

FSEMC-Developed ARINC Standards

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ARINC sponsors three committees that develop standards for the airline community:

- Airlines Electrical and Electronic Committee (AEEC)
- Avionics Maintenance Conference (AMC)
- Flight Simulator Engineering and Maintenance Conference (FSEMC)

FSEMC has taken a lead in the development of many industry standards in the areas of flight simulator training, simulator metrics, and cabin training devices.

Persons wishing to order the standards listed below may do so by contacting the ARINC Standards Document Section at +1 410 266-4117, standards@arinc.com, or via the ARINC Store at https://www.arinc.com/cf/store/category.cfm?prod_group_id=1

FSEMC Standards

ARINC Report 432: *Training Requirements for Flight Training Equipment Support Personnel.* This standard is a guide for flight training equipment operators and manufacturers to define the scope and content of support personnel training courses.

ARINC Report 433-1: *Standard Measurements for Flight Simulator Quality.* This standard is a guide to assess Synthetic Training Device (STD) quality and performance by STD operators, manufacturers, regulatory authorities and users.

ARINC Report 434: *Flight Simulator Customer Support.* This standard provides guidelines for communication between customers and suppliers of flight simulator equipment with the goal of improving pre- and post-RFT support.

ARINC Report 434-1: *Synthetic Training Device (STD) – Life Cycle Support.* Supplement 1 is a complete rework of ARINC Report 434. The previous material has been retained and new material on life cycle support has been added. This will include guidelines and standards that will lead to high Reliability (MTBR) and improve Maintainability (MTTR). Some of the issues being worked are:

- Define reliability and how to quantitatively measure reliability in a simulator.
- Define maintainability and how to quantitatively measure maintainability in a simulator.

ARINC Report 435: *Guidelines for Cabin Training Devices.* This report sets forth guidance for the design, development, and installation of Cabin Training Devices. It includes operational and handling characteristics for establishing minimum data required for reliability and maintainability.

ARINC Specification 610B: *Guidance for Use of Avionics Equipment and Software in Simulators* is intended to simplify the additional functions required of avionics equipment used in simulators. Recommended simulator functions, data base harmonization, use of snapshot functions, and a new training scenario are included. The guidelines contained in the draft are expected to reduce the cost to design and install avionics equipment in simulators.



ARINC Report 436: *Guidelines for Electronic Qualification Test Guide* provides Flight Simulation Training Device (FSTD) users, suppliers and regulatory authorities a set of guidelines for Electronic Qualification Test Guide (eQTG) systems. This document is intended to be supplementary to existing regulatory authority requirements. This document is not designed to direct the use of certain technologies or platforms, but to outline the minimum requirements of an eQTG system. The choice of the technology used to meet these requirements is left to the system's designers and users.

ARINC Report 437: *Training Device Facility Considerations* provides guidelines, including cost analysis considerations, to aid in the planning of a new training facility or expanding current existing facilities.

This document is intended to aid you when planning a new training facility, or adding new equipment bay(s), which in the future should be able to host any type of training device. This may also lead the vendors to standardize some of their equipment to ease installation.



ARINC Report 440: *Guidelines for the Provisioning and Support of Training Equipment Data* provides guidelines for the aviation industry to ensure that data and solutions for training are adequately provided in content and schedule, are cost effective, and are completely supported throughout the life of the equipment. It should be used at all appropriate levels within a company (e.g., Purchasing, Operations, Training) when purchasing or developing new aircraft, major aircraft modifications or training systems.

ARINC Report 441: *Guidelines for the Supply of Binary Format Software for Training Purposes* states there are many methods of providing data for use in simulation—Chart Driven Models (CDM), source code, binary code and printed format. This report deals with data provided in the form of binary format software that will be used for the generation, maintenance and update of training devices.

This report sets forth the general philosophy and basic guidance for designing, generating, and supplying this data for training purposes. It is expected that this report will promote mutual understanding for the use of binary format software in training devices.

This document is intended to help with the supply, integration, and support of this type of data and to lay out requirements for suppliers.

This document does not apply to the provision of portable electronic data which is covered in ARINC Report 442.

ARINC Report 442: *Guidelines for the Supply of Chart Driven Models/Source Code for Training Purposes* states there are many methods of providing data for use in simulation - Chart Driven Models (CDM), source code, binary code and printed format. This report deals with data provided in the form of chart driven models and/or source code that will be used for the generation, maintenance and update of training devices.

This report sets forth the general philosophy and basic guidance for designing, generating, and supplying this data for training purposes. It is expected that this report will promote mutual understanding among those parties concerned with the use of this data in training devices.

Aircraft and equipment manufacturers may provide data in this form to take advantage of chart driven models and/or source code generated during aircraft or component development.

This document is intended to help with the supply, integration, and support of this type of data and to lay out requirements for suppliers. This document does not apply to the provision of binary format software which is covered in ARINC Report 441 or other formats covered by the IATA: Flight Simulator Design and Performance Data Requirements.