

Integrated VoIP Solution for **IP Phone Applications**

CX90600

Conexant's portfolio includes a comprehensive suite of semiconductor solutions for broadband communications, enterprise networks, and the digital home. The CX90600 device is a highly integrated VoIP single-chip device based on the ARM926EJ core with integrated memory management unit (MMU), caches and tightly coupled memory (TCM). Integrated peripherals such as the LCD controller, keypad interface, 3-port Ethernet switch, and a codec significantly reduce the overall bill of material (BOM) and design complexity of the IP Phone application, and enable feature rich designs of Web-Phone, Video-Phone and other similar terminals.

A rich set of integrated peripheral interfaces includes USB 2.0 controller, high speed UART, high performance PCI 2.3 interface, FlexIO™, and several general purpose I/Os, adds to the flexibility of this device. Customers can add features such as Smart Card, flash drive, 802.11a/g WLAN and video cameras, allowing cost effective implementation of advanced applications and a wide range of value-added options including web browsing, billing and video conferencing.

The CX90600 performs a wide variety of speech coding schemes, such as G.711, G.722, G.726 and G.729ab as well as telephony algorithms such as DTMF and dial tone generation without the need for an external DSP device. The advanced voice capabilities also include acoustic echo cancellation for full-duplex speakerphone. The device's internal cryptographic engine performs the time-consuming cryptography and authentication algorithms such as 128-bit AES (advanced encryption standard) and 3DES (triple data encryption standard) tasks while freeing up processing resources for other CPU intensive applications. The 3-port internal Ethernet Switch with dual EPHYs provides support for both LAN and WAN connections and Power over Ethernet, while the integrated system side device (SSD) provides an interface to the Conexant's CX20493 SmartDAA® line side device (LSD) enabling efficient implementation of FXO support.

The CX90600 supports a variety of MMU and non-MMU based operating systems such as Windows CE, Linux, Nucleus, and VxWorks, and others. Conexant provides device drivers, network management, enhanced security, and the necessary APIs for VoIP call processing based on the Nucleus and Linux operating system.



Distinguishing Features

- ARM926EJ core @ 250 MHz
- Supports up to 64MB of SDRAM and 32MB of FLASH memory
- Integrated LCD Controller
- Enhanced voice codec
- 3-port Ethernet switch
- Two 10-100 EPHYS with Auto MDIX support
- USB 2.0 host/device
- PCI/PPI interface
- High-speed UART
- FlexIO programmable peripheral interface
- 3DES/AES

Part Number CX90600

Description

Integrated VoIP Solution for **IP Phone Applications**

Conexant Product Portfolio

The company's broad portfolio of semiconductor products also includes client-side DSL and cable modem solutions, home network processors, broadcast video encoders and decoders, digital set-top box components and systems solutions, and dial-up modems. In addition to its IEEE 802.11a/b/g-compliant WLAN chipsets, software, and reference designs, Conexant

offers a suite of networking components that includes solutions for applications based on HomePlugSM and HomePNATM. Additional products include a complete line of asymmetric and symmetric DSL central office solutions, which are used by service providers worldwide to deliver broadband data, voice, and video over copper telephone lines.

Features

- ARM926EJ core @ 250 MHz
 - 16 KB Instruction Cache
 - 4 KB Data Cache
 - 68 KB Instruction TCM (64 KB ROM and 4 KB RAM)
 - 16 KB Data TCM (8 KB ROM and 8 KB RAM)
 - Supports up to 64 MB of external SDRAM
 - Supports up to 32 MB of external flash
- Enhanced voice codec
 - Supports G.711, G.722, G.726 and G.729ab
 - DTMF encode and decode
 - DTMF relay
 - Dial tone generator
 - Hardware acoustic echo cancellation with 64ms span
- Ethernet interface
 - 3-port Ethernet switch
 - Two 10-100 EPHYS with Auto MDIX support
 - Enables power over Ethernet (802.3af)

- LCD controller
 - Supports up to 640 x 480 16-bit TFT
 - STN (single/dual panel)
 - BitBLT engine with ROP
 - Unified memory architecture (UMA)
- Integrated wideband codec
- Integrated SSD for FXO support
- Integrated LDO regulator controller
- USB 2.0 host/device
- PCI/PPI interface
- High-speed UART
- FlexIO programmable peripheral interface
- Keypad interface supports up to 81 keys
- Security features
 - Random number generator (RNG)
 - 3DES and 128-bit key AES
 - CBC and ECB support
- JTAG debug interface

© 2005, Conexant Systems, Inc. All Rights Reserved. Conexant and the Conexant logo are registered trademarks of Conexant Systems, Inc. All other trademarks are owned by their respective owners. Although Conexant strives for accuracy in all its publications, this material may contain errors or omissions and is subject to change without notice. THIS MATERIAL IS PROVIDED AS IS AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. Conexant shall not be liable for any special, indirect, incidental or consequential damages as a result of its use.

www.conexant.com

Order# 102764A

General Information: U.S. and Canada: (888) 855-4562 International: (732) 345-7500 Headquarters 4000 MacArthur Blvd. Newport Beach, CA 92660

