SOLUTION BRIEF

Intel IoT
Mini OPS
Digital Signage

Next-Generation Commercial Displays

Mini OPS Enables Compact and Energy-Saving Digital Signage Computing

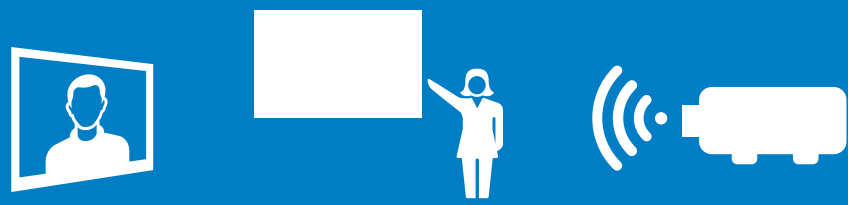
Mini OPS allows system integrators and display providers to create new experiences and bring innovative solutions to market.

The Mini Open Pluggable Specification (Mini OPS) brings market-ready innovation opportunities to digital signage—enabling new low-power, energy-efficient, compact form factors. Mini OPS allows the industry to take advantage of an exciting evolution in slimmer, power-efficient digital screens and meet the needs of customers from retail to education.

The Open Pluggable Specification (OPS) introduced by Intel in 2010 quickly became the standard worldwide with solutions in-market from more than 40 manufacturers. The Mini OPS standard expands the range of systems and user experiences for digital and commercial displays, while bringing new features, including:

- **Fanless design:** Increases reliability and reduces moving parts, even in the smallest systems.[1]
- **Small:** Supports new form factor solutions, at almost half the size of OPS dimensions, and is LEED compliant.
- **Lower build-of-material (BOM):** Helps reduce manufacturing costs with its small scale and no wrapper.
- **Innovation roadmap:** Offers the performance and advantages of the latest low-power, cost-effective Intel® processors.
- **New pluggable connectors:** Supports high-speed transmission, such as 4K displays with stunning images.
- **Energy-efficient:** Reduce energy costs with low-power, green solutions.

WHAT CAN YOU CREATE WITH MINI OPS?



