

# Avionics solutions



**BARCO**

Visibly yours



## Advanced avionics solutions

Building on many years of experience in developing and enhancing display and graphics products, Barco provides the avionics market with technologically advanced and cost-competitive display solutions.

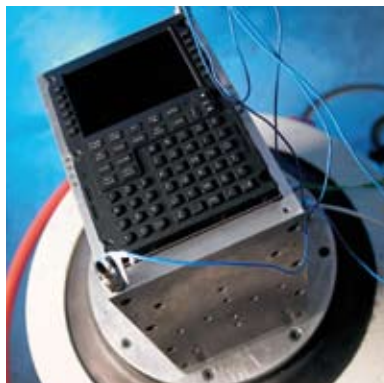
Barco is fully equipped for in-house design, development, testing and manufacturing. In-house testing facilities include clima-rooms (temperature, humidity and altitude testing), vibration tables, burn-in rooms and EMC test chambers. In addition, Highly Accelerated Lifetime Testing (HALT) is used to study behavior, increase lifetime and improve reliability. All these resources allow Barco to rapidly develop reliable products that meet all environmental requirements.

Barco's manufacturing approach is compliant with the EASA Part-21, EASA Part-145, FAA FAR-145 and EN/AS9100 certifications. Customers receive a Certificate of Conformity which guarantees that their products comply with their specific needs and have been tested in accordance with the conditions and requirements of their order.

Barco has dedicated service centers in Belgium, the United States of America and Russia.



