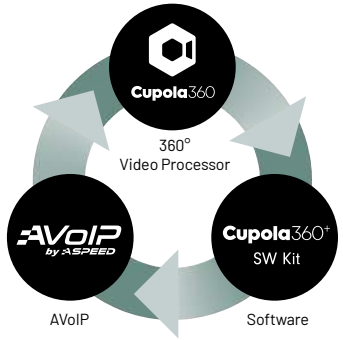
SMART AV SOLUTIONS

Creating Immersive and Interactive
Experiences in Real-Time

SMART AV SOLUTIONS

With the rise in demand for live streaming audiovisual content for diverse scenarios from office, factory floor to a variety of fields, ASPEED is committed to delivering optimal immersive and interactive experiences, making them more realistic and engaging. ASPEED's Smart AV Solutions include Cupola360 Spherical Image Processors, Cupola360+ Software Kit and AVoIP Processors.



The Cupola360 processor family designed with innovative in-camera image stitching technology along with Cupola360+ Software Kit provides a total solution for real-time 360-degree panoramas, perfect for video conferencing, virtual factory tour, inspection and audit, education, touring, and many more.

ASPEED's AVoIP solutions offer audio/video extension over standard ethernet cables for applications such as PC-to-TV, PC centralization for Internet Cafes, and Enterprise PC over IP. They can be integrated with Cupola360 to create a next-generation approach for command and control—a war room of seamless immersion for the markets of corporate, manufacturing, video surveillance and so on. With the optimized combination of Cupola360 and AVoIP processors as well as Cupola360+ Software Kit, ASPEED's total solution enables customers to realize smart AV applications easily and efficiently.

Cupola360 Spherical Image Processor

360-Degree • Immersive • Real-Time

Cupola360

- **Real-time in-camera image stitching technology**
- **360° live streaming**
- **Creating panoramic views seamlessly and instantly**
  - Large-scale
  - Optically perfect
  - Ultra-high resolution

Product	Features
AST1230 Multi-Cam Spherical Image Processor	• **2nd Generation of ASPEED ISP Engine Technology** - Advanced noise reduction - Perfect lens shading compensation - Supporting dual-exposure DOL HDR - Edge enhancement • **2nd Generation of ASPEED Image Stitching Processor** - Enhanced geometry stitching - Dynamic luma and chroma aberration correction - In-chip perspective projection - Full size zoom • **High-performance Audio Processing** - AGC, AEC, DOA - Noise reduction - Beam forming • **Advanced People AI Detection & Tracking**

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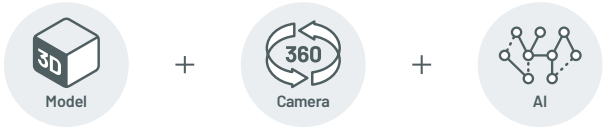
Cupola360+ Software Kit

Customized Platform • Optimized UX • Diverse Applications

- **Dedicated software tailored to 360° cameras powered by Cupola360**
- **Creating superior real-time immersive experience**



Solving Technology Challenges of 360° Real-time Image Stitching

- Aligning multiple images
- Correcting parallax
- Handling moving objects
- Stitching high-resolution images
- Optimizing real-time performance
- Combining images with different exposures

Smart360X Scenarios

Manufacturing

Education & Training

Tourism

Real Estate

Retail

Public Utilities

Events & Entertainment

Remote Communication

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AVoIP

Unlimited Extension • Lossless Quality • Low Latency

- **Dante AV-A Powered by ASPEED AST1530/1535 & Dante**
  - Advanced AVoIP solution co-developed by ASPEED and Audinate
  - Official Dante technology for ASPEED's AST1530/1535 platform
  - Delivered unlicensed as part of the ASPEED SDK, available to any OEM / ODM
- **Application scenarios**
  - Command centers / Control rooms
  - Conference rooms
  - Lecture halls
  - Court rooms
  - Sports bars

Product	Features
AST1530 **AST1535** 4K60 AV-over-IP Matrix Video Wall Processor	• **HDMI2.1 AVoIP SoC** • **4K2K60 resolution** • **HDR10/10+** • **Supports Dolby Vision with HDCP 2.2/2.3** • **Video wall rotation (90°, 180°, 270°)** • **Video preview sub-stream (MJPEG)** • **USB2.0 over IP, supporting bulk and isochronous webcam devices** • **KM over IP roaming** • **Audio return path** • **AES256 encryption**
AST1630 4K60 AV-over-IP Extender / Splitter	• **HDMI2.1 AVoIP SoC** • **4K2K60 resolution** • **HDR10/10+** • **Supports Dolby Vision with HDCP 2.2/2.3** • **USB 2.0 over IP, supporting bulk, interrupt and isochronous USB devices** • **AES256 encryption**

About ASPEED Technology

Founded in 2004, ASPEED Technology Inc. is a leading fabless IC design company headquartered in Hsinchu, Taiwan. With a focus on niche markets, ASPEED specializes in Cloud & Enterprise Solutions, including Baseboard Management Controller (BMC) SoC, Bridge IC, and PFR SoC, and Smart AV Solutions, including AVoIP SoC, Cupola360 Spherical Image Processor and Cupola360+ Software Kit.

ASPEED is devoted to developing innovative technologies in order to quickly respond to customer needs. In 2016, ASPEED acquired Broadcom's Emulex Pilot™ remote server management chip business and it's currently the world's No. 1 BMC SoC provider. Also, ASPEED expanded its product portfolio by launching Cupola360 Spherical Image Processor and Cupola360+ Software Kit in 2018. Recognized as a trusted and reliable partner for customers, ASPEED has been awarded "Forbes Asia's 200 Best Under a Billion" for nine consecutive years since 2014.

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AVoIP by ASPEED X Dante AV-A™

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