at busy airports with complex runway and taxiway layouts.

Jeppesen has conducted numerous field studies using simulators and flight crews to validate the benefit of Airport Moving Map technology for EFBs. These studies revealed consistent improvement in pilot performance because flight crews are better able to anticipate their location in relationship to runways, taxiways and parking locations. Additional research by the Commercial Aviation Safety Team (CAST) estimates that runway incursions caused by pilot deviations can be reduced by 50 percent when flight crews have Airport Moving Map.



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Jeppesen Introduces New Corporate Identity

Jeppesen recently launched a new corporate logo that reflects the evolution of the products and services we offer, as well as the company's expansion into neighboring transportation markets. While well known for the Jeppesen Airway Manual® and other products related to aeronautical navigation, today we offer a broad array of information and optimization solutions that support navigation, planning and analysis for air, sea and land operations.

The new Jeppesen logo builds upon the company's rich heritage by combining a clean, contemporary symbol with the well-known Jeppesen logotype. Most noticeable is the transition from the airplane silhouette to a series of stacked shapes that represent Jeppesen's forward movement and the diverse transportation markets it now serves.

"I believe our new logo communicates the image we want people to embrace when they think of Jeppesen," says Mark Van Tine, Jeppesen president and CEO. "For our marine and rail customers, it speaks to our commitment to serving them with the same standard of excellence that our company has been built upon; for our long-standing aviation customers, the message is that we are much more than 'just that old chart company'. In addition to providing mission critical navigational information, today we use leading-edge technologies to help our customers optimize their operations as well. In the process, we are able to help all Jeppesen customers reduce their consumption of resources and minimize their environmental footprints."

In the coming months, Jeppesen will be rolling out its new logo across its brand touch points, including a new website, which is scheduled to be launched this fall.



Did You Know?

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"This TSO approval for our Class 2 EFB Airport Moving Map is a very important milestone for Jeppesen, the FAA and the aviation industry," said Rick Ellerbrock, Jeppesen Enterprise Solutions Strategist. "We have a passionate belief that Airport Moving Map is a critical element in improving aviation safety and reducing runway incursions. Our research proved this and now the door is open for airlines and military flying organizations to begin wide-spread adoption of Airport Moving Map on both Class 2 and 3 EFBs."

The Jeppesen Airport Moving Map application has been in use on Class 3 EFBs for almost five years now. Approval of the Class 2 application is significant because it makes enhanced situational awareness available

to a much larger group of aircraft. Class 2 EFB hardware solutions allow airlines and military flying organizations to cost effectively retrofit large fleets of existing aircraft, which, when coupled with Jeppesen Airport Moving Map, is a major step forward in reducing the risk of runway incursions.

Continental Airlines is deploying the system on its Boeing 757s, 767s and 737s, using a navAero t-BagC22.

The approval was granted under what is known as an FAA Technical Standard Orders (TSO). A TSO is a minimum performance standard for specified materials, parts, and appliances used on civil aircraft. Receiving a TSO authorization is both design and production approval.



From the Desk of John Kinsman

Director, Client Management
Jeppesen Government and Military Aviation

Greetings from Denver! I hope this letter finds you and your families safe and sound as you accomplish your important missions around the world.

As you know, the primary focus of the Government and Military Aviation group at Jeppesen is to build tools and provide services for our loyal customers that help them accomplish their missions. Our solution suite is designed to increase safety, ease crew workload, and enhance situational awareness. This quarter's newsletter is focused on one of the most important tools in our solutions suite, the Jeppesen Electronic Flight Bag for the government and military market. I hope you'll find the information we've provided on this tremendous capability both interesting and informative.

Many of you joined us in Orlando, Florida in May for our annual EFB customer symposium. This event was unique in that

we hosted both our airline and government and military EFB customers together, creating a unique forum in which our global EFB customers from all market segments were able to share lessons learned and best practices around the deployment and utilization of EFB technology in an operational environment. Our customers also benefited from the presence of representatives from each of the major EFB hardware providers. Post-event feedback from the customers indicated that they found the event to be extremely informative and helpful. Based on that feedback, we are already planning a similar EFB symposium for 2009, which will most likely be held in Europe to make it easier for our customers on the other side of the world to attend.

My team also had the opportunity to see many of you at the Royal International Air Tattoo air show at the RAF Fairford in the United Kingdom in July. This year's event was special

indeed, with the Queen presenting new colors to the Royal Air Force on their 90th anniversary. We look forward to seeing you again at RIAT 2009 (with hopes and expectations for a less rainy event!).

I'd like to encourage all of you to come see us at the annual Airlift/Tanker Association Convention in Anaheim, CA this fall (6-9 November). We are bringing our EFB simulator this year, providing you the opportunity to interact with our EFB tool in a "flying" environment.

My team and I are truly honored to be able to work for you, our valued customers, as you execute your important missions around the world on behalf of the nations you serve. Keep safe and know the Jeppesen team is ready to help whenever and wherever we are needed.



Upcoming Government & Military Aviation Events

Please stop by and see us at the following events this fall!

Airlift/Tanker Association Convention (A/TA)

November 6 - 9
 Anaheim, CA
www.watalink.org

Mission Planners Users Conference (MPUC)

Boeing booth
 November 16-21
 Las Vegas, NV
www.paulrevereafa.org

Come visit our booth at the Airlift/Tanker Association and "fly" with the Jeppesen Electronic Flight Bag in our simulator.

The Jeppesen Military Electronic Flight Bag

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have the same information, they all have all the information, and that the information they have is secure. Value is also gained in the cost or fuel savings of reduction in the weight of paper carried on each aircraft, and the reduced costs of time and resources spent maintaining a paper distribution infrastructure. Our users tell us they are confident that the benefits gained from replacing the paper chain, and the advantages of digitizing all military cockpits in a cost effective solution, will be realized well into the future of any aircraft's lifecycle.

Situational Awareness, Safety and Mission Effectiveness

Perhaps most importantly, the value of enhanced situational awareness and safety provided by an EFB for the military user is greater mission effectiveness. The pilot is able to use the Jeppesen moving maps as well as similar tools integrated into the EFB framework as a quick source of validation for avionics information or instructions from controlling authorities. Ensuring that aircrews have better familiarity by using better information that can be interpreted and ingested quickly for unfamiliar environments reduces the

Photo courtesy of NavAero



likelihood of airspace violations and runway incursions. Jeppesen has applied over 75 years of experience making flight safer for the pilot, employing the most effective ways to convert large amounts of data into useable information. The result is an unsurpassed graphical presentation of information, in the correct context, with extensive tools to filter and search the data displayed on the map, to give the pilot the best possible information at the best possible time. This leads to better management of the avalanche of information flowing into the cockpit, better decision-making, reduction in errors, and therefore a safer, well-executed overall mission.



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