The SST Trinaural Processor

Review by David Das

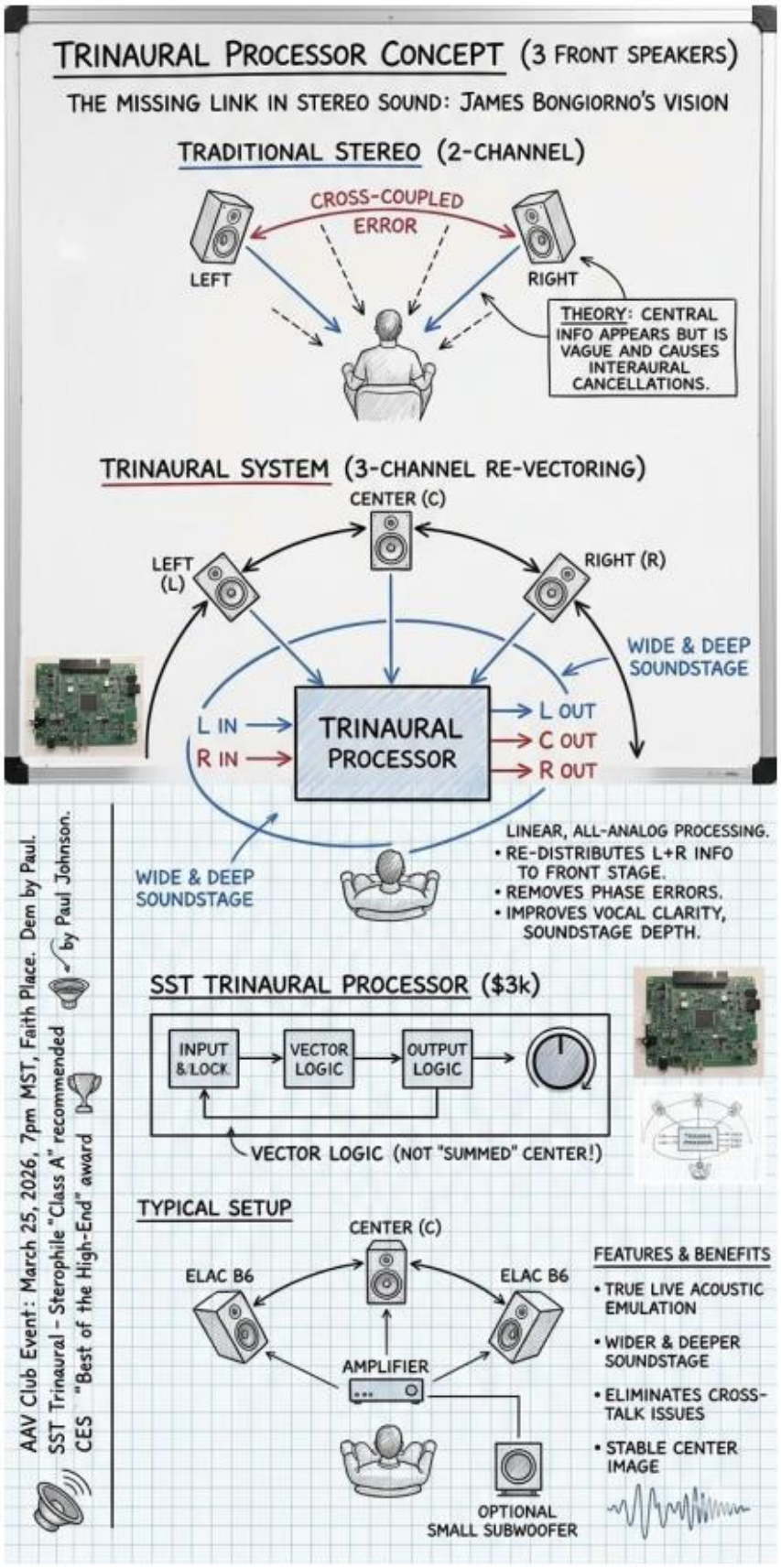
I had the pleasure of attending the SST Trinaural Processor Event on March 25, 2026 at the Faith Place, Faith Lutheran Church.

