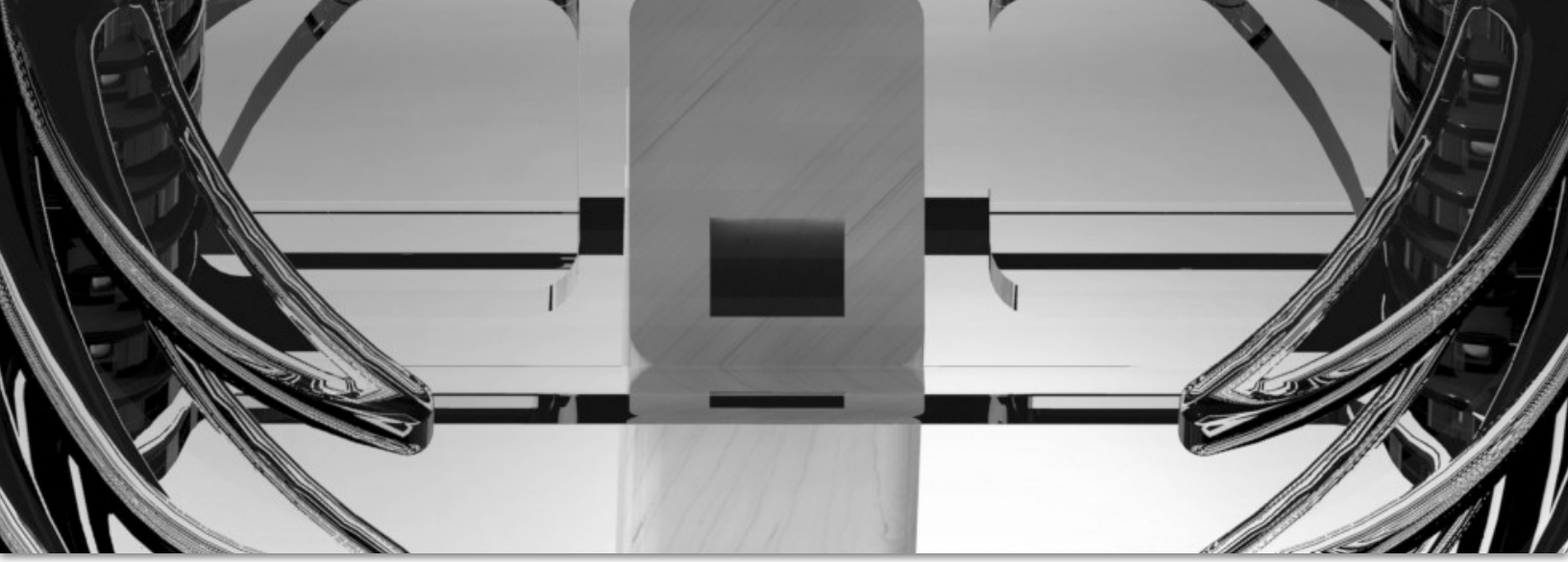
A NEW VISION
OF THE HIGH-END LOUDSPEAKER

EDEN ACOUSTIQUE



ABOUT EDEN

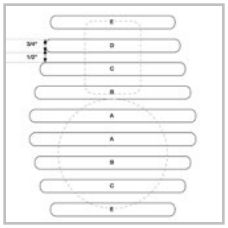
Eden Acoustique was founded in 2012 and is based in Montreal, Canada. We are committed to building loudspeakers that transcend the boundaries of traditional designs with new visions of the modern loudspeaker. Introducing a new breed of loudspeakers that are sonically invisible. The Open Air loudspeakers.

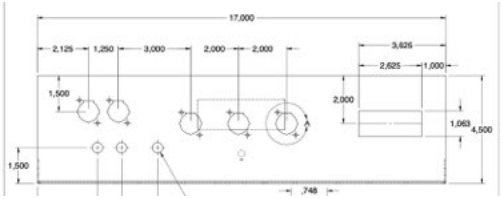
Our products use the latest technologies, revolutionary acoustic designs and beautiful craftsmanship. In many ways they are pretty innovative, yet they have one goal: leaving first stage to the artist or event, never obscuring the spirit of the music being played.

