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# **Quad Pro-X Programmable Extended CODEC/SLCC**

The W684386, implements a quad channel FXS telephone line interface optimized for short loop applications. It integrates SLCC (Subscriber Line Control Circuit) functionality with a quad programmable CODEC and a quad DC-to-DC controllers. The SLCC supports internal ringing up to 90 VPK (5 REN at 4k ft) ideal for Customer Premise Equipment (CPE). The CODEC can be configured for μ-law, A-law or 16-bit linear PCM encoding. It also supports a comprehensive set of signaling capabilities required to supervise and control the telephone lines. These include tone generation, ring tones, DTMF generation as well as FSK and metering pulse generation. An on-chip Pulse Width Modulation (PWM) driver allows control of a per channel DC-to-DC converter or a centralized transformer-based DC-to-DC converter. Programmable impedance and trans-hybrid balancing allow for worldwide deployment.

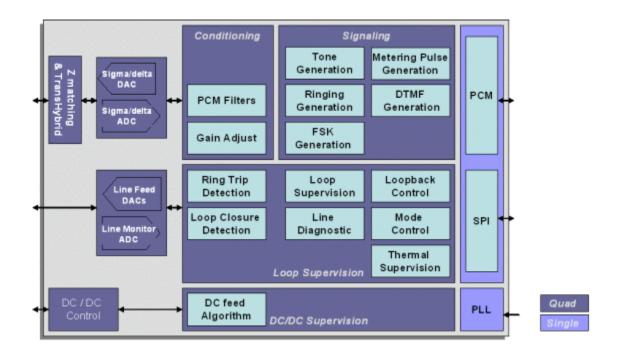
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Block Diagram Key Features Benefits/Applic Application Dia Product Brief Request Datas Product Selecti How To Buy

For additional technical documentation, please Contact Sales.



Block Diagram



#### **Key Features**

Performs complete BORSCHT functions for four channels on a single device

Internal balanced and unbalanced ringing up to 90 VPK (5 REN up to 4 kft)

Integrated Power Management options

Integrated per channel DC-to-DC controller

Centralized Transformer DC-to-DC controller

Programmable External Battery Switching

Programmable linefeed characteristics

Ringing frequency, amplitude, cadence

Trapezoidal and sinusoidal waveforms

Two-wire AC impedance, transhybrid balance

Constant current feed (20 to 41mA)

Ring trip and loop closure thresholds

**Ground Key Detect** 

External ringing relay and ring trip support

Soft Polarity Reversal

Programmable signal generation

DTMF generation

Metering pulse generation (12/16kHz)

Enhanced Caller ID (FSK) generation (Type I a

Tone generation (up to four simultaneous)

G.711 µ-Law/A-Law / 16-bit linear PCM audio

Programmable audio path gains

Loop test and diagnostics support

Integrated loopback modes

Realtime linefeed monitor

On-chip temperature sensor

PCM and SPI bus digital interfaces

PCM Master and Slave modes supported

On-chip PLL for flexible clocking options including 1

2.000 MHz BCLK operation

3.3V operation

#### Benefits

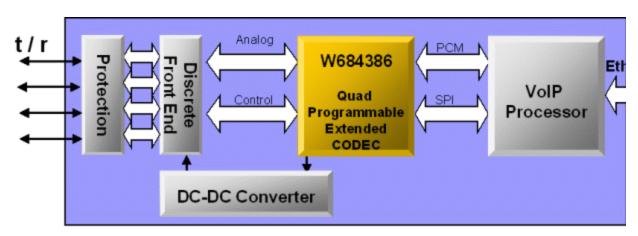
High integration reduces overall system BOM and footprint Low power consumption for battery-backup and other power sensitive applications

High programmability reduces real-time software overhead Extensive line sensing enables diagnostics support

## **Applications**

Analog Telephone Adapter
Voice enabled DSL Modems
Voice enabled Cable Modems
Residential VoIP Gateways / Routers
Integrated Access Devices
Fiber to the Premise/Home (FTTP/H)
Optical Network Terminals (ONT)
Set Top Boxes
Wireless Local Loop, PBX, ISDN NT1/TA

# Application Diagram



### **Product Selection Guide**

Part Number	Description	Packaç
W684386FG	Pb-Free, qual channel FXS telephone line interface, μ-law/A-law or 16-bit linear PCM	QFP-1

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