

**FUNKTION-ONE'S
TONY ANDREWS ON
THE CREATION OF
THE AESTHETICALLY
PLEASING, SONICALLY
DEVASTATING NEW
DANCE STACK.**

By John Landers

Tony Andrews has been building speakers for a long time. One of the true pioneers of concert and club sound, Andrews first rocked the pro audio world when he and John Newsham founded Turbosound back in the mid-'70s. After developing several generations of innovative (and often-imitated) concert speaker systems, Andrews and Newsham moved on to establish Funktion-One in 1992. Today, Tony Andrews continues his quest for the perfect speaker system. Under his direction, Funktion-One has earned an enviable reputation for its unconventional, uncompromising products. The firm's touring speaker systems, for example, have been embraced by exacting artists like the Chemical Brothers, Leftfield, and Massive Attack. Funktion-One speakers have also graced the Space terrace in Ibiza, the VIP area at the Homelands festival, and Victor Calderone's personal studio.

The latest Funktion-One speaker system, the Dance Stack, was designed specifically for nightclub use. Already the centerpiece of Miami Beach super venue Maze, the Dance Stack is generating considerable excitement among club patrons and owners alike. "It's amazing how many comments we receive nightly from guests," says Maze co-owner Stacy Gallowhur. "It was the single most important investment of our club build-out."

Tony Andrews obviously knows his stuff. The new Funktion-One Dance Stack actually embodies decades of successful speaker system design. But why, exactly, does it sound so good? To find out, we asked Andrews about the Dance Stack, Funktion-One, and the current state of nightclub speaker systems.

What inspired you to develop the Dance Stack? The combination of circumstances and events are as follows: My love of dance music goes back to the original release of "Papa's Got a Brand New Bag," so I have an intrinsic affinity for dance culture. In particular, grooves which rearrange your molecular vibrations in a positive manner, assuming sufficient amounts of sonic power. Contrary to our traditional touring roots it was the dance world that was first to pick up on the excellence of our new technology. This enthusiasm inspired us to orientate our technologies and efforts into a loudspeaker system statement which the dance world would both understand and appreciate.

**LOUD,
CLEAR,
AND CUTE**

When did you start the R+D process? About 30 years ago. Seriously though, the Dance Stack project [was] formulated in March 2002. The Infrabass 218 had just been born and dance people were really enjoying our 15-inch mid-bass which we had in our Resolution 9 for the Millennium Dome project. We developed a 10-inch version of our eight-inch Axhead mid-range device for a thicker, more impactful mid. We involved Dan Agne and Dean McNaughton from Sound Investment in the conceptualizing and evaluation of the prototypes, because of their enthusiasm and their extensive knowledge of major club sound in the US. Then we engineered the whole lot into one stack for placement in a right angled corner of a space, delivering the right frequencies at the right height for a no-arguments result.

