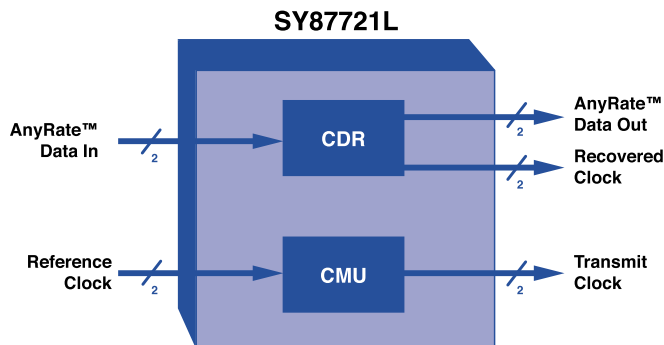


## Protocol Transparent CDR with CMU

The SY87721L is a complete protocol independent Clock Recovery and Data retiming integrated circuit for data rates from 28Mbps up to 2.7Gbps NRZ including SONET FEC data rates. Included in the device, is a fully integrated Clock Multiplier Unit (CMU) that is capable of generating frequencies that cover the same data rate range as the CDR. The device is ideally suited for protocol transparent requirements of metro area networks.

Clock recovery and data retiming is performed by synchronizing the on-chip VCO directly to the incoming data stream. The VCO center frequency is controlled by the reference clock frequency and the selected divide ratio. On-chip clock generation is performed through the use of a frequency multiplier PLL with a byte rate or code group rate sources as reference.

SY87721L exceeds Bellcore jitter tolerance and jitter transfer specification. Jitter generation is < 3ps RMS at OC-48 data rate.



Functional Block Diagram

### Features

- ◆ Receives any data and clock from 28Mbps to 2.7Gbps
- ◆ Integrated clock multiplier unit with low jitter generation
- ◆ Complies with Bellcore, ITU/CCITT and ANSI specifications
- ◆ Selectable mux for input data pass through—avoids jitter accumulation when switching through backplanes
- ◆ Available in 64-pin EPAD-TQFP package

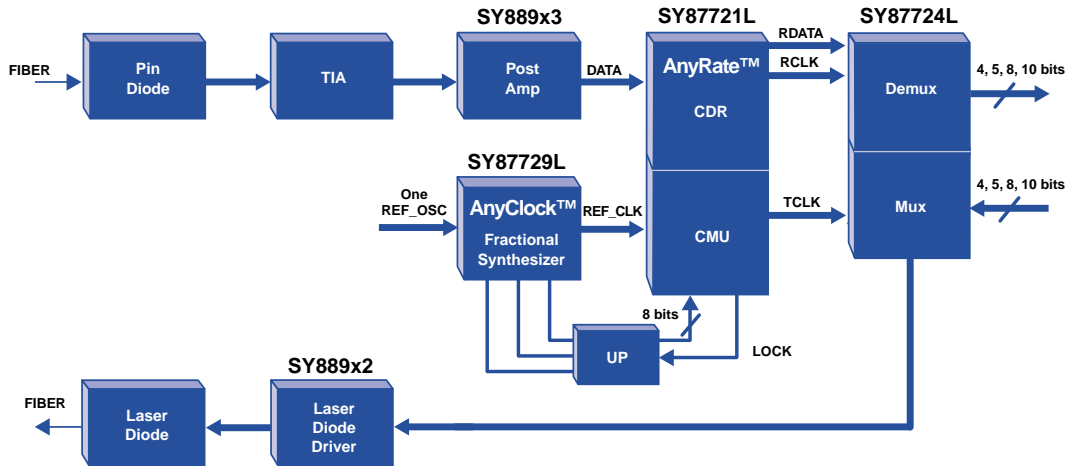
### Applications

- ◆ Transponders and section repeaters
- ◆ Multiplexers: access, add drop (ADM), and terminal
- ◆ SONET/SDH/ATM-based transmission systems, modules and test equipment
- ◆ Terabit routers and broadband cross-connects
- ◆ Fibre optic test equipment
- ◆ Digital TV, digital video
- ◆ Protocols supported:
  - OC-1, OC-3, OC-12, OC-48, ATM
  - Gigabit Ethernet, Fast Ethernet
  - Fibre Channel, 2X Fibre Channel
  - P1394, Infiniband
  - Proprietary optical transport
  - Digital TV, digital video
  - Digital wrapper

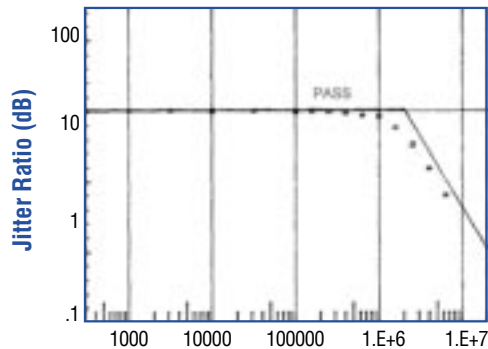
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# AnyRate™ Chipset

Part Number	Frequency Range	Description	Package
SY87721L	28Mbps to 2.7Gbps	3.3V AnyRate™ Clock and Data Recovery with Integrated CMU	64-Pin EPAD-TQFP
SY87724L	Up to 2.7Gbps	3.3V 2.7Gbps Mux/Demux	80-Pin LQFP-PQ2
SY87729L	10MHz to 350MHz	3.3V AnyClock™ Fractional N Synthesizer	32-Pin EPAD-TQFP

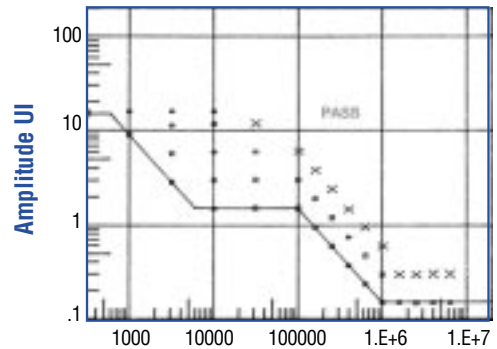


System Block Diagram



Modulation Frequency (Hz)

OC-48 Jitter Transfer



Modulation Frequency (Hz)

OC-48 Jitter Tolerance

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