ADSL Client Access Device

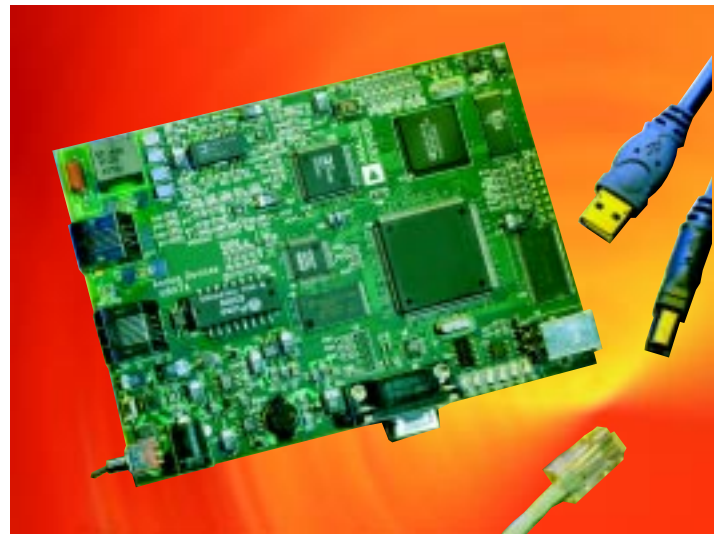## High-Performance External ADSL Residential Access Device (RAD)

The Analog Devices USB/Ethernet RAD introduces multiple operating options for the end user, which optimizes the versatility of residential and small business networks.

THE HIGH-PERFORMANCE ETHERNET/USB EXTERNAL SOLUTION FOR ADSL ROUTER AND MODEM MANUFACTURERS

The Analog Devices-Virata® ADSL Residential Access Device is a high-performance ADSL access device enabling externally connected high-speed data communications in a small business or residential network. It offers router and modem manufacturers an enhanced communications solution using existing telecommunications networks.

The standards-compliant Analog Devices-Virata ADSL Residential Access Device provides industry-leading interoperability with DSL access networks worldwide. It operates in both Full-rate and Lite ADSL modes.
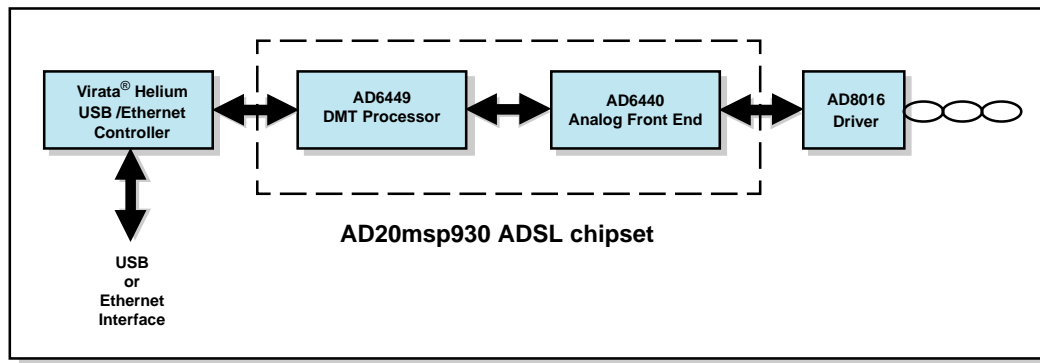
The solution combines Analog Devices' industry-leading analog and mixed-signal integrated circuits with Virata's leading Asynchronous Transfer Mode (ATM) Communications Processor to offer unparalleled data transfer rates and connectivity for residential and small business networks. The solution is Voice over DSL capable using off-the-shelf third-party software. Planned future enhancements include integrated Voice over DSL (Voice over ATM and Voice over IP).

FEATURES

- External access device/gateway, PCB size < 4 x 5.5 inches

- Power Requirements: 1.5 A @ 5 V

- Standard 10BaseT Ethernet RJ-45 and USB 1.1, series B receptacle

- Major components: Analog Devices AD20msp930 chipset comprised of AD6449 and AD6440, AD8016 Line Driver, AD8022 Receiver, and Virata® Helium communications processor.

