

# Bt8110

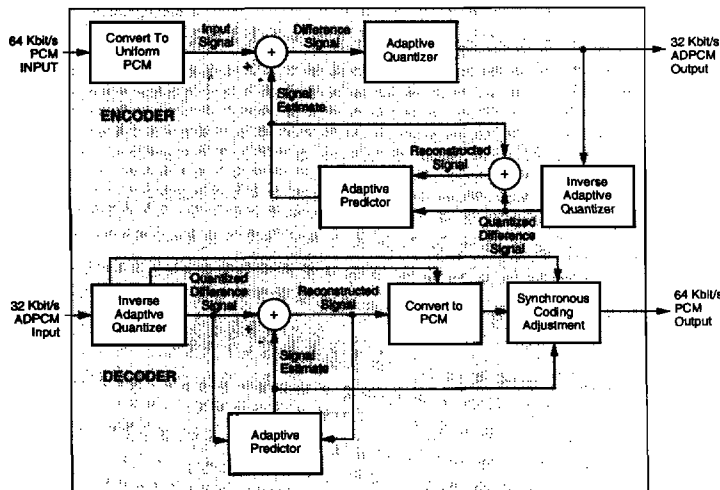
## High-Capacity ADPCM Processor

This specification describes the Bt8110 multichannel ADPCM processor integrated circuit that implements Adaptive Differential Pulse-Code Modulation (ADPCM) encoding and decoding. The fixed-rate coding algorithms include those specified in ANSI Standards T1.301-1987 and T1.303-1989. These algorithms are identical to those in ITU-T Recommendations G.721, G.723, and G.726. This circuit also implements the variable-rate or embedded codes specified in ANSI Standard T1.310-1991 and ITU-T Recommendation G.727.

A single ADPCM processor integrated circuit, combined with an external table lookup ROM, can provide 24 or 32 full-duplex channels of ADPCM processing (encoding and decoding). In some applications, two circuits can be combined with a single ROM to provide 48 or 64 full-duplex channels. Both A-law and  $\mu$ -law PCM translations are provided.

Interface options such as serial and parallel inputs and outputs, along with hardware and microprocessor interfaces, are provided by the integrated circuit. Per-channel control of all algorithm featured are featured in all modes; up to 14 separate ADPCM codes are available in any given configuration.

### Functional Block Diagram



### Distinguishing Features

- 24 or 32 full-duplex channel capacity (48 or 64 channel with two processors)
- 2-, 3-, 4- and 5-bit quantization dynamically selectable on a channel-by-channel, frame-by-frame basis
- Transparent channel operation
- Two control modes available: microprocessor and hardware.
- Direct framer interface for both T1 and E1 signal formats
- Supports the optimal RESET function described in the algorithm standards
- Supports even-bit inversion of A-law inputs and outputs (required by ITU-T Recommendations G.721, G.723, G.726, and G.727)
- Minimum throughput delay
- Low-power CMOS integrated circuit

### Applicable Standards

- ANSI T1.301-1987
- ANSI T1.303-1989
- ANSI T1.310-1991
- ITU-T G.721, G.723, G.726, G.727

### Applications

- T1/E1 Transcoders
- T1/E1 Multiplexers
- DCME Systems
- Speech Processing/Recording
- Voice Mail/Packetization
- Personal Communications Systems: Digital European Cordless Telecommunications (DECT), Wireless Access Communications System (WACS)

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## Ordering Information

Model Number	Package	Ambient Temperature
Bt8110 EJ	68-Pin Plastic Leaded Chip Carrier (PLCC)	-40°C to +85°C