AmiGate Elite 200 is a cost effective and highly reliable Voice over IP (VoIP) gateway that offers toll quality voice and real-time fax data over IP networks. With its embedded architecture, AmiGate Elite 200 is ideal for VoIP applications associated with Small-Medium size Business (SMB), Remote Office and Branch Office (ROBO), and ISP/ITSP service markets.

**KEY FEATURES**

* Supports 2 channels of real-time voice and fax in a single embedded box
* Modular design to accommodate various types of telephony interfaces
* Field programmable CP tone detection and generation to support PBX and CO line interconnections
* Supports programmable line interfaces with country specific telephone settings
* Supports ITU standard vocoders and voice processing algorithms including G.711, G.723.1, and G.729 A/B, and G.168 Echo Cancellation
* User friendly management including console port interface, HTTP and Telnet servers, and Elite Server for VoIP related management such as call control and dial plan set up
* Built-in TFTP and flash memory for software download and upgrade via network
* H.323 call control protocol compliant
* QoS support for VoIP packets

AmiGate Elite 200 has user friendly interfaces and it may be installed easily and conveniently with VoIP management tools such as Elite Server to yield immediate cost savings.

Implemented with an efficient Real-Time Operating System (RTOS) and FLASH memory, AmiGate Elite 200 provides field upgradeable capabilities, so, it may be programmed with updated protocols or algorithms locally or via the network at anytime. It comes equipped with remote management capabilities, configurable signaling to work with PBX or telephone. AmiGate Elite 200 utilizes advanced VoIP related technologies. It includes various voice coders and fax algorithms, echo cancellation, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), and packet recovery algorithms.

AmiGate Elite family supports Voice over IP (VoIP), as well as Fax over IP (FoIP), and it seamlessly bridges existing PBX or phones with IP networks. Its scalability satisfies user’s needs for system growth without additional software or complex integration. Also, it supports various types of network configurations and requires very little maintenance or administration. It is fully interoperable with world renown VoIP gateways and PBXs. Furthermore AmiGate Elite 200 may coexist with broadband access devices for ADSL or CATV networks.
TECHNICAL SPECIFICATIONS

HARDWARE

Digital Signal Processors
- One TI TMS320VC5402 DSP
- 100 MIPS per DSP processor
- On-chip memory: 16K word of SRAM, 4K word of ROM
- Local SRAM 128K x 16 for each DSP

Control Processor
- 32-bit ARM7 TDMI core
- 8K byte unified cache
- 4K word write buffer
- Embedded on-chip Ethernet MAC with associated BDMA
- Local 2M x 16 SDRAM and 1M x 16 Flash

I/O
- Standard 10/100 BaseTX RJ 45 interface
- RJ 11 Loop Start interfaces for FXS

Mechanical, Environment & Power
- Operating temperature: 32 to 122 F (0 to 50 C)
- Operating humidity: 10% to 95% (non-condensing)
- Storage temperature: 14 to 140 F (-10 to 60 C)
- AC-to-DC power supply (90-260 VAC, auto-ranging, 50-60 Hz.)

Compliant
- CE
- FCC part 15 A
- FXS/FXO (Compliant with ITU-T G.712)
- UL

SOFTWARE

Speech
- Compression algorithms: ITU G.711, G.723.1, and G.729A/B.
- Hybrid echo cancellation G.168 (16 ms)
- Auto switch between Fax and voice
- DTMF tone detection/regeneration
- Channel: four channels per module
- Comfort Noise Generation (CNG)
- User programmable Call Progress detection/generation
- Voice Activity Detection (VAD)
- User programmable Gain Control

Fax
- Facsimile protocol: T.30 Group 3
- Modulation formats: V.21, V.27ter, V.29, V.17
- Real-time fax over IP
- DTMF tone detection/regeneration

Management Tools
- RS 232 console port interface
- HTTP Server
- Telnet Server
- Elite Server for RAS and dial plan management
- TFTP and flash memory for remote software download and upgrade

H.323 Protocol Stack
- RAS sub-stack for Terminals and Gatekeepers: supports all mandatory and optional messages (Tx and Rx) as specified in table 19/H.255.0
- H.245 sub-stack: supports the Signaling Entities of Master Slave Determination, Capability Exchange, Open Logical Channels, and Close Logical Channels
- Q.931: supports all mandatory messages as specified in table 4/H.255.0
- Compliant with H.323 Version 1 and Version 2

