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Pro-X Single Programmable Extended CODEC/SLCC

The W681388 implements a single channel FXS telephone line interface optimized for short loop applications. It integrates SLCC (Subscriber Line Control Circuit) functionality with a programmable CODEC and a DC-to-DC controller. The SLCC supports internal ringing up to 90 VPK (5 REN at 4 kft) ideal for customer premise equipment (CPE). The CODEC can be configured for μ -law/A-law or 16-bit linear PCM encoding and supports a comprehensive set of signaling capabilities required to supervise and control both telephone lines. These include tone generation, including ring tones, DTMF generation and detection as well as FSK and metering pulse generation. An on-chip pulse width modulation (PWM) driver allows the control of DC-to-DC conversion for the line. Programmable impedance and transhybrid balancing allow for worldwide deployment.

For additional technical documentation, please [Contact Sales](#).

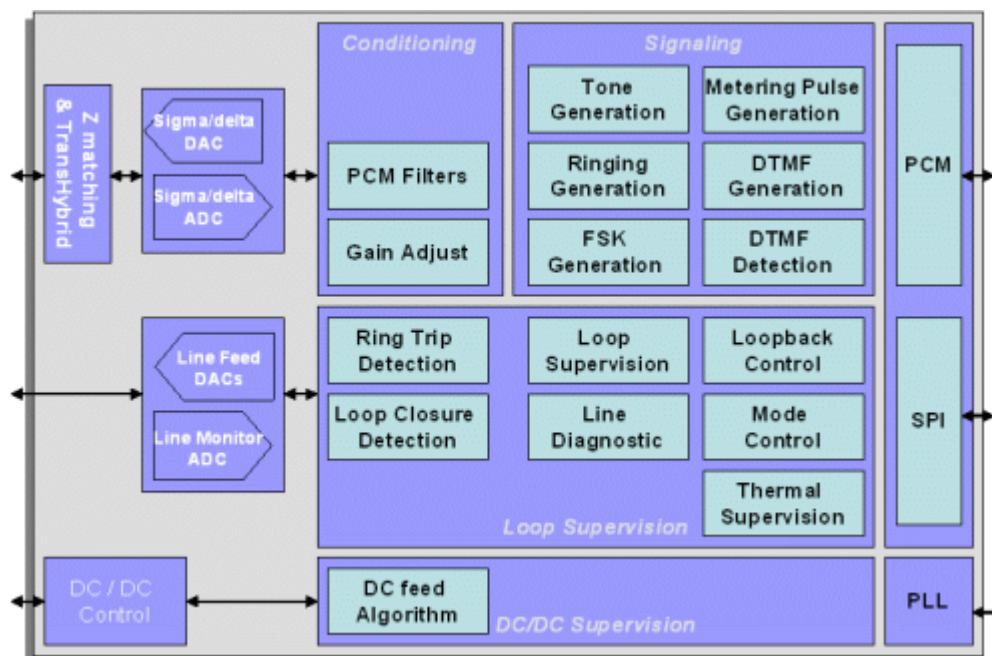


All packages available in Pb-free

[Block Diagram](#)

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Key Features

Performs complete BORSCHT functions for a single channel with a single device

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

Integrated Power Management

Integrated DC-to-DC controller regulates battery voltage to minimize power dissipation in all operating modes

Programmable linefeed characteristics

Ringing frequency, amplitude, cadence

Trapezoidal and Sinusoidal waveforms

Two-wire AC impedance, transhybrid balance

Constant Current feed (20 to 41 mA)

Ring trip and loop closure threshold

Programmable signal generation

DTMF generation and detection

Metering pulse generation (12/16 kHz)

Enhanced Caller ID (FSK) generation (Type I and Type II)

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

Real-time linefeed monitoring

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

Small Footprint Packages: LQFP-48, QFN-48

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

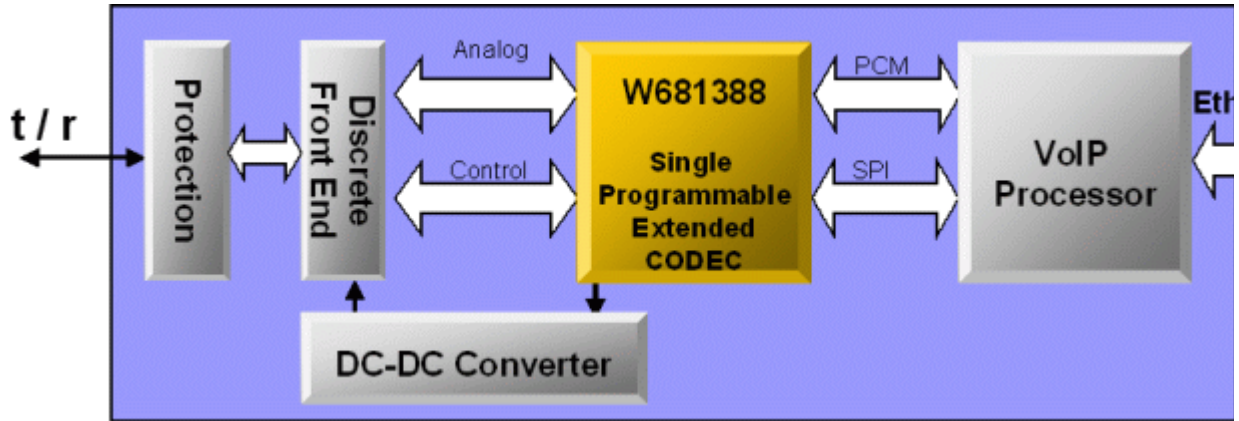
Fiber to the Premise/Home (FTTP/H)

Optical Network Terminals (ONT)

Set Top Boxes

Wireless Local Loop, PBX, ISDN NT1/TA

Application Diagram



Product Selection Guide

Part Number	Description	Packag
W681388DG	Single channel FXS telephone line interface, μ -law/A-law or 16-bit linear PCM	LQFP-48 F
W681388YG	Single channel FXS telephone line interface, μ -law/A-law or 16-bit linear PCM	QFN-48 P

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