

AMD-8111™ HyperTransport™ I/O Hub



Data Sheet

The AMD Athlon™ 64 and AMD Opteron™ processors power the next generation in computing platforms, designed to deliver the ultimate performance for cutting-edge applications and an unprecedented computing experience. The AMD-8000™ series of chipset components is a highly integrated system logic solution that delivers enhanced performance and features for the AMD Athlon 64 and AMD Opteron processors.

The AMD-8111™ HyperTransport™ I/O hub includes the following features:

- **HyperTransport Technology Link**
 - Supports up to 800 megabytes per second of total bandwidth, using 8-bit HyperTransport input and output links running simultaneously with a 200 MHz (double pumped) clock
 - Supports multiple bit widths, including eight bits, four bits, and two bits (input and output)
 - Supports a 200-MHz (double pumped) HyperTransport clock
- **PCI Bus**
 - Utilizes a 33-MHz, 32-bit interface
 - PCI version 2.2 compliant
 - Includes PCI bus arbiter with support for up to eight external devices
- **AC '97 Support**
 - AC '97 version 2.2 compatible
 - Soft modem and 6-channel soft audio interface
- **Advanced Communication Riser (ACR) Rev. 1.0 Support**
- **Ethernet LAN Controller**
 - 10/100-Mbit/s
 - Uses MII interface to connect to the Ethernet PHY
- **System Management Bus**
 - One System Management Bus 1.0 host controller
 - One System Management Bus 2.0 host controller
- **USB Support for Six Ports**
 - USB 1.1 support provided by two OHCI-based USB hosts, each supporting three ports
 - USB 2.0 support provided by one EHCI-based host, which supports all six ports
- **Enhanced IDE Controller**
 - Support for a primary and a secondary dual-drive port
 - PIO modes 0–4, multi-word DMA modes 0–2, UDMA modes 0–6 (through to ATA-133), and ATAPI
 - Two independent controllers for DMA accesses
- **LPC Bus**
 - Connects peripherals such as super I/O and BIOS
- **High Precision Event Timer**
 - Supports one 32-bit counter with one periodic and two non-periodic timers
- **Serial IRQ Protocol**
- **Extensive ACPI-Compliant Power Management**
 - Programmable C2, C3, power-on-suspend, suspend to RAM, suspend to disk, and soft off states
 - Throttling
 - Device monitors
 - Hardware traps
 - System inactivity timers
- **Thirty-Two General Purpose I/O (GPIO) Pins**
 - Many are multiplexed with other hard-wired functions
- **Privacy/Security Logic; ROM Access Control**