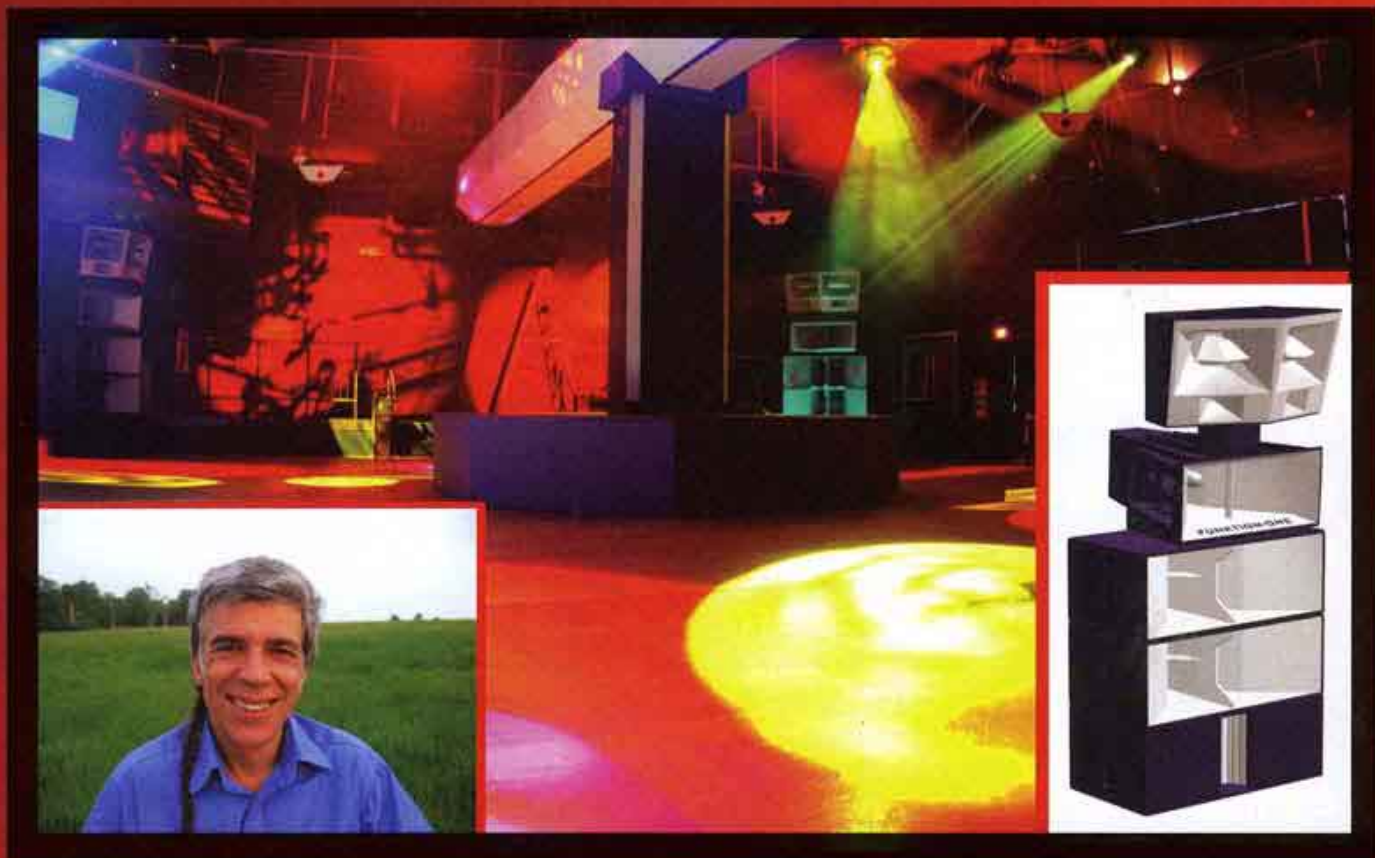
How does this new system address the deficiencies of typical nightclub speakers? If you mean by "deficiencies," screeching high-mid and flaccid, boxy bass, then we have

reduced the possibility of the first and eliminated the second. Screeching high-mids are caused by a combination of things. The first is large metallic diaphragm compression drivers with industry-average crossover points. Ninety nine percent of the ones I have ever listened to have a natural tendency to become extravagantly fierce with all kinds of distortions and sonic artifacts. Frankly, I believe they are virtually unusable, which is why there are no such things in any of our products. Our unique technology allows us to achieve these frequencies more correctly with good old-fashioned organic paper cones! The other side of the problem is that misinformed engineers often accentuate these frequencies (2.5K - 4.5K) to give the system more "cut," which only adds insult to injury.

Moving on to bass, people love the physical euphoria of bass frequencies, and there is no doubt in my mind that quantity is no substitute for quality. By this, I mean that across the two or more octaves that we generally term "bass," it is

far more exciting and pleasurable if the bass is even in power from 30Hz to 130Hz at a medium level, than a loud-speaker running flat-out, producing a one-note, boxy honk. Our bass technologies give us even power at all bass frequencies, tightness at the upper frequencies and firm solidness in the infra/sub bass, resulting in an overall musical bass.

