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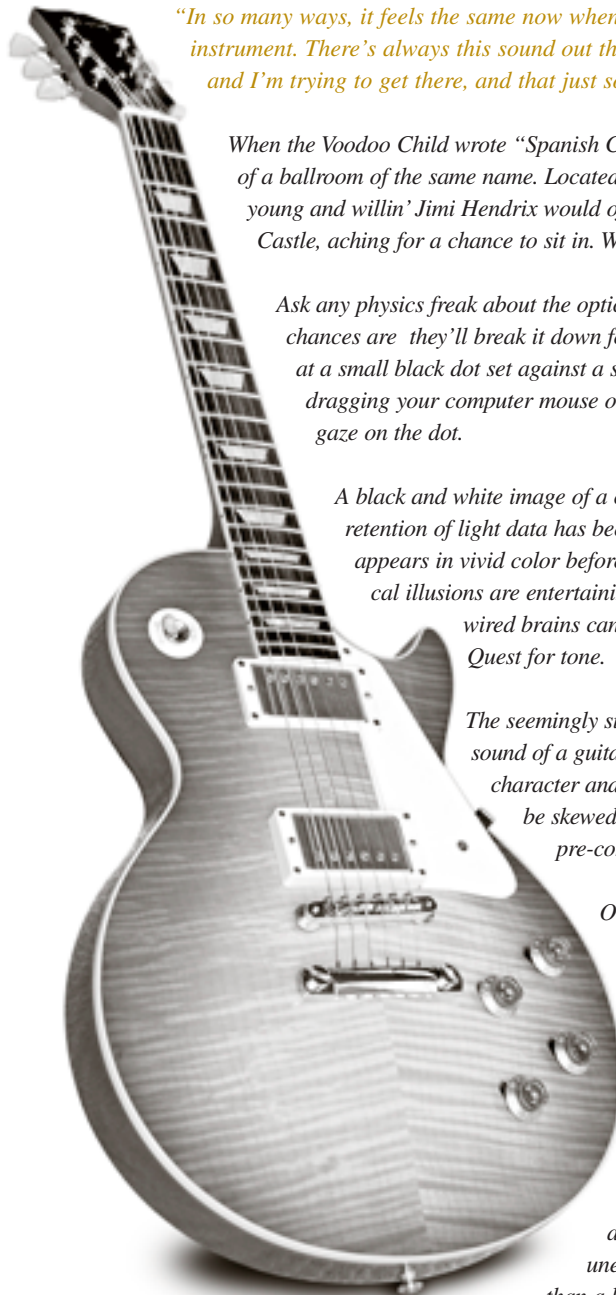
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Mythical 'Korean' Duesenbergs de-bunked

# the ToneQuest Report™

*The Player's Guide to Ultimate Tone*  
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## The Spanish Castle



*"In so many ways, it feels the same now when I play as the very first time I picked up the instrument. There's always this sound out there that's just a little bit beyond my reach and I'm trying to get there, and that just sort of keeps me going." – Bill Frisell*

When the Voodoo Child wrote "Spanish Castle Magic" he was dredging up memories of a ballroom of the same name. Located midway between Seattle and Tacoma, a young and willin' Jimi Hendrix would often hangout near the stage at the Spanish Castle, aching for a chance to sit in. We're trolling entirely different territory here.

Ask any physics freak about the optical illusion known as the Spanish Castle and chances are they'll break it down for you with glee. The illusion involves staring at a small black dot set against a shaded color background for 30 seconds, then dragging your computer mouse over the screen while maintaining a steady gaze on the dot.

A black and white image of a castle emerges, yet because the saturation and retention of light data has been stored in your visual memory, the image appears in vivid color before slowly fading to black and white. Such optical illusions are entertaining because they demonstrate how our hard-wired brains can deceive and betray us, and so it goes in the Quest for tone.

The seemingly simple act of intently concentrating on the sound of a guitar while processing and evaluating its dynamic character and tone is perilous, at best. Our perceptions can be skewed by a host of false positives, beginning with the pre-conceived expectations that color what we hear.

