

Mix House explores the possibility of closely coordinating sound and vision with the goal of enhancing the individual's audiovisual experience of the domestic landscape. This residential dwelling is conceived as a dynamic space enriched by an acoustic link to its external environment and the integration of new channels of communication within the house.

Western architecture since the Renaissance has privileged the visual over all other senses, specifically negating the role of the aural environment that had been such a primary aspect of earlier cultures. In recent history, architectural modernism gave rise to the discovery of the structural frame. This allowed designers to exploit the use of expansive glass windows that afforded uninterrupted views of the landscape, while simultaneously applying new acoustical technologies that homogenized these interiors and compromised the aural specificity of both space and place.<sup>1</sup> Mix House rejects this privileging of the visual, putting sound and sight on equal footing. The project proposes a dwelling that rethinks and extends the modernist notion of visual transparency afforded by the ubiquitous glass window to include aural transparency as well. The Mix House design cohesively incorporates cutting-edge technologies and traditional acoustic principles to create a home that constructs and frames audio-visual scenes, enabling occupants to transcend spatial boundaries and orchestrate their own aural environments.

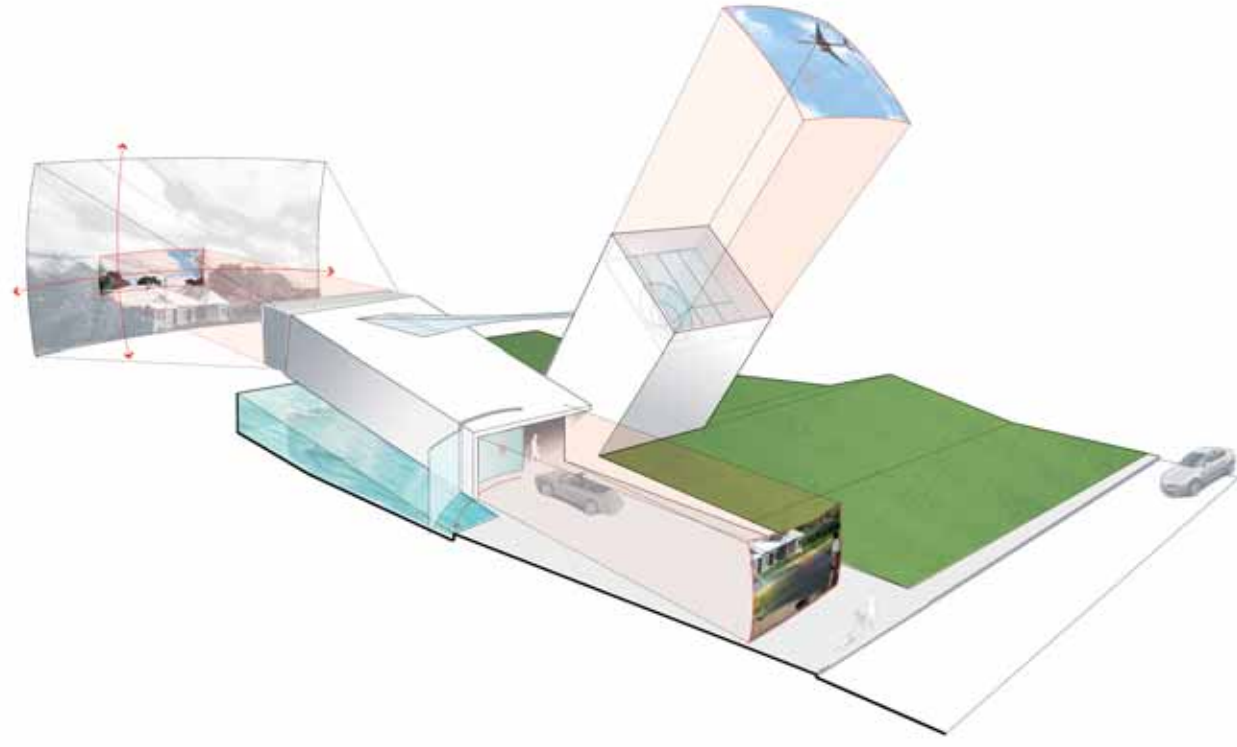
Situated on a generic suburban plot in Charlottesville, Virginia, the dwelling is composed of two distinct volumes that frame audiovisual scenes adjacent to the house. The end façade consists of custom curved sonic windows, which regulate ambient and specific sounds as well as satellite transmissions. Functioning like an audio-visual telescope, the sonic windows include both a microphone and small video camera located at their centers. The microphone records targeted sounds, then transmitting them to an interior audio system that distributes the sounds to various speakers throughout the house. The video simultaneously records the scene and transmits it to a visual screen located at the kitchen island or sound command center of the house, where the synchronized sights and sounds of the surrounding landscapes may be activated and arranged. The occupant may operate the sonic/visual dish to highlight a specific activity or event. He/she also has the option of putting the system on automatic pilot, allowing the occupant to passively listen to a series of focused sounds cap-

