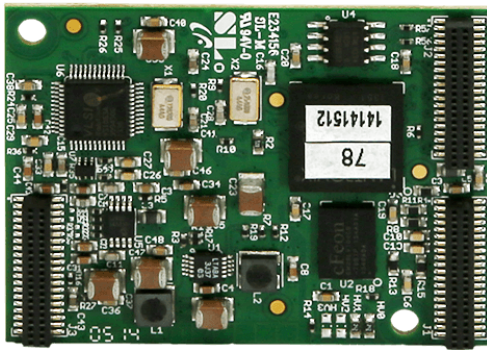


IP Audio Module 102

Full I/O and codec/DSP capabilities, two serial ports, versatile digital I/O, Encoding/Decoding, 5V supply.



The Barix IP AUDIO MODULE 102 is a versatile network audio module that encodes and decodes PCM, G.711, G.722 and MPEG audio. The IPAM 101 model is intended for OEM applications where G.722 and MP3 encoding is not required. Both models enable manufacturers of traditional audio devices to add network capabilities to their products.

Each module is a complete system consisting of CPU, DSP, memory and interface circuitry, providing network and high-speed serial interfaces, general purpose I/Os, analog and digital audio interfaces.

For OEM hardware integration a development specification with schematic, pin-out and layout guidelines is available. An IPAM Evaluation Kit, containing a carrier PCB and the IP audio module 102, is available.

Various software packages for standard applications are available for download from the Barix website, optimized for encoding, audio distribution, paging and intercom, including a rich featured SIP client.

Custom software can easily be written, based on existing packages from Barix written in the ABCL language. For low-cost applications, the Barix IP AUDIO MODULE 300 with reduced set of interfaces and audio decoding capabilities is available.

Applications

- Commercial Audio Streaming Applications
- Digital Annunciator, Message Player, Message Repeater
- Generic, bidirectional full-duplex VoIP module for Paging and Intercom applications
- Source Encoder for IP Audio Distribution Applications
- Background Music and Music-on-Hold encoder for VoIP Applications
- Low latency IP Audio Encoder for multichannel applications

Features

- MP3, G711, G.722, PCM Encoding
- AACplus, MP3, Ogg Vorbis, G.711, G.722, PCM linear Decoding
- Shoutcast/Icecast Source capability
- Audio Level Supervision with SNMP Trap generation
- IP Streaming via TCP, UDP, RTP, Multicast
- Microphone Input
- Line Level Input (Stereo)
- Line Level Output (Stereo)
- General Purpose I/O (8)
- Two Serial Port (TTL Level)
- Supply Voltage (5V)
- USB Flash Memory Interface

Technical Specifications

Electrical

- 5 VDC (-20% / +10%), 1.6 Watt max.
- 3 x 40 pin, high density, 0.8 mm spacing, SMT connectors

Ethernet

- Two 10/100 Mbps (auto) Ethernet: primary with built-in PHY,
- secondary intended for redundancy use (MII only, requiring external PHY), outputs for dual color Link/Activity LEDs

Audio Interfaces

- Mic input 111 mVpp max (with Bias power),
- Stereo input 2.2 Vpp max, both adjustable in sensitivity
- Frequency response 20 Hz ..20 kHz (-3 dB)*
- Dynamic range 87 dB, SNR -87 dB, THD <0.01% (-3dBFS)*
- Stereo output 3 Vpp max, volume, bass and treble adjustable
- Frequency response 20 Hz ..20 kHz (-3dB)*
- Dynamic range 94 dB, SNR -94 dB, THD <0.03% (-3 dBFS)*
- I²S output (Inter-IC Sound)

Audio formats (encode & decode)

- PCM
- G.711
- G.722
- OggVorbis (decode only)
- AAC+ (decode only)
- MP3

Note

- AAC+ requires separate licensing by OEM
- MP3, encoding/decoding up to 192/320 kbps
- PCM 16 bit and 8 bit (uLaw, aLaw) @ 8..48 kHz
- general purpose audio output, depending on used codec

Misc. Interfaces

- Dual TTL Level UART 300..230'400 Baud asynchronous
- Outputs for 2 dual color Ethernet status LEDs
- 8 General Purpose I/Os, 1 input for reset button, 1-wire bus,
- 2 status LED outputs, USB1.1 interface for memory

CPU / Memory

- Integrated CPU / MAC / IO controller with on-chip 256 KB RAM
- 2 KB EEPROM for configuration
- 2 MB Flash memory for system, application, data and web server content

Operating System

- Embedded, robust OS, IP stack with support for TCP/IP, UDP, RTP, SIP, DHCP, Multicast/IGMP

User / Application Interfaces

- Integrated web server (control/configuration),
- browser based, serial or Ethernet control interface
- programmable software environment

Mechanical

- Weight 14g, 2 mounting holes 2.7mm (for 2.5mm screws)

Dimensions (W x D x H)

- 53 x 39 x 8 mm (2.1 x 1.5 x 0.31 inch)

MTBF

- Calculation acc. MIL217F at 40°C
- IPAM 102 min. 1 100 000h

* depends on used codec, best results @ 48 kHz PCM

** 0 - 70% relative humidity, non-condensing

Environmental

Operating Environment

-20 to 60°C / -4 to 140°F

Storage Conditions

-40 to 85°C / -40 to 158°F

**Barix
AG**

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Certifications

CE, RoHS, others in examination



For commercial related question
contacts, price list, business opp
please contact: sales@barix.com

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Ordering Information

2011.0078 IPAM 102

Sold in quantities of 10, 200 and 1000.

2011.9114 IPAM 102 Evaluation Kit

IPAM 102 based Barix products

Exstreamer 500, Annunicom 100, 200,
1000