

## VoIP Gateway : ATA04-LL , ATA04-SL

Analog Telephone Adapter for Carrier network



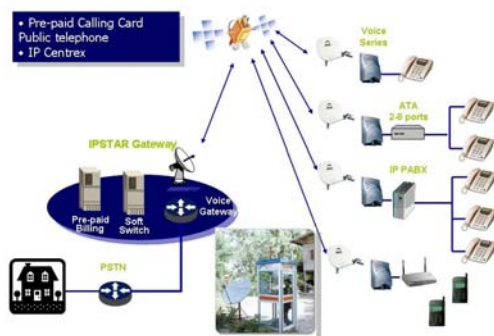
The ATA04-LL, VoIP Gateway is designed with the best voice quality using the latest “Dual core” RISC processor and DSP chipsets making it a compact architecture but without compromising in voice quality.

The ATA04-LL has been developed with high reliability and excellent voltage protection, supporting long-haul application, Pulse metering and Line Tests. With the field proven and the unmatched DSP voice compression algorithm making the ATA04-LL suitable for all sizes of enterprises, carrier networks and service provider application.

The ATA04-LL can be used in various network environment such as xDSL, broadband satellite, FTTx, leased line or cable modem with fixed IP or dynamic IP environment.

In addition, it supports various voice enhancement such as VAD, CNG, Echo cancellation, T.38 Fax over IP, and a long adaptive jitter buffer (up to 300ms.) The ATA04-LL works well even with low speed networks or with long delay time such as IP Satellite communication.

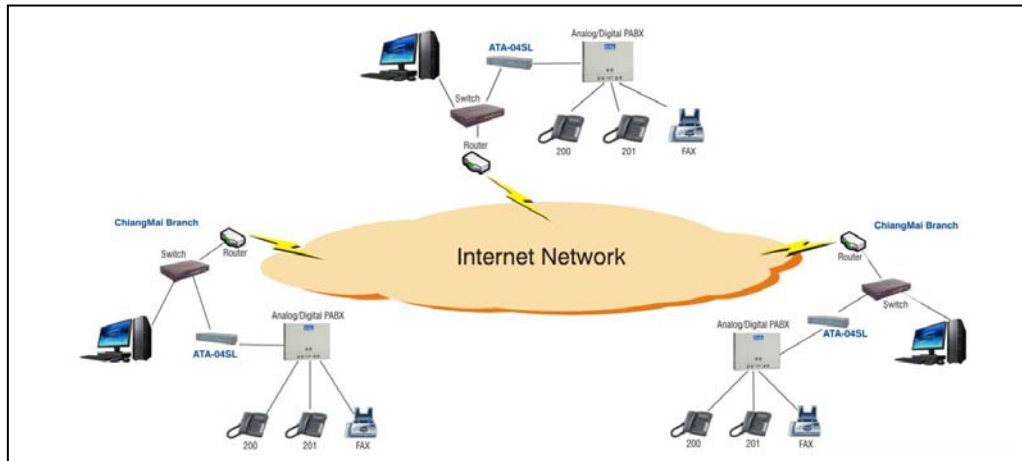
### IPSTAR for Rural Phone Network



Forth is the only one “premium partner” of IP-star (broadband satellite) and have been prove that Forth ATA-04LL get the No1. best result. Even Satellite have a long round-trip delay time up to 1 sec. but ATA04-LL can still work very well on both Voice & FAX & Data operation.