What is the Trinaural Processor?

The Trinaural Processor is a fully analog device that re-vectorizes a regular 2 channel stereo signal into 3 channels – Left, Center and Right. The result is a dramatically wider soundstage with enhanced depth, clarity and level of realism that traditional 2 channel systems simply cannot match.

Trinaural processing was invented by the legendary James Bongiorno. It addresses a fundamental limitation in traditional stereo. Bongiorno's research suggested that because real-world sounds rarely come from the absolute left or right positions, a 3 channel front stage is essential for true "live" acoustic emulation.

The SST Trinaural Processor can be purchased for $3,000.


TRINAURAL PROCESSOR CONCEPT (3 FRONT SPEAKERS)
THE MISSING LINK IN STEREO SOUND: JAMES BONGIORNO'S VISION
TRADITIONAL STEREO (2-CHANNEL)
CROSS-COUPLED ERROR
LEFT
RIGHT
THEORY: CENTRAL INFO APPEARS BUT IS VAGUE AND CAUSES INTERAURAL CANCELLATIONS.
TRINAURAL SYSTEM (3-CHANNEL RE-VECTORING)
CENTER (C)
LEFT (L)
RIGHT (R)
WIDE & DEEP SOUNDSTAGE
L IN
R IN
TRINAURAL PROCESSOR
L OUT
C OUT
R OUT
WIDE & DEEP SOUNDSTAGE
LINEAR, ALL-ANALOG PROCESSING.
• RE-DISTRIBUTES L+R INFO TO FRONT STAGE.
• REMOVES PHASE ERRORS.
• IMPROVES VOCAL CLARITY, SOUNDSTAGE DEPTH.
SST TRINAURAL PROCESSOR ($3k)
INPUT & LOCK
VECTOR LOGIC
OUTPUT LOGIC
VECTOR LOGIC (NOT "SUMMED" CENTER!)
TYPICAL SETUP
CENTER (C)
ELAC B6
ELAC B6
AMPLIFIER
OPTIONAL SMALL SUBWOOFER
FEATURES & BENEFITS
• TRUE LIVE ACOUSTIC EMULATION
• WIDER & DEEPER SOUNDSTAGE
• ELIMINATES CROSS-TALK ISSUES
• STABLE CENTER IMAGE
AAV Club Event: March 25, 2026, 7pm MST, Faith Place. Dem by Paul.
SST Trinaural – Sterophile "Class A" recommended
CES "Best of the High-End" award
by Paul Johnson.

