



BCM6315 V-THERNET® TRANSCEIVER

FEATURES

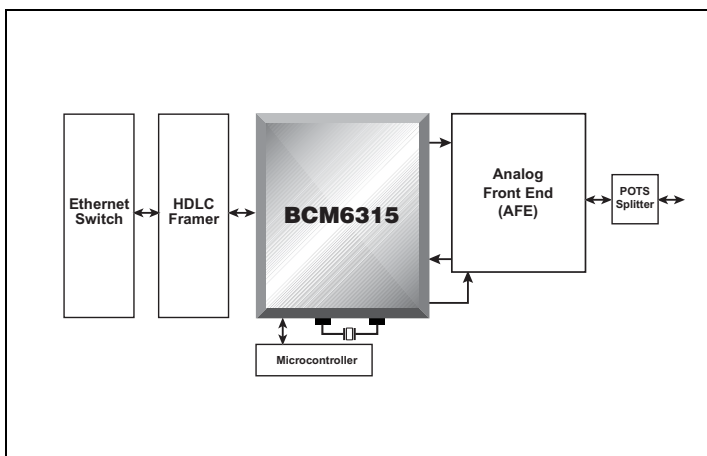
The Broadcom® BCM6315 is a single-chip V-thernet™ transceiver optimized for low-cost Ethernet transport on telephone-grade wire.

- Supports up to 52 Mbps symmetric operation.
- Supports ITU Plan 998, 997, and proprietary symmetric/asymmetric band plans.
- < 1W power consumption.
- Programmable QAM constellations.
- On-chip A/D and D/A converters.
- Adjustable upstream and downstream center frequencies.
- On-chip RAM interleaving.
- Reed-Solomon FEC.
- Packet scrambling.
- Enhanced adaptive decision feedback equalizer.
- Bit/byte synchronous interfaces.
- Single 3.3V supply operation.
- JTAG test interface.
- 100-pin PQFP or 11 mm BGA package options.

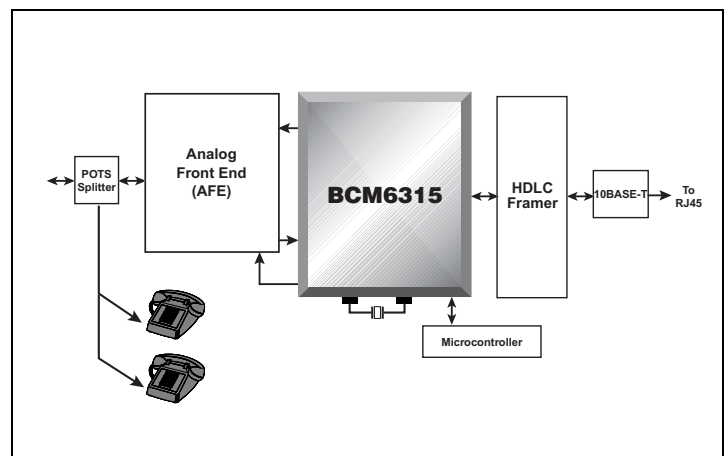
SUMMARY OF BENEFITS

- Operates on telephone-grade and Category 1–5 twisted-pair cable.
- Coexists with POTS.
- HPNA-compatible spectral plans available.
- Suitable for high-speed data transport through MDU riser cable.
- 15 times greater reach than Ethernet.
- Suitable for both DSLAM and remote units.
- Small size and low power enables high port densities.
- Simple spectrum control via register programming.

