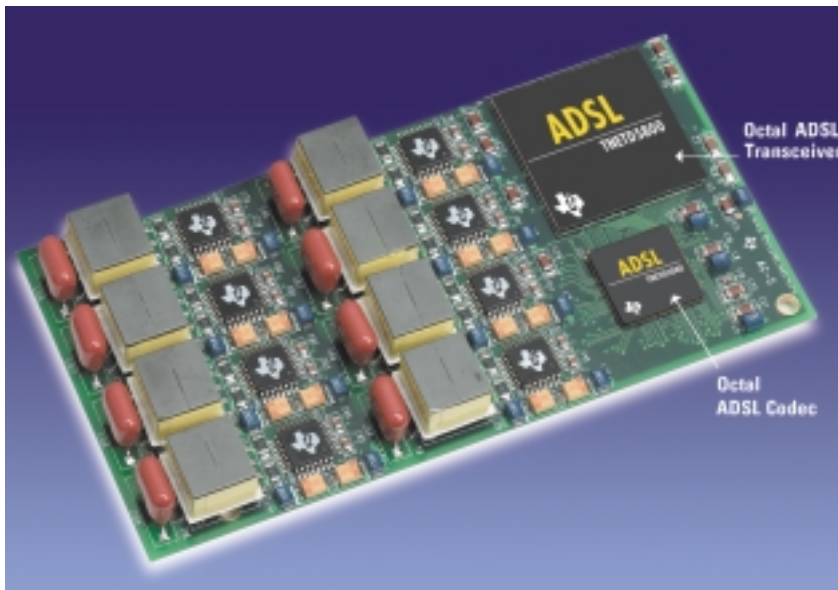


Product Bulletin

# AC5 Octal-Port Central Office ADSL Chipset



New AC5 board layout represents 8 channels of full-rate ADSL.

New from Texas Instruments (TI), the AC5 octal ADSL chipset once again redefines the potential of central office (CO) Asymmetric Digital Subscriber Line (ADSL) equipment. Leveraging TI's four previous generations of advanced programmable DSP-based ADSL products, this highly integrated solution achieves the lowest power consumption per channel of any industry offering. The AC5 doubles the number of channels currently available, providing eight-channels of full-rate (8 Mbps) or G.lite (1.5 Mbps) ADSL. For telecommunications equipment manufacturers and service providers, the AC5's

combination of ultra low power and industry-leading integration decreases system cost while increasing revenue through greater numbers of ADSL line deployments.

**Highest Integration, Lowest Power CO Solution**

With only one octal ADSL transceiver and one octal ADSL codec necessary for eight standards-compliant modems, the AC5 chipset features the industry's smallest modem area, requiring <1.3 sq. inches per modem from Tip/Ring to the Utopia-II interface. The AC5 also delivers the industry's lowest power consumption, requiring

**Key Features**

- Industry's only complete octal ADSL chipset solution for central office (CO) applications
- Supports industry's highest port densities:
  - <400 mW per port excluding line transceiver
  - <1.3 sq. inches per port from tip/ring interface to data interface
- First open-software ADSL platform enabling customer-specific value-added features and functions
- Supports VoDSL as well as Voice-over ADSL (VoADSL), through standard Utopia and PCM interfaces
- Powered by Amati technology

only 250 milliWatts (mW) per channel for the digital device, 150 mW per channel for the codec and 900 mW for the line transceiver. Combined, the complete AC5 solution, including the line transceiver, consumes only 1.3 W per modem for a complete, full-rate ADSL modem from Tip/Ring to the Utopia-II interface. In addition, TI's advanced power modes and LineRanger™ power optimization technology can dynamically lower the total chipset power for full-rate connections by more than 50 percent to less than 650 mW per channel.

**Open Software Platform for Customer Differentiation**

More than just high download speeds, the world of broadband is built on value-added services. The AC5 ADSL chipset is the world's first to offer an open software platform that allows manufacturers and intellectual property providers to integrate

their own intellectual property or use value-added functions from TI's extensive network of third-party solutions providers.