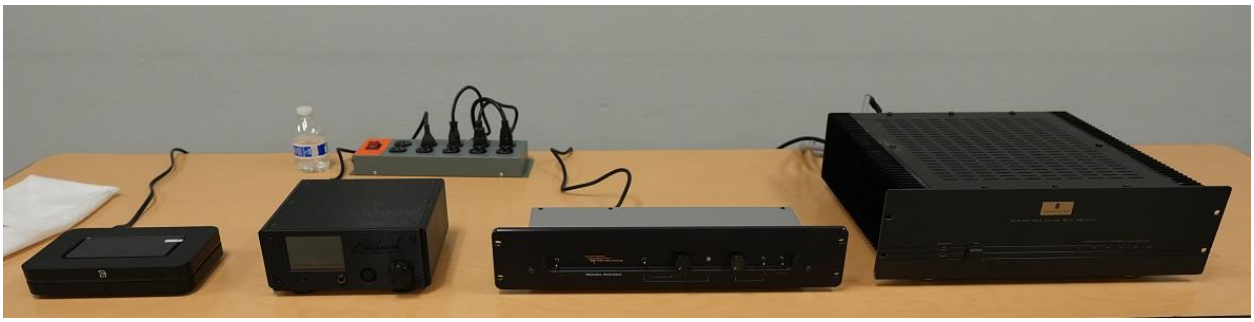
The Equipment

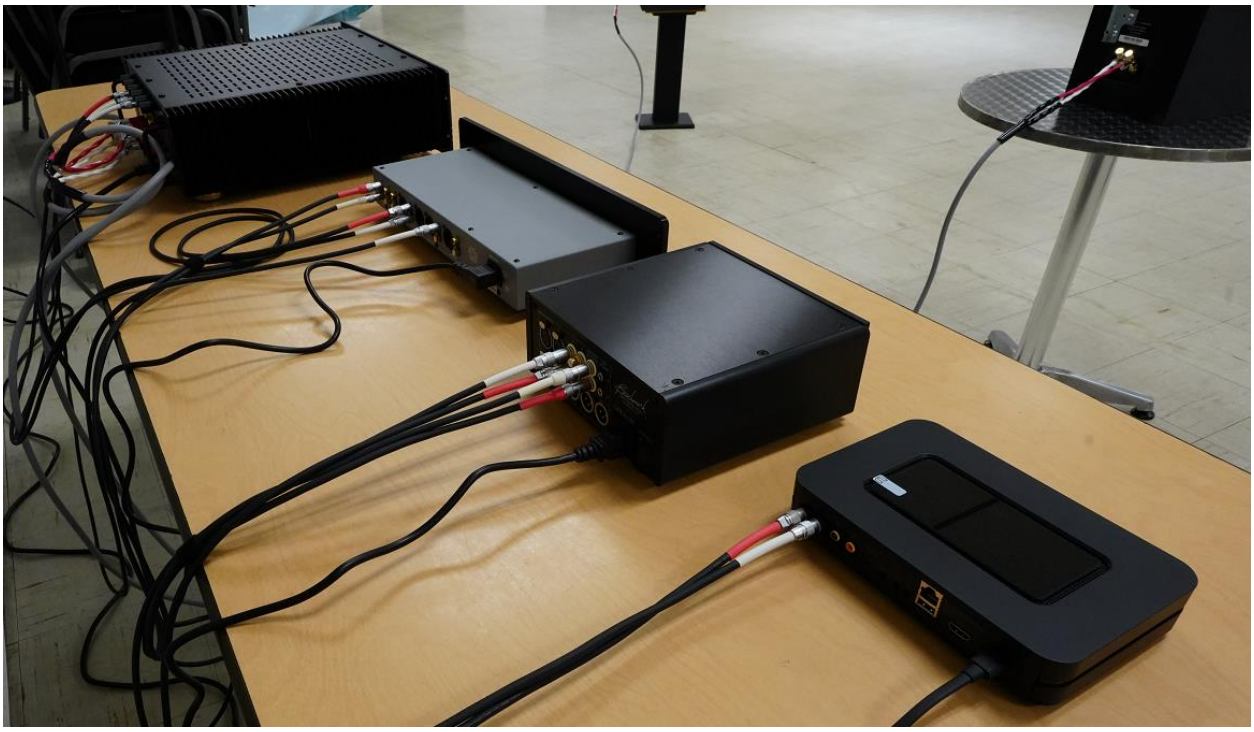
Club Treasurer **Paul Johnson** was kind enough to loan his SST Trinaural Processor for the event. He came in early around 4pm and began setting up the equipment.

