

April 1997

GOD, IN HER FICKLE WAY ANOINTS ME

and I ask in return

IS POLYGAMY WRONG?

THE NEW ATMA-SPHERE OTL AMPLIFIER

INTRODUCTION

I want to go on record that I was the first man to use the expression "SHIT HAPPENS". I used this expression for the first time on March 18, 1963 at 2:30PM, after studying the French existential philosopher Jean Paul Sartre's work in a college course devoted to modern philosophy. Clearly at that time Sartre was reminding me of the obvious random, absurd, and chaotic nature of existence, which is always "nonsensical". . .shit *always* happens. My fellow solder slingers, have you not experienced, in spite of your best efforts and plans, that "SHIT HAPPENS"? How could I know back then that my flip scatological expression would become the philosophical underpinning of the American biker poet culture, and a divine inspiration that would connect me to the emergence of OTL circuits in the late 1970s?

Many have asked me the same question: "Gizmo, how did you become so weird, i.e. *non-normal*"? The best explanation for my eccentric behavior and strange manner of communicating is that I, like so many others, have been chosen by God to do Her work. My weird behavior is really "normal" behavior for a devout religious fanatic. Those of you, like myself, who are Biblical scholars know that God always gives a concrete sign of Her mysterious will. Often the sign is confusing and subtle. It may come in a dream. It may be a sheep that speaks in foreign tongues and chews gum, or a staff that turns into a snake, but there is never any doubt that She has touched you. From that point forward you are a different person; possessed with a mission, and start acting very strange like an audiomaniac ... which is as strange as you can get without going to jail.

This is the unusual way that God gave me a clear sign that She chose me to a catalyst and "promoter" of a very unique form of thermionic art ... OTL circuits. It was a beautiful fall day. Julius Futterman and I had just signed a contract that gave me the rights to commercially develop his OTL amplifier, and we were walking towards a liquor store on Broadway and 73rd street to buy a bottle of champagne to celebrate. Julius and I were walking right next to each other chatting, and as we approached the liquor store a *tidal wave* of pigeon shit hit me. This was not the normal droppings from a single pigeon, but the mass dive bombing of a *Stuka* squadron of diarrhea suffering rats in feathers. Julius, standing right next to me was spared Her will, and did not have one measly drop of pigeon fecal matter on him. If you haven't had the experience of taking a pigeon shit bath, try to imagine how it feels to have a large warm bowl of Chinese lobster sauce infested with maggots and leprosy covering your head and chest. In that moment of total humiliation and repulsion I turned to Julius, and asked, "Is this a sign from God, Julius?"

At that point we both started to laugh hysterically, because we both knew intuitively that it was a clear sign from God. She had anointed me in a most peculiar way. Why couldn't She choose some other method to let me know that I had been chosen for an important task... like winning the lottery, or making long curly blond hair grow on my bald head?

About one year later, Julius Futterman died. It was on the day of his passing on that we, the thermionic techno-shamans of New York Audio Laboratories, finally perfected his OTL amplifier.

Now if you were to ask your Rabbi, Priest, Minister or Shaman adviser what they thought of God using a wave of pigeon shit to notify me that I was chosen to have a special relationship to OTL circuits, they would probably tell you that Her will is always mysterious and we, Her servants, must follow our hearts and have faith *in spite of the fact that Her Will never makes any sense*. In other words, SHIT HAPPENS, and then you are supposed to have faith and follow your heart . . .not any easy challenge. But time has proven Her correct, because of being obedient to Her will, I have been rewarded and am now listening to the new Atma-Sphere M-60 M11 OTL amplifiers, and the beauty of this dreamy experience is directly connected to that Pigeon Shit Stuka dive bomber attack on Broadway, and a sixty year old dream that has never died . . .the dream of a pure tube amplifier . . .a tube amplifier with no output transformer.

BACK TO THE FUTURE: PRE-WW II THERMIONIC TECHNO SHAMAN'S DREAM

Let's hop into The Triode Guild Thermionic Time Transporter XP-1 with Julius Futterman and go back to America in 1938. The depression has ended, the radio and music business is booming, and there is a large population of men who know how to build radios . . . these thermionic techno-shamans, just like Julius, would pick up the parts on the way home and whip up an amplifier or a radio on the kitchen table. These "radio" men, including Julius, shared a dream, and spoke often about it . . .even in their professional journals . . .the creation of tube amplifiers whose performance would not be limited by an output transformer, because the tubes would be connected directly to the loudspeaker. With tubes being high voltage, high impedance devices, and speakers wanting low voltage, low impedances, and plenty of current . . .this was a *mismatch made in Hell*, but Divine fulfillment for an output transformer which transformed all these electrical discontinuities into a perfect marriage, because the speaker got exactly what it wanted. So America's thermionic techno-shamans, like Julius, were scratching their dandruff filled heads with their sliderules and trying to achieve what looked impossible to achieve . . .connecting a tube directly to a speaker.

