The MT93L00 and MT93L04 multi-channel voice echo cancellers provide advanced digital echo cancellation in multi-service ATM, SONET/SDH and wireless networks. The devices use a patented algorithm to provide unprecedented performance in a highly integrated solution that reduces cost and power consumption compared to alternative approaches.

MT93L00 is a low-voltage device that supports 32 channels of echo tails up to 64 milliseconds (ms) long. Operating at only 150 milliwatts (mW), the MT93L00 cuts power consumption by 85% compared to the MT9300, Zarlink's previous generation 32-channel voice echo canceller.

The MT93L04 is the industry's highest density solution, able to support 128 channels of echo tails up to 64ms. Compared to alternative approaches, which require at least two chips for the same level of density, the MT93L04 minimizes board space and power consumption.

At a Glance

- *Package*

  MT93L00 – 100-pin LQFP or 208-pin LBGA

  MT93L04 – 365-pin BGA

- *Availability*

  Both devices sampling now

  Volume production in October/2001

Applications

- VoIP Gateways
- Voice over ATM
- Voice over Frame Relay
- T1/E1 Multi-Channel Echo Cancellation Pools
- Wireless Base Stations

Complementary Products

- MT90866, MT90502, MT92210, MT9072, MT9045

High Quality Voice

- Patented algorithm enables highest quality of voice processing.
- Superb double-talk performance.
- Excellent convergence speed.

Flexibility

- Supports normal, extended delay or back-to-back configurations.
- Individual control for each group of channels allows either two channels at 64ms, or one channel at 128ms.
- Single device serves multiple customers by programming echo tails at different price/performance points.

Ease of Use

- Off-the-shelf solution eliminates requirements for external processor, software support and memory.
- Easy to upgrade from Zarlink's existing range of echo cancellers.

Key Features

- 3.3V I/O supply voltage with 5V tolerance, 1.8V core supply voltage.
- Compatible to ST-BUS and GCI interface at 2Mb/s.
- Protection against narrow-band signal divergence.
- Non-linear processor for high-quality subjective performance.
- Lowest power consumption per channel.

Standards Compliant

- ITU-T G.168
- ITU-T G.165
- Disable tone detection for V.32/V.32bis/V.34 modem and fax transmissions

Customer Support

Zarlink provides an evaluation board, MEB9300 and MEB93L00, to simplify user implementation and understanding.

Applications

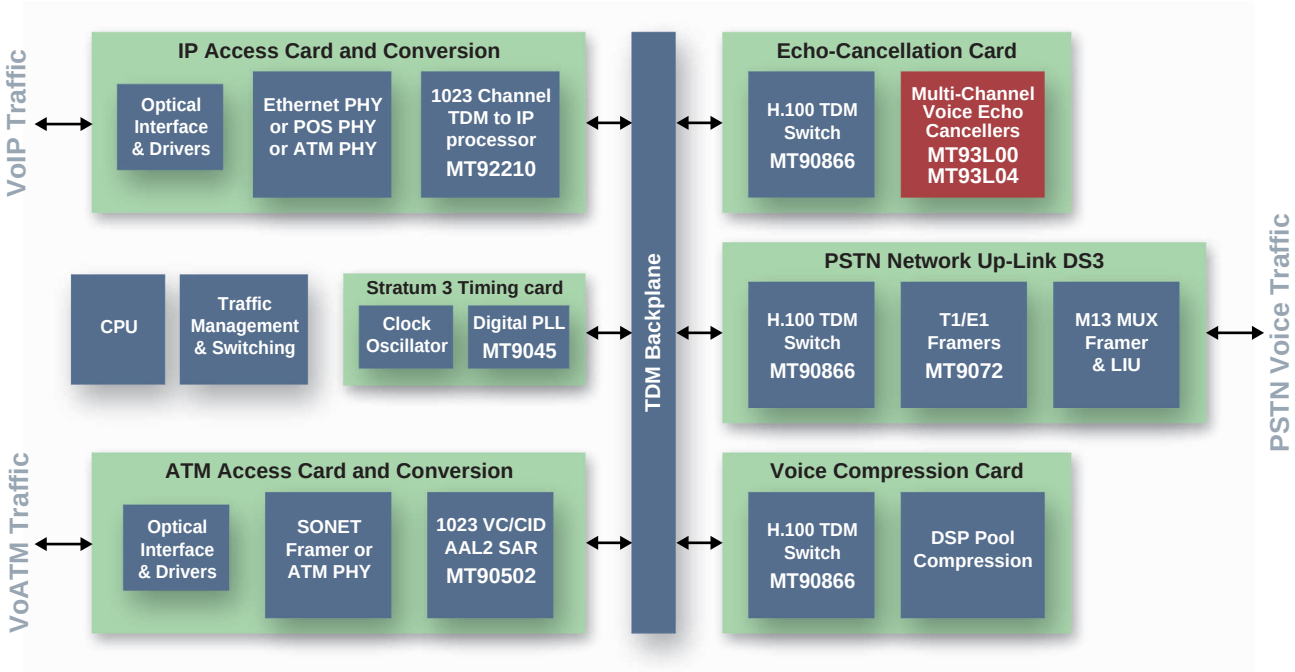
Demand for multi-service applications that combine voice, data and video is driving the need for higher density, optimized performance and lower cost in systems like the carrier class gateway illustrated below.

Maintaining voice quality is difficult in ATM and IP gateway systems, due to the long delays and echoes characteristic of packet-based networks. Non-linear echoes, as well as mathematical inaccuracies of the pulse code modulation (PCM) representation of speech samples, make it difficult for the non-linear processor to calculate perfect echo estimates, resulting in residual echoes. Compounding this problem are the audible switching effects caused when background noise is removed to optimize bandwidth utilization in packet-based networks.

The MT93L00 and MT93L04 solve these issues with a patented algorithm that removes the residual echo while providing superb double-talk performance and maintaining excellent convergence speed. This results in excellent voice quality.

Alternative approaches include custom DSPs or multi-chip modules. However, DSPs cannot adapt to the changes in the echo path, compromising voice quality. These approaches also typically require more board space, and are costly due to software development and implementation.

CARRIER CLASS VOICE GATEWAY



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