tured by windows and their microphones. In this passive mode the occupants can design their own rotation and filtering program able to selectively screen certain sounds and frequencies: human voices, birds, or the sound of water. Each sonic window opens to a different scenery, affording different opportunities for sound transmission:

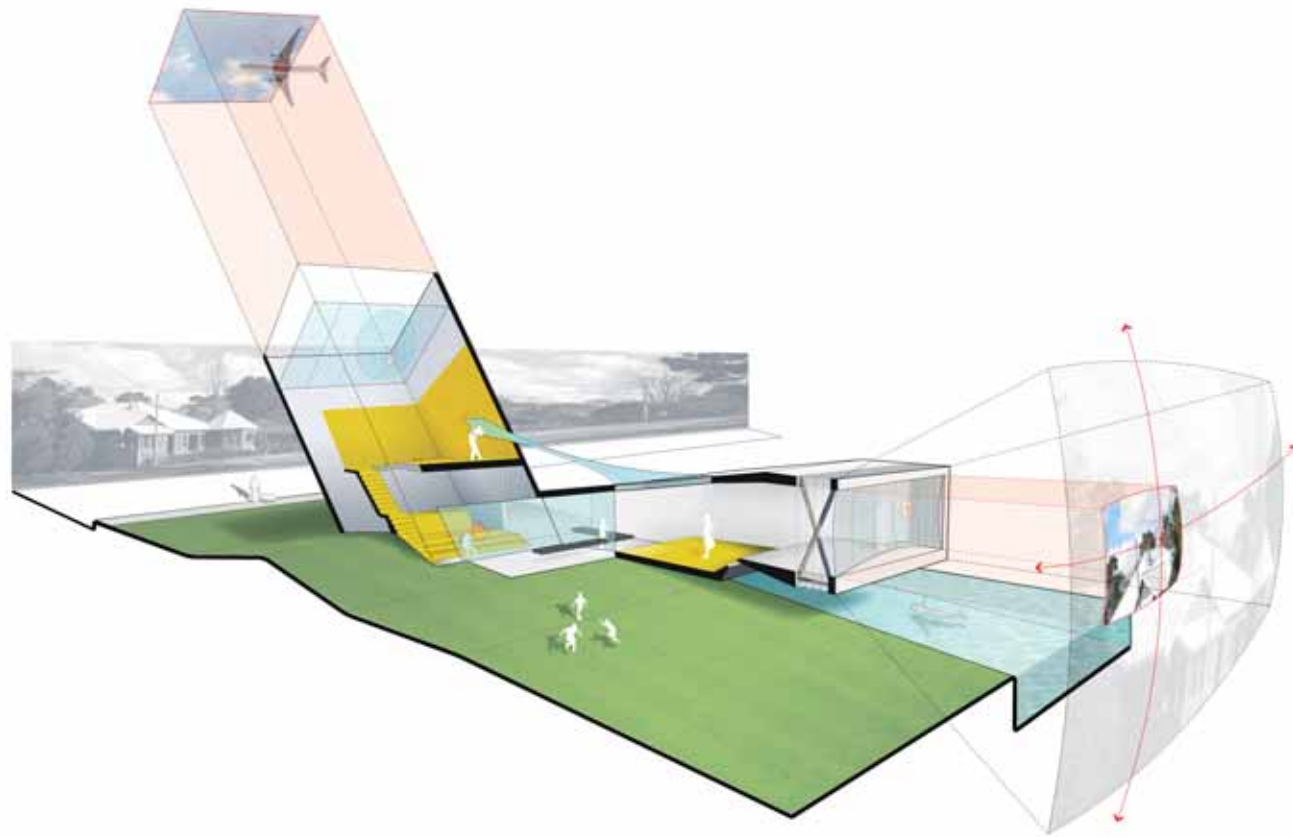
1. **The Sonic Front Entry:** The louvered section of the front sonic window allows residents to hear the ambient sounds of the streetscape. Here, the curved sliding surface doubles as the front door. It can be operated to pick up and highlight particular sounds of this locale: guests arriving at the house, the dog that is greeting the mailman or the occasional jogger.
2. **The Sonic Picture Window:** This sonic window facing the backyard is designed like a camera bellows. It includes a translucent glass dish that is fully integrated into the window wall with the ability to rotate freely in three dimensions. Again, the louvered windows regulate the ambient sounds while the rotating dish focuses on specific activities of the backyard: the birdfeeder, the children playing in the sandbox, or the dog chewing on his bone.
3. **Sonic Skylight:** This louvered glass skylight located near the top of the vertical volume is designed to both capture and then muffle the ambient sounds of the neighborhood. This soft "sonic breeze" is appropriately located just above the sleeping area. In this location the associated disc is actually a satellite dish that is embedded in the south facing section of the skylight to capture the signals that allow occupants in the bedroom/den below to connect visually and aurally with the global media, through TV and Internet connections.

