Your Best IP Partner

Founded in 1993, CAST continues to thrive as the longest-running—and most experienced—independent IP supplier. Our years of work to perfect IP reuse, improve IP quality standards, and refine sales and business practices yield a product line and a partner that offer unique benefits for you today and in the future.

Simple, Flexible Licensing

We help you get to work quickly, with fine-tuned project options and licensing terms that ensure smooth legal sign-off. Most CAST IP is available royalty-free, and extremely cost-effective.

Application Area Experts for the Best IP Possible

Our experienced internal engineering team develops cores, subsystems, and reference designs. We also cultivate enduring relationships with technology experts around the world, and work with them to give you the very best IP in every application area we cover.

The Most Experienced IP Sales and Support Team

The sales and support pros within CAST have helped customers choose and successfully deploy IP for over twenty years. Together with our regional sales partners, we make sure you have an excellent IP ex-perience, from your first consideration of what core you might need through IP integration and testing and on to the successful completion and shipping of your finished product.

Find Out More

See how you can start benefitting from CAST IP today. Review extensive product info on our website, then contact Sales to get started.
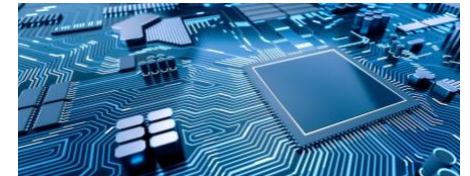
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info@cast-inc.com
+1 201.391.8300

CAST

IP Cores for ASICs & FPGAs
A Better IP Experience

8- and 32-bit processors for embedded applications

Lossless compression for data-heavy systems; Un-matched image & video IP

Automotive and industrial interfaces, leading-edge through conventional

Peripheral device controllers and pre-integrated AMBA® subsystems for rapid design

System-level security and cryptographic functions for essential product protection

Delivering a Better IP Experience Since 1996

CAST focuses entirely on silicon intellectual property. We develop, aggregate, and support digital IP, delivering proven products that save system designers time and money.

Diverse IP Offerings

Our product line can satisfy many of your IP requirements, ranging from leading-edge new cores to reliable standards-based functions. These are available in synthesizable RTL for ASICs or as netlists targeting popular FPGAs and structured ASICs.

Easy to Use and Integrate

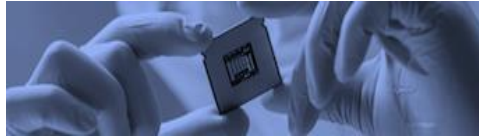CAST IP is designed to be easy to use and straightforward to integrate and verify.

Deliverables include high-quality code, documentation, and development aids like simulation models, test cases, processor debug interfaces, and IDEs. Reference designs simplify pre-sales evaluation, and Verification IP (VIP) is available for many cores.

Proven, Low-Risk Products

Our quality standards are high, and all our IP undergoes extreme testing before it gets to you. We conduct rigorous internal testing, participate in industry collaboration plugfests, and partner with popular semiconductor companies to ensure proper functioning and smooth integration. Our practices have been tested and proven over time, as we have helped thousands of customers ship billions of units in hundreds of application areas.

RISC-V Embedded Processors

BA51 32-bit Low-Power

EMSA5-FS 32-bit, Functional Safety

ISO 26262 ASIL D

BA2x™ 32-bit Processors

Application Processors
- 7/12-Stage Out of Order Completion
- 5-Stage In-Order, Basic

Embedded Processors
- 5-Stage Cache-Enabled
- Deeply Embedded: 4/5-Stage, 2-Stage Low-Power, 1-Stage PipelineZero™

IDE, Debug Key, Eval Kit, Boards

8051-Compatible Microcontrollers

8-bit 8051s
- Super-Fast, Advanced; Fast, Tiny; Fast, Mature; Legacy-Configurable

16-bit 80251s
- Super-Fast; Tiny

Debug Key, Eval Kit, Boards

Outstanding Support

CAST IP comes with some of the best customer support in the industry. Our goal is to help you succeed, not just sell you IP, and we have the experience and resources to make that happen.

Lossless Data Compression

GZIP/ZLIB/Deflate Compressor

GUNZIP/ZLIB/Inflate Decompressor

Lossless Image Compression

QOI Quite Okay Image format
- Encoder & Decoder

PNG Encoder & Decoder

JPEG-LS Encoder & Decoder

JPEG Image Compression

JPEG Encoders & Decoders
- Low-Power, Extended, Ultra-Fast

Subsystems
- RTP Hardware Stack for JPEG
- Motion JPEG over IP Subsystem

Video Compression

H.264/AVC Encoders
- Low-Power through High-Performance
- Scalable 1080p & UHD/4K–8K
- Intra-Only options

H.264/AVC Baseline Decoders
- Low-Latency & Low-Power

H.265/HEVC Decoder

Platforms & Companion Cores
- Video Over IP Encoder & Decoder
- RTP Stacks for H.264 Encapsulation

Interfaces

Automotive Bus Controllers
- CAN 2.0/FD/XL/TTCAN: Controller & VIP; CANsec
- TSN Ethernet: Endpoint, Switch, Switched Endpoint & VIP
- SENT and LIN
- Low-Latency eMAC with 10BASE-T1

ISO 26262 ASIL D

IP Stacks
- TCP/IP 1G/10G
- UDP/IP: 100G, 40/50G, 10/25G, 1G
- Ethernet MACs: 1G, Low-Latency

MIPI Controllers
- SPMI Master/Slave; I3C Slave

PCI Interfaces
- Target, Master & Host Bridges

Peripherals

Serial Communications
- SPI M/S: Single, Dual, Quad & Octal
- I2C/SMBUS, UARTs, HDLC/SDLC

Memory Controllers
- xSPI, HyperBus, Xccela, PSRAM
- Cache, SRAM, ECC

Other Peripherals: Smart Card Reader, DMAs, Timers, Real-Time Clock, GPIO

AMBA® Subsystems
- AHB & AXI Multi-layer Interconnect
- Bridges to APB

Security

SoC Security
- GEON Secure BA2x Processor
- GEON-SoC Hardware Root of Trust

Encryption Primitives
- AES: CCM, GCM, XTS, KEXP
- Keccak/SHA-3, SHA-256, MD5