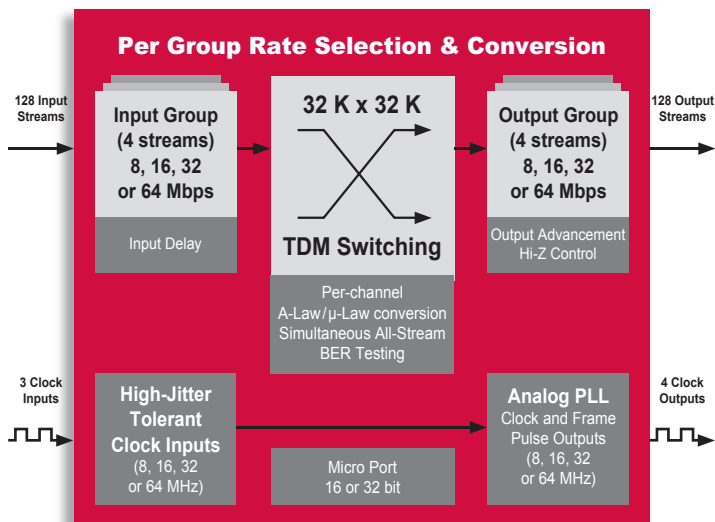




ZL50073 Simplified Block Diagram



The ZL™50070/3/4/5 is Zarlink's series of high-density, feature-rich TDM switching ICs. The family includes 24 K and 32 K channel devices offering 128 input and 128 output streams with data rates up to 64 Mbps. Featuring the industry's widest range of flexible features, including per group rate selection and conversion, fully integrated A-Law/μ-Law conversion and BER testing, as well as exceptional jitter tolerance, Zarlink's new switching ICs are ideal for the next-generation of high-bandwidth voice and data equipment.

Typical Applications

- ➔ Multi-service switching platforms (MSSPs)
- ➔ Media gateways
- ➔ Remote access concentrators
- ➔ Wireless base stations
- ➔ Class 4 and Class 5 Central Office switches

Feature-Rich Switches Set Performance Standard

- ➔ 24 K and 32 K non-blocking switching devices, offered with or without rate conversion, A-Law/μ-Law code conversion, and Bit Error Rate (BER) testing
- ➔ 128 input and 128 output streams—the largest number on a 32 K TDM switch
- ➔ Per-group rate selection (2 or 4 stream) allows direct interface with peripheral components at different data rates (8 to 64 Mbps)
- ➔ Selectable clock inputs with exceptional jitter tolerance allows direct use of clock signals from a backplane or other timing devices
- ➔ Flexible per stream input delay and output advancement allows stream alignment adjustment to compensate for bus delays
 - Input delay with channel and bit delay of up to 7¼ bits with ¼ bit resolution
 - Output advancement up to 22.5 ns with resolution of 7.6 ns at 32 Mbps
- ➔ Constant delay mode for frame integrity or variable delay for low-latency applications
- ➔ Embedded G.711 (A-Law/μ-Law) code conversion and simultaneous BER testing on 128 streams eliminates external components

Standards Compliant

- ➔ H-MVIP, MVIP, ST-BUS, GCI
- ➔ IEEE 1149.1 (JTAG) standard

Related Products

- ➔ Digital phase locked loops (DPLLs)
- ➔ Voice echo cancellers (ECAN)
- ➔ T1/E1 Framers
- ➔ CESoP/TDM-to-IP processors

Customer Support

Evaluation boards and API drivers are available for the new switching ICs, supported by Zarlink's network of in-house application engineers.

	Size	Streams	Description	Package
ZL50070	24 K x 24 K	96 In/96 Out	TDM Switch with per-group (4 stream) rate selection & conversion	484-ball PBGA, 23 x 23 mm
ZL50073	32 K x 32 K	128 In/128 Out	TDM Switch with per-group (4 stream) rate selection & conversion	484-ball PBGA, 23 x 23 mm
ZL50074	32 K x 32 K	128 In/128 Out	TDM Switch with single I/O rate selection	484-ball PBGA, 23 x 23 mm
ZL50075	32 K x 32 K	64 In/64 Out	TDM Switch with per-group (2 stream) rate selection & conversion	324-ball PBGA, 19 x 19 mm

ZL50070/3/4/5

TDM/TSI SWITCHES

VOICE/DATA



Applications

The ZL50073 TDM switch delivers the density and flexibility required by high-bandwidth wired and wireless networking equipment, ranging from multi-service switching platforms, media gateways, wireless base stations, and remote access concentrators, to Class 4 and Class 5 Central Office switches.

The diagram below illustrates how Zarlink's ZL50073 can be implemented as a central switching device in a high-bandwidth media gateway. In this application, T1/E1, echo cancellation, and TDM-to-IP line cards connect with the central TDM switch at different data rates.