- Compliant to ITU, DSL Forum, ATM Forum, IETF, and PC2001 specifications

- ADSL-compliant with ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) including Annex B (ADSL over ISDN) and G.992.2 (G.Lite) with fast retrain in G.Lite mode, and ETSI TR328 standards

- Software support for PPTP, L2TP, SNMP, TFTP, Telnet, and ATM pacing, policing, and OAM

- Protocol support for RFC 1577 (now part of RFC 2225 Classic IP over ATM), RFC 2364 (PPP over ATM), RFC 2225/2684 (IP over ATM: Bridged Ethernet/Routed IP) and native mode ATM.

- Supplied device drivers support the world's most popular operating systems, Microsoft Windows® NT, 98 and 2000

- Operating temperature 0°C – 70°C

ANALOG DEVICES

Residential Access Device (RAD) Functional Block Diagram

SOFTWARE SPECIFICATIONS

The supplied device drivers and software are compatible with Microsoft Windows® NT, 98, and 2000. A simple graphical user interface allows for easy setup, device driver installation and configuration. An application program is included for diagnostics and performance monitoring. Feature enhancements are accomplished by simple firmware upgrades. The software supports the following protocols: RFC 1577 (now part of RFC 2225 Classic IP over ATM), RFC 2364 (PPP over ATM), RFC 2225/ 2684 (IP over ATM: Bridged Ethernet/Routed IP) and native mode ATM. The device driver is NDIS 4.0- and NDIS 5.0-compliant.

STANDARDS COMPLIANCE

The hardware and software complies with a variety of standards and specifications including those from ITU, ANSI, ETSI, DSL Forum, ATM Forum, IETF, and PC2001. The ADSL physical layer is compliant with ANSI T1.413 Issue 2, ITU G.992.1 (G.dmt) including Annex B (ADSL over ISDN), and G.992.2 (G.Lite) with fast retrain in G.Lite mode, and ETSI TR328 standards. ATM AAL0/5 hardware and software complies with ATM Forum UNI 3.1, ITU-T I.356, I.362 and I.363, ATM signaling is compliant with ITU-T Q.2931 and Q.2971, and OAM traffic handling adheres to ITU-T I.311, I.371, and I.610 standards. The USB controller complies with USB 1.1 specifications.

NEW PRODUCT R&D

Analog Devices is constantly working to develop new products that meet the changing needs of the telecommunications infra- structure. Research and development have enabled this product to address the need for compact, lower power consumption subscriber equipment, ATM handshaking with backbone switches and routers, and nonstandard symmetric data capable systems up to 1.544 Mbps.

REFERENCE DESIGNS AND TECHNICAL SUPPORT

Analog Devices—the company with a legacy in high- performance DSP, analog, and mixed-signal processing—has the design expertise and in- house manufacturing processes to give your next- generation ADSL product the support and technical backing it deserves. We provide a full range of support for modem manufacturers, including a fully functional reference design complete with PC board layout, schematics, and off-the-shelf component lists. Documentation includes detailed data sheets and application notes. Online applications assistance is available over the phone. Product demonstrations can be arranged at your facility or at one of ADI's many sales offices. Analog Devices is a semiconductor supplier with a consistent record of depend- able, on-time delivery. We maintain full control over the manufacturing process from raw wafer to finished product, and we have ample capacity for high-volume production.

Reference Design Package:

- ADI/Virata® ADSL modem evaluation board
- Schematics
- Board layout
- Bill of Materials
- Documentation
- Software
  - Install program
  - Configuration tools
  - NDIS5 USB device driver
  - Firmware for AD20msp930 ADSL chipset
  - Firmware for Helium USB/Ethernet controller
- Full support for hardware and software during development phase

FIRST TO MARKET

While other vendors scramble to develop standards- compliant ADSL solutions, Analog Devices has everything you need now, off the shelf. From full-featured DSP to analog and software. We meet the needs of today's broadband wired and wireless markets with leadership in analog, digital, mixed-signal process- ing, RF signal processing, data conversion, interfacing, and total system design. So if time to market is important to you, it's time to connect with Analog Devices.

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