

iG72D-SLAD

ARINC Smart Large Area Display

iWave's ARINC Smart Large Area Display (SLAD) is a high-performance cockpit display with a wide touch surface, ensuring durability and intuitive operation. It integrates sensor video with graphics, providing real-time situational awareness. Featuring an LED backlight-based AMLCD, the LAD delivers high brightness, contrast, and superior color rendering. It supports standard avionics interfaces and optimized graphics/video processing. With touchscreen support and fault tolerance, the LAD ensures reliability in critical environments. Inbuilt memory storage enables map and mission data management, making it efficient and robust avionics display solution.



Highlights

- ❖ Supports ARINC 818 Interface for Video Data Transfer with redundancy.
- ❖ Supports wide range of standard avionics interfaces.
- ❖ Supports multi-touch input.
- ❖ High brightness, contrast, and superior color rendering.
- ❖ Optimized high performance graphic and video processing.
- ❖ Compliant to MIL-STD-3009 type-2, Class-B/C and compatible with NVG gen III plus, or better goggle.

Block Diagram



Technical Specifications

FPGA	❖ Zynq Ultrascale+ MPSoC SOM
Interfaces	❖ 2 x ARINC 818 Video Input with redundancy support ❖ 2 x HDMI Video Input with redundancy support ❖ 2 x SMPTE 292/424 Connector with redundancy support ❖ 2 x ARINC 429 Connector with redundancy support ❖ 2 x Ethernet Connector for ARINC 664 Interface with redundancy support ❖ 2 x MIL-STD-1553 Connector with redundancy support ❖ 1 x USB 3.0 Connector ❖ 1 x RS-422/485 Connector and 1 x RS-232 Connector ❖ 1 x Ethernet Connector for programming and debug
Display Features	❖ Display resolution fixed to 2560×1024 Color pixels with 8-bit Color depth with touch screen interface. ❖ Capacitive Touchscreen with multiple touch inputs. ❖ Viewable area of 20" Horizontal & 8" Vertical & Diagonal 21.5". ❖ Viewing angle with horizontal $\pm 30^\circ$ and vertical $\pm 40^\circ$. ❖ Luminance characteristics with Day Mode, ABC Mode, Night Mode, NVIS Mode, Luminance Uniformity and Contrast Ratio. ❖ In built memory storage for maps and pre-flight data management for mission-critical applications. ❖ Designed for low power consumption to meet avionics system power budget constraints.
GPU	❖ Mali400 GPU
Power Input	❖ 28V
Display Dimension	❖ 20"x8"

Technical Specifications

Key Features	❖ Fully compliant with the ARINC 818 standard for digital video communication. ❖ Fully compliant with the ARINC 429 standard for data communication. ❖ Fully compliant with the ARINC 664 standard for data communication. ❖ Ensures compatibility with Avionics-based systems and adherence to industry standards. ❖ Real-time acquisition and display of multiple video streams with low-latency rendering ❖ Multi-window display with dynamic layouts such as tiled view, split-screen, picture-in-picture, and full-screen modes ❖ GPU-accelerated (Mali400) rendering using OpenGL for smooth high-frame-rate performance ❖ Native Linux support with V4L2-based video input interfaces ❖ Real-time overlay of ARINC data, status indicators and graphics. ❖ Configurable user interface for operator control and rapid source switching ❖ ARINC 818, MIL-STD-1553B, ARINC 429 and 664 sensor interfaces ❖ Touch driver for controlling multiple touch inputs.
Target Applications	❖ Avionics Display Systems ❖ ISR / Surveillance Consoles ❖ Simulation & Training Systems
Configuration	❖ ARINC 818 Resolution Configuration: 1280x1024 for LHS as well as RHS of the Display. ❖ ARINC 818 Color format, Frame Rate: RGB 888 and 60fps ❖ ARINC 818 Link Rate Support: 4.25 Gbps ❖ ARINC 664 Link Rate support: 1 Gbps ❖ ARINC 429 Link Rate support: 12.5 Kbps and 100 Kbps ❖ MIL STD 1553B Link Rate support: 1 Mbps
Operating Temperature	❖ -40°C to 71°C ¹
Relative Humidity	❖ 20% to 90% non-condensing
Standard Compliance	❖ DO-254 and DO-160

¹To maintain optimal performance under high ambient temperature conditions, system-level airflow assistance is required.

Resources

ARINC Smart Large Area Display Datasheet

ARINC Smart Large Area Display User Manual

Ordering Information

iG72D-SLAD

iWave's ARINC Smart Large Area Display with Configurable Input interfaces and touch support

Product Deliverables



Rugged Display

iWave's ARINC SLAD comes with a rugged display designed to withstand harsh conditions and also which is ready to be integrated with Aircraft systems



Mil Grade Connector Cables

iWave's ARINC SLAD comes with MIL grade connector cables designed to withstand harsh conditions which is ready to be integrated with Aircraft systems

Applications

- **Avionics :**
 - Primary Flight Display (PFD) & Multi-Function Display (MFD)
 - Mission Computer Display Systems
 - Sensor Fusion (Radar, EO/IR, Synthetic Vision)
 - Moving Map with Terrain & Navigation Overlays
 - Situational Awareness & Tactical Displays
 - Cockpit Displays (Fighter, Transport, UAV)
- **Video Processing**
 - Multi-Input Video Aggregation (ARINC 818, HDMI, DP, SDI)
 - Real-Time Video Mixing & Split-Screen Display
 - Video over Fiber & Video over IP
 - Picture-in-Picture (PiP) & Multi-Window Display
- **Industrial/Defense**
 - Rugged Human-Machine Interface (HMI)
 - Simulation Systems (Flight Simulators, Mission Training) and Test Systems (Avionics Test Benches, Hardware-in-the-Loop - HIL)

A Global Leader in Embedded Systems Engineering and Solutions

Since 1999, we have pioneered leadership in embedded systems technology, establishing ourselves as a strategic embedded technology partner for advanced solutions. Our comprehensive portfolio encompasses ARM and FPGA System on Modules, COTS FPGA solutions, and ODM solutions which include Telematics, Gateways & HMI Solutions.

Beyond our robust product ecosystem, we provide comprehensive ODM support with specialized custom design and manufacturing capabilities, enabling customers to accelerate and optimize their product development roadmaps. With a strategic focus on industrial, automotive, medical, and avionics markets, we deliver innovative technology solutions to global clients.

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