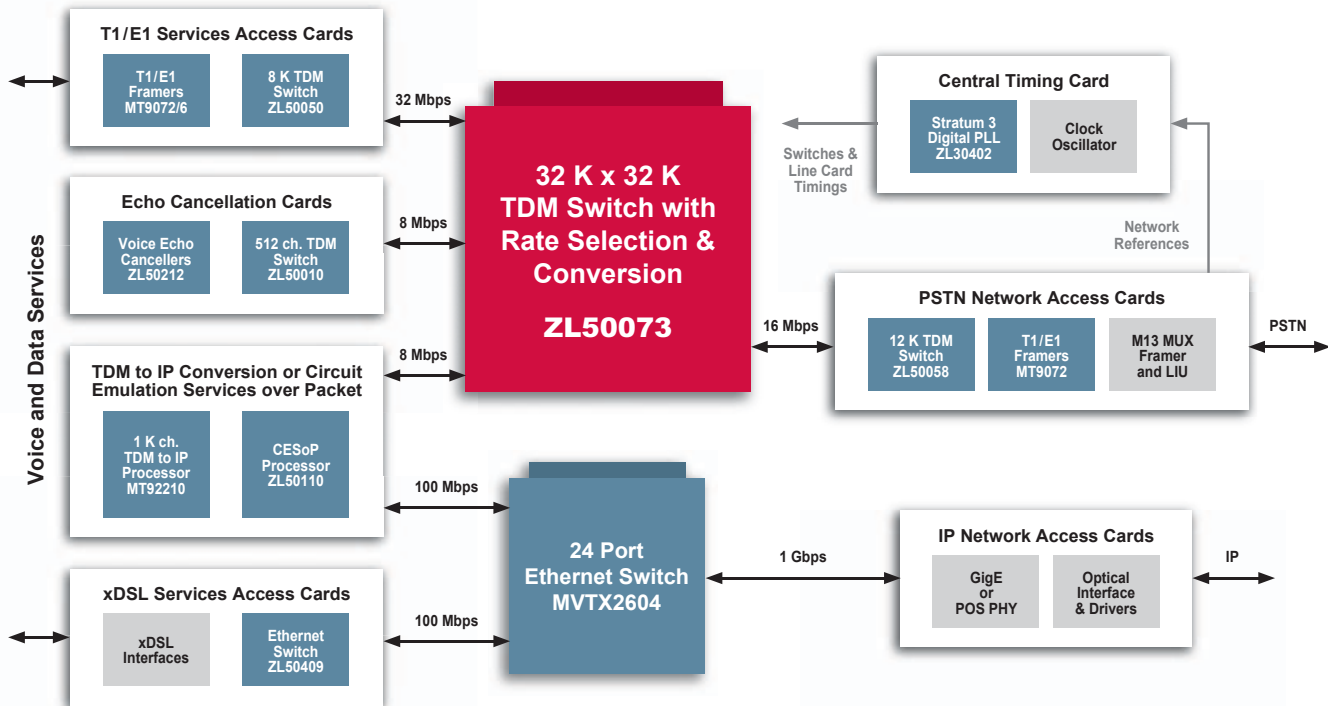
The ZL50073 offers the industry's most flexible bandwidth provisioning capabilities. The device provides 128 input and 128 output streams, with patented rate conversion technology allowing per group (4 stream) data rate selection from 8 to 64 Mbps. If a line card is replaced with a different density card, the data stream rate can simply be reprogrammed to the appropriate rate.

The device features three selectable clock inputs accepting frequencies of 8, 16, 32, or 64 MHz. Exceptional jitter tolerance means the device can be timed directly off the back-plane clocks and frame pulses, or from other adequate timing sources. As a result, designers can use the most cost-effective timing architecture for their application.

The ZL50073 is the industry's first high-density device with integrated G.711 per channel A-Law/ μ -Law conversion circuitry to seamlessly convert between voice standards. Simultaneous BER testing on all I/O streams eliminates the need for external circuitry.

As the industry's most fully featured TDM switch, the ZL50073 increases flexibility, simplifies design, and reduces the cost of high-bandwidth voice and data equipment.

Media Gateway with Redundant Centralized Switching Configuration (STAR)



Information relating to products and services furnished herein by Zarlink Semiconductor Inc. or its subsidiaries (collectively Zarlink) is believed to be reliable. However, Zarlink assumes no liability for errors that may appear in this publication, or for liability otherwise arising from the application or use of any such information, product or service. The products, their specifications, services and other information appearing in this publication are subject to change by Zarlink without notice. No warranty or guarantee expressed or implied is made regarding the capability, performance or suitability of any product or service.

ZARLINK, ZL, and the Zarlink logo are trademarks of Zarlink Semiconductor Inc. Copyright 2004, Zarlink Semiconductor Inc. All Rights Reserved.

Publication Number PP5863