



Fusion VoIP Gateway/Terminal Adapter

The Fusion VoIP Gateway/Terminal Adapter reference design from Unicoi Systems (Unicoi) is one of the industry's most respected turnkey solutions. With router functionality and full-featured SIP telephony running on a single-core Blackfin Processor, the Fusion VoIP Gateway/Terminal Adapter is designed for customization so developers can take a product to market rapidly.

The Lowest Cost BOM Solution

The Fusion VoIP Gateway/Terminal Adapter has the lowest cost bill of materials (BOM) on the market yet still features robust functionality. Centered around an Analog Devices Blackfin Processor, the Fusion VoIP Gateway/Terminal Adapter includes more features, better functionality, and ample memory and processor power for platform customization, all with the lowest BOM possible.

Full-Featured Telephony and Router Functionality

Combining an Internet router, a 4-Port Ethernet switch and VoIP gateway features, the Fusion VoIP Gateway/Terminal Adapter is indispensable for homes and small offices with limited space and technical expertise. It interfaces with DSL and cable modems.

Voice Codecs

- G.711/A
- G.723.1
- G.726 (40, 32, 24 & 16 kbits/sec)
- G.729 A/B

Voice Features

- G.168 Line Echo Cancellers (LEC)
- Silence Detection
- Invalid number and off-hook error
- DTMF detection and generation (In-Band and Out-of-Band)
- Dial-tone, busy signal, ring-back
- Call transfer, hold and waiting and Caller ID
- Message waiting indicator
- Multiple SIP accounts freely assignable to each phone port

SIP INFO

- Fax & modem tone detection and pass-through
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- T.38 Fax Relay

RFC Compliance

SIP

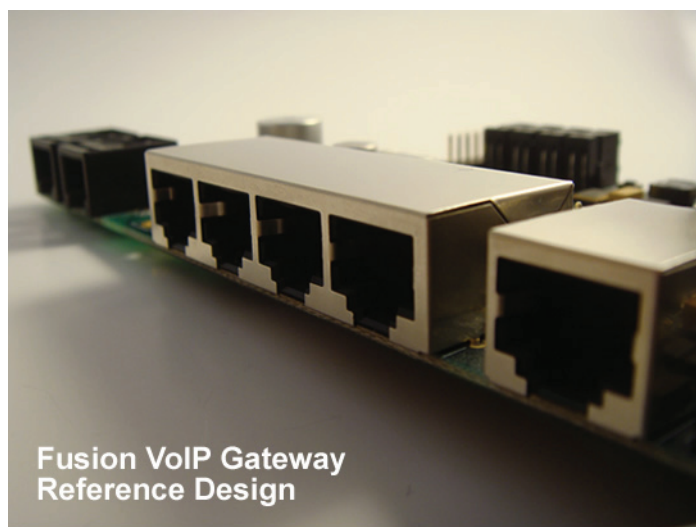
- RFC 2617 (Basic and Digest Authentication)
- RFC 2976 (Info Method)
- RFC 3261 (SIP Version 2)
- RFC 3262 (Reliability of Provisional Responses in SIP)
- RFC 3263 (Locating SIP Servers)
- RFC 3265 (Specific Event Notification)
- RFC 3420 (Internet Media Type message/sipfrag)
- RFC 3515 (Refer method)
- RFC 3959 (Sender & receiver tables for session members)

IM & Presence

- RFC 2778 (Model for Presence and Instant Messaging)
- RFC 3428 (Extensions for instant messaging)
- RFC 3856 (A presence Event Package for SIP)
- RFC 3857 (A Watcher Information Event Template Package for SIP)
- RFC 3858 (XML Based Format for Watcher Information)
- RFC 3863 (Presence Information Data Format (PIDF))

Network

- RFC 2136 (Dynamic DNS)
- RFC 2782 (DNS RR for specifying the location of services (DNS SRV))
- RFC 2915 (The Naming Authority Pointer (NAPTR) DNS Resource Record)





- RFC 2845 (Secret Key Transaction Authentication for DNS (TSIG))
- RFC 3007 (Secure Dynamic DNS)
- RFC 3489 (STUN)

Media & RTP/RTCP

- RFC 1889 (RTP)
- RFC 1890 (RTCP)
- RFC 2327 (Session Description Protocol (SDP))
- RFC 2508 (RTP Header Compression)
- RFC 3264 (Offer/Answer Model with SDP)
- RFC 3550 (RTP)
- RFC 3551 (RTCP)
- RFC 2833 (Out-of-Band DTMF Tones)

QoS

- RFC 1349 (IPToS function priority quest for upstream/downstream traffic based on ToS field)
- Voice priority always guaranteed
- Dynamic jitter buffer (adaptive)

Routing Support

- IP routing: TCP, UDP, ICMP, ARP
- RIP1v1 and RIPv2
- IP multicast IGMPv1/v2

Dialing Engine

- Support for various digit-length dialing as well as international and long distance
- Support for short-cut dialing

Management

- DHCP server/relay/client
- DNS proxy
- Dynamic DNS

Virtual Private Network

- IKE and manual key management
- 20 IPSec VPN tunnels
- AH and ESP protocol
- DES, 3DES and AES encryption
- SHA-1 and MD5 authentication
- Tunnel and Transport mode encapsulation

Network Management

- SNMP Support
- FTP/TFTP firmware upgrade and configuration backup/restore

Web-based configuration

- Command-Line Interpreter (CLI)
- Telnet remote management
- Built-in diagnostic tool

PSTN Lifeline Support

- Provides the interface to and supports all major capabilities of the Legerity LE88221/241 device
- PSTN Relay when device powers down
- PSTN Relay when VoIP Service is not available

Hardware Specs

- LAN: 4 port 10/100 ethernet switch with auto crossover capability
- Phone: Two RJ-11 Ports for analog service connection
- Reset button
- LEDs Indicators for WAN/LAN and PSTN status and activity
- Power: Requires 12V DC 1A switching power supply

Point to Point Dialing

- Provides support for shortcut dialing to other
- pre-configured VoIP users

Software Upgrade

- Firmware for both router and telephony functionality is upgradeable remotely or locally
- TFTP support
- HTTP support