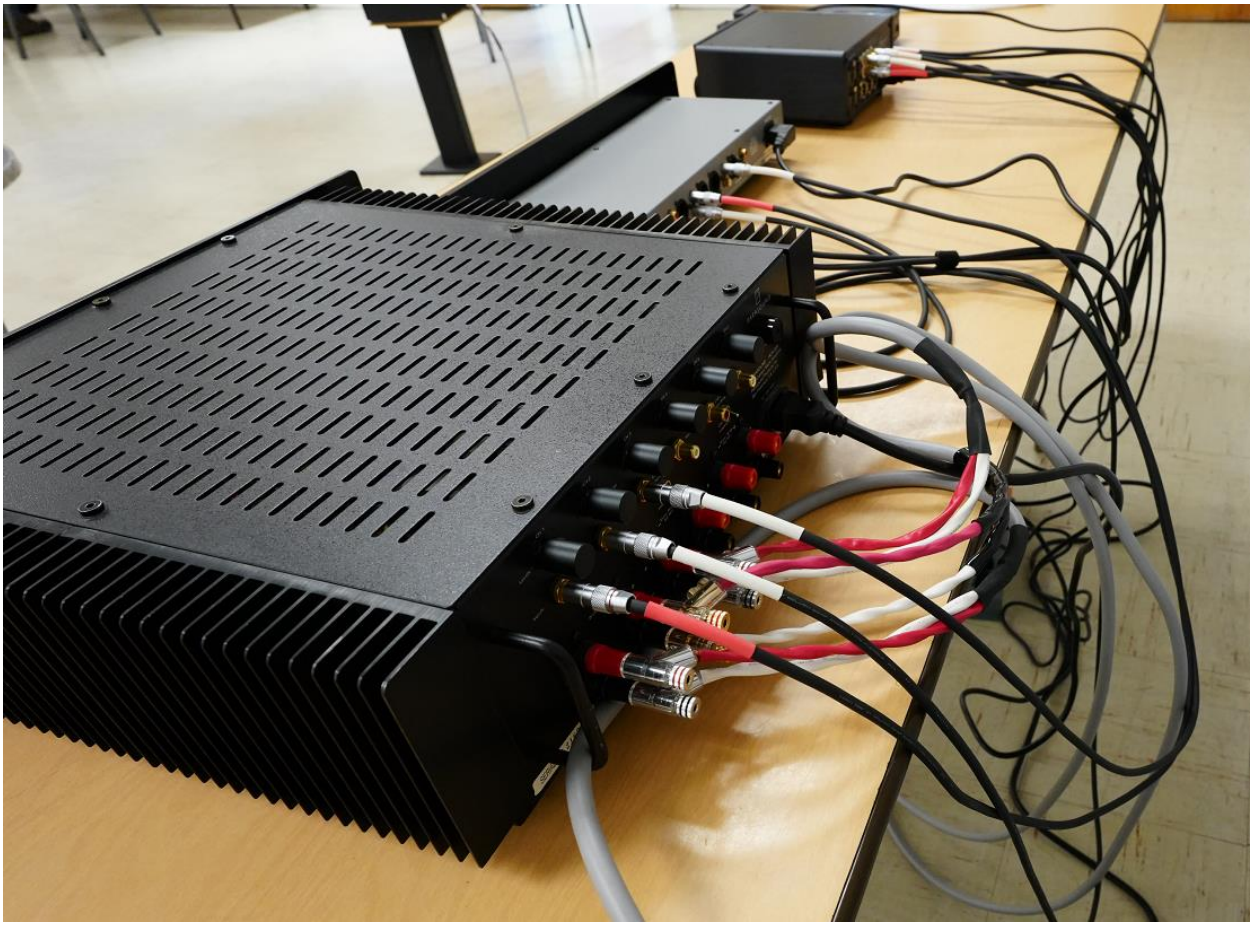
Paul also provided his Benchmark HPA4 Headphone Amplifier and Preamp.

Paul used his Bluesound Node for streaming music.

Paul used his Parasound HCA-806 6-channel High Current Amplifier to power the 3 speakers. This amp delivers 80 watt/channel into 8 ohms. Only 3 channels were used.