WW II Hoovered up every one of America's young thermionic techno-shamans, including Julius, and put them to work either in the Army Signal Corps, or in research labs. While these men served their time for Uncle Sam, which was mostly the wait part of "*hurry up and wait*," they chewed the audio fat. And according to Sgt. Futterman, they chewed on the OTL fat as much they chewed on the Betty Grable fat . . .pure GI fantasy.

If your favorite tube amplifier sounded so great with an output transformer, which is also an inductor of varying electrical characteristics, wouldn't you wonder how it would sound if you could chop off that big inductor . . .it would *have* to sound better . . .that was the dream . . .listening to an all-one-hundred percent pure tube amplifier . . .a tube in, a tube out, and nothing more. Can you imagine the thrill of putting a 100 kilohertz square wave into a tube amplifier and out comes a 100 kilohertz square wave, not a line drawing of the Rocky Mountains, which is what you get with an output transformer.

Julius won the first patent for an OTL amplifier in 1954, and in the late 1970s, through New York Audio Laboratories, for the first time in audio history OTL amplifiers were in commercial production. I was (trumpets blaring, crowds cheering) the first man in audio history to commercially perfect and manufacture an OTL amplifier . . .confirming that the pigeon shit was a real sign from God that She wanted OTL circuits available for music lovers.

And this is when things started to go wrong in OTLville. In the 1980s the tube horsepower race was on. One hundred and fifty Watt amplifiers with rows of 6550s were the rage. Why not listen to two hundred and fifty Watt tube amplifier, when more is more? Playboy magazine was, at the same time, featuring the megamammaries of Jayne Mansfield, which, if you remembered their mass, required a bras designed by Buckminster Fuller to support them. American men have always believed that MORE IS MORE, AND MORE IS NEVER ENOUGH. Isn't America the

home of the School of Wretched Excess? At New York Audio Laboratories we were developing an OTL amplifier with *twenty four output tubes* that would produce 250 Watts into eight ohms, and to inflame your imagination, we showed it at one of the CES shows. We didn't want to get left behind in the horsepower race. That was the beginning of the OTL course error that took two decades to correct, because *OTL amplifiers should never be high horsepower amplifiers, they should instruments of ultimate thermionic refinement.*

There is a good reason why many of the new OTLs that are appearing are not achieving commercial success. OTL amplifiers *shouldn't*, in the same way single-ended triode amplifiers *shouldn't*, run in the horsepower race: Intrinsicly, these amplifiers, both the single-ended triode and OTL amplifiers, have exceptional qualities, unapproachable by conventional transformer-coupled push-pull amplifiers, if they are ***used in the proper context.*** Get my point, or do I have to hit you over the head with a pure silver fire hydrant? *OTL amplifiers may be inherently the most subtle and transparent type of tube amplifier* IF, and I must say that again, IF, they are designed and utilized properly.

I would be glad to debate any designer of tube equipment the following proposition: ***OTL amplifiers have the potential to be the most refined and subtle tube amplifiers.*** High powered OTL amplifiers are too complicated and sacrifice refinement. I am suggesting that a forty watt OTL amplifier may be the limit of refinement, and after that it is more power and less of everything else that really matters. My favorite Futterman OTL amplifier was the OTL-2 Triode 15 watt per channel that we made just for the Japanese market.

Do you want me to play my ace? From the land of the single-ended triode, from the land where men grock refinement and subtlety, from the land that nurtured the modern triode renaissance, we discover gaggles of micro-powered OTL amplifier designs. The Japanese have a well developed OTL culture, and it is an affirmation of ASCEND TO MICROPOWER . . .which as you know is the sign above the door to The Triode Guild. Now that American men are growing up and maturing artistically, they have the capacity to appreciate the unique beauty of micro-powered single ended triodes, and the next step in their development will be the grocking of ultra-refined, low-powered OTL amplifiers.

IS POLYGAMY WRONG?