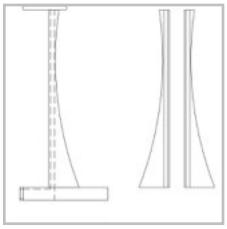
TECHNO-BABBLE (architecture)

The high-end loudspeaker market has stayed quite static over the years, and boxes of all sizes and forms have become *a la mode*… Nevertheless, it is well known that a box behind a speaker just adds its own resonances, causing all sorts of problems. The dipole / open baffle loudspeaker is an improvement. With a radiation pattern in the form of an eight and the removal of the box, it greatly reduces the reflection of the sound on side walls and eliminates enclosure resonances. Unfortunately, dipoles and open baffle loudspeakers are often quite large…

At Eden Acoustics we were looking for the best of what a dipole loudspeaker could offer, with more modest size and improved looks. After multiple tests and measurements, we completely removed the baffle, which resulted in a livelier, more holographic sound. Moreover, using a separate, single bass module created an incredible psychoacoustics 3D environment. The TÔMEI is the only open baffle loudspeaker to play full range with such a modest size. It's equally at home in much smaller spaces. The TÔMEI is the *renaissance* of the dipole and much more!







TECHNO-BABBLE (architecture-2)

NOT A SIMPLE SUBWOOFER + SATELLITE SYSTEM

The TÔMEI is not a mere subwoofer + satellite system. Far from it.

Here are some technical facts, and the new technologies created in house to produce this superlative loudspeaker system:

From the start, we privileged psychoacoustics in our design. The definition and measurement of sound spatialization have been strongly enhanced during the last decades. Decca Trees, ORTF and other more recent measurement methods have been used to get a better understanding of sound reproduction based on ears position, and head shadowing effects. Eden Acoustics took advantage of these spaced techniques to design a three parts loudspeaker system, able to reproduce a full 3-D sound reconstruction, where time delays and spatiality are faithfully reproduced in the listening room.

As unconventional as it may seem, we created a three module loudspeaker system that surpasses conventional two cabinet speakers in coherency. The triangle formed by our bass module and the two open baffle monitors, creates an advanced three-dimensional reproduction of the original recording, where scale, width, perspectives and movement are all conveyed to the listener.

These results were made possible by the seamless integration of drivers using a cutting-edge digital signal processor (DSP), and the unique Eden Acoustics Open Air architecture.

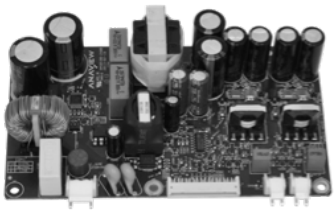
In actual use, the TÔMEI bass module must be positioned in between the two open air monitors, and each monitor should be within a 2 metre distance of the bass module driver. The ideal positioning would have equal distance between the seated position and each driver of each open air monitor, in an arc circle configuration, for optimum phase integration.

Each open air monitor has two drivers: a sliced cone 5 in. bass-midrange driver, featuring an extremely large linear excursion (13mm); and a ring radiator tweeter sporting a two part aluminium faceplate with integrated mechanical decoupling. Frequency range of the tweeter has been chosen for its low resonance frequency. Bass integration is optimal because each open air monitor is an extension of the bass module, with no baffle to restrict mid frequency dispersion. The result is an incredibly airy and large soundstage that seems to float in the room.

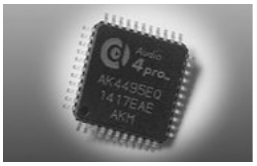
These startling characteristics and the innovative techniques used are at the basis of every TÔMEI loudspeaker system.

