InstaVoIP™ 516-CN Module

About the InstaVoIP 516-CN Module

The InstaVoIP™ 516-CN Module is a standalone hardware module ready to be embedded into an existing hardware platform or used as the foundation of a new product. Based on a powerful Analog Devices Blackfin processor, the 516-CN includes an Ethernet connection, 4 MB of Flash, 16MB of SDRAM, and a 48 KHz capable stereo audio codec. The 516-CN Module is based on Unicoi's industry-leading embedded software including the Fusion RTOS, TCP/IP stack, Voice Engine, SIP stack, and VoIP Call Manager. Out-of-the-box, 516-CN is immediately capable of creating 5-way conference calls using the G.729 codec and still has enough free processing power to run user applications. The InstaVoIP 516-CN Module is designed and manufactured in the US.

Sample applications for 516-CN Module

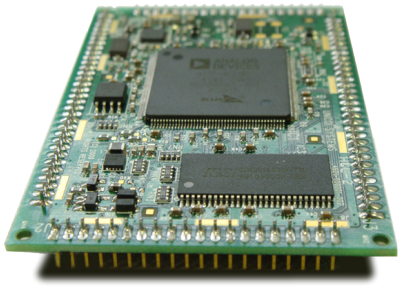
- VoIP Phones & PSTN Gateways
- Emergency Phones
- Door Entry/Intercom Systems
- Remote Speakers
- Voice Recorders
- Audio over IP (AoIP) Devices
- Radio over IP (RoIP) Gateways
- Answering Machines
- ...and more!

Made in AMERICA

516-CN Module Features

Module Software

The software for 516-CN Module is available in two varieties: a combination object code and ANSI C source code release, or a full ANSI C source code release. In the combination release, a significant portion of the software is provided as object code but strategic portions are provided as source to allow for user expansion. The full source code release is for customers that typically need to modify the core code to implement new functionality, or for those customers who prefer to have the source for debugging purposes.



516-CN Module

Software Details

The 516-CN Module incorporates the following Fusion software modules as part of the standard package:

• Fusion RTOS	• Fusion TCP/IPv4/v6
• TFTP Client	• DHCP Client
• Telnet Server	• Extendible Command Line Interface
• Voice Engine with RTP (includes support for RoIP products)	• Web Server with Extendible Configuration Web App and Configuration and Control Web Services
• Voice Engine Codecs: G.711, G.726 (16/24/33/40 kbps), G.722, DVI4 (narrow/HD/Ultra HD), iLBC, Speex. *Optional* G.729	• VoIP Call Manager (includes support for incoming calls, outgoing calls, hold, conferencing, transfers, mic/speaker volume control and mute, etc.)
• Data Flash Management (Multi-Partition File System, Advanced Firmware Management, Bootloader, Secure Area)	• Configuration Engine (file based or can integrate with other platform standard)
• SIP/SDP	• Optional Security (SIPS, SRTP)

Continued on next page ↓

Read more at www.unicoi.com/instavoip.

Email: info@unicoi.com **Phone**: +1 (678) 208-2250

Module Hardware

- 1 10/100 Ethernet Connection MII/RMII to external PHY or switch
- 1 Three-phase 16-bit center-based PWM unit
- 2 SPIs
- 1 TWI
- 1 Real Time Clock
- 300 MHz Processor speed (Optional 400 MHz)
- 8 Mbytes SDRAM
- 8 32-bit Hardware Timers with PWM support
- 2 UARTS
- 2 SPORTs
- 1 SDIO interface
- 1 Watchdog Timer
- 4 Mbytes Flash
- 2 channel Audio Codec with variable sampling rates up to 96KHz and 24 bits
- Industrial Temperature: -40°C to +85°C
- RoHS Compliant
- Manufactured in the US

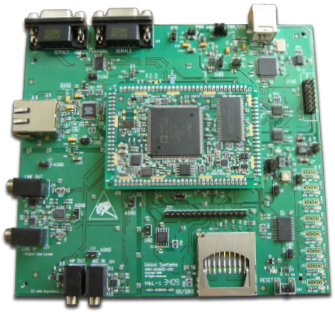
Other Features

A "Green" Module

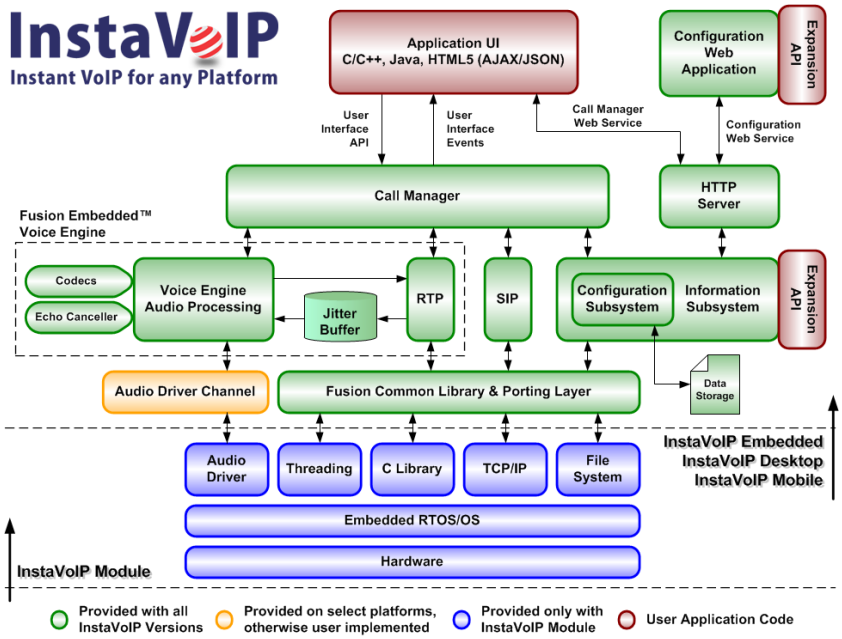
A typical IP Phone uses 1 to 4 Watts of power just sitting on the desk in an idle state. The InstaVoIP 516-CN Module uses less than 5 milliWatts in idle mode and 600 microWatts in Deep Sleep mode. This low power design allows InstaVoIP to be the foundation for a wide variety of "GREEN" consumer and business products.

Jumpstart Your Project with the Development Kit

The InstaVoIP Module Development Kit consists of one 516-CN Module, one debug carrier board, USB cable (for power only), Ethernet cable and headset. The initial InstaVoIP Module Development Kit requires the VisualDSP++® Development Environment from Analog Devices.



The 516-CN Mounted on Development Kit Carrier Board



InstaVoIP Suite Comprehensive Diagram

Read more at www.unicoi.com/instavoip.

Email: info@unicoi.com **Phone**: +1 (678) 208-2250