ORDERING INFORMATION

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<td>ELITE-200S supporting 2 voice/fax channels with FXS interface</td>
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Trademarks:
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ACCEL Inc.
27, Industry East Road IX,
Science-Based Industrial Park,
Hsinchu, Taiwan, 300, R.O.C.
Phone: +886-3-567-9728
Fax: +886-3-567-9732
E-mail: info@accel.com.tw
AmiGate Elite 400 is a cost effective and highly reliable Voice over IP (VoIP) gateway that offers toll quality voice and real-time fax data over IP networks. With its embedded architecture, AmiGate Elite 400 is ideal for VoIP applications associated with Small-Medium size Business (SMB), Remote Office and Branch Office (ROBO), and ISP/ITSP service markets.

Implemented with an efficient Real-Time Operating System (RTOS) and FLASH memory, AmiGate Elite 400 provides field upgradeable capabilities, so, it may be programmed with updated protocols or algorithms locally or via the network at anytime. It comes equipped with remote management capabilities, configurable signaling to work with PBX or telephone. AmiGate Elite 400 utilizes advanced VoIP related technologies. It includes various voice coders and fax algorithms, echo cancellation, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), and packet recovery algorithms.

AmiGate Elite family supports Voice over IP (VoIP), as well as Fax over IP (FoIP), and it seamlessly bridges existing PBX or phones with IP networks. Its scalability satisfies user’s needs for system growth without additional software or complex integration. Also, it supports various types of network configurations and requires very little maintenance or administration. It is fully interoperable with world renown VoIP gateways and PBXs. Furthermore AmiGate Elite 400 may coexist with broadband access devices for ADSL or CATV networks.

**KEY FEATURES**

- Supports 4 channels of real-time voice and fax in a single embedded box
- Modular design to accommodate various types of telephony interfaces
- Field programmable CP tone detection and generation to support PBX and CO line interconnections
- Supports programmable line interfaces with country specific telephone settings
- Supports ITU standard vocoders and voice processing algorithms including G.711, G.723.1, and G.729 A/B, and G.168 Echo Cancellation
- User friendly management including console port interface, HTTP and Telnet servers, and Elite Server for VoIP related management such as call control and dial plan set up
- Built-in TFTP and flash memory for software download and upgrade via network
- H.323 call control protocol compliant
- QoS support for VoIP packets

AmiGate Elite 400 has user friendly interfaces and it may be installed easily and conveniently with VoIP management tools such as Elite Server to yield immediate cost savings.
TECHNICAL SPECIFICATIONS

HARDWARE

Digital Signal Processors
- One TI TMS320VC5409 DSP
- 100 MIPS per DSP processor
- On-chip memory: 32K word of SRAM, 16K word of ROM
- Local SRAM 128K x 16 for each DSP

Control Processor
- 32-bit ARM7 TDMI core
- 8K byte unified cache
- 4K word Write buffer
- Embedded on-chip Ethernet MAC with associated BDMA
- Local 2M x 16 SDRAM and 1M x 16 Flash

I/O
- Standard 10/100 BaseTX RJ 45 interface
- RJ 11 Loop Start interfaces for FXS/FXO

Mechanical, Environment & Power
- Operating temperature: 32 to 122 F (0°C to 50°C)
- Operating humidity: 10% to 95% (non-condensing)
- Storage temperature: 14 to 140 F (-10 to 60°C)
- AC-to-DC power supply (90-260 VAC, auto-ranging, 50-60 Hz.)