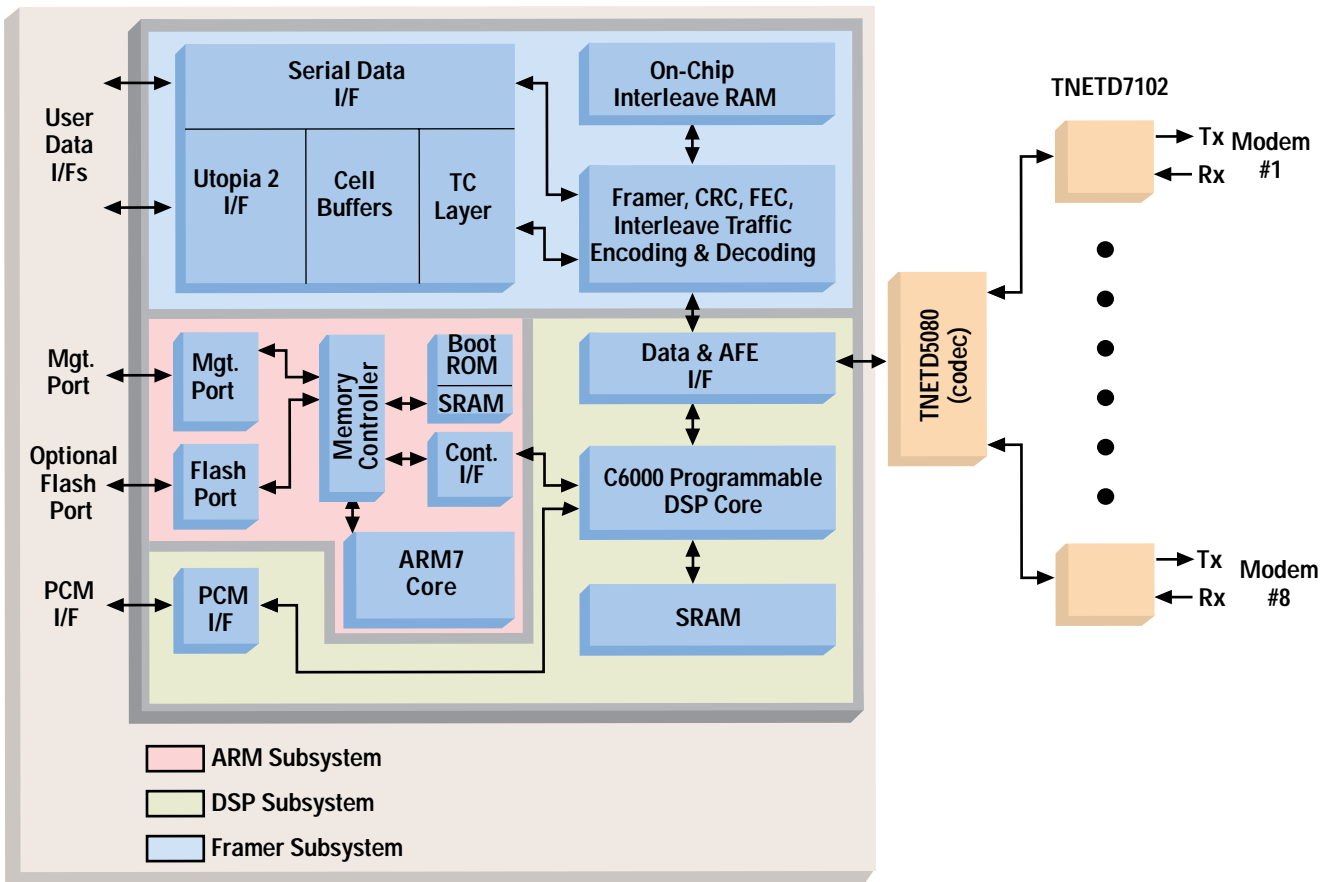
This high degree of flexibility begins with the chipset's fully programmable TMS320C6000™ DSP architecture and robust design tools. TI adds easy access to this programmable platform with its eXpress DSP/BIOS™ real-time DSP software development environment. The ARM7™ core is also available for software customization and specific control functions. The result is a total solution that allows manufacturers to differentiate themselves through advanced services and customer-specific application improvements.

