ZARLINK SEMICONDUCTOR

Product Brief

VE880 Series

Dual Channel Tracking Battery VoicePort™ Device

Le88211/231

APPLICATIONS

- **Voice enabled Cable and DSL Modems**
- **Voice over IP/ATM - Integrated Access Devices (IAD)**
- **Residential VoIP Gateways and Routers**
- **Media Terminal Adapters (MTA) Standalone & Embedded**
- **Fiber to the User/Premise/Home (FTTH/P/H), Fiber in the Loop (FITL) Optical Network Terminals (ONT)**
- **Wireless Local Loop (WLL), PBX, ISDN NT1/TA**
- **Set-Top Box, Home Side Box**

FEATURES

- **Complete BORSCHT function in a single VoicePort™ device for two channels**
  - — **B**attery Feed, **O**ver-voltage support, integrated **R**inging, line **S**upervision, **C**odec, **H**ybrid (2W/4W), **T**est
- **Integrated Power Management**
  - — Integrated high voltage switching regulator controllers
    - – Wide input voltage range (VSW =+3.3V to +35 V)
    - – Switching power supply tracks line voltage minimizing active & ringing state power dissipation
  - — Low power Idle and On-hook transmission states
- **Worldwide Programmability**
  - — Two-wire AC impedance, Balance Impedance, Gain
  - — DC feed voltage and current limit
  - — Ringing frequency, voltage and current limit
  - — 12 kHz and 16 kHz Metering
  - — Programmable loop closure and ring trip thresholds
- **Ringing**
  - — 5 REN with pin for pin compatible 100-V (Le88211) and 150-V (Le88231) devices
  - — Up to 140-Vpk internal balanced sinusoidal or trapezoidal ringing with programmable DC offset
  - — Unbalanced ringing for PBX trunk compatibility (Le88231 device only)
- **Powerful signal generator**
  - — Universal Caller ID generation
  - — Up to 4 simultaneous tones
  - — Automatic cadencing feature
- **Subscriber Loop Test/Self Test support**
  - — Comprehensive line sensing
  - — Integrated self test capabilities
  - — Line fault detection and reporting
    - – Loop supervision, AC/DC faults
  - — Test load switch (Le88231)
- **Pin selectable PCM/MPI or GCI interface**
- **G.711 µ-law, A-law, or 16 bit linear coding**
- **Integrated 150 mW 3-V or 5-V Relay Driver**
- **Small footprint package - Exposed pad 80-pin LQFP**
- **Pin-compatible wide band version available (16-kHz sampling mode)**

ORDERING INFORMATION

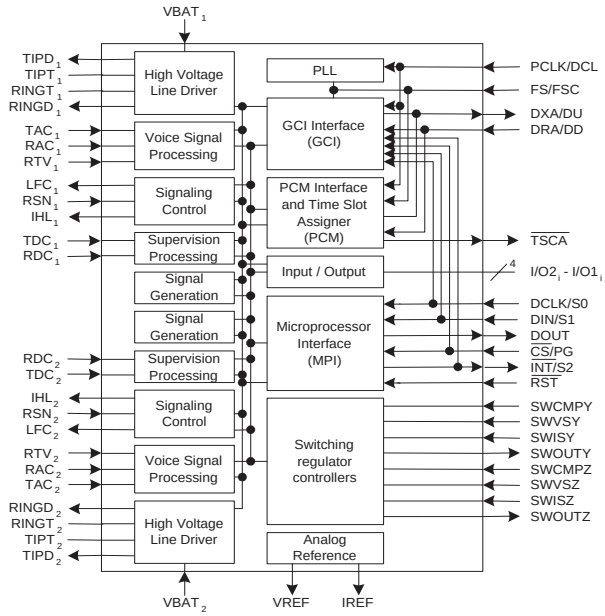
Device	Package
Le88211DLC	80-pin eLQFP (Green package)*
Le88231DLC	

**Green Package meets RoHS Directive 2002/95/EC of the European Council to minimize the environmental impact of electrical equipment.*

DESCRIPTION

The Zarlink dual channel Le88211/231 Tracking Battery VoicePort™ device implements a dual-channel telephone line interface by providing all the necessary voice interface functions from the high voltage subscriber line to the µP/DSP digital interface. This device reduces system level cost, space, and power by achieving the highest level of voice integration possible. Designers benefit by having a simple, cost effective, low power and dense, interface design without sacrificing features or functionality. The programmable, feature rich VoicePort devices provide a highly functional line interface which meets the requirements of short and medium loop (up to 1500 Ohms total) applications. Features include: high voltage switching regulator, self-test, line test capabilities, integrated ringing (up to 140-Vpk), worldwide software programmability, flexible signal generator with tone cadencing, caller ID generation and all BORSCHT functions. These VoicePort device features are crucial for designing cost-effective, full-featured Voice over Broadband solutions.

VOICEPORT™ DEVICE BLOCK DIAGRAM



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FEATURES	BENEFITS
• Highest level of integration	• Reduces system BOM and discrete component count
• Smallest footprint	• Saves board space
• Pin-compatible options	• Provides design flexibility to develop one design and populate the voice socket with the right features for a given market—100 V or 150 V, narrow band or wide band, internal balanced (sinusoidal or trapezoidal) or unbalanced ringing
• Lowest power solution across all operating modes	• Provides best solution for battery-backed and power-sensitive applications
• Highly programmable	• Offers design flexibility to develop one application for worldwide markets
• Integrated ring cadencing and system state control	• Reduces real-time software overhead
• Comprehensive line sensing	• Enables high performance 909 diagnostics and subscriber loop test and self test support
• Integrated switching regulator	• Enables lowest component count and highest efficiency in all states of operation

Related Literature

- **081274 - Le88211/231 Dual-Channel Tracking Battery Narrow band VoicePort Device Data Sheet***
- **081315 - Le88216/236 Dual-Channel Tracking Battery Wide band VoicePort™ Device Data Sheet***
- **081206 - Le88116/136 Single-Channel Tracking Battery Wide band VoicePort™ Device Data Sheet***
- **081307 - Le88226/246 Dual-Channel ABS Wide band VoicePort™ Device Data Sheet***
- **Le71HR0826 - VE880 Series Line Module (Supports 2FXS up to 150-V ringing with a 12-V Flyback Tracking Power Supply)**

**Contact your Zarlink Sales Representative to obtain the data sheet.*

Packaging and Availability

See *Ordering Information* on first page.

For More Information:

To find the Zarlink Sales Office nearest you, visit our website at: www.zarlink.com

For more information about all Zarlink products visit our Web Site at

www.zarlink.com