Compliant
- CE
- FCC part 15 A
- FXS/FXO (Compliant with ITU-T G.712)
- UL

SOFTWARE

Speech
- Compression algorithms: ITU G.711, G.723.1, and G.729A/B.
- Hybrid echo cancellation G.168 (16 ms)
- Auto switch between Fax and voice
- DTMF tone detection/regeneration
- Channel: four channels per module
- Comfort Noise Generation (CNG)
- User programmable Call Progress detection/generation
- Voice Activity Detection (VAD)
- User programmable Gain Control

Fax
- Facsimile protocol: T.30 Group 3
- Modulation formats: V.21, V.27ter, V.29, V.17
- Real-time fax over IP
- DTMF tone detection/regeneration

Management Tools
- RS 232 console port interface
- HTTP Server
- Telnet Server
- Elite Server for RAS and dial plan management
- TFT and flash memory for remote software download and upgrade

H.323 Protocol Stack
- RAS sub-stack for Terminals and Gatekeepers: supports all mandatory and optional messages (Tx and Rx) as specified in table 19/H.255.0
- H.245 sub-stack: supports the Signaling Entities of Master Slave Determination, Capability Exchange, Open Logical Channels, and Closed Logical Channels
- Q.931: supports all mandatory messages as specified in table 4/H.255.0
- Compliant with H.323 Version 1 and Version 2

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<tr>
<td>ELITE-400</td>
<td>ELITE-202 supporting 2 FXO ports &amp; 2 FXS Ports</td>
</tr>
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AmiGate Elite 800 is a cost effective and highly reliable Voice over IP (VoIP) gateway that offers toll quality voice and real-time fax data over IP networks. With its embedded architecture, AmiGate Elite 800 is ideal for VoIP applications associated with Small-Medium size Business (SMB), Remote Office and Branch Office (ROBO), and ISP/ITSP service markets.

KEY FEATURES

* Supports 4, or 8 channels of real-time voice and fax in a single embedded box
* Modular design to accommodate various types of telephony interfaces
* Field programmable CP tone detection and generation to support PBX and CO line interconnections
* Supports programmable line interfaces with country specific telephone settings
* Supports ITU standard vocoders and voice processing algorithms including G.711, G.723.1, and G.729 A/B, and G.168 Echo Cancellation
* User friendly management including console port interface, HTTP and Telnet servers, and Elite Server for VoIP related management such as call control and dial plan set up
* Built-in TFTP and flash memory for software download and upgrade via network
* H.323 call control protocol compliant
* QoS support for VoIP packets

AmiGate Elite 800 has user friendly interfaces and it may be installed easily and conveniently with VoIP management tools such as Elite Server to yield immediate cost savings. Also, one AmiGate Elite may support up to 8 voice or Fax communications simultaneously.

Implemented with an efficient Real-Time Operating System (RTOS) and FLASH memory, AmiGate Elite 800 provides field upgradeable capabilities, so, it may be programmed with updated protocols or algorithms locally or via the network at anytime. It comes equipped with remote management capabilities, configurable signaling to work with PBX or telephone. AmiGate Elite 800 utilizes advanced VoIP related technologies. It includes various voice coders and fax algorithms, echo cancellation, Voice Activity Detection (VAD), Comfort Noise Generation (CNG), and packet recovery algorithms.

AmiGate Elite family supports Voice over IP (VoIP), as well as Fax over IP (FoIP), and it seamlessly bridges existing PBX or phones with IP networks. Its scalability satisfies user's needs for system growth without additional software or complex integration. Also, it supports various types of network configurations and requires very little maintenance or administration. It is fully interoperable with world renown VoIP gateways and PBXs. Furthermore AmiGate Elite 800 may coexist with broadband access devices for ADSL or CATV networks.
**HARDWARE**

Digital Signal Processors
- One TI TMS320VC549 DSP per module
- 100 MIPS per DSP processor
- On-chip memory: 32K word of SRAM, 16K word of ROM
- Local SRAM 128K x 16 for each DSP

Control Processor
- 32-bit ARM7 TDMI core
- 8K byte unified cache
- 4KWorde Write buffer
- Embedded on-chip Ethernet MAC with associated BDMA
- Local 2M x 32 SDRAM and 2M x 16 Flash

I/O
- Standard 10/100 BaseTX RJ 45 interface
- RJ 11 Loop Start interfaces for FXS/FXO
- RJ 45 for E&M Type V 4w interface

Mechanical, Environment & Power
- 19" rack mountable or desk top
- Operating temperature: 32 to 122 °F (0 to 50 °C)
- Operating humidity: 10% to 95% (non-condensing)
- Storage temperature: 14 to 140 °F (-10 to 60 °C)
- AC-to-DC power supply (90-260 VAC, auto-ranging, 50-60 Hz.)

