

CreativeSynth

Interview: Eric Barbour of Metasonix

by Darwin Grosse

First, congratulations on your success in bringing tubes to synthesis. Can you give us a brief history about Metasonix, and some history behind your product ranges?

Up to early 1999 I was just experimenting. With a stable job at Svetlana as the applications engineer, there was not much impetus to work on outside projects. In 1999 I got serious - mainly because I could see the Svetlana USA marketing arrangement deteriorating.

So I got busy and made a salable Phattytron, in a rack mount cabinet with a PC board, MIDI interface, and a Nixie display to set the thing apart. But people didn't like the high price, and it was a very complex thing to build. There is just no way to build such a thing for solid-state prices.

So in early 2000 I invented a simpler waveform mangler, the TS-21. That generated enough market interest (and an EM Editor's Choice award) to justify more products - the TS-22 filter and TS-23 dual VCO. The TS modules were hand-wired, point-to-point. The suppliers kept raising their prices, so I had to raise my prices. We recently discontinued the TS modules, after a one-year period of almost zero sales.

Now I am boiling these basic designs down into the TM modules, which are a lot smaller, less costly and less difficult to build. They are proving to be far more popular. Metasonix also builds a preamp tube tester under contract for Vacuum Tube Valley. And I take occasional service jobs, mostly for vintage hi-fi, tube music gear, and tube radios. It pays the rent.

The Metasonix product line is most widely known for aggressive and "bent" sounds. Is this something that interests you, or is it a consequence of working with tube electronics.

Forgive me, but I have no interest in making me-too products. There are now 13 modular synthesizer manufacturers - and most of them are simply making knock-offs of old solid-state designs. Endless vintage-snob behavior, and endless repetition. I want whatever is off the menu and off the radar. By the way, Metasonix is not simply a cash flow for me - I actually use my own products to make my own recordings, an album of which will be forthcoming soon.

Vacuum tubes are a radically different world from semiconductors. Tubes do roughly the same things as transistors - but with totally different physics. Especially the oddities in Metasonix circuits. The beam modulator tube in the TM-1 is a perfect example. If it sounds "bent", it doesn't bother me. Why should my recordings sound like old Emerson, Lake and Palmer albums? Or old Devo albums? By the way, Mark Mothersbaugh recently bought a TM-1. He loved it - so he called me up and asked why I wasn't making such strange stuff back in the 1970s, when he needed it? I had to tell him that at the time, I was in college, being lectured by my engineering professors



Phattytron image courtesy
of [Audio Playground](#)

MODE
MAX/MSP
INTERVIEWS
OPINIONS
BEST OF CS
ddg's BLOG
EMAIL US

http://www.creativesynth.com/INTERVIEWS/int_ericbarber.html

Go

FEB APR JUN

◀ 06 ▶

2005 2007 2010



▼ About this capture

[25 captures](#)

23 Jun 2004 - 23 Jan 2013

between creative engineering and creative people. While categorization is always difficult, how would you describe the music you make?

Weird, of course. I don't personally place a lot of importance on the equal tempering scale. It was a compromise, anyway. Sounds and how they fit together are more important than melodies.

Recently I've been recording the tube synths with Cool Edit, then using the software to cut and hack things. Good program. There are things that computers do very well. On the other hand, I have a bunch of software synths, and NEVER use any of them. The latency business is the most offensive thing to me, although I will say that Reason is very impressive. But it's exactly what I hate - canned dance music noises. The whole point of a synth was to make NEW noises. Or so I was led to believe!

As for apologizing for the "bent" sounds - there is no need. Anyone that has experienced the sound of your devices (which can even be heard in the opening screen of your website) will be impressed by the results. In solid-state electronic instruments, there is significant difference in the sound of certain types of components. To what extent do different tubes have different "character", and how widely have you searched for The Right Tube?



"Right tube"?? Right as in how? What application?? There were thousands of different tube types made - but there was enormous duplication of tubes also.