Our expectations for anything acquired in life are in direct proportion to the price paid, yet we are naturally predisposed to be less critical and more forgiving of those things that cost the most. We expect them to be tangibly "better" as justification of their value, and so we perceive them as such, while a musty Gibson Skylark acquired for \$20 at a yard sale is a windfall with exactly \$20 worth of risk and expectation attached to it. In a supremely odd way, the unexpected \$20 thrill is exponentially greater than a bold move involving much heavier dough...

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*Our perceptions of tone are also inevitably skewed in isolation. “Sounds great in a room but doesn’t cut it on stage” is a comment we have heard dozens of times from working players, and the fact is that once you’ve*

*added drums, bass, and perhaps keyboards to the mix, guitarists are tasked with finding their own sonic space in which to operate that allows the guitar to be heard and distinguished from the other instruments, while ideally complementing rather than dominating the mix. Evaluating tone in isolation also leaves us vulnerable to reaching erroneous conclusions that can only be exposed by comparative experiences. Our concepts of “great tone” are often unconsciously formed by our past impressions of something less than great. “Well, compared to that, what I thought was ‘great’ now sounds ‘not so great...’ The very nature of the quest for new or ‘better’ tone requires us to suppress the natural temptation to allow pre-conceived expectations, memories and biases skew perception, thereby narrowing and diminishing the potential for discovery.*

*And finally, we must recognize the pervasive nature of hype and the extent to which we ‘buy in’ to specific products based on their perceived superiority, which high-profile players use them, or the attraction of belonging to a group that prides itself on shrewdly embracing innovation ahead of the pack. Of course, this is a moving target, especially in the realm of ‘boutique’ products, where keeping up with the flavor of the month has become statistically impossible. We still laugh over an e-mail we received from a member of the Les Paul Forum who scolded us for being “out of touch with the market” because we had failed to review the highest rated humbucking pickups among members of the forum (or so he said), built by Wolfstone... If you are suddenly feeling the urge to google Wolfstone, point made.*



*Now that we’ve got your attention squarely fixed on the little black dot, it’s time to take a trip to Texas... to another Spanish castle, where a seemingly innocent adventure with*

*six original ‘59 Les Pauls changed everything we know about tone, now and forever. So pour yourself a tall one, retreat to a quiet, peaceful place where you can remain undisturbed, and hunker down, player. A storm is coming.*

## Houston, Texas December 2007



Fanny

Jokingly referred to as the ‘Burst-Off,’ this was our second visit to the Spanish Castle in five months, where our gracious host, a ‘59 Burst collector with a pure and lifelong love for the game had assembled six ‘59 Les Pauls for our consideration, described as “my best shot” (meaning he owns more, but these were among his favorites). Our earlier visit in late July had

involved a smaller number of Bursts, most notably ‘Fanny,’ along with ‘50s Goldtops, a virgin blackguard Tele and an



Explorer that had been sold by our host to Eric Clapton and retrieved some time after the Christies’ Crossroads auction. The dynamic that day led to the guitars being played through a busted up tweed Bassman with zero headroom and a fairly rabid Fender Super Champ, which left one of us absolutely certain that we had failed to fully experience and digest the true sound of the Bursts. So we sched-

uled a second visit with a singular purpose... to systematically experience each Les Paul as an individual example of Burstdom and collectively as a group, for the purpose of fully understanding, digesting and documenting their sound, and more specifically, the sound of the original PAF pickups in each guitar. And this time, we brought our own guitar player, Jonn Richardson, to allow us to fully experience and absorb the nuances of each guitar while *listening*, rather than being required to listen and play all at once (not as easy or as accurate as you might imagine). Nor would we be using mighty gobs of distortion; the amp du jour was a ‘62 1x12 brown Fender Vibrolux loaded with NOS tubes and a reissue Jensen Alnico speaker with the volume set on 4-5. If you are playing through a heavily distorted amp, you’re hearing a lot more amp



John with Hubert Sumlin

than you are picking. That’s cool – just don’t expect to be divining the subtle nuances lurking within the coils of your humbucker. And if you are com-

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mercially winding replica PAF pickups and evaluating the results solely with gonzo distortion... well, there really isn't much hope for you, and we'll leave it at that.