Compliant
- CE
- FCC part 15 A
- FXS/FXO/E&M modules (Compliant with ITU-T G.712)
- UL

**Line Module Specifications**

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<tr>
<th>FXO</th>
<th>FXS</th>
<th>E&amp;M</th>
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</thead>
<tbody>
<tr>
<td>Signaling</td>
<td>Loop Start/DTMF</td>
<td>Loop Start/DTMF</td>
</tr>
<tr>
<td>Line Output</td>
<td>-3.0dB-1.0dB</td>
<td>-3.0dB-1.0dB</td>
</tr>
<tr>
<td>Interface Connections</td>
<td>8 RJ 45 per module jack</td>
<td>8 RJ 45 per module jack</td>
</tr>
<tr>
<td>Line Impedance</td>
<td>600 Ω</td>
<td>600 Ω</td>
</tr>
<tr>
<td>Complete UNI impedance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insertion Loss</td>
<td>2 dB nominal (Adjustable)</td>
<td>2 dB nominal (Adjustable)</td>
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<tr>
<td>Frequecy Response</td>
<td>300 Hz - 3400 Hz = 24dB</td>
<td>300 Hz - 3400 Hz = 24dB</td>
</tr>
<tr>
<td>Return Loss</td>
<td>&gt; 15 dB</td>
<td>&gt; 15 dB</td>
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<tr>
<td>Input Level Adjustment</td>
<td>-6 to +15 dB</td>
<td>-6 to +15 dB</td>
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<tr>
<td>Output Attenuation</td>
<td>-6 to +15 dB</td>
<td>-6 to +15 dB</td>
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<tr>
<td>Equalization Balance</td>
<td>&gt; 45 dB</td>
<td>&gt; 45 dB</td>
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<tr>
<td>Loop Current</td>
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<td>25VA nominal</td>
</tr>
<tr>
<td>Ringing Tone</td>
<td>N/A</td>
<td>N/A</td>
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</table>

**SOFTWARE**

**Speech**
- Compression algorithms: ITU G. 711, G.723.1, and G.729A/B.
- Hybrid echo cancellation G.168 (16 ms)
- Auto switch between Fax and voice
- DTMF tone detection/regeneration
- Channel: four channels per module
- Comfort Noise Generation (CNG)
- User programmable Call Progress detection/generation
- Voice Activity Detection (VAD)
- User programmable Gain Control

**Fax**
- Facsimile protocol: T.30 Group 3
- Modulation formats: V.21, V.27ter, V.29, V.17
- Real-time fax over IP
- DTMF tone detection/regeneration

**Management Tools**
- RS 232 console port interface
- HTTP Server
- Telnet Server
- Elite Server for RAS and dial plan management
- TFTP and flash memory for remote software download and upgrade

**H.323 Protocol Stack**
- RAS sub-stack for Terminals and Gatekeepers: supports all mandatory and optional messages (Tx and Rx) as specified in table 19/H.255.0
- H.245 sub-stack: supports the Signaling Entities of Master Slave Determination, Capability Exchange, Open Logical Channels, and Close Logical Channels
- Q.931: supports all mandatory messages as specified in table 4/H.255.0
- Compliant with H.323 Version 1 and Version 2

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<tr>
<td>ELITE-804S</td>
<td>ELITE-804S supporting 4 voice/fax channels with FXS interface</td>
</tr>
<tr>
<td>ELITE-804E</td>
<td>ELITE-804E supporting 4 voice/fax channels with E&amp;M interface</td>
</tr>
<tr>
<td>ELITE-808</td>
<td>ELITE-808 supporting 8 voice/fax channels with FXO interface</td>
</tr>
<tr>
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<td>ELITE-808S supporting 8 voice/fax channels with FXS interface</td>
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<tr>
<td>ELITE-808E</td>
<td>ELITE-808E supporting 8 voice/fax channels with E&amp;M interface</td>
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<tr>
<td>ELITE-FXO</td>
<td>4-port line module FXO interface</td>
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<tr>
<td>ELITE-FAX</td>
<td>4-port line module FXS interface</td>
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<tr>
<td>ELITE-ENM</td>
<td>4-port line module E&amp;M interface</td>
</tr>
<tr>
<td>ELITE-GK</td>
<td>Elite Server</td>
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</table>

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