CAST is a 20-year-proven IP developer, aggregator, and integrator, with 1,900 IP sales to 800 different customers.

We focus on the key needs of modern system designers: mainly microcontrollers and processors, and video and image compression. We also provide the graphics, peripherals, interconnects and other functions needed to build complete systems, alone or integrated in subsystems with our other cores.

All the IP we offer is designed to make system integration and debugging straightforward, and we package every product with complete deliverables that help ensure easy and successful reuse.

All the products we offer are available without royalties. Simple and attractive licensing further ensure the cost-effectiveness of the IP cores and subsystems you get from CAST.

Our engineering, sales, and support teams are among the most IP-experienced in the world. We not only build and deliver great products, but we work hard first to make sure you buy the best IP for your needs, then to help you succeed in using it.

Expert Technology Partners Develop the Best IP Possible

We 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.

IP Sales Partners Speak Your Language

All our regional sales partners speak “IP.” They work with you and the sales and support pros within CAST to make sure you have an excellent IP experience, from your first consideration of what core you might need through the successful completion and shipping of your finished product.

Customer Comments

“The CAST CAN core has been successfully integrated into our new night vision camera product which have been already shipped to one of our customers. The configuration of the core you have provided fit perfectly with our requirements so we decided to use it as is without any modification. Overall, I think that the core’s performance was excellent, while the detailed documentation contributed a lot to the fast integration of the core into our system.”

— Nikos Vassiliadis, Electronics Engineer, Theon Sensors

CAST’s 8051 controller offered the best combination of features, performance, and terms that we could find. The proven track record of both the 8051 core and the support team at CAST give us great confidence as we pursue this next great engineering challenge.

— Emad Afifi, Vice President, Engineering Ensphere Solutions

“The IP-core is well documented and has fulfilled our demands in all aspects of quality, performance, efficient usage of FPGA resources as well as configurability.”

— Erik Larsson, Product Mgr. for Video & Sensor Solutions, Kapsch TrafficCom

CAST is the highest performance per energy or area

Embedded GPU

The fastest-available 8-bit 8051 MCU

The most code-dense and system-wide low-power 32-bit MPUs

The lowest-latency H.264 Video Encoder

The first-to-ship CAN FD Bus Controller
IP Cores and Subsystems for SoCs in ASICs & FPGAs

Ready-to-Use Deliverables
CAST IP products are available in synthesizable source code for ASICs or as netlists for FPGAs. Deliverables include everything needed for successful development: documentation, scripts, testbenches, and more. Functional models and prototype boards are options for many cores. Reference design boards for processors, video and image compression, and others help you try these cores before buying.

BA2x 32-bit Processor Family
The BA2x Family gives you a range of smart, royalty-free choices that feature:

- Extreme code density,
- Very low power usage, and
- Competitive or better speed and area.

Video & Image Compression Cores
We offer more choices in lossy and lossy compression than any other provider, and an experienced technical and sales team that can help you choose and use the best codec for your specific project. Our uncompromising H.264 video encoders produce superb-quality video with great efficiency and economy, even offering the lowest video latency available anywhere. Still image options range from the sophisticated, flexible JPEG 2000 to a suite of workaday JPEG encoders. Choose the right video or image codec core by itself, or get a bigger productivity boost using your pre-integrated IP subsystems like this H.264 HD Video Over IP platform.

Controller & Processors

- **BA2x 32-bit Processors**
  - Application Processor BA25 Full
  - Embedded Processor BA22-RT Real-Time
  - BA22-DE Deeply
  - BA21 Low Power
  - Dev & Debug Packages

8051 Compatibles
- 8051 super-fast
- 8051 fast, mature
- 80251 16-bit, faster
- Dev & Debug Packages

Graphics & Peripherals

- **Graphics Processors**
  - Nema Embedded GPU
  - OpenCL, OpenGL ES
  - OpenVG GPU
  - 2.5D Accelerator

- **Display Controllers**
  - Multilayer LCD

- **NOR Flash Controllers**
  - Serial/SPI
  - Parallel

- **Device Controllers**
  - Smart card reader

- **Network Stacks**
  - 1G/10G UDP/IP
  - RTP

- **AMBA Infrastructure**
  - AMBA 2.0 Cores
  - AHB 32-bit DMA

- **Legacy Peripherals**
  - DMAs: 8237, 82380
  - UARTs: 16450S, 16550S & 16750S
  - Timer/Counter: 8254

Video & Image Comp.

- **H.264/AVC Video**
  - High, Main, & Baseline Profile Encoders
  - Video Decoder
  - H.264 Platform
  - Hardware RTP Stack Subsystems & Platforms
  - H.264 App. Platform
  - H.264 Video Over IP

- **JPEG 2000**
  - Encoder
  - Application Platform

- **JPEG**
  - Encoder, Decoder, Codec
  - Scalado Encoder
  - 12/8-bit Extended Encoder, Decoder

- **Lossless Compression**
  - LJPEG Encoder & Decoder
  - JPEG-LS Encoder

Security & Encryption

- **AES**
  - Programmable
  - Optimized 32-, 128-bit data path
  - GCM

- **DES**
  - Single, Triple

- **Other**
  - MDS Processor
  - SHA-1 & SHA-256

Interconnects

- **DisplayPort**
  - Transmitter, Receiver

- **Ethernet MAC**
  - 1G eMAC Controller

- **PCI Express**
  - Controllers: x1 & x4, x8
  - Application Interface

- **PCI**
  - Target, Master & Host Bridges

- **CAN**
  - CAN 2.0/ FD Controller

- **I2C**
  - Master, Master/Slave

- **LIN**
  - LIN Controller

- **Data Link Controllers**
  - SDLC & HDLC
  - SPI Master/Slave, Quad

Reference design systems like our Graphics-on-Zynq® Xilinx Platforms combine CAST IP with working boards and software to facilitate IP evaluation or early software development. Fast JTAG or single-wire pods enable cost-effective software debugging.

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