In true Texas tradition, the Burst-Off was launched with barbecue at Goode Co. and a casual discussion of the current market for vintage Les Pauls ensued. Clean and original '59s are still in the \$400K neighborhood, while the value of gold-tops has been sliding downward along with housing prices and interest rates. Overall, vintage guitar prices have been slipping, and after several years of insanity, they should.

We assembled at the Spanish Castle to find six remarkably clean, brown Lifton Les Paul cases holding the '59s, scattered throughout a spacious, sunlit den. Many of the Bursts had been bought by our host from their original owners. Inside the cases were photos taken with suddenly well-off, elderly guitar players at the moment each deal had been consummated, and in one instance the original bill of sale was included, which described the owner's down payment and monthly payments plus interest, totaling just under \$400 in 1959, or about \$2,800 today. It's nice to know that Gibson is doing such a nice job of keeping up with inflation...

We set up the Vibrolux with a Fender reverb tank in a large and airy adjacent room with hardwood floors and thick area rugs, shooting pictures of each guitar before playing them. Jonn was honored with first chair in front of the Vibrolux, and while he warmed up on his goldtop with vintage P90s, we measured and recorded the DC resistance of each pickup in the Bursts. We also noted how heavy or light each guitar felt in hand. For those of you that care about such things, the average weight of the Les Pauls listed in the *Beauty of the Burst* book is 8 pounds 14 ounces. Two of the Spanish Castle Bursts were definitely on the low side of eight pounds, while most were closer to nine. It was also interesting to note that the neck profiles of the Bursts were uniformly different from what Gibson seems to be currently producing in '59 Historic Les Pauls. The Burst necks had a little less shoulder than our '59 Historics, with a more gently rounded shape.



Number one was "Rocky," serial number 9 0686 and one of the heavier Bursts in the group. The bridge PAF measured a whopping 9.7K and even the neck pickup was high at 8.33K.

These resistance readings spell 'hot' sure enough, but not in the style you might expect. None of the PAFs in the six Bursts sounded remotely nasal, dark, midrangey, compressed or one-dimensional.



Number two is "Johnny," serial number 9 0681 and a 'one-owner' acquired in Lexington, KY. Weight was on the low side of 8 pounds and change, with resistance readings of 7.89K bridge and a low 6.48K neck. Johnny turned out to be the unanimous favorite in the group.



"Rosie" was a sweet, heavier dark Burst with an absolutely killer neck pickup measuring 7.86K and a bridge PAF reading 8.57K. Serial number 9 0925.



"The African" was purchased from the original owner who lives in Johannesburg, South Africa, serial number 9 2074. Weight was close to nine pounds with PAFs measuring 8.23K neck and 8.39K bridge. We were least impressed with the sound of this guitar.



Number five was "Billy," endowed with a striking irregular figure pattern on the top. This seemed to be the heaviest of the six Bursts, with pickups measuring 8.23K neck and 7.85K bridge. Billy was also another one-owner acquired in Flint, MI. Serial number 9 0404.



"Gene" rounded out the group, a one-owner purchased from a retired train conductor in Brady, NE. Weight was closer to nine pounds with PAFs measuring 8.28K neck and 8.29K bridge, serial number 9 1378.

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## \$400,000 of Depression

Jonn and Riverhorse brought along three guitars for comparison – an ‘07 VOS ‘59 Historic with the original Burstbuckers that Riverhorse had aptly named the Riverburst, Jonn’s ‘57 Historic Goldtop with Lollar Imperials, and an older goldtop bastard with P90s. After we had sufficiently oggled the Bursts with ooohs and aaahs all around, Jonn got down to business playing a mixed bag of big chords, single note melodies and dynamically varied passages up and down the neck. No frantic thrashing or takeoffs on “LaGrange” or “Communication Breakdown.” The Vibrolux was predictably singing in its sweet, round voice through the Normal channel with just the slightest hint of hair (lint?) on the notes, all creamy and deliciously clean and clear.



Rocky revealed itself to be a brute, with powerful PAFs that were not subtle. In the neck pickup, upper midrange frequencies were propelled forward with a huge and heavy bass foundation, yet the B and E strings retained a sharp, clear, trebly bite that none of us had ever heard in a modern humbucking neck pickