

## HASSEB AUDIO OVER ETHERNET XLR



*hasseb Audio over Ethernet XLR* is an easy to use and portable device used to send lossless, realtime microphone audio signal using Ethernet network. The device is compatible with AES67 standard and can be used as a standalone device or together with other AES67 compatible devices.

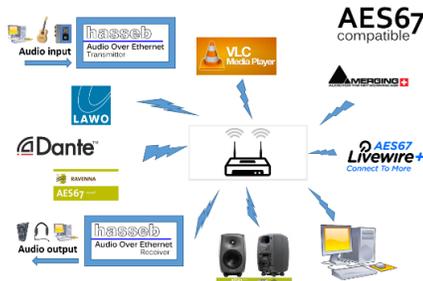
Two 3-pin XLR audio connectors are used to connect microphones to Ethernet network. The device has two input channels with a high quality analog amplifier and A/D converter to digitize the analog microphone signals. In addition, the device has a 48 V phantom source for microphones requiring phantom power.

The device is configured using a web user interface and mDNS (multicast Domain Name System) protocol is supported to easily find the device IP addresses from the network. For professional grade network audio systems PTP (Precision Time Protocol) based time synchronization is required. The device can act as IEEE1588 grand master to provide synchronization clock signal to the network.

## INSTALLATION

The device is powered through a micro USB connector with an external 5 V USB power supply.

DHCP (Dynamic Host Configuration Protocol) support is enabled by default, so the device will assign an IP address automatically. All *hasseb Audio over Ethernet XLR* devices and most other AES67 devices and their names and IP addresses connected to the network can be found using any software, capable of searching the network for mDNS supported devices. If you have normal domestic network router, the web user interface of you router can also be used to find the IP addresses of the connected devices.



## WEB USER INTERFACE

The device can be configured for network, audio, and stream settings using any web browser. Writing the IP address of the device to the address field of your web browser, the configuration page will be opened. The configuration page can also be opened by using the host name of the device by writing `http://hostname.local` (for example `http://hasseb-AoE-AB-CD.local`) to the address field of your web browser.

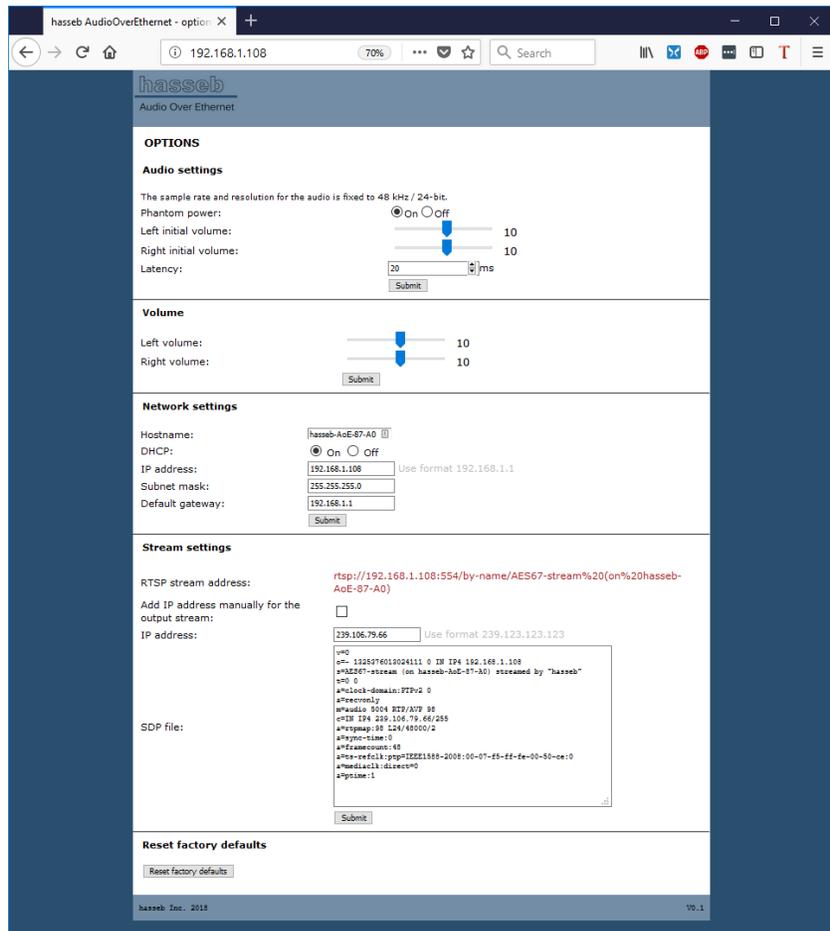


Figure 1: A web browser is used to configure the device.

## AUDIO SETTINGS

The phantom voltage can be set on/off using the audio settings. The initial startup volume level for the left and right channels can be set individually between -100 and 100, where a volume level of -100 mutes the microphone and 100 means full amplification. The latency of the audio signal can be changed using the audio settings as well. The device will reboot automatically after audio settings have been changed.

## VOLUME

The volume can be changed individually for the left and right channels. The volume level selected using the volume settings is not recovered after reboot, but initial volume levels of the audio settings are used. A reboot is not required after changing the volume settings.

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## NETWORK SETTINGS

The hostname, IP address, subnet mask, and default gateway can be set using the web interface. The DHCP can also be enabled or disabled. By default the device uses DHCP to assign the network settings. The default hostname for the device is *hasseb-AoE-XX-XX*, where *XX-XX* are the last two octets of the device MAC address. After configuration of new network settings, the device will reboot automatically.

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## STREAM SETTINGS

The network audio stream sent by *hasseb Audio Over Ethernet* device is named as *AES67-stream* (on '*network\_hostname*'), where '*network\_hostname*' is the hostname of the device as defined in network settings (for example *AES67-stream* (on *hasseb-AoE-AB-CD*)).

AES67 standard defines the audio stream following RTSP (Real Time Streaming Protocol) used also for example in internet radio stations. The address of the output stream is visible on the "RTSP stream address" field. In addition to another AES67 compatible device, the output stream can be listened using any media player supporting RTSP protocol, such as VLC media player.

By default, the IP address of the sent network audio stream is of a form 239.xxx.xxx.xxx, where xxx is chosen randomly. If you want to manually choose the IP address of the network stream you can choose the "Add IP address manually for the output stream" option and add the wanted IP address manually to the "IP address" field.

The SDP file of the network audio stream is visible in the "SDP file" field if you need to add it manually to another AES67 device.

## STATUS LED

There is a blue LED next to the USB connector of the device to indicate the status of the device. The LED will blink once a second when the device is operating properly.

## RESET FACTORY DEFAULTS

If something goes wrong with the network settings and you cannot access the device anymore through the network, you can reset the factory defaults using the push button inside the device. To access the reset button you need to open the enclosure.

To reset the factory default settings, press the push button and power up the device. Keep the push button pressed for 10 seconds. This will reset the setting to factory defaults. The default network configuration is DHCP on.

Specifications	
Input voltage	5 VDC
Input current	300 mA
Input audio voltage	50 mV
Phantom voltage	48 ± 2 V
Operating temperature	0 – 50 °C
Dimensions	38 mm x 64 mm x 80 mm
Weight	150 g