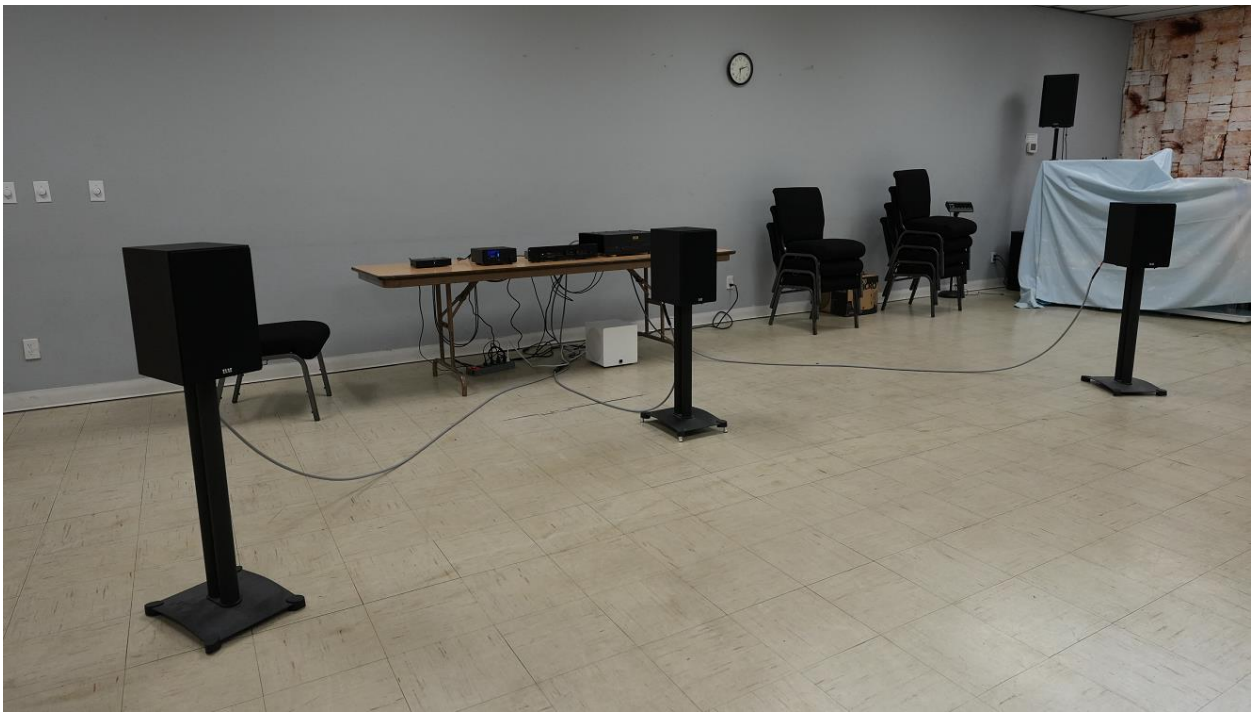






A matching trio of ELAC B6 stand mount speakers were provided by former Club President Jeffrey Behr.