Different brands of tubes sound different because their mechanical construction varied, and because their CATHODE COATINGS varied. The making of a cathode is one of the blackest arts I have ever seen. Compared to semiconductor physics (which has been studied with great intensity for 40 years) the oxide cathode is witchcraft. Very complex chemical reactions occur in the coating. It interacts with the nickel tubing it sits on. It interacts with any stray gas in the tube. On and on...NOS tubes are preferred over current production simply because many (not all) NOS tubes were made with considerable care and tight tolerances. The stuff being made today is cranked out to meet a greedy, price-crazy market. Made in former Communist countries where the wages are very low. This does not exactly lead to quality tubes.

How did you learn electronics (and specifically tube electronics)?

Since college days I've been messing with electronic music. Got serious about it in 1980, built up an 8-track studio, then got too busy with work and survival to worry about it for some years. Around 1987 I found out that some foreign factories were still making vacuum tubes; then some serious listening showed me that there was something to the stuff being written about in high-end audio magazines. Tubes do have special properties - and are not as prone as solid-state designs are to harsh, grainy sound. After building my own stereo mixing board, limiters, EQs, and all kinds of music-making devices, I can say that the average 'audio' op-amp isn't all it's cracked up to be. So for the last 10 years, I've been trying to educate myself about a nearly dead technology which no university gives instruction about. And trying to build my own equipment, using tubes whenever they benefit the sound. Having owned some vintage analog synths, including a Yamaha CS5, a Pro-1, and an EML 101, I can say that doing it with tubes guarantees grunge, but with a

http://www.creativesynth.com/INTERVIEWS/int_ericbarber.html

Go

FEB APR JUN

◀ 06 ▶

2005 2007 2010



▼ About this capture

[25 captures](#)

23 Jun 2004 - 23 Jan 2013

a microprocessor controller, MIDI, and plug-in tube modules. A prototype was built, but it never went anywhere. Getting the sound of a tube guitar amp is far more complex than Floyd or I thought at the time. Since then, I've lost touch with Floyd, and his company apparently folded. Then, in 1991, I thought 'why hasn't anyone built a synth out of tubes?' There was a long history of analog-computer design prior to 1960, and the first usable op-amps were NOT made with transistors - until 1958, available semiconductors were crap! Hanging around the engineering library at the University of New Mexico was a big help - they hadn't tossed out their old textbooks yet!

So, I started messing around with relaxation oscillators using thyratrons. Discovered how stable they were, in spite of the prevailing popular opinion. That, plus the old analog-computer circuits, led to the first full instrument, the prototype Phattytron. Finished it in early 1996. Later in '96 I built the modular, with circuits similar to the Phattytron. This was the one with the tubes protruding from the front panels. It appeared in KEYBOARD magazine (June 1997). Then someone gave me a copy of the schematic of the Mixtur-Trautonium from 1931, and I realized that I was on the right track. My VCO was virtually IDENTICAL to the Trautonium oscillator. If Trautwein and Oskar Sala had kept going with their ideas, they might have invented voltage control.....30 years before Moog and Buchla.

It never happened because the music world is so damn conservative. I remember the reception Moog got in the 1960s. Nowadays people forget how hostile most musicians were to this new technology. Musician's unions tried to get Moog synthesizers outlawed in some cities. Now, 80% of pop music and soundtracks are made with electronics.

What would be your advise for someone wanting to get into it today?

I'd advise against it. The only reason tube factories are surviving today is due to the huge demand for guitar-amp types. Although the tubes used in high-end audio are more profitable, high-end is such a small market compared to guitar amps and pro-audio that it barely justifies tube production. I have estimated that the total worldwide yearly sales of audio tubes is perhaps 2 million pieces, with fully half of those being 12AX7s. This is a tiny business, compared to the mainstream of electronics.

There are very few tube-amp companies (hi-fi or guitar) large enough to hire design engineers - most of them are literally one-man firms. The owner is the designer. So, either you start your own company and fight for a share of a crowded market, or you go begging for one of the few jobs. For someone going into engineering school, I'd recommend specializing in analog electronics, especially power or RF design, using semiconductors. Most of the guys who do this are over 50 and will be retiring soon - and the industry has been so fixated on digital technology that very few new graduates have received any training in analog design. Once you know how to design transistor amps, tube amps are like a holiday. Tubes are a mature and well-established field. Unfortunately, any education in tubes will have to be self-education.