Obviously not, because it is the only state of being to be in if you want to directly experience the direct Will of God. Did you notice that God stopped talking directly to Her people as soon as they become monogamous? The Old Testament is a mythology of a polygamous culture. Men need many wives, and just because modern law prohibits polygamy doesn't mean that such complicated multi-dimensional impulses are gone. We are polygamous by nature because such a nature is better for survival. This is why God in the Her Infinite wisdom created so many different types of triode amplifiers . . .so we can love many wives. Shall I say it plainly, Brother? If you are not polygamous, you are in a state of spiritual decay. Your soul is turning into a piece of moldy foot cheese. How many different triodes wives do you have, Abraham?

I am a blatant triode polygamist . . .it is my job as *Guildmeister* of The Triode Guild to uphold the ancient ways . . .and will be appearing on "Geraldo" to tell my story to America very soon. There is a direct connection between my love of single-ended triodes and the new Atma-Sphere OTL. If I didn't love my ultra-tweaked custom single ended triode as passionately as I do, the new AtmaSphere OTLs would not be making fires in my soul burn so hotly that it feels like I have a 211 triode up my butt.

As you know, I consider directly heated single-ended triodes that are *under 10 watts* the concrescence of *midrange* coolosity. They are the high ground, and they are so *El Supremo* at what they do that you don't care about what they can't do . . .well some of the time . . .most of the time . . .Okay, let's get real . . .single-ended triodes are not full range amplifiers, and sooner

or later we want more . . .not necessarily more power (if you listen to 100 dB horns), but definitely more of the music . . .like the bottom twenty-five and the top twenty five percent of the music. So while I am madly in love with 300Bs, my musical horny polygamous self became restless

In the spring of '96 I called Ralph Karsten of Atma-Sphere and asked him if I could listen to his M-60 amps that have been in production for about fifteen years. Ralph has the distinction of continuously making OTL amplifiers longer than any other person . . .so you might say . . .he has learned something . . .you might say he has OTL in his blood. When I first called Ralph I was using single-ended 300B amps on the both the tweeters and woofers of the Tannoy Westminster Royals. Using the Marchand tube crossover raised the relative efficiency of my system to about 105 dB . . .very efficient and very revealing of low level stuff, as well as being capable of enormous dynamics because of the Tannoy's eleven foot folded compound horn.

Immediately I could tell that the M-60s had the potential of creating the next triode amplifier revolution . . .but the potential was *yet unrealized*. Here was the genius of a young Mozart. Clearly Ralph Karsten was the current custodian of OTL dreams, but like other OTLologists He was devoting his efforts to pursuing the bogus power trip, rather than seeking ultimate OTL refinement. I couldn't blame him, because his spiritually undeveloped customers were demanding power for their inefficient speakers.

Ralph's M-60s compared to the 300B amps were harmonically crude. They didn't have the life and breath of the single-ended amplifiers. They didn't have that (using a Nobu Shishido expression) "magic triode midrange aroma" of directly heated triodes, though they produced a much deeper and wider sound stage, and were ultra-fast. This is a significant point . . .OTL amplifiers are the speed kings of tube amplifiers. With an output section rise time of 600V/microsecond compared to a transformer coupled amplifiers typical 10V/microsecond, the Atma-Sphere's have the *potential* of ultimate signal revelation. The fact that the M-60s produced 60 watts a channel compared to the 300B's 7 watts a channel didn't really matter on my system. On the other hand, compared to the M-60s the 300Bs really sound just like a sublime midrange amplifiers. The M-60 easily produced the bottom twenty five percent of the music, while the 300B's pretended it just wasn't there. And I am using Magnequest FS 030 output transformers, which have the best bottom of any single ended output transformer I have ever heard.

The region above 1 kilohertz is where the advantages of the OTL design became most apparent. The 300B output transformers with their relatively high inductance choked off the high frequencies, while the ultra-wide bandwidth OTLs revealed, once again, the virtues of ultra-fast rise time. No transformer coupled amplifier can compete with the M-60 in terms of transient response and low distortion/high frequency extension.

At the time, it made sense to use the 300Bs on the woofers, for their midrange aroma . . . refinement . . .and M-60s on the tweeters . . .and that polygamous combination was my inspiration for the last five months. Once again the ancient joy of polygamy! I was prepared to give up the bottom octaves, until . . .

THERE IS NOTHING WRONG WITH A GROWN MAN BEGGING

It is not an accident that Ralph Karsten is a righteous biker . . .he rides restored Indian motorcycles . . .he is keeper of the Indian Model 841 Registry — and that I have been involved in attempts to revive the original Indian Motorcycle Company. You just can't get more male bonded than OTL/Indian Motorcycles. Our Indian motorcycle bond created trust, so when I was critical of the M-60s, Ralph knew I was coming from the right place, and that place being very righteous . . .the righteousness of a triode-loving biker. Can you get anymore righteous than that? I begged Ralph to refine his basic design concept so that it would have more of the addictive "aroma" of the single-ended triode's midrange, and all of the speed, transparency and

ultra-wide bandwidth of the OTL. Was such a feat possible?

