AES Audio Engineering Society - Pacific Northwest Section

Around the Puget Sound, Seattle, Washington, U.S.A.

June Meeting Notice
Immersion Networks Mix³
The Cloud Based Spatial Audio Platform for Creators

Presented by
Paul Hubert, JJ Johnston, and Jim Rondinelli
Immersion Networks
and the
AES PNW Section

ZOOM MEETING 6:00PM PDT (UTC -7)
Wednesday, 16 June, 2021

Immersion Networks, the spatial audio innovators, are launching a cloud platform that allows anyone to upload tracks and mix them in a three-dimensional environment. Remarkably intuitive and affordable, **mix³** by Immersion Networks (mixcubed.com; pronounced "mixcubed") is the first 3D audio mixing platform available to everyone--podcasters, content creators, producers, artists, and engineers--that lets them transform files into lush, intimate, headphone-ready mixes. These mixes can be appreciated without special hardware and distributed through streaming services.

The result of years of development, the Immersion Networks Mixtool was originally intended for a high powered studio workstation, but the realization that people weren't going into high powered studios anymore led to making a more decentralized offering. Immersion realized that by moving processing into the cloud, their tool would be accessible to a lot more people at a much lower cost. Not quite as driven by people not going into the studio, it was more about maximizing the impact of the tools with lower costs for all.

In use, Mixcubed is a cloud-based spatial audio mixer, taking mono (or stereo) stems, uploading them to the cloud and processing them there, while providing a simplified user interface in a browser window. Based on moving icons representing your tracks around a workspace with the

listener in the center, computation takes place in the cloud, returning a stereo spatialized headphone mix. When the mix placement is complete (including relative levels, both direct and indirect in the virtual space), pressing the render button renders and returns a high quality (96/24) stereo file that is compatible with all players and distribution services. Although the target listener uses headphones, the resulting mixes work remarkably well on loudspeakers.

Mixcubed will be a subscription offering, with additional features (such as motion automation) delivered regularly.

The results are revolutionary.

[See for yourself!](#) Headphones recommended.

[A Musical example](#)

The Presenters

Paul Hubert is the Founder and President of Immersion Networks. An inventor and serial entrepreneur, Hubert has devoted his life to reframing how we listen. He founded Immersion in 2014 to uncover new audio experiences by developing groundbreaking software and hardware.

Hubert started his career at Apple as a teen, working directly with Steve Jobs. He eventually helped integrate Macs at Prince's Paisley Park. He then went on to build his own specialized recording and mastering studio in Seattle, developing a mastering process specific to radio releases for a major label client and remastering prized orchestral recordings retrieved from Soviet vaults.

In 2000, he co-founded Neural Audio, a pioneer in using Artificial Intelligence in the signal processing of sound. Neural lists ESPN, FOX, NBC, CBS, Sony, Universal, Warner Bros, THX, Yamaha, Pioneer Electronics, Ford, Honda, Nissan, Vivendi, Harris and SiriusXM among its partners and customers in connection with sound for movies, broadcasting applications, music reproduction and video games.

After selling the company, Hubert devoted himself to 3D visual systems for several years, before returning to audio. Leveraging the leaps forward in computing power and AI, he dived into his next project, creating a purpose-built research facility for spatial audio near Seattle that laid the foundation for Immersion's spatial audio platform.

James D. (jj) Johnston is Chief Scientist of Immersion Networks. He has a long and distinguished career in electrical engineering, audio science, and digital signal processing. His research and product invention spans hearing and psychoacoustics, perceptual encoding, and spatial audio methodologies.

He was one of the first investigators in the field of perceptual audio coding, one of the inventors and standardizers of MPEG 1/2 audio Layer 3 and MPEG-2 AAC. Most recently, he has been working in the area of auditory perception and ways to expand the limited sense of realism

available in standard audio playback for both captured and synthetic performances.

Johnston worked for AT&T Bell Labs and its successor AT&T Labs Research for two and a half decades. He later worked at Microsoft and then Neural Audio and its successors before joining Immersion. He is an IEEE Fellow, an AES Fellow, a NJ Inventor of the Year, an AT&T Technical Medalist and Standards Awardee, and a co-recipient of the IEEE Donald Fink Paper Award. In 2006, he received the James L. Flanagan Signal Processing Award from the IEEE Signal Processing Society, and presented the 2012 Heyser Lecture at the AES 133rd Convention: *Audio, Radio, Acoustics and Signal Processing: the Way Forward.* In 2021, along with two colleagues, Johnston was awarded the *Industrial Innovation Award* by the Signal Processing Society "for contributions to the standardization of audio coding technology."

Mr. Johnston received the BSEE and MSEE degrees from Carnegie-Mellon University, Pittsburgh, PA in 1975 and 1976 respectively.

Jim Rondinelli is the COO of Immersion Networks. He knows both the inside of the recording studio and the content executive suite like the back of his hand. He knows what makes something sound superb and how to get complex music and entertainment-related tech products to market.

