Aluminum 200 AFE

Virata
Product Profile

August 2001

KEY FEATURES

- G.shdsl-compliant Smart Analog Front End (AFE)
- Meets the requirements of ITU G.991.2 and ANSI T1E1.4
- Supports data rates from 192 Kbps to 4.6 Mbps
- Integrated CMOS line driver
- 16-bit ADC/DAC for receive and transmit paths
- Integrated VCXO
- Outstanding reach: over 17,000 feet at 1.5 Mbps
- Superior echo-cancellation
- Optimizes power-cutback

Description

The Aluminum 200 AFE is a G.shdsl-compliant Analog Front End (AFE) with integrated line driver designed to be used with Virata's Aluminum 200 Symmetric DSL Processor. The Aluminum 200 AFE integrates all analog circuitry necessary to connect the DSL Processor to an external 2/4 wire hybrid.

The Aluminum 200 AFE conforms to all G.shdsl Power Spectral Density (PSD) masks for every rate when interfaced to the Aluminum 200 DSL Processor. Aluminum 200 AFE also conforms to the HDSL2 OPTIS PSD mask at 1.544 Mbps.

The Aluminum 200 AFE can be used in either central office (CO) or remote application mode, selectable by configuring the programmable filters in the Aluminum 200 DSL Processor.

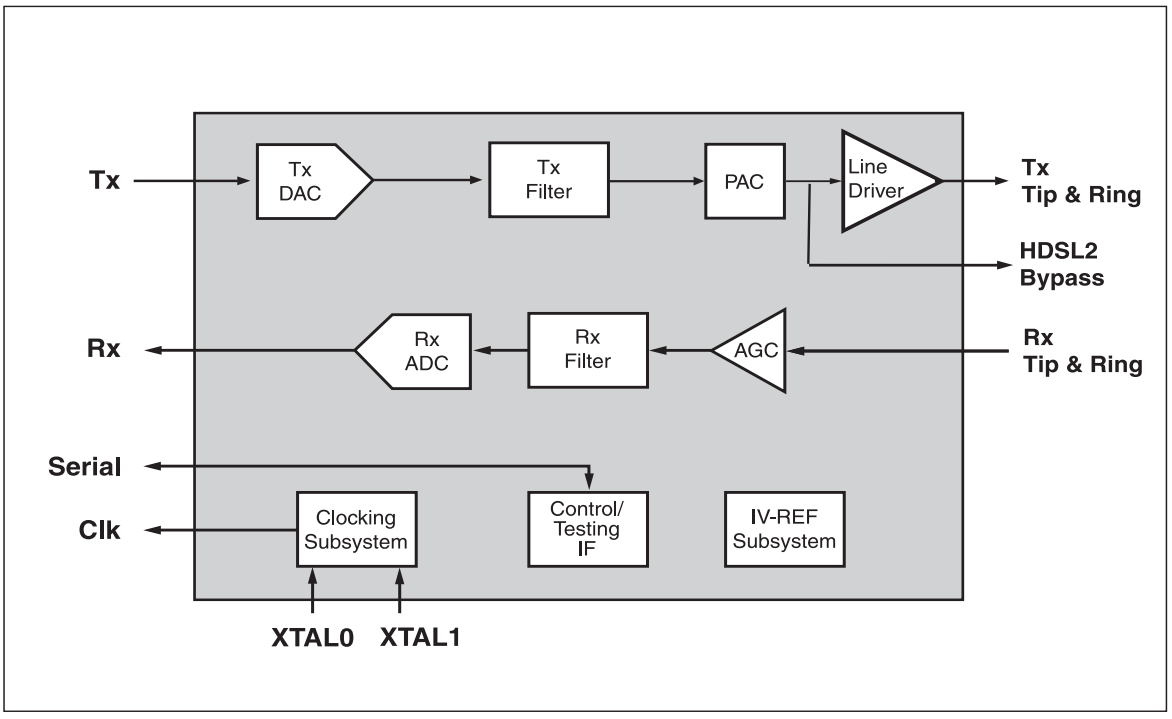
The Aluminum 200 AFE includes one high resolution 16-bit Tx DAC in the transmit path and one high resolution 16-bit Rx ADC in the receive path.

A 10-bit DAC for the VCXO control is also integrated in the Aluminum 200 AFE to reduce the number of required external components. The transmitter programmable attenuation control (PAC) and the receiver programmable gain amplifier (PGA) are programmed via the Aluminum 200 processor through a two-bit bus.

Aluminum 200 AFE has a low total power consumption of less than 700 mWatt (including the line driver) in full operation mode. An external line driver can also be used for HDSL2 and asymmetric Power Spectral Density (PSD) applications. The Aluminum 200 AFE also provides a power down mode for standby operation.

Reference Platform

The BD3802 is the development platform for the Aluminum 200 DSL Chipset, providing a com-plete set of hardware and firmware tools to assist customers in the rapid development and deployment of their products. Documentation and support are also available.



Block Diagram of an Aluminum 200 AFE

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Product Applications

- Symmetric DSL routers and Integrated Access Devices
- DSL Access Multiplexers (DSLAMs)
- Multi-tenant and Multi-dwelling unit networks
- T1/E1 distribution products
- T1/E1 pairgain systems (using proprietary 3 Mbps and higher data rates)
- Copper Recovery with double-rate modes

Specifications

- ITU G.991.2 (G.shdsl) compliant
- T1E1.4 HDSL2 compliant
- ETSI ETR-152 compliant (single pair)
- Support for data rates from 192 Kbps to 2.312 Mbps on 8 Kbps increments, plus three additional rates of 3.096 Mbps, 4.104 Mbps and 4.616 Mbps

Package

- 64 TQFP

Environmental

- Consumes < 700 mWatt (including line driver)
- Consumes < 300 mWatt (without line driver)
- 2.5V/3.3V/5V supply
- Temperature range 0 to 125˚C

Ordering Information

VC8221 Aluminum 200 AFE IC

BD3802 Aluminum 200 Symmetric DSL Development Board

Data Book and API Manual available on request

AL20AF_P0801v6

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