

NEWS RELEASE

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Curtiss-Wright Showcases Next Generation Compact, Lightweight Flight Data Recorders at 2020 Singapore Airshow

Fortress™ combines Cockpit Voice Recorder, Flight Data Recorder, DataLink Recorder, and Airborne Image Recorder in a single unit, bringing COTS-based Usage Monitoring and Predictive Maintenance solutions to the Avionics Market

SINGAPORE AIRSHOW, Changi Exhibition Centre, Singapore (USA Pavilion: Stand #V67) − February 11, 2020 − Curtiss-Wright's Defense Solutions division, a trusted leading supplier of Flight Data Recorders (FDR), commonly referred to as "black boxes," will showcase its family of Fortress™ Flight Data Recorders at the 2020 Singapore Airshow. The Fortress family, the newest range of flight data recorders on the market, combines Cockpit Voice Recorders (CVR), FDRs, Data Link Recorders (DLR) and Airborne Image Recorders (AIR) that surpass the requirements of the upcoming 2021 European Aviation Safety Agency (EASA) minimum 25-hour cockpit voice recording mandate. These highly functional units deliver longer recording time, supporting the recently introduced EUROCAE classes 4, 5 and 6 Cockpit Voice Recorders (CVR), in addition to supporting 2 hours of airborne image recording and 25 hours of data link recording. The innovative recorders provide an ideal open architecture commercial-off-the-shelf (COTS)-based solution for post-test operational use, and include support for Predictive Maintenance (PM), Health and Usage Monitoring Systems (HUMS), Condition Based Maintenance (CBM), and other data monitoring applications.

In February 2019, <u>Curtiss-Wright and Honeywell announced a partnership</u> to develop an entirely new way for airlines to monitor and analyze flight data. The companies signed an agreement to develop the next generation of mandate-compliant voice and data recorders, using real-time connectivity. As part of the new agreement, <u>Curtiss-Wright</u> will be the exclusive supplier for Honeywell's next-generation recorders for the Air Transport and Business Aviation markets. This means the aircraft data can be used for more efficient operations, allowing for additional predictive maintenance and real-time playback of data and voice communications. Along with added

connectivity, these next-generation recorders provide an easy upgrade that saves installation time and lowers costs due to their design as form-fit replacements for Honeywell's HFR-5 series CVRs and FDRs. Curtiss-Wright has certified its Fortress recorder, which will be used as the foundation for the new Honeywell Connected Recorder-25 or HCR-25.

"Our Fortress family of recorders are the most advanced lightweight and functional flight recorder available today," said Lynn Bamford, President, Defense and Power. "What's more, Curtiss-Wright is the first supplier to meet flight recorder extended operational requirements and increased crash survivability test requirements included in ED-112A, furthering our commitment to helping aircraft meet the latest regulations while using the best technology to add more functionality in less space and cost for new and older aircraft".

About Fortress Recorders:

Believed to be the industry's first flight data recorders to meet the demanding requirements of EUROCAE ED-112A, Fortress CVR/FDRs enable aircraft data to be used for more efficient operations, allowing for additional predictive maintenance and real-time playback of data and potentially voice communications and image data should regulations permit. The compact and lightweight Fortress product line is designed to meet all current and anticipated regulations. The EASA certifications include ETSO-C123c, ETSO-C124c, ETSO-C176a and ETSO-C177a.

The Fortress range can be rapidly modified to meet customization requirements for particular aircraft needs. The recorder can support expansion, making it easier and more cost-effective to add new functionality within the unit, such as MIL-STD-1553 data links, integrated acquisition and HUMS, all while reducing aircraft line replaceable unit (LRU) count and overall system weight.

At under 8.5 lbs. including a 90 day underwater locator beacon (ULB), the new Fortress recorders weigh less than early generation solid state recorder alternatives, which helps to significantly reduce fuel costs. This breakthrough in weight reduction results from Curtiss-Wright's decades of expertise in optimizing the crash recorder electronics, materials and manufacturing process. The recorder systems also support dual-redundant CVR/FDR installation to mitigate the risk of mandatory grounding in case of recorder failure.

Curtiss-Wright has a long heritage in designing and manufacturing FDRs. Developed by the originator of the first combined cockpit Voice/Flight Data Recorder (Curtiss-Wright acquired the

Penny & Giles company in 2002), these innovative recorders meet all current and anticipated EUROCAE ED-112A, FAA TSO and EASA ETSO requirements. The Fortress family of recorders is ideal for a wide range of aircraft platforms, including helicopters, airliners, UAVs, executive and military aircraft. Housed in a compact rugged unit, the new recorders are hard-mountable for fast, easy installation.

The Benefits of the COTS System Approach

Unlike custom-designed solutions, whose design is "locked in" during the aircraft's initial design phase, Curtiss-Wright's data acquisition solutions enable OEMs, operators and system integrators to easily adapt their instrumentation after the initial configuration of the aircraft has taken place. This flexibility augments the aircraft's ability to collect critical condition data and helps drive maintenance decisions that increase safety, operational availability and lower costs. In some applications, the user is seeking to extend the benefits of a permanently installed Instrumentation Package in order to perform post-flight analysis of system behavior, or to troubleshoot a known usage anomaly.

Curtiss-Wright's proven standard products are modular, which makes them ideal for rapid prototyping, enabling development to commence rapidly. In contrast with traditional Aircraft Condition Maintenance Systems (ACMS) solutions that can't be easily changed to add more data acquisition capabilities after deployment, Curtiss-Wright's modular approach greatly reduces the cost, effort, and time required to add new functionality. In fact, these proven solutions are easily integrated into existing systems and are currently providing enhancements to deployed, ACMS hardware.

About Curtiss-Wright Corporation

Curtiss-Wright Corporation is a global innovative company that delivers highly engineered, critical function products and services to the commercial, industrial, defense and energy markets. Building on the heritage of Glenn Curtiss and the Wright brothers, Curtiss-Wright has a long tradition of providing reliable solutions through trusted customer relationships. The company is headquartered in Davidson, N.C. and employs approximately 9,000 people worldwide. For more information, visit www.curtisswright.com.

For more information about Curtiss-Wright's Defense Solutions division, please visit www.curtisswrightds.com.

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