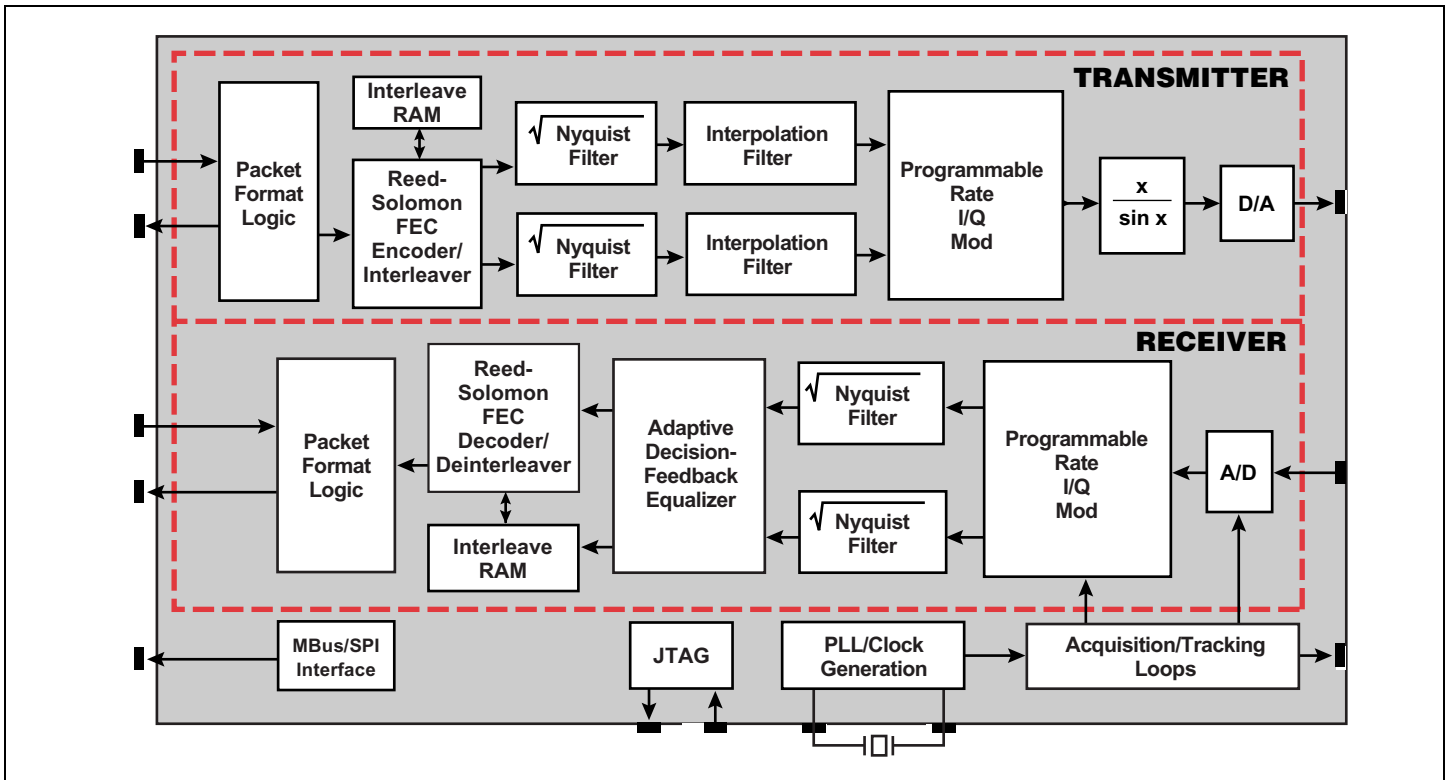
DSLAM Block Diagram



Remote CPE Block Diagram



OVERVIEW



The BCM6315 is a single-chip V-thernet[®] transceiver design based on many years experience of QAM technology and LAN products. It is designed for low-cost, long-reach Ethernet applications employing telephone-grade wiring. The BCM6315 offers switch, DSLAM, and CPE vendors an unmatched capability for the provision of high-speed data transmission services such as Internet access and LAN extensions in MDU, MTU, hospitality, and campus environments. The BCM6315 is easily configured to support many popular data rates such as symmetric 10 Mbps and 13 Mbps. It also offers spectral plans with data rates of up to 52 Mbps. Spectral plans may be configured to be spectrally compatible with HomePNA.

Because of its FDD (frequency division duplex) scheme, the BCM6315 is an ideal solution to overcome performance limitations due to crosstalk in the MDU riser wire bundle. With its small footprint, the BCM6315 is ideal for use in NIC, PC board, CPE modem switch, and DSLAM designs. Automatic link initialization software is available with the BCM96315 V-thernet[®] reference design package, supporting symmetric and asymmetric profiles. The software has been ported to the reference design and is also available in source code format. The BCM6315 includes an equalizer, FEC, interleaver, modulator, demodulator, packet format logic, A/D and D/A.

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