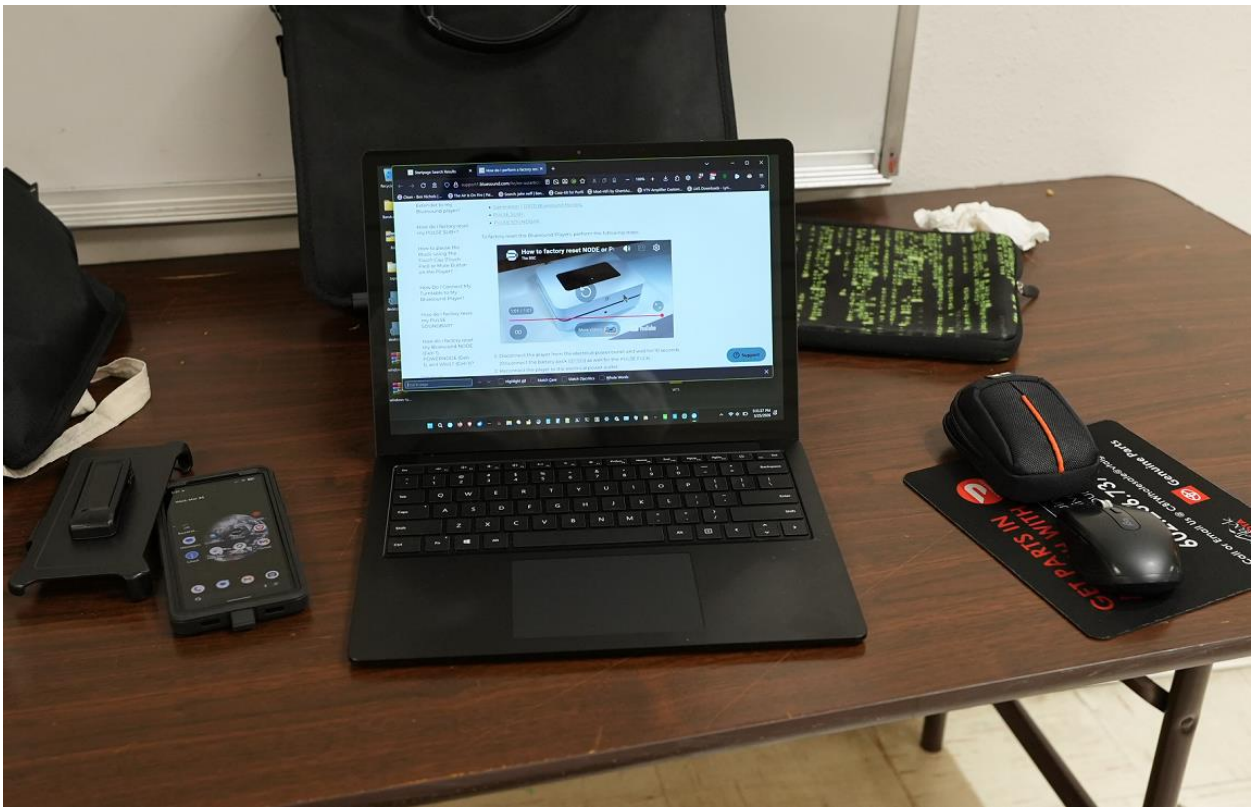
The speaker stands were provided by Club Secretary David Snyder.



The speaker cables were custom built by Paul Johnson. Contact Paul if you need a pair.

The bass response of the ELAC B6 speakers were augmented by a single ultra-compact SVS 3000 Micro Subwoofer featuring dual opposing 8” drivers furnished by David Snyder.

Paul used his Laptop running Roon to stream all the music for the evening.



Paul had everything configured and ready for the demo at 7pm.

The Demo

Paul played a series of audiophile test tracks for the next two hours and accommodated member suggestions. In almost every instance I felt the center channel speaker enhanced the soundstage by physically anchoring the singer's voice dead center while the left and right speakers broadened the sense of width by placing the individual instruments precisely positioned relative to the singer. This conveyed an added layer of realism. My brain was no longer trying to imagine the missing center channel. It was physically present.

Yes, the SST Trinaural Processor using 3 speakers is an absolute improvement over 2 channel stereo. The difference is audible the moment you play any audiophile test track that you are familiar with.

I would like to mention a few tracks that stood out.

"The Vanishing of Peter Strong" by Yello

"Sing Sang Sung" by Big Phat Band

"Love To Spare" by Nicki Bluhm

"Electrified" by Boris Blank

"Gold To Me" by Ben Harper.

Why did 2 channels become the standard for recreating the width of a soundstage?

In the early days since the invention of the phonograph in 1877, vinyl records could only playback a mono recording. All you needed was a single speaker to feature a single, centered audio image.