## Product Highlights

- Dual core 32bit RISC Microprocessor and DSP Architectures
- Dual port 10/100BaseT WAN/LAN Fast Ethernet Interfaces
- 4 FXS high reliability, with current and voltage protection up to 4KV.
- Long-hual distance ( up to 5.5 km. ) \* ATA-04LL
- Remote Line Testing (Telcordia GR-844 standard) unique feature for telephone service provider application.
- Support Pulse metering and Polarity Reversal for Pay-phone or support PBX.
- The best field proven VoIP chipsets for Voice Networking Applications
- SIP protocol compliant (RFC3261, RFC2543)
- G.711, G.723.1, G.726, G.727, G.729, Full Rate GSM6.10, Linear 16 bit 8Khz coder
- Voice Enhancement Features VAD, DTMF, CNG, G.168
- T.38 Relay (Fax over IP)
- Static, Default IP-Routing and IEEE 802.1Q Routing Protocols
- QoS Managements for Voice Traffic
- SNMP v2 for network management
- Web based Configuration & Remote
- Remote Software Upgrade using FTP
- Standard Data network such as DHCP Server, Client & Relay, NAT/PAT, Bridging with spanning tree



## INTERFACES

- 4 x RJ11 FXS Ports ,
- 2 x RJ45 Fast Ethernet , WAN / LAN Port

## DATA NETWORKING

- ARP Address Resolution Protocol
- MAC Address (IEEE 802.3)
- TCP (RFC 793), UDP (RFC 768)
- DHCP Client/Server (RFC 2131)
- IPV4 (RFC 791/RFC 1883)
- NAT (RFC 3022)
- STUN (RFC 3489)
- ICMP (RFC 792)
- PPPoE (RFC-2516)
- RTP (RFC 1889/1890), RTCP (RFC 1890)
- HTTP Client/Server (RFC 2131)
- PPPoE (RFC 2516)
- DNS Server / Proxy

## CALL CONTROL / VoIP FEATURES:

- SIP (RFC 3261 , RFC 2543 )
- SIP-Event (RFC-3265)
- SIP Proxy redundancy A-Records, DNS-SRV
- RTCP Attribute in SDP (RFC 3605)
- Disable/Enable Registrar
- RTP/RTCP (RFC 3550)
- RTP Payload for DTMF Digits, Telephony Tones and Signals (RFC 2833)
- Tone Generation (GR-506)
- Caller-ID Telcordia (Bellcore) , ETSI , NTT On hook & Off hook service (Type 1&2)

## VOICE ALGORITHMS:

- G.711, G.723.1 , G.726 ,G.727 ,G.729 Annex A,B , Full Rate GSM6.10, Linear 16 bit 8Khz coder
- Echo Cancellation G.168-2002 ( up to 64 ms )
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- Adaptive Jitter Buffer (up to 300ms)
- Packet Loss Concealment (PLC)
- Asymmetrical Codes (Allows upstream and downstream to use different codecs)
- AGC (Auto Gain Control), AEC (Auto Echo Cancellation)
- Voice / FAX / Modem Automatic detection and switching
- T.38 compliant , Group 3 Fax Relay up to 14.4 kbps with automatic fallback
- In-band Signaling DTMF (TIA 464B) ,
- User defined and call progress tone.
- RTP / RTCP Per RFC 3350 ,3351,2198
- DTMF Relay Per RFC 2833
- RTP Encryption 128 bit AES, Authentication MMH-AC, HMAC MD5, HMAC SHA1
- MoIP V.150.1 , VBD (Voice band data)

## SLIC SPECIFICATION

- Signaling: Loop Start
- ITU-T K.20 standard , high quality current & voltage protection (up to 4KV)
- Pulse Metering 12 / 16 KHZ Sinusoidal bursts
- Polarity Reversal
- Remote Line Testing ( Telcordia GR-844 standards )
- Long-hual distance ( up to 18 kft or 5.5 km at 24 AWG ) (ATA-04LL )
- Ringing source: Internal, 5 REN
- Loop current: 20 mA

## UNIVERSAL POWER :

- 120 VAC / 60 Hz or 220 VAC 50 Hz input
- Power consumption: 10.0 watts (typical)

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## About FORTH.

....FORTH have started researching, developing and producing PBX since 1989 and we are still continuing to develop Telecom products to make them the world standard produced by Thai engineer. At present we are the most acceptable and popular with top rating in local market and also in exporting to more than 20 countries.networks.

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