Thanks to a packed decade of recording, Rondinelli has dozens of engineering and producer credits to his name, including projects with Wilco, Weezer, Everclear, The Jayhawks, and Matthew Sweet, among a panoply of 1990s alt-rock names. He then transitioned to a notable career in music and music tech, acting as SVP of Business Development at MP3.com, as a consultant or senior vice president at several major publishers and financial companies, and then moving to *Rdio,* as Global Head of Licensing for the streaming music startup.

About Immersion Networks

Immersion Networks is a Redmond, WA-based company dedicated to reframing the human listening experience. Founded by key contributors to the world's dominant audio formats, the company has developed the world's first end-to-end platform for the capture, creation, and delivery of next-generation audio experiences.

IMMERSION NETWORKS

Mixcubed

THIS EVENT IS FREE, OPEN TO ALL, AND AES MEMBERSHIP IS NOT REQUIRED

Eventbrite

Election Notice

At our June meeting we hold our annual Section Election, electing the Chair, Vice-Chair, Secretary, and Treasurer as well as 5 of the 10 Commitee positions. Officers are typically nominated from the existing Committee. Committee members can be anyone interested and willing to help your section produce meetings. Officers serve for one year. Committee members serve for two years, with half electing on odd numbered years, and the other half electing on even numbered years. The current list of persons running for election, as well as further details about the election can be found at the following link:

Bio Sketches and further information.

If you are interested in being an officer or serving on the committee, please contact any current officer or committee member. You must be a member or associate member at the time you assume the position. More information about Officer or Committee duties can be found at this link. Nominations for Committee positions may be made from the floor at the June Meeting.

PNW AES Zoom Meetings

We started holding our meetings via Zoom beginning with the April 2020 meeting. Zoom has dramatically increased our reach, well beyond our Section's geographic area. Since doing this, we've had attendees from Canada, and as far away as Indonesia, and Australia. Zoom gives the ability to record our meetings, and those recordings will be posted in our past meetings Archive. For now, video from our Zoom meetings can be found (mostly) at Dan Mortensen's YouTube channel.

We use EventBrite to manage our free tickets to meetings. You need to RSVP for yours via the following link. The Zoom URL will appear on the virtual ticket for the event. Copy it down!

Eventbrite

When you register at EventBrite and when you enter the Zoom meeting, please use your real first and last names so we can get to know each other. You do NOT need to create an EventBrite account to register.

Please Note

In order to maintain decorum and avoid interruptions, even unintended ones, we have established a few ground rules for meeting attendees:

1. We want to see your full name on display in Zoom at the meeting.
2. All audience audio and video will be muted for the duration of the event.
3. The presenter will determine if they can accept questions during the presentation, or wait until specific Q&A times, and that will be announced at the beginning of the meeting. (We

often use the "chat" feature to allow attendees to ask questions when they think of them, with moderators passing them on to the presenter at the appropriate time.)

4. Based on our experience with no-shows, we reserve the right to issue more tickets than available slots. We don't want to turn people away based on inaccurate estimates of attendance, but we do have budgetary limits to the number of slots we can make available. If we reach capacity before you log in, we regret that we have no way to expand capacity at the last minute.

5. It would be good if you watched the chat stream during the meeting. Not only is it a way to submit questions to the presenters, but it's also a way for others to contact you personally. You have the option there to direct your comment to anyone who is part of the meeting as well as to one person in particular.

Finally, in the rare instance of behavior by an attendee that moderators believe is disruptive, we reserve the right to immediately eject such attendees.

Tea* Time Topics
every Saturday, 3:30pm (Pacific) to 6:30pm
A Virtual Zoom meeting

Former Chair Dan Mortensen started the custom of people introducing themselves at our meetings. The breadth and depth of your skills and interests led to Dan wanting a more in-depth kind of presentation but without the preparation needed for a full-on meeting.

The idea behind these events is that "Audio" is a big subject with many specialties, and at our meetings we all focus together on one subject. When we do our self-introductions as part of our meetings, it's ALWAYS fascinating to hear about the kinds of things our audience members do to manifest their love of audio.

Dan thought it would be fun to create an event where the meeting IS the audience members' descriptions of what you do, preferably with pictures/recordings/movies or whatever will help you convey to us what you're up to/interested in/want to learn more about.

Format

The TTT meetings take place each Saturday afternoon via Zoom, and will continue for the foreseeable future, if not beyond. If things open up and people start getting busy again, we'll adjust the schedule. We've been doing this for several months now, and the topics have been varied and interesting. Here is a [summary (click here)](summary) of the topics we've explored since we began in May.

Registration to attend Tea* Time Topics

You will need to register by contacting Dan via [email.](#) When you register, please give your real first and last name.

Note that these Tea* Time Topics events are in addition to our normal 10 times/year (not in July or August) Section meetings and not a replacement for them.

Footnote: *This is Dan's normal time for tea. You may have whatever refreshments you wish, but if you get unruly/belligerent you'll be bounced without apology.

Greg Dixon

AES PNW 2020-2021 Section Chair

> **n.b.** *The material presented at our meetings is the opinion of the presenter and not necessarily that of the Society. You are encouraged to conduct your own research and to form your own opinions before adopting the presented material as Truth.*

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