Front bonding



Environmental testing



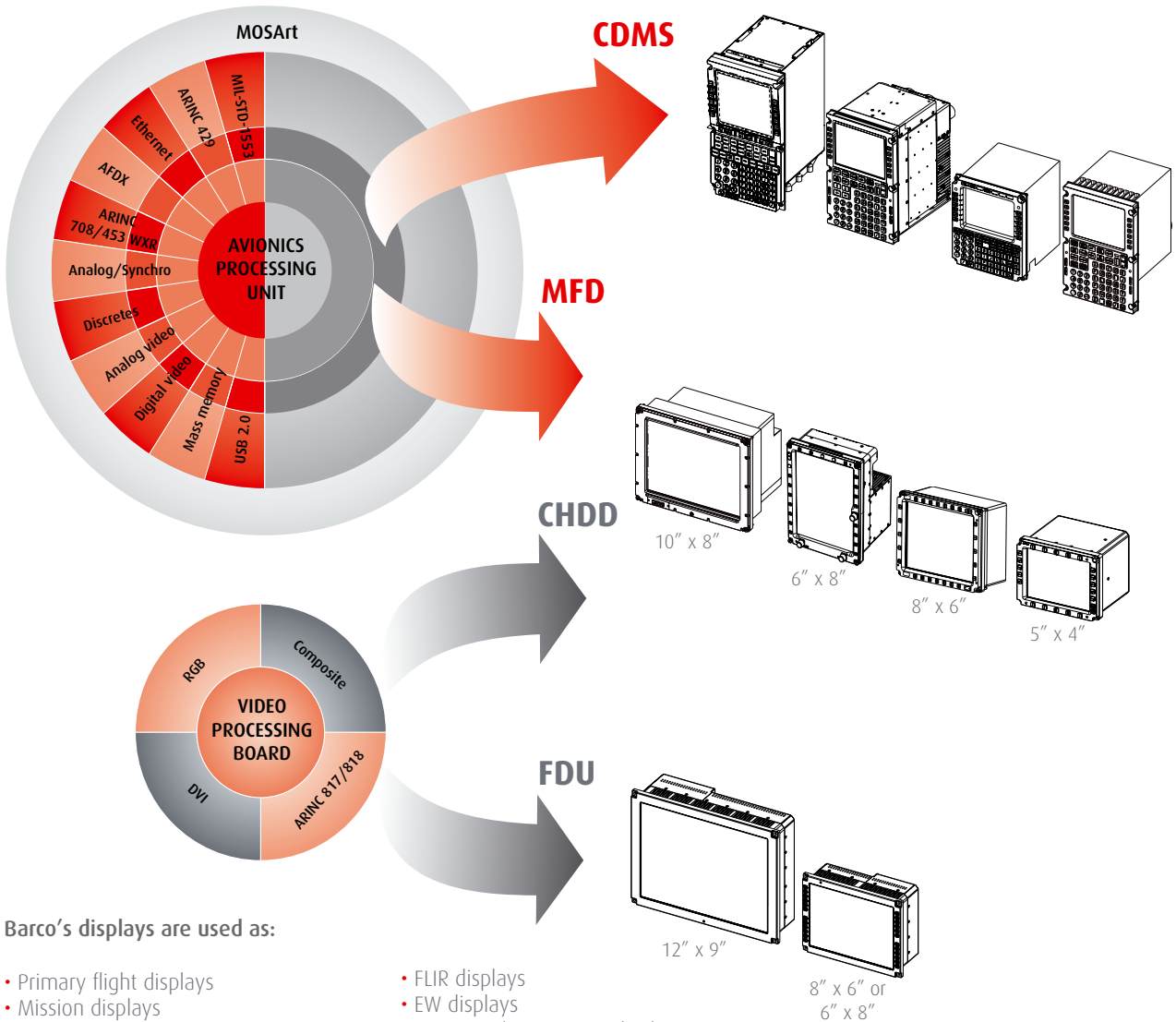
Highly Accelerated Lifetime Testing

Barco's range of avionics displays is based on common building blocks. This commonality yields a powerful and flexible architecture, with a broad catalogue of displays available in various display sizes, resolutions, display orientations, bezel keyboard functionalities and assembly types (single box or split box). Moreover, it allows for the availability of a wide range of interfaces, including certified MIL-STD-1553, ARINC429, ARINC429/708, synchro/analog and analog video as well as a mass memory storage boards and Ethernet capabilities.

Barco further extends this hardware modularity with a flexible, open MOSArt architecture, allowing system integrators to easily develop and/or integrate their own software on Barco's powerful open hardware platform.



## A full range of high-performance display systems



Barco's displays are used as:

- Primary flight displays
- Mission displays
- Engine instruments displays
- WxR displays
- Radar indicators
- MAP displays
- FLIR displays
- EW displays
- Situational awareness displays
- HUD repeaters
- EVS displays



## Avionics displays

### Video display units

Barco presents three families of advanced video display units:

- The **CHDD-2000** family is a range of leading-edge primary flight and mission displays with digital and analog video inputs.
- The **FDU-2000** family is a dedicated line of large-screen cockpit displays for business jet applications.
- The **MDU-2000** family is a line of avionics-grade displays for mission applications.



### Smart display units

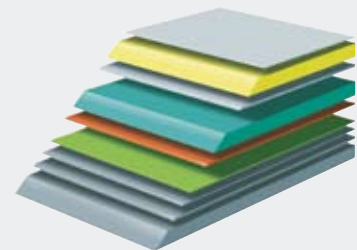
Barco's range of smart displays combines a powerful processing unit with a bright, sunlight readable Liquid Crystal Display. Advanced AMLCD technology ensures high brightness, excellent contrast and low power consumption. Various bezel options are available allowing the displays to fit into various avionics architectures for both new and retrofit aircraft.

### Electronic Flight Bag (Class III)

Barco's multi-functional Electronic Flight Bag (Class III) brings enhanced efficiency and allows for a truly paperless cockpit environment. It allows pilots to access a multitude of information sources, such as system status information, weather data, maps, charts, manuals, checklists, etc.

### LCD glass ruggedization

Barco has developed unique bonding capabilities to protect the LCDs of its display solutions against extreme environmental conditions (temperature, shock, vibration, humidity, EMI,...) and to significantly improve optical performance and protection against condensation. As a result, Barco's avionics displays perform excellently under all conditions.





## Avionics computers

### Control display units

Barco's **CDMS** is an advanced Control Display & Management Units with sunlight-readable 3" x 4" Active Matrix Liquid Crystal Display. AMLCD technology provides high brightness, excellent contrast and reduced volume with low power consumption. Different sizes of keyboard panels can be made available, allowing the CDMS to fit into various avionics architectures for both new and retrofit aircraft.