According to the Funktion-One website, equalization is "an unnecessary evil." Given the correct crossover settings and relative drive levels, how accurate is the Dance Stack's overall frequency response? There is more to accurate response than measured energy at frequency. Although the measured response of the Dance Stack is substantially plus-or-minus 3dB from 35Hz to 17KHz, this does not take into account the nature of the sound. The human ear is exceptionally responsive to first sound arrival. Although time alignment is very helpful in achieving simulta-





neous arrival of the frequency bands of the system's components, the dynamic of the frequencies must also be even from all components. If this is not the case, then certain parts of the spectrum will be perceived to be literally behind others. We make sure that all our loudspeakers jump very fast in unison.

Is a perfectly flat frequency response essential to good club sound? Yes and no, because good dynamic response and lack of distortion can give a pleasurable result despite an uneven frequency response. Spikes and peaks are far more annoying than deficiencies. Having said that, it is preferable to have the frequency response as even as possible.

Nightclub sound systems are

often "tuned" to the rooms in which they are installed. Does the Dance Stack need this sort of treatment in every installation? Yes, but only in the bass area because of any environment's penchant for its own set of standing waves. These give a particular frequency slant which may need compensating for.

The intrinsic distortion of loudspeakers is rarely discussed, even in professional audio publications. What do club owners need to know about speaker-induced distortion? It hurts people! It causes long term damage to hearing. Patrons should not be going home with their ears ringing. If a system is unbalanced response-wise and inherently distorted then it cannot be loud as well. Clean, even sound allows more level whilst remaining pleasurable, without causing harm.

How important is terminal SPL in the nightclub environment? If you mean by this the amount of noise that you can have out of a loudspeaker before melt down, then it is irrelevant. What is probably far more important is how loud will it go before distortion content becomes inhumane.

Funktion-One has a reputation for building high-efficiency systems. What makes the Dance Stack more efficient than the average club speaker?

Big question. In a nutshell, the holistic combination of driver and waveguide for maximum conversion of amplifier energy into acoustic energy.

The Dance Stack is an eye-catching speaker system. Was its visual appeal part of the design process, or a happy accident? Let's say that we took advantage of the shapes that have emerged from the function of our technologies. What I enjoyed was not being size-constrained by the need for easy transportability.

I've read that the newly-designed Infrabass cabinet is capable of reproducing frequencies as low as 20 Hz. Do nightclubs really need bass that deep? Will clubgoers even notice it? I'm not sure whether they need 20Hz, but you can't help having some of that if you are going to have a decent amount of 35Hz. Clubgoers will absolutely notice it because it is so physical you can't fail to, even if you are deaf! However, believe it or not, there are few tracks that actually have these frequencies present and there are a lot of electronics in use that don't deal with infrabass frequencies very well in the first place.

What other benefits does the Dance Stack offer to the people on the dancefloor? Low-mids are dry and defined; mid is clear; and high frequencies are transparent. Combining

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What should DJs know about the Dance Stack in order to make the most of its capabilities? Focus on keeping the gain structure at around 75% of capability. Do not drive the mixer into the red. Listen to the sound on the dancefloor. For those of you who do not understand what I mean by driving the mixer into the red, consider this: When you are driving your car you would never arrive anywhere if you had your foot on the accelerator pedal pressed to the floor. Why drive a sound system this way?

You've been involved in loud-speaker design for much of your adult life. What do you love most about your art/work?

I love the fact that we are still uncovering levels of clarity and information retrieval that we have never experienced before,

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and are able to pass it on to others for their pleasure.

You've stated that the pursuit of high fidelity audio is a pursuit of purity, or truth. Would you elaborate on this statement?

Another big question. Let's just say that the intrinsic righteousness of this pursuit appeals to my sense of direction.

The Dance Stack has set a new standard for high fidelity, high

volume nightclub audio. What's next for Funktion-One? We have been experimenting with surround sound for years and are currently working on a product utilizing this experience. We are also very close to a further breakthrough with our Axhead technology and further possibilities with bass.

Any parting thoughts? Be discerning about the sound you are listening to and look after your ears. If you find they are beginning to itch, take this as a warning that to remain in the environment will give you permanent damage. After the health tip, I would like to leave you with these thoughts: Would it not be better, wherever possible, for the DJ to be sharing the same soundscape as the people, rather than being isolated in their own sonic environment? Finally, when I see the musical experience being used as a vehicle for a negative attitude, I am caused to remember Shakespeare's words: "Music is the food of love."

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