TECHNO-BABBLE (electronics)

Every TÔMEI active system comes with a multi-channel digital processor (DSP) driving five channels of D/A conversion and amplification. One channel of amplification is dedicated to each driver for a total of 1250 watts. The amplifiers offer load independent frequency response and frequency independent distortion behaviour. An exclusive *adaptive modulation servo* technology corrects non linearities in parallel with the class D stage itself, reducing distortion to a very low 0.05% at rated power. These new generation Class D amplifiers can now compete with the best class A, AB or valve challengers on the market. TÔMEI's DSP is a six inputs, eight outputs DAC platform. The digital signal processor comes with state-of-the-art components from Analog Devices, XMOS and AKM. Signals are processed by an audio-optimized 40-bit floating point DSP capable of up to 384 kHz performance.



On the input side, a complete set of digital and analog inputs are available on the ACU-01 control unit. These include USB Audio Class 2, S/PDIF and balanced / un-balanced analog inputs. Digital sources, are converted to analog just ahead of the power amplifiers via five 32-bit/ 768kHz SOA AKM4495 DACs. Digital signals benefit from low phase jitter clocks that drive all the data converters while minimum phase anti-imaging filters are used by the DACs to avoid pre-echo effects. The AKM AK5397 A/D converter incorporates very high common mode rejection/low noise balanced inputs and all signals are processed by the audio-optimized 32-bit floating point DSP, capable of up to 384 kHz performance. The USB Audio Class 2 input supports the high sample rate and full bit depth offered by the DSP.



Few active loudspeakers systems can claim such a high-end electronics package. It would take some of the best audiophile standalone units to even come close to its capabilities.

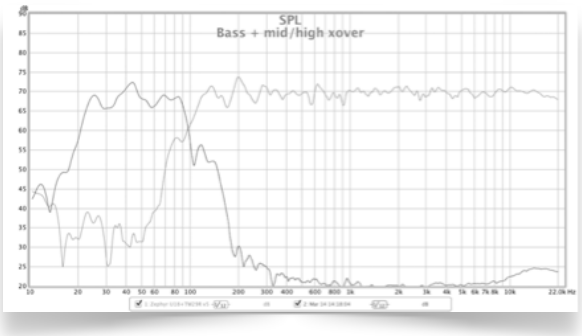
TÔMEI AIR LOUDSPEAKERS

The TÔMEI Air is the perfect example of our Open Air Design architecture. They are full range loudspeakers and the perfect combination of outstanding sound quality and ground-breaking design. No more box, no more baffle… What is left is music so alive that for the first time you not only listen to a LIVE performance, you attend it!

"Those Canadian loudspeakers shine with an almost holographic playback, a 3D sound, completely detached from the speakers in the room."
Sempre Audio - Germany

STANDING IN FREE AIR

At the start, TÔMEI was an open baffle loudspeaker. The spatial projection abilities of these designs significantly exceed the spatial experience offered by traditional point source loudspeakers. The OB also cancels side reflections, which further improves imaging. At Eden Acoustique, we carried on from there to finally remove everything except the drivers and so our Open Air Design was born.



If you measure such a system, you will find that from 400 to 2500 Hz, the midrange driver performs better in all aspects without a baffle with better power response, smoother frequency response and less distortion. Over 2500 Hz we are in tweeter territory and baffle or not makes no difference. Below 400 hz. this is another story and at bass levels, a baffle is beneficiary to get more efficiency and dig deeper. In the TÖMEI we solved this by building a stand-alone bass unit that sports a baffle and sits low near the floor. To get omnidirectional bass, we use a crossover frequency around 100 Hz.