Later when recording engineers began researching ways to recreate the spatial width of a soundstage, they found the best way to achieve this was to add additional left and right speakers while keeping the existing center speaker. This needed 3 distinct audio channels to be recorded. This was not possible on the vinyl medium. The best they could do was to encode 2 channels on a V-shaped groove tracked by the stylus. Stereo vinyl albums were released in 1957.

It was the limitation of the vinyl format that resulted in the establishment of commercial stereo.

The stereo format was always a compromise. The center channel had to be left out from the equation. It required you to have two perfectly timbre matched high-quality transducers with the listener seated exactly at the apex of a triangle to perceive the presence of the phantom center channel and experience the illusion of a 3D holographic soundstage with depth. The moment you deviated just a little from the sweet spot, the center image suffered. This characteristic is most audible on Electrostatic speakers. You need to be seated exactly on axis or else the magic falls apart. Omni-directional and bi-polar speakers are a bit more forgiving.

Since the invention of the stereo format the number one desire of audiophiles has always been to bring back the missing center channel. The SST Trinaural Processor offers an affordable way to realize the center channel information by processing any stereo signal all in the analog domain without any signal degradation resulting from any DSP.

Practical use of the SST Trinaural Processor

Audiophile grade speakers are typically sold by the pair. If you wish to set up 3 identical speakers while staying within budget, your best option is to use studio monitors that are sold individually. Often studio monitors come with built-in amplification and room correction tools increasing their desirability and ease of use.

I will mention a few examples of setting up a mid-field listening environment with 3 main speakers and a subwoofer using pro-audio gear.

1.

Focal Twin6 6.5 inch 2.5-way Powered Studio Monitors with Beryllium inverted dome tweeters. ($2,300 each).

3 of these would cost $6,900. To augment the bass response down to 30Hz, you would need to add the Focal Sub6 11" Subwoofer ($1,200).

2.

Focal Trio6 8-inch Power Studio Monitors with Beryllium inverted dome tweeters ($3,500 each).

To augment the bass response down to 30Hz, you would need to add the Focal Sub12 13-inch power subwoofer ($3,000).

This brings the system price with 3 mains and 1 subwoofer to $13,500.

3.

Genelec 8351B SAM 3-way Coaxial Power Studio Monitors ($4,575 each).

Add the Genelec 7380A 15-inch Powered Studio Subwoofer ($5,850) to play down to 16Hz.

Add the Genelec GLM Calibration Kit for $425

This brings the system price with 3 main monitors, subwoofer and calibration kit to $20,000. These are standard gear used in professional mixing studios.

Using DSP to recreate the center channel

Any home theater processor would be able to recreate the center channel from a 2-channel audio source with the use of Digital Signal Processing. The center channel is a must in home theater applications. It anchors the dialog allowing multiple audience members to enjoy a movie without having to sit exactly on axis. The center channel carries 70% of the information in a multi-channel setup.

There are plenty of affordable multi-channel processors that can play back a 2-channel audio source through a 5.1 or 7.1 speaker setup.

The flagship Yamaha RX-A8A Aventage 11.2 Channel AV Receiver retails for $3,300. It processes Dolby Atmos with Height Virtualization, DTS:X and Cinema DSP HD3 with dual Sabre ES9026PRO Ultra DACs.

You can purchase Yamaha Factory Refurbished units for as low as $1,999.

