

IP AUDIO MODULE



BARIX IPAM 200

Universal audio decoder module with network, **USB** and serial interface, adding **IP based streaming and controlling capabilities to OEM products**

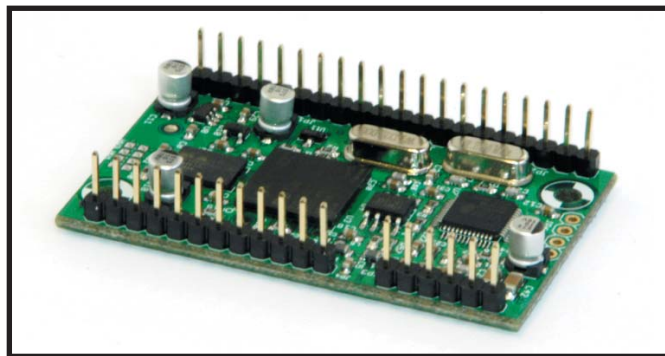
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For integration in paging systems, broadcast equipment, audio monitoring and distribution, alarm systems and updateable stand-alone players

Streams from web, Shoutcast, Icecast and RTP servers and plays MP3 and WMA from USB memory (automatic failover)

10/100 Mbit Ethernet connection

Controllable by web browser and API

Standard and fully programmable ABCL (Basic dialect) firmware versions available (OEM versions on request)

IPAM 200

Technical Specifications

Audio Interface and Formats:

Stereo out 1.5Vpp max, volume, bass and treble adjustable by browser, MP3 up to 320 kBit fixed & variable bit rates, WMA (Windows Media Audio), G.711 and PCM (both @ 8 or 24 kHz sampling rate) in a future release

Network Interface:

10/100 Mbit Ethernet (Auto), TCP/IP, UDP, RTP, HTTP, DHCP, SNMP, AutoIP, SonicIP, IPzator

Misc. Interfaces:

TTL Level UART 300..115200 Baud
Outputs for 2 dualcolor Ethernet status LEDs,
7 General Purpose I/Os,
USB1.1 interface for memory sticks (FAT16)

CPU / Memory:

Integrated CPU / MAC / IO controller with on-chip 256 KB zero wait state static RAM, 2 KB EEprom (configuration), 1 MB Flash memory (application and web server content)

Operating System:

Embedded, robust OS, fully routable IP stack

User / Application Interfaces:

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

Power requirements:

Single +3.3VDC 1.6 Watt max.

Dimensions:

2.2" x 1.3" x 0.39" / 56mm x 33mm x 10mm

Operating temperature / humidity:

0 - 40°Celsius / 32 - 104 Deg. Fahrenheit
0-70% relative humidity, non-condensing

Certifications:

RoHS compliant (lead free)

General description

The Barix IPAM 200 is a versatile network audio decoder module that plays MP3 or WMA (soon also G.711 & PCM) audio files and playlists from USB memory, PC or web server (http) or streams from sources like Shoutcast, Icecast (Internet radio) or RTP servers.

Common Applications

- Playing audio from PC, jukebox applications, flash memory
- Multiroom or multizone distributed audio systems
- Commercial audio streaming applications (airports, hotels, etc.)
- Realtime audio bridging over IP (when used with the Instreamer)
- Paging and announcement applications
- Instore audio distribution (realtime) for retail, restaurants, franchises

Installation and configuration

Installing a device containing the Barix IPAM 200 is fast and simple : After power-up the module gets either an IP address automatically (BootP or DHCP) or finds a free one using the IPzator feature.

The unique SonicIP feature then announces the IP address over the audio outputs ! The module is easily configured and controlled by a standard web browser.

Standard and Streaming Client Firmware

Standard firmware for jukebox and multizone applications, as well as the streaming client firmware for commercial streaming applications with WMA and MP3 support, automatic failover (up to 3 URL's / playing from USB memory) and monitoring capabilities are supported by the module (please see the Streaming Client Firmware data sheet).

Programmable ABCL Firmware

A fully programmable ABCL firmware version is available on request. ABCL stands for Audio Barix Control Language and is a simple to use yet powerful Basic dialect (please see the ABCL firmware data sheet).

Application development and integration

The Barix IPAM 200 supports various control and communication modes. Software developers can easily write audio applications using one of the openly documented Ethernet (cgi, TCP, UDP) or serial interfaces (API).

Hardware integration and evaluation

For hardware integration a technical document with schematic, pin-out and suggestions for the layout of a custom carrier PCB is available. For evaluation purposes Barix recommends the Barix Exstreamer 100.

Other modules

While the Barix IPAM 200 only decodes to analog audio the Barix IPAM can decode as well as encode analog and digital audio.

For further information, detailed technical specifications and information about other modules and products please visit www.barix.com