Over a period of a month of chewing the OTL/Indian motorcycle fat, Ralph became inspired and did a series of experiments which lead to his new amp . . .the M60 MkII . . .which I believe is the beginning of the next triode revolution, and the only legitimate artistic threat to directly heated single-ended triodes. Dudes, we are talking about a powerful new aroma!

By switching to an all 6SN7 input and driver stage and eliminating the 12AU7/12AT7 stage, Ralph eliminated the cause of the harmonic crudeness that is endemic to the 12AU/T family of triodes. There is a good reason that so many single-ended lovers use the 6SN7 tube as a driver/voltage amplifier . . .it has great harmonics and is a powerful driver tube. (Note: I just purchased a gaggle of 1944 Western Electric, 1950s RCA, and Tungsol 1970 6SN7's, so that I could *fine tune* the harmonics of the new M-60s). Ralph also simplified the wiring in his amplifier following the SET rules of **LESS IS MORE** .. eliminating absolutely everything possible in the signal path. Purity and simplicity has transformed the original M-60 into a completely different instrument. This Atma-Sphere amplifier is the first of a new generation of artistically refined OTL tube amplifiers, and a mortal threat for Transformerpushpullville.

All of Ralph 's Atma-Sphere amplifiers already have the advantage of being hard wired . . .NO PRINTED CIRCUIT BOARDS TO SCREW UP THE SOUND HERE . . .so the dramatic changes from switching to the 6SN7 driver are ultra-apparent , and by that I mean more dynamic, more delicate, more spacious.

I am now using the older pair of the M-60s on the tweeters and the new M-60 MK IIs on the woofer . . .*that is four channels of OTL amplifiers directly connected to the Tannoy horns* . . .no passive crossovers to slog things up. I had to call 911 for an emergency delivery of Audio Pampers, which I only wear when I think I am about to loose control of my bodily function because I am getting so excited over the music . . .I can't hold any thing in . . .(Though the audio pampers bulk up and look foolish under my pink leotard, nothing inhibits me from dancing like the pagan being that I am). Before you audition the M-60 MKIIs, be sure to be wearing your Audio Pamper, or put plastic poop-proof plastic covers on your listening chair or couch.

Here finally is the ultimate OTL joy — in my case again, the output tubes are directly connected to the Tannoy drivers, because I use no passive crossovers, and until you have heard this direct tubular connection, this direct bond between tube and driver, you will never fully appreciate the hot passion which fires the OTL dream. Those who love tube amplifiers of the conventional kind are thousands of steps removed from what I am experiencing, because the combination of output transformers and passive crossover parts are choking, limiting, slogging, inhibiting the signal. God in Her Infinitude is All Wise, and clearly She wants all of you to experience, at least once before you enter the Audio Old Age Home, the magic of triode OTLs, tube crossovers, and horns . . .it is the best glimpse of Audio Heaven you are going to have on earth..

But this is not the end. It is the beginning of something new. I consider myself a pretty good audio prophet, and I am going on record that Ralph Karsten is about to start a new revolution in the American triode arts. I predict that with the coming of the next generation of high-efficiency loudspeakers for single-ended amplifiers, the musical demanding will finally have a chance to experience a form of musical magic yet unimagined . . .ultra-refined OTLs at their peak of performance. **Refined OTLs will surf in on the single-ended wave.** I am having that experience right now, and am certain that more will crave the same. Yes, I am polygamous. I still listen to my single-ended triodes, and yes I am going full speed ahead with building TRIODZILLA©, the one thousand pound, twelve foot tall single-ended triode — the world's ultimate midrange amplifier — but the Atma-Sphere OTL amplifiers do more of almost everything better, and this is just the beginning Again, the Atma-Sphere M-60MkII may be the only legitimate artistic challenge to single ended triodes, and new M-60s haven't received

the benefit of any tweaking yet . . .

What you get for \$3300 is a pair of mono 60 Watt per channel OTL amplifiers, which are hard wired, and come in a super cool retro hammer-tone enamel chassis with built in bias and balance meter, and to celebrate its connection to the ancient OTL dream has louvers punched in the chassis exactly the way they used to do it when 300Bs were \$26 dollars each and it cost 25 cents to get into the movies.

