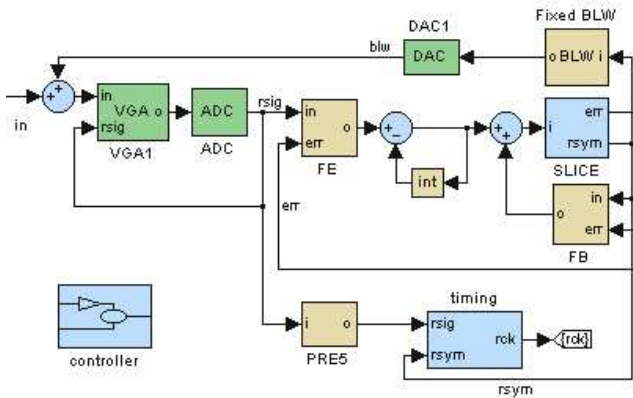


100BaseTX Physical Layer DSP Engine

Description

Obsidian Technology provides a complete IEEE compliant 100BaseTX Digital Signal Processing engine as a model and customized, scalable, CMOS layout ready for integration with analog and digital control circuitry. When integrated with appropriate analog and digital control circuitry the engine will recover four channel 1000BaseT data through a worst case channel which includes a total of 100 meters of category five cable at a bit error rate which is compliant with IEEE 802.3 100BaseTX requirements.



This package will typically be used by organizations which have mixed signal physical layer expertise in place and require DSP intellectual property to complete a 1000BaseT physical layer device.

Supported Functions

All functions required to support the digital signal processing of four 1000BaseT transceiver channels are provided including:

- Digital timing recovery.
- Control for analog AGC system.
- Slicer.
- Decision feedback equalizer.
- Analog channel offset cancellation.
- DC Wonder correction.
- Transmit filtering.
- Basic state control.

In addition to the above the following functions are required to form a physical layer device: ADCs, AGC, transmitters, digitally controlled oscillators, PCS layer logic, PMA logic.

Features

- World class speed/power performance.
- High density logic design. (15K gates)
- Low cost magnetics.
- Full external access to DSP coefficients.
- Detailed observability and controllability of DSP functions for system level test and debug.
- Fully static operation.

Support

- Fast (10K vectors/S) C++ based behavioral system model. (Win98 or UNIX versions)
- Matlab/Simulink model available.
- Block level VHDL models on request.
- Functional test vector support.
- Specifications and models for analog components.
- On site support of integration activity.
- Customization for specific analog component and process specifications.
- On and off site consultation.

