

EFDMU

Flexible ARINC-600 Data Management Solutions

**CURTISS-
WRIGHT**

CURTISSWRIGHTDS.COM



Key Features

- ARINC 600 4-MCU enclosure
- DO-254 DAL D FPGA based logic
- DO-178 DAL D embedded applications
- Integration with ARINC 717 and ARINC 664 (part 7) flight data recording systems
- Free air convective cooling
- BIT reporting in accordance with ARINC 624
- Modular architecture for rapid prototyping and de-risked development
- Modular architecture for program specific customization

Applications

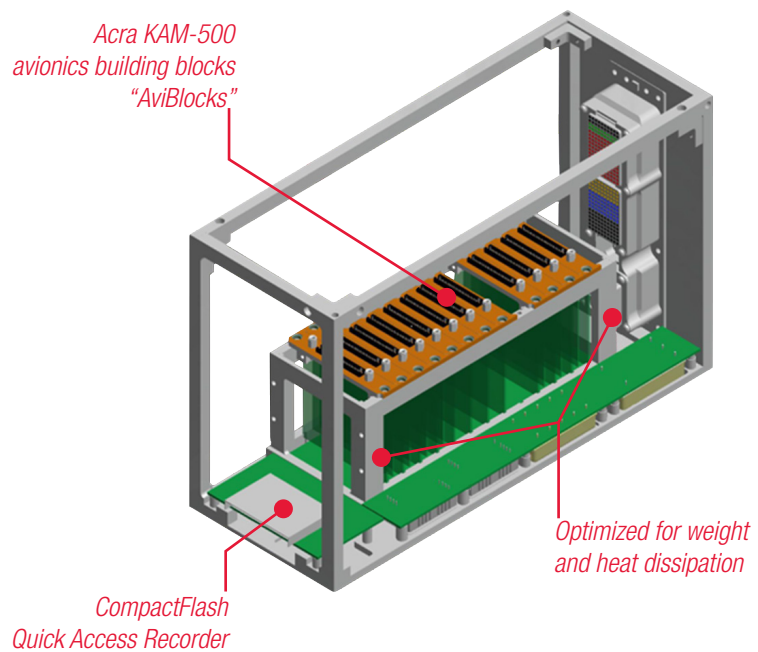
- Flight Data Monitoring (FDM) / Flight Operational Quality Assurance (FOQA)
- Quick Access Recorder (QAR)
- Flight Data Acquisition Unit (FDAU)
- Embedded application hosting such as
 - + Onboard Maintenance System (OMS)
 - + Aircraft Condition Monitoring System (ACMS)
 - + Operational Loads Monitoring (OLM)

Overview

The Enhanced Flight Data Management Unit (EFDMU) is a highly configurable avionics unit developed to host FDAU, DMU, QAR and FOQA/FDM functions in an ARINC 600 form factor. Input interface options include all major avionics bus families and all major analog sensor/transducer types (please see "Available interfaces" section for current options). Acquired data can then be transmitted to ED-112 compliant FDR systems, recorded to removable quick-access CompactFlash® memory cards or transmitted via network devices (e.g. a wireless quick access transceiver).

All acquisition functions are designed using high reliability FPGA based logic in accordance with DO-254 processes. End-users also have the option of hosting program specific DO-178 applications within their systems, such as an Aircraft Conditioning Monitoring System (ACMS), an Operational Loads Monitoring (OLM) system or an iVHM (integrated Vehicle Health Management) system.

Internally the EFDMU is built using Curtiss-Wright's "AviBlocks" (modular avionics building blocks) technology. AviBlocks derive from the Acra KAM-500 family which encompasses 100+ interface module types, and is used on 200+ platforms by 300+ users. This unique architecture allows avionics integrators to rapidly prototype solutions, and easily accommodate evolving requirements. The ARINC 600 EFDMU platform is uniquely suited to low-volume obsolescence replacements where high-cost developments are not possible.



The AviBlocks design methodology allows for rapid development and small production runs

Specifications

Available interfaces

- Analog
 - + Voltage
 - + Current
 - + Temperature
 - + Strain
 - + Acceleration
 - + Vibration
 - + Position
 - + Pressure
 - + 3 phase power
- Digital
 - + Discrete inputs (analog/optically isolated)
 - + Serial data input RS-232/433/485
- Avionic bus interfaces
 - + ARINC 429, ARINC 573/717, ARINC 664p7 (multiple formats)
 - + CANbus
 - + CCDL
 - + CSDB
 - + EFABus
 - + Ethernet
 - + Firewire
 - + HSDB
 - + MCDL
 - + MC/ENMC
 - + MIL-STD-1553
 - + Panavia
 - + STANAG 3910
 - + TTP
- Audio/Video encoding
 - + Audio encoding: CVSD/AAC
 - + Video encoding: MPEG2, H.264
- Output compatibility
 - + ARINC 757/767 flight data recorders
 - + ARINC 717 and ARINC 664p7 compatible devices
- Application hosting: DO-178 DAL D compatible ARM9 embedded processor and digital signal processor (DSP)
- Quick access recorder: CompactFlash compatible

Sample configuration specifications

- ARINC 615A data loader
- ARINC 664 switch
- Interface to wireless download unit
- ARINC 717 interface
- 8 x discrete inputs, 4 x program pins, event button
- Cockpit control inputs
- 32 x ARINC 429 inputs
- 3 x axis accelerometer
- 8 x analog inputs
- 4 x EFIRS inputs

Electrical and Mechanical

Power

- Sample system max power: 53.5W

Mass

- Typical configuration: 11 lb (5 kg)

Dimensions

- 4 x MCU: 12.68 x 4.88 x 7.62" (321 x 124 x 194 mm)

Ordering Information

Please contact Curtiss-Wright Defense Solutions.

Specifications

Available interfaces

- Analog: voltage, current, temperature, strain, acceleration, vibration, position, pressure, 3 phase power
- Digital: Discrete inputs (analog / optically isolated), serial data input RS-232/433/485
- Avionic bus interfaces: ARINC 429, ARINC 573 / 717, ARINC 664p7 (multiple formats), CANbus, CCDL, CSDB, EFABus, Ethernet, Firewire, HSDB, MCDL, MC/ENMC, MIL-STD-1553, Panavia, RS-232 / 422 / 485, STANAG 3910, TTP
- Audio / video encoding: Audio encoding (CVSD / AAC), video encoding (MPEG2, H.264)
- Output compatibility: ARINC 757/ 767 flight data recorders, ARINC 717 and ARINC 664p7 compatible devices
- Application hosting: DO-178 DAL D compatible ARM9 embedded processor and DSP (digital signal processor)
- Quick access recorder: CompactFlash compatible

Sample configuration specifications

- ARINC 615A data loader
- ARINC 664 switch
- Interface to wireless download unit
- ARINC 717 interface
- 8 x discrete inputs, 4 x program pins, event button
- Cockpit control inputs
- 32 x ARINC 429 inputs
- 3 x axis accelerometer
- 8 x analog inputs
- 4 x EFIRS inputs

Electrical and Mechanical

Power

- Sample system max power: 53.5W

Mass

- Typical configuration: 11 lb (5 kg)

Dimensions

- 4 x MCU: 12.68 x 4.88 x 7.62" (321 x 124 x 194 mm)

Ordering Information

Please contact Curtiss-Wright Defense Solutions.