**CDMS-3000** is the next generation Control Display & Management System, featuring a pioneering 3 x 4 inch AMLCD panel with VGA resolution. Equipped with the latest display technology, the advanced CDMS-3000 combines high brightness and contrast with compact dimensions, low weight and excellent energy efficiency. The flexible CDMS-3000 can be used as a host platform for third party applications. It can also be used as a data loader via a USB or Ethernet interface.

### Certified processing unit

Barco offers a multi-capability Processing Unit (PU-2000) intended for use as a Symbol Generator in both new and retrofit EFIS installations. The unit is designed to supply Barco's CHDD-2000, FDU-2000, MDU-2000 or any other digital input display with high-criticality data, such as PFD, MFD or EID, as well as various formats of analog video.



### DO-254 compliant hardware design

To establish deployment guidelines for avionics hardware, the Radio Technical Commission for Aeronautics has developed the DO-254 standard. Barco's engineering teams apply the DO-254 guidelines throughout the development process of all avionics display solutions.





Photo US Navy - Jose E Ponce

## Avionics applications

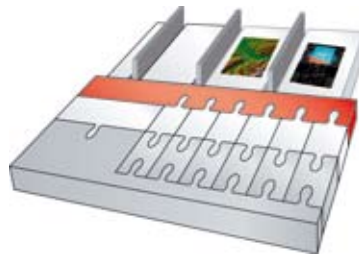
### Electronic Flight Instrument System

Barco's Electronic Flight Instrument Systems (EFIS) are flexible and affordable cockpit solutions for a wide range of airborne applications. They use automated, qualified (RTCA-DO-178B level A) software development tools, which enable easy customization to customer requirements at an affordable price. Thanks to its open architecture, Barco's EFIS can easily be integrated into a broad range of cockpit environments, ranging from fighters and turbo prop aircraft to cargo aircraft, air transport aircraft and helicopters.



### Modular Open System Architecture

MOSArt is Barco's Modular Open System Architecture for real-time avionics applications. The MOSArt architecture allows system integrators to easily develop and/or integrate their own software on Barco's powerful open hardware platform. By doing this, customers can preserve the intellectual property of their core technology (FMS, EFIS, mission computer,...). Moreover, the affordable and flexible MOSArt software platform provides optimal flexibility for manufacturer-independent future evolutions.



### Digital Map Application

D-MAP is Barco's modular mapping product range. Using its field proven avionics display systems and EuroAvionics map generating power, Barco created the world's most versatile hardware and software mapping solution. The key EuroNav software from EuroAvionics serves a complete scale of cockpit navigation needs, ranging from a standard moving map up to a full navigation and task management system.



### DO-178B compliant software design

Barco's software development process is fully compliant with the DO-178B guidelines, as specified by the Radio Technical Commission for Aeronautics. By rigorously applying these guidelines, Barco is able to provide its customers with thoroughly tested, fail-safe avionics software.



# You can find us in...

Photo US Air Force



F-35 Joint Strike Fighter



Super Puma



BE-200

Photo US Navy - Thomas Peterson



E2-D Hawkeye



TU-204



AW-101 Merlin



RC-135 Rivet Joint



PC-21



Photo US Navy - Joe Oliva

C-130



Airbus A380



Photo US Navy - Daniel J. McLain

V-22 Osprey



IL-114



PC-12



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SOKOL



Grob spn



## About Barco

Barco is a recognized international leader providing high-performance display systems and image processing subsystems for high-integrity aerospace applications. Barco offers a complete family of cockpit display products, ranging from Mission Displays up to Control Display Units and safety-critical Primary Flight Displays. Thanks to the unique MOSArt Modular Open System Architecture, Barco's solutions are easily integrated into a wide variety of new and retrofit aircraft and helicopters.

Barco's global customer base is supported by a worldwide network of research, development and support services. The company's organization is compliant with the EASA Part-21, EASA Part-145, FAA FAR-145 and AS/EN9100 certifications.

Barco  
Pres. Kennedypark 35 - B-8500 Kortrijk, Belgium  
Phone: +32 56 233 045 - Fax: +32 56 233 588  
Email: sales.aerospace@barco.com

Barco, Inc.  
3059 Premiere Parkway, Duluth, GA 30097  
Phone: +1 678 475 8000 - Fax: +1 678 475 8007  
Email: avionics.sales\_US@barco.com

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