

High-Performance, Low Power

Highly Integrated, Highly Versatile



Objective

A high-performance, low power, highly integrated, highly versatile platform solution that enables the rapid development of advanced access equipment, such as Wireless Access Points, Gateways, IAD, Cable MTA, High-End SoHo Routers, and IP-PBX.

Overview

Leveraging the power of the AMD Alchemy™ Solutions Au1500™ processor, AMD Flash memory and AMD Alchemy Am1772™ Mini PCI Reference Design Kit (RDK), the AMD Alchemy Solutions Access Equipment RDK can provide communications companies with a truly versatile platform that can help to bring to market a variety of equipment capable of bringing rich multimedia content and applications into the home or office. Designed to promote the rapid development innovative solutions, the Access Equipment RDK includes all the necessary hardware and software needed to begin development.

The Access Equipment RDK comes from our relentless focus on meeting the needs of our communication equipment design engineer partners. As a leading provider of technology that enables the development of next-generation access devices, AMD has created a truly versatile, small form-factor, low power solution optimized to help lower overall system production cost and reduce time to market.

Highlights

The AMD Alchemy™ Solutions Access Equipment RDK has been optimized to help:

Reduce Time to Market

As a complete solution that includes both a hardware platform and a complete software protocol suite that supports variety of functions, the Access Equipment RDK can help greatly speed up the development process.



The software includes complete, full-featured TCP/IP and other protocol suites that allow broadband sharing, security, content filtering, high-end firewall, and VPN support.

A Flexible Modular Design

The Access Equipment RDK is based on a motherboard plus PCI card concept. The motherboard has the Au1500 processor, AMD Flash memory, and multiport Ethernet switch that function as both WAN and LAN, USB host and RS232 port. Any additional functionality then can be added via PCI card. For example, one can add additional WAN (Cable, xDSL), LAN (802.11x wireless Ethernet), voice telephony, storage (hard drive), and a video card.

Processor Headroom

The RDK is based on the high-performance Au1500 processor operating at 333–500MHz. This allows the processor to do multiple tasks (high throughput) with ease and with ample headroom to handle additional functions that may be added in future.

Low Overall System Cost

The PCI-based system allows the design engineer to optimize the cost of the system by only adding functionality that is truly needed. By having a common base design it also minimizes manufacturing cost.

AMD Alchemy™ Solutions Access Equipment Reference Design Kit

At a Glance

The Highly Integrated AMD Aul500™ Processor

- A High-Speed MIPS32™ CPU Core Operating at 333, 400 or 500MHz
 - 16KB instruction and 16KB data caches
 - 1.5–1.8V Core, 3.3V I/O
- Highly Integrated System Peripherals
 - 33/66MHz 32-bit PCI controller
 - Two 10/100 Ethernet controllers
 - USB device and host
 - PCMCIA controller
- High Bandwidth Memory Buses
 - 100/125MHz SDRAM controller
 - SRAM/Flash EPROM controller

The AMD WLAN Mini PCI Reference Design Kit (Optional)

- Based on AMD Alchemy™ Solutions Aml772™ Wireless LAN Chipset (Aml770™ RF Transceiver and Aml771™ BB/MAC)
- Seamless Interoperability with 802.11b Wi-Fi Certified Devices
- Type IIIb Mini PCI, Single Sided
- Low BOM and Reduced Test Time
 - Unique two-chip solution that eliminates the need for SDRAM, Flash memory, and external radio circuits

The Aul500™ Processor Board

- 5 Port 10/100 Mbit Ethernet Switch
 - ICs can be eliminated if high-count port is not required
- Optional Safenet Security Co-processor—SafeXcel-I741
 - For high-end wired line security
- SDRAM
 - 64MB, 133MHz
 - Large size of SDRAM is for evaluation purposes only
- Flash Memory
 - 16MB - AMD AM29LV640MH90REI
 - Large size of Flash memory is for evaluation purposes only

Operating System Support Plus

- Current
 - Linux - Ashley Laurent and Metrowerks
- Future
 - Linux - WIPRO
 - Vx Works - Windriver-THG

Board Dimensions

- 6x7 inches

About AMD

Founded in 1969 and based in Sunnyvale, California, AMD (NYSE: AMD) is a global supplier of integrated circuits for the personal and networked computer and communications markets with manufacturing facilities in the United

States, Europe, Japan, and Asia. AMD, a Standard & Poor's 500 company, produces microprocessors, Flash memory devices, and silicon-based solutions for communications and networking applications.

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