Let me focus on three distinct groups of audiomaniacs that should pay close attention to this amplifier, but first a **OTL CAVEAT**: OTLs don't like low impedance loudspeakers, like those which hover below four ohms. On the other hand those who love (1) mini-monitors, (2) electrostatics, especially Quads, and (3) horns and studio monitors, will find the M-60MkIIs a complete new experience in tube wonder.

I can't recommend strongly enough the use of the Marchand Tube crossover, which permits the elimination of the passive crossover, thereby giving the tubes a direct connection to the drivers. This is *le plus ultra OTL*, and until you have heard this you haven't experienced the OTL dream come true.

I also want to mention two extremely important features of Ralph's amplifiers that should be standard in all other tube amplifiers . . .let me say this in the boldest possible language: **all tube amplifiers must have torroid power transformers** to eliminate the low level mechanical hum in all E-Core power transformers that clouds the sound of the amplifier, and all tube amplifiers should have two power switches . . .one for the filaments, and one for the B+. **Tube amplifiers must NOT have E-Core power transformers, and they must have separate switches for filaments and B+.**

CAN YOU READ MY MIND?

At the bargain price that Ralph is selling these amplifiers, you simply can not expect to get the ultimate in refinement in power supply design — and you don't. Of course there is a fundamental power supply design advantage in all Atma-Sphere amplifiers, because they are a balanced design and have independent bipolar power supplies for the input and output stage. But there are no chokes, and no tube regulators here . . .so . . .you guessed right . . .just how much of an improvement can we squeeze out of these bargains, and is it worth the time, effort and expense . . . ?

Mark Conese, owner of Ambient Recording Studios, and my thermionic-techno shaman biker bro', got news of the arrival of MKIIs and was over to my place with his hot soldering iron in a flash, and immediately undressed the amplifiers and looked at their private parts. After a long conversation with Ralph, serious tweaking began. Ralph told us that he was already working on an "upgrade" package which would add \$ 1,000 to the basic cost of the amplifier, and take the MK IIs to another level of refinement.

Mark started by by-passing all of the electrolytic power supply capacitors with at least 200 mfd of oil capacitors . . .yielding more bloom, delicacy and much more of that special single-ended triode midrange magic. I want to make this point again: this may be the most responsive amplifier in the world to tweaking because there is so little inhibiting the transmission of the signal from input to output — just two small coupling caps. At the moment the 1944 (I was three years old) Western Electric 6SN7 are the thermionic super tubes . . .oldies but goodies. It takes another two minutes to *remove all the feedback*, which is nominal to begin with. Ralph is one of those rare manufacturers that encourages his customers to experiment with his amplifiers, and shares all the wisdom accumulated with the Atma-Sphere tribe . . .like . . .you can use less tubes in the output stage for greater refinement, but lower power. My M60 tweeter amp uses only four tubes, while the woofer M-60MkIIs uses six tubes. . . .though stock is eight tubes . .

.less is more.

We also ordered Hexfred diodes to replace the standard silicon rectifiers, because these more expensive units have lower high frequency noise. I also took out of storage my high current chokes. I will update you on my progress later on this year, and will periodically make contributions to the Atma-Sphere website . . .about my progress. And yes Johnny, you can count on Gizmo to experiment with full power supply regulation for these *OTL objet d'amour*.

Let me state once again the basic Triode Guild ethos: for those who are seeking triode bliss, I believe that once you get past ten watts of single-endedness, bliss starts to deteriorate . . .we are talking here about sublime/ultimate midrange-only amplifiers. Again my dream SET amplifier TRIODZILLA — though it weighs one thousand pounds — is only **between 7 and 10 watts per channel**. I do not think any of the higher powered single-ended triode amps — the 211, or 845s — have the same magic as the lower powered 300B or the VV300B tubes. If you need MORE triode power, check out the M-60 MKIIs. Julius Futterman would be proud of Ralph Karsten's OTL artistry. Ralph is a heavy duty thermionic techno-shaman and a mortal threat to thermionic mediocrity. Ralph has revealed to me a top secret OTL project (CODE RED) he is working on that just may cause a Thermionic Volcano which reaches 100 on the Richter scale.

Post Scriptum

As I was editing this article I got a call from Julius, who, as you know, is in Triode Heaven with Lee De Forrest. He was quite excited and in a great mood, and told me this tale:

"Harvey, I was working in my shop with Edison, and in walks these winged Angels that looked like pigeons. They revealed to me that almost twenty years ago they flew over us while we were walking on Broadway, because they were on a mission to send me a message that my life-long dream would finally come true — so they shit all over *you* to send *me* a sign of hope.

You were right Harvey back then we can never figure out Her will!"

Our Dreams Have Power.

...Harvey Rosenberg

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