The two volumes of the house come together at the center kitchen island that acts as the audiovisual nerve center of the home and functions as a central command station for operating the sonic windows. From this position the occupant can regulate the various sound/sight conditions associated with the three windows. Each sonic window has a corresponding video screen with controls to regulate ambient and focused sounds. The video screen visually records the location of the focused sounds so that the occupant can both see and hear the specific audio/visual condition. This command center, designed into the waterproof kitchen countertop, encourages the occupant to mix these various sounds of the landscapes and/or media. In order to design these original soundscapes, occupants may use a variety of real time sounds mixed with media sponsored

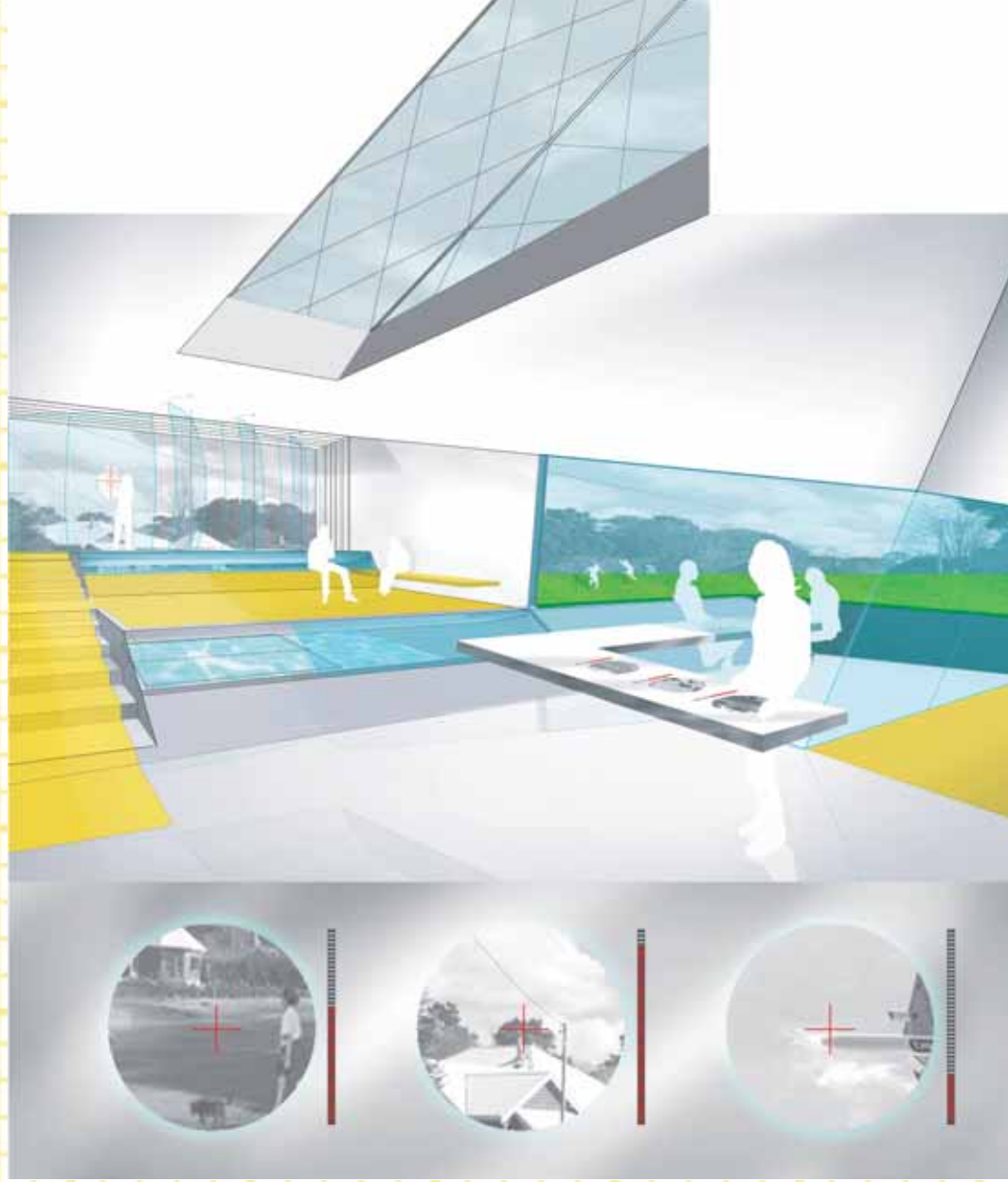
AXONOMETRIC VIEW OF THE MIX HOUSE SEEN FROM THE FRONT  
THREE SONIC WINDOWS EACH OPEN TO A DIFFERENT SCENERY; TO THE  
GARDEN, TO THE STREET AND TO THE SKY AFFORDING DIFFERENT  
OPPORTUNITIES FOR SOUND TRANSMISSION.



AXONOMETRIC VIEW OF MIX HOUSE FROM THE REAR



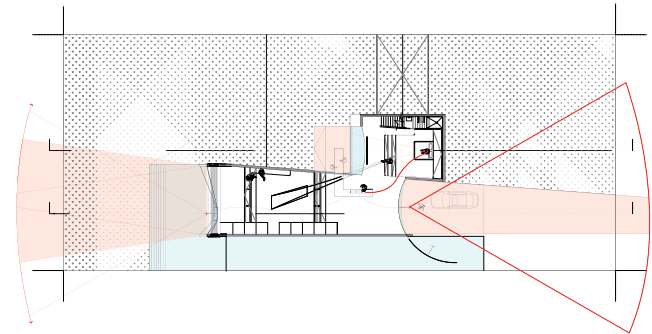
**INTERIOR VIEW OF MIX HOUSE  
THE KITCHEN IS THE SOUND COMMAND CENTER OF THE HOUSE, WHERE THE  
SYNCHRONIZED SIGHTS AND SOUNDS OF THE SURROUNDING LANDSCAPES MAY BE  
ACTIVATED AND ARRANGED.**