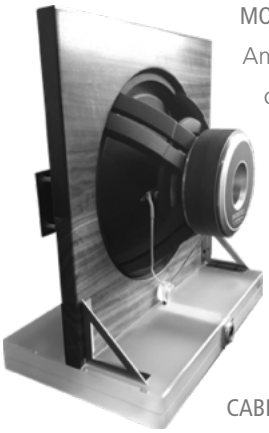
TÔMEI AIR LOUDSPEAKERS

"A revelation! Bass quality : 15 / 15"
Stereoplay Magazine - Germany

"This is cutting edge audio art"
Rick Becker - Enjoy the MUSIC

STYLISH DESIGN

Every TÔMEI loudspeaker system is finely crafted of solid wood and acrylic parts to damp any resonance.



MONITORS: Each monitor makes use of 9 acrylic diffusion ribs and comes with a solid American walnut wood support. The base is a 2-inch thick sculpted block of acrylic with custom made, damped aluminum spikes.

BASS MODULE: The separate bass module employs a 1-inch thick solid wood baffle with stainless steel braces. It also stands on damped aluminum spikes.

CONTROL UNIT: Our ACU-01 unit is built of stainless steel that does not fade over time paired to an acrylic lid and front panel (solid wood lid is optional).

CABLES: The TÖMEI speaker cable system uses twist'n lock speakon connectors, which improve the connection and are much easier to use. The bi-wire cables are included with the system and they come from a renowned loudspeaker cable company in Scotland.

TÔMEI AIR LOUDSPEAKERS

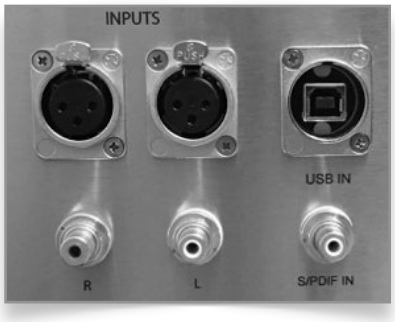
"In a word, the whole sonic portrait spreads itself in what seems layers upon layers of rich, dynamic, but mostly liquid-like smoothness. Song after song, it led me to believe that there did not exist any speaker in front of me!"
Dan Fagen - Audiophile

LIVE CONCERT OR CINEMA SHOW?

When hearing a TÔMEI loudspeaker system for the first time, maybe you will say, like this audiophile: "*…my ears adjusting to a sound that I must admit, I've never quite heard up until then…*". or simply claim like our German distributor: "*The sound is overwhelming.*". Some call it holographic acoustics and indeed the TÔMEI often give that feeling of really being at the concert or in the studio with the artist.

With the ultra precise DSP system used, we could tailor all aspects of the sound, including phase and driver delays. But further than that we designed an Open Air loudspeaker. It all adds-up to give a new dimension to music.

TÔMEI are active loudspeakers. With them, no more preamplifier, no more amplifier, nor DAC. Just plug-in your computer to the USB Audio Class 2 connector and run your preferred HD Audio software application. From now on, using your intelligent phone or tablet, you can control everything.



Looking for an exciting cinema night, use the analog or digital input of the ACU-01 and enjoy thunderous bass, incredible 3D rendering of sound effects, enter the film! Balanced and unbalanced analog inputs are available for all types of source materials such as phono preamps.

For your convenience, a front panel display lets you adjust the volume level, select the input or even adjust the analog input sensitivity.

TÖMEI Technical specifications:

Two TÔMEI Open Air monitors + one Bass Module and one ACU-1 control unit. Supplied with all speakers cables using speakon™ connectors.

Frequency response: 27 - 25,000 Hz. -3 dB

Control Unit

- DSP: 40 bits / 384 kHz sampling rate on 8 output channels
- ADC: 40 bits / 384 kHz (balanced and unbalanced inputs)
- ADC sensitivity adjustment (+ 6db, + 12 dB)
- USB Audio Class 2: 40 bits / 384 Khz
- 3 new generation Class-D stereo amplifiers
- Power amplifiers: 840 watts (3000 watts peak) total

EDEN ACOUSTIQUE
178 rue Normand
Saint-Eustache, QC
CANADA J7P 1N1

T: (450) 472-5908
C: (514) 823-5908
info@edenacoustics.com
www.edenacoustics.com