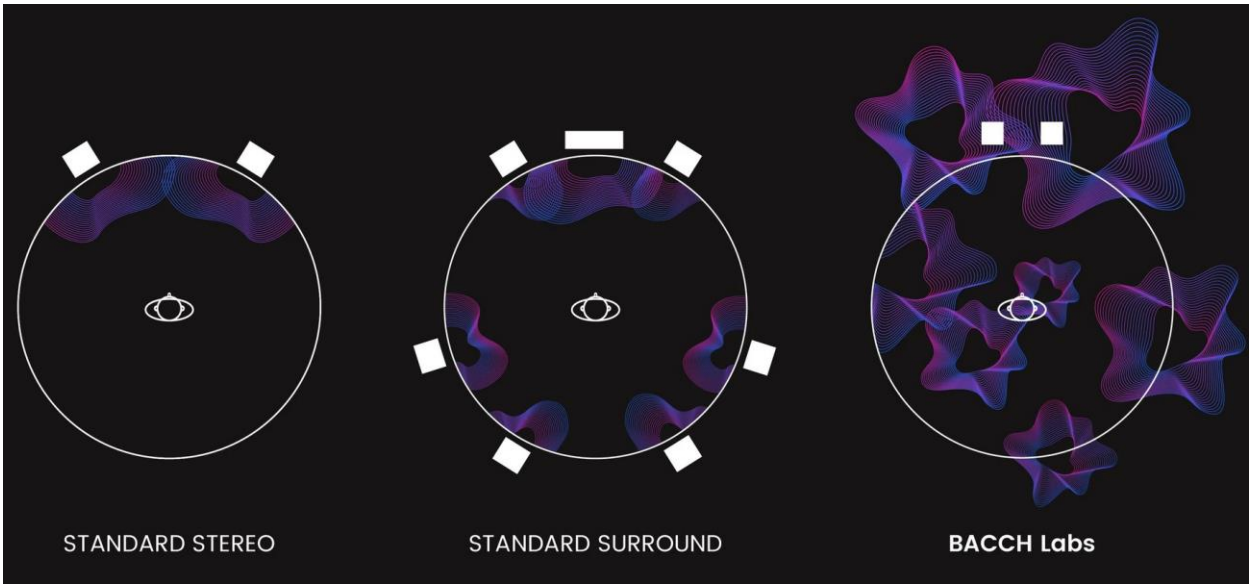
Deals like these make it very hard to justify purchasing the SST Trinaural Processor for $3,000.

It does not make much economic sense to purchase an analog processor just to extract the center channel information from a stereo source when a flagship receiver from Yamaha offers so many bells and whistles along with 8K HDMI, Dolby Vision, HDR10+, Bluetooth and a Learning Remote.

The Competition

Trinuaral Processing requires 3 identical speakers. BACCH 3D Spatial Audio Processing on the other hand can recreate a spatial soundstage from just 2 speakers. It does this with no loss of dynamic range and without introduction of any tonal distortion.

BACCH works on any stereo or multi-channel content.



BACCH Labs was founded by Dr. Edgar Choueiri, Professor of Applied Physics at Princeton University.

BACCH won rave reviews from The Absolute Sound, CNET and AudioStream.

The BACCH-SP (Stereo Purifier) is a high-end 3D Audio Processor that comes in various configurations:

- BACCH-SP dio (Digital Inputs/Outputs) $19,800
- BACCH-SP adio (Analog and Digital Inputs/Outputs) $23,800
- Grand BACCH-SP $54,000
- BACCH-SP Software Module (for the Mac) $4,900

Here is a review of the BACCH-SP adio 3D Sound Processor.

You can watch this in-depth presentation by Dr. Edgar Choueiri on Spatial Audio and the BACCH SP products:

https://www.youtube.com/watch?v=d90BdaCTABY

This technology is considerably more expensive than the SST Trinaural Processor ($3,000).

I would like to take this opportunity to thank Paul Johnson for loaning all his electronics, setting up his equipment and allowing us to experience the magic of the SST Trinaural Processor.

This event was a revelation for me. For any serious audiophile wishing to extract the ultimate soundstage information from a stereo source, including a center channel is a must and the SST Trinaural Processor is your ticket to sonic heaven. Once you have heard the difference it makes, there is no going back.

We all had a terrific time. Events like these take a lot of planning and patience. The more members we have in the audience, the more it makes all of this effort worthwhile.

Best regards,

David Das