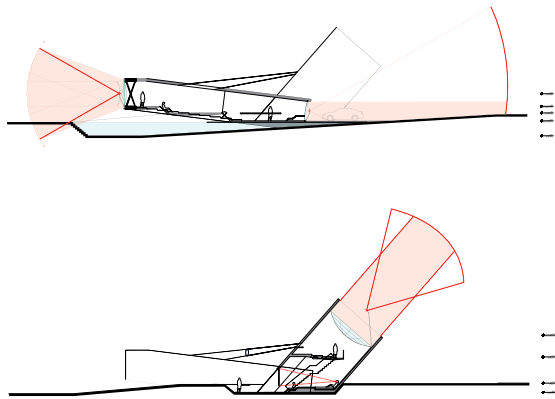
sounds; for example, the voices of their children playing outdoors could be mixed with Mussorgsky's *Pictures at an Exhibition*, or the birds chirping in their nests might be mixed with Philip Glass' score for *Koyaanisqatsi*, or frontyard and backyard sounds might be combined together with the ambient noises of the neighborhood.

This project suggests a new direction for domestic space, one that uses sound to inform its spatial design, providing a way to transform the one-dimensional picture window into a more complex transparent apparatus that records both the visual and aural environment, bringing specificity of place to the domestic space. By creating a condition in which the occupant can orchestrate this dynamic installation, we speculate that the act of listening will not only be accentuated and coordinated with vision; it can also serve as a source of creativity and entertainment.

<sup>1</sup> Emily Thompson, *The Soundscape of Modernity*, Cambridge, Mass., 2002.



LAYOUT OF MIX HOUSE



**Ben Rubin, Joel Sanders,  
Karen van Lengen  
Mix House**

**The Mix House team is a collaboration between Ben Rubin / EAR Studio, Joel Sanders / JSA, and Karen Van Lengen / KVL A. Mix House builds upon their shared interests in architecture, technology, and the human senses.**

Ben Rubin is a media artist and founder of EAR Studio based in New York City. His work engages sound, light, information flow, and audiovisual perception. Rubin has exhibited his work widely. He has been a frequent collaborator with artists and performers including Laurie Anderson, Diller+Scofidio, Ann Hamilton, Arto Lindsay, Steve Reich, and Beryl Korot. Rubin's Listening Post (2002, with statistician Mark Hansen) won the 2004 Ars Electronica Golden Nica Prize. Rubin teaches at the Yale School of Art, where he was appointed critic in graphic design in 2004.

Peter Zuspan works as a designer at EAR Studio with Ben Rubin.  
[www.earstudio.com](http://www.earstudio.com)

Joel Sanders is principal of Joel Sanders Architect (JSA), a design studio based in New York City. Although he has a wide range of work in his portfolio from private homes to public parks, many of his projects explore the intersection of architecture, technology and the human senses. Projects by JSA have been featured in numerous exhibitions including Unprivate House at the Museum of Modern Art. In addition, designs by JSA have been showcased in numerous international publications. Sanders is an Associate Professor of Architecture at Yale University.

Martyn Weaver, Filip Tejchman and Aniket Shahane work as designers with JSA.  
[www.joelsandersarchitect.com](http://www.joelsandersarchitect.com)

Karen van Lengen is principal of Karen van Lengen Architect (KVL A). Since its founding in New York City in 1987, van Lengen has won several prizes and competitions including the winning entry for the Amerika Gedenkbibliothek, Berlin. During the design development phase of this project she began to focus on the theme of sound in response to a challenging urban condition. Her design work is currently investigating the potential design strategies that lie at the intersection between sound and vision. Van Lengen is the Dean of the School of Architecture at the University of Virginia.  
[www.arch.virginia.edu/faculty/KarenVanLengen/](http://www.arch.virginia.edu/faculty/KarenVanLengen/)