**Complete Voice and Data Solution**

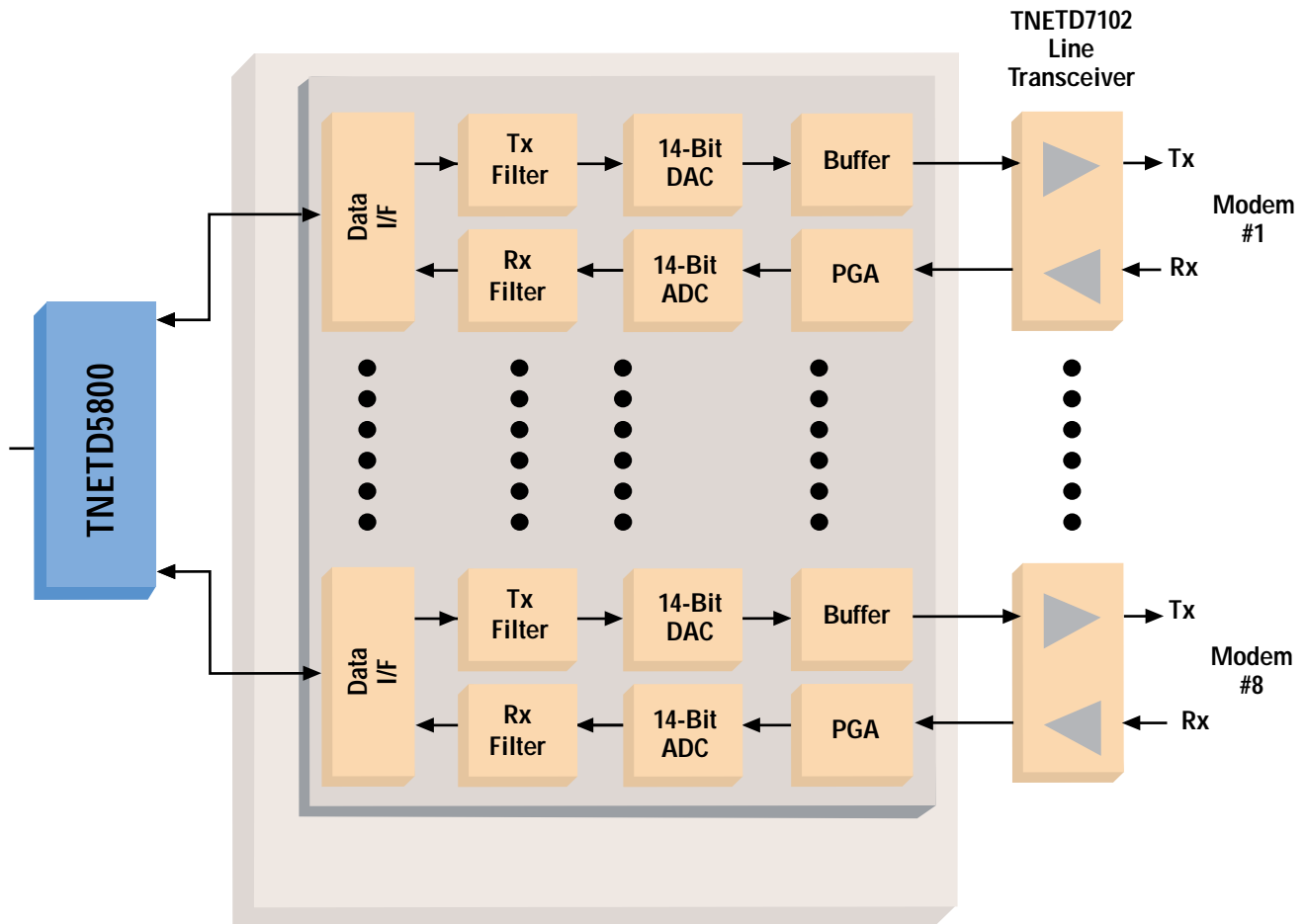
The AC5 chipset is optimized for voice transport, with each modem supporting multiple dual latency channels to carry time sensitive voice traffic in addition to data traffic. The chipset fully supports VoDSL (VoIP and VoATM) in addition to embedded voice-over ADSL (VoADSL) fast path transport mechanism, enabling an inexpensive digital voice solution for the residential market. By combining the AC5 with TI's recently announced customer premise equipment (CPE) ADSL portfolio and Tology GoldenGate™ voice/fax software, designers have a complete end-to-end hardware and software voice architecture.

**Full Interoperability and Field Proven**

TI is fully committed to real-world interoperability and offers field-proven solutions today that meet telco interoperability requirements. The AC5 comes complete with all the hardware and software necessary to support the International Telecommunications Union (ITU) and American National Standards Institute (ANSI) standards for ADSL over plain old telephone service (POTS) and ADSL over Integrated Services Digital Network (ISDN). This includes G.992.1 (G.dmt), G.992.2 (G.lite) and T1.413 issue 2. In addition, the chipset's full programmability makes upgrading to new ADSL standards simple through easy software downloads.



TNETD5800 Octal-Port ADSL Transceiver Functional Diagram



TNETD5800 Octal Codec Functional Diagram

**Chipset Devices**

- *TNETD5800*—Single-chip octal transceiver with embedded TMS320C6000 programmable DSP core, an embedded ARM7 controller and all necessary program, data and interleave memory.
- *TNETD5080*—Single-chip octal ADSL codec that supports all ADSL standards.
- *TNETD7102/3*—Single-chip, single-channel line transceivers.

**TI Power Management Solutions**

TI has optimized power management solutions for highly integrated CO ADSL equipment. Choose from complete plug-in power modules tailored specifically for AC5 or utilize discrete ICs for flexibility. Visit the Power Management website at: [power.ti.com](http://power.ti.com)

**For More Information**

If you would like more information on how you can put the power of the AC5 chipset or any of TI's industry-leading DSL products to work in your next design, contact your local TI field sales office or visit the Worldwide Web at: [www.ti.com/sc/access](http://www.ti.com/sc/access)

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