Digital signs

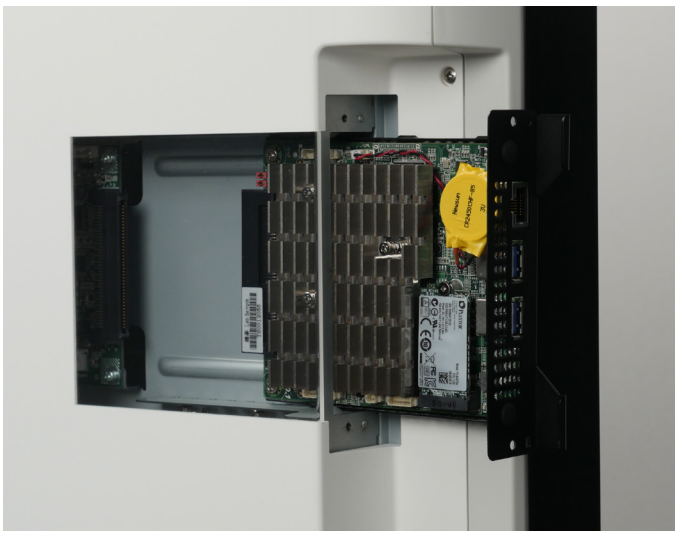
Interactive displays and whiteboards

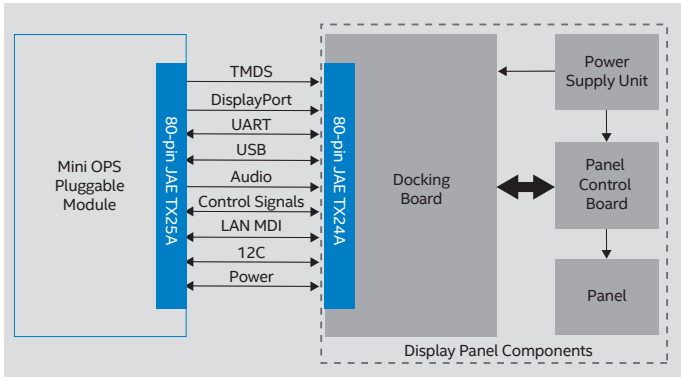
Projectors

SHARP

Sharp Takes Mini OPS Opportunity to Market

Sharp Electronics Corporation is basing its Next-Generation Digital Signage Platform* architecture on Mini OPS to provide a wide range of compact, energy-efficient, open platform solutions for both interactive integrated touch and non-touch professional displays. Partnering with AOPEN, Sharp is planning a Mini OPS professional-grade computing module for digital signage commercial applications. There are also plans for utilizing the Mini OPS to provide advanced connectivity and cross-platform wireless functionality with mobile devices. Sharp is realizing the benefits of the Mini OPS, including simplified digital signage development and deployment, low power, reliability, and a validated compact, fanless design. The open architecture is enabling Sharp to design and deliver industry-leading solutions and an optimal experience—from LEED compliance to support for Windows* 10 Enterprise.





Open Architecture

The open architecture of the Mini OPS supports flexible design: it is ideal for integration into displays, while simplifying digital signage installation, usage, maintenance, and upgrades. Because the specification is modular and based on the Intel® CPU, the chassis and its associated costs are eliminated, along with all cables (power, display, HDMI, VGA).

Modularity also provides a competitive advantage for future-proofing technology investments—media players and screens can be upgraded independently.

Mini OPS comes with a new connector supporting higher-resolution interfaces, without limiting interoperability. These JAE TX25A Plug and JAE TX24A Receptacle Connectors bring the improved performance and high-transmission support required for 4K displays.

Reduce Design, Manufacturing, and Energy Costs

Solutions based on the Mini OPS provide ease of use combined with cost savings:

- Smaller media player footprint means no cables or external power supply are needed.
- Low power consumption translates into low electricity bills for systems deployed with Mini OPS, reducing operational cost.
- Validated fanless design increases system reliability.
- Modularity and ease of installation help lower digital signage maintenance costs and improve field service team productivity.

Expanded Specification. Exceptional Flexibility.

Compare the OPS and Mini OPS

	OPS	Mini OPS
Dimension (mm)	X=180, Y=119, Z=30	X=103.6, Y=119, Z=<30 (30mm for I/O panel only)
Physical form factor	With wrapper chassis	Without wrapper chassis
Platform power targets	CPU: 45W and below Targeting <70W platform power	CPU: 15W and below Targeting <30W platform power
Interface via 80-pin JAE connector	Power TMDS Audio USB 2.0/3.0 UART OPS control signals Reserved pins	Same as OPS Reserved pins used for (optional): • I2C • LAN MDI • IR • Force reset
Thermal specification	Up to 45°C operating temperature Validated fan design (up to 45W CPU)	Up to 45°C operating temperature Validated fanless design (6W CPU and below) Active-cooling design (up to 15W CPU)
Targeted applications	>30" digital signage displays >60" interactive whiteboard Installation projector	Thinner/power-efficient DS displays Interactive whiteboard Standard projector

Ready for Innovation

Small form factors, green technologies, simplified installation, and user-friendly design are some of the key factors businesses, educators, retailers, and other industries seek in their display solutions.

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Learn More

Mini Open Pluggable Specification (Mini OPS) for digital signage: intel.com/miniops

JAE TX25A Plug and TX24A Receptacle Connectors

Open Pluggable Specification (OPS) for digital signage: intel.com/ops

Sharp Professional Displays: siica.sharpusa.com

1. Validated fanless design is only for CPU with TDP ≤ 6 watts.

Intel® technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer or learn more at intel.com.

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