I do wish the mainstream would take it more seriously, though - electronic engineers tend to be know-it-all types, and they like to dismiss tubes as "obsolete", whatever that is supposed to mean. Throwing away 70 years of engineering practice is sheer stupidity. The old stuff can teach you something about what audio equipment is supposed to do. I remember a lot of solid-state equipment made in the 1960s and 1970s that sounded horrible - most people didn't care, as usual. Only people who could listen critically really cared - by the 1980s there were so many of them that a grassroots movement started. Unfortunately, they still are regarded as unimportant eccentrics, by the "industry".

http://www.creativesynth.com/INTERVIEWS/int_ericbarber.html

Go

FEB APR JUN

◀ 06 ▶

2005 2007 2010



▼ About this capture

[25 captures](#)

23 Jun 2004 - 23 Jan 2013

Charlie Kittleson, I and John Atwood started it in 1994, simply because the few magazines that wrote about tube audio were either ordinary product-review glossies, or they were weird hi-fi hobbyist publications like Glass Audio or Sound Practices. And nobody was covering guitar amp design. So VTV was aimed at the hard-core tube user, but not necessarily hobbyist/DIYers only. VTV is unique in having historical articles, especially about the early days of hi-fi - nobody else prints such info! We also have tube listening tests and historical reviews - again, nobody else runs such material. And some product reviews and DIY projects. Since Glass Audio has been folded into 2 other magazines, and Sound Practices has disappeared, VTV is the only one left that discusses technical facts.

Well, it's quite a publication - I was surprised by the breadth of coverage. How difficult is it to find new things to talk about, when the electronics industry (as a whole) seems to have dismissed tubes as a dead technology?



Are you kidding? We have yet to cover even the range of 12AX7s that were manufactured. There are scores of tubes we haven't yet done features about. Charlie is doing historical hi-fi articles, which NOBODY has ever done before. And he has yet to scratch the surface. As he contacts old-timers who worked for defunct firms, he tries to interview them. It's a LOT of work, and he's trying to sell parts and service work on the side.

What does the future hold for Metasonix? Can you give us any insight on where you'll be going from here?

The TM line will continue to expand. I will try to offer a complete modular synth, with Metasonix modules combined with some CV modules made by another firm. It will be a slow process, sales are not exactly roaring - musicians often won't buy something unless they hear good word-of-mouth, so you have to keep the devices on the market for several years. Then people start taking them seriously. The specialized TV tubes we use are available in the hundreds of thousands, so I don't expect to run out!

That's great - we'll be looking for some exciting stuff to come. Here's your chance for shameless self-promotion - GO!

Honestly, Metasonix stuff isn't for everyone. But a lot of people who dismiss it do so out of sheer ignorance. We are trying to INNOVATE here - we just do it with tubes, not transistors.

What do I wish? I wish the makers of modular synths (and analog synths in general) would get together and COOPERATE. Software synths and analog modeling are fine, but they are choking off the business - simply because of heavy advertising and promotion by big makers like Roland and Korg, and because of the massive profit margins of software.

It is becoming more and more like the audiophile business. The average Joe Schmuck is quite happy with the ugly and horrible-sounding \$200 mini-stereo he bought at K Mart - and doesn't seem able to understand how much better it could sound. Give that "antique" analog stuff a chance; it can do things a computer can't possibly simulate.

FEB APR JUN

◀ 06 ▶

2005 2007 2010



▼ About this capture

[25 captures](#)

23 Jun 2004 - 23 Jan 2013

are on the market bearing huge, fat price tags.

Well, here's a whole universe of analog sound you have never had before. We have some pretty good, accurate demos on the Metasonix website - the modules are also being used regularly by electronic musicians all over the world. And I'm working on an album of my own, to be released next year. It will have lots and lots of Metasonix sounds - more than 75% of the content, in fact.



I see too much arguing and trolling on analog-synth online forums. It's a bad thing. I know, for a fact, that this kind of thing drives away prospective customers!

Stop being negative, and SUPPORT ANALOG. Or else all the makers of analog will disappear. It all hangs by a thread, but you, the user, can make the difference.

Eric Barbour is the owner of METASONIX (www.metasonix.com) and Senior Editor of Vacuum Tube Valley magazine.

All contents copyright 1999-2004 by CreativeSynth.com. All Rights Reserved.

