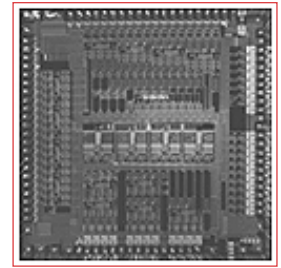




BCM6315 PRODUCT Brief



BCM6315 V-thernet™ TRANSCEIVER

BCM6315 FEATURES

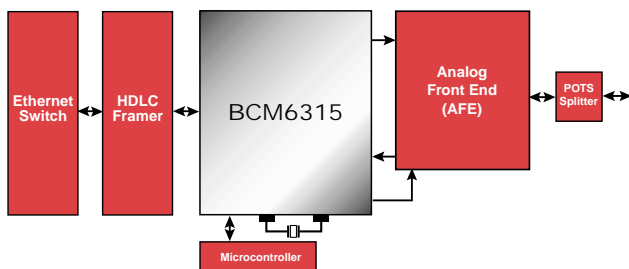
The Broadcom® BCM6315 is a single-chip V-thernet™ transceiver optimized for low-cost Ethernet transport on telephone grade wire.

- Supports most popular bit rates, including symmetric 10 and 13 Mbps
- Supports asymmetric up to 3 Mbps upstream and 52 Mbps downstream for typical VoD application
- Sub- 1-watt 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
- Small 100-pin PQFP package

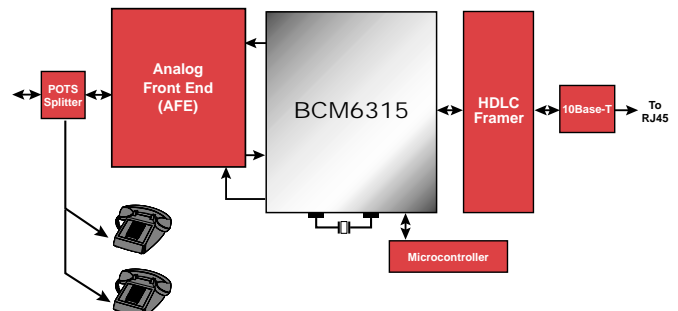
SUMMARY OF BENEFITS

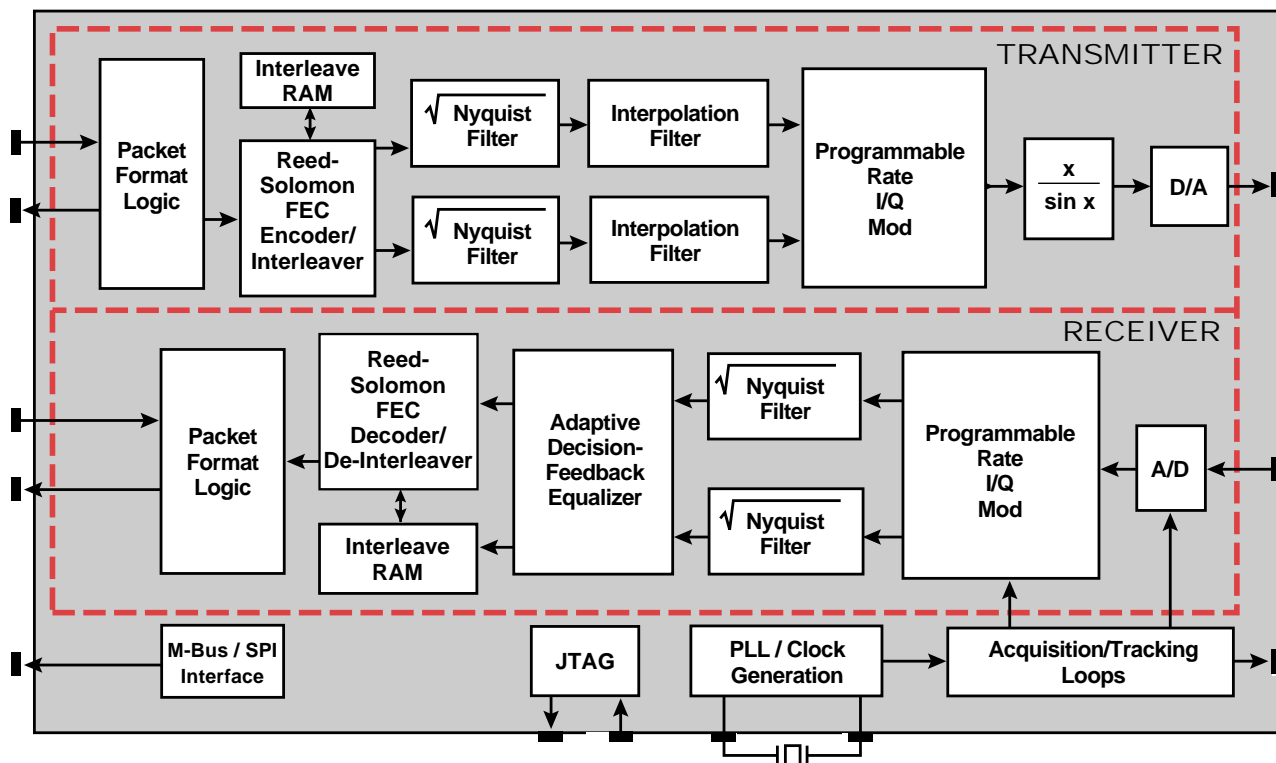
- Operates on telephone grade and CAT 1–5 twisted pair cable
- Coexists with POTS
- HPNA- compatible spectral plans available
- Suitable for high-speed data transport through MDU riser cable
- 15 times greater reach than Ethernet
- Suitable for both DSLAM and remote units
- Small size and low power enables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

DSLAM Block Diagram



Remote CPE Block Diagram





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 and 13 Mbps. It also offers spectral plans with asymmetric data rates up to 3 Mbps upstream and 52 Mbps downstream. Either plan can be configured to be spectrally

compatible with HomePNA. The chip's FDD (Frequency Division Duplex) scheme makes it 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 card, 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, Mod, Demod, Packet Format Logic, A/D and D/A.

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