**Processor**
StarCore™ Family of Digital Signal Processors from Freescale

**Introduction**
Freescale echo cancellation solutions include a set of network echo cancellers for various market requirements and applications. Equipped with Freescale technologies, the solutions offer carrier-class echo cancellation service for packet telephony networks. The echo cancellers are designed to cover up to 128 ms echo path delay with one 24 ms moving window. This 24 ms window is sufficient to handle the multi-reflective echo paths in G.168 (2002) and others that are expected to be encountered in the network. The echo path delay of the echo canceller is runtime configurable, from 8 ms up to 128 ms, so users may choose a proper configuration to meet the need of echo path configurations (or spans) and the resource budget in per channel data memory and processing load million cycles per second (MCPS).

**Features**
Freescale Semiconductor’s echo cancellation solutions are robust, field-proven implementations with more than 15 years global deployment into Tier 1 carrier-class telecommunications infrastructure products. The echo cancellers are based on normalized LMS adaptive algorithms and have the following major features:

- Rapid initial convergence rate (echo cancelled within 50 ms)
- Far-reaching and stable infinite convergence depth
- Intelligent near-end talk signal detection mechanism
- Adaptive nonlinear processor with optional comfort noise matching
- Innovative mechanism for near-end background noise handling
- Effective background processing for divergence prevention
- Runtime configurable echo-span coverage from 8 ms up to 128 ms
- Fast mid-call convergence (i.e., re-convergence upon hybrid change in the middle of a call)
- Four configurable comfort noise matching levels
- Smart handling of signaling tones

The echo cancellers are ITU-T G.168 (2000/2002) compliant, and systematically evaluated with Freescale voice quality evaluation techniques and by independent expert groups.

---

*The Semiconductor Products Sector of Motorola, Inc. became Freescale Semiconductor, Inc. in 2004.*
Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. All other product or service names are the property of their respective owners.

© Freescale Semiconductor, Inc. 2004

Learn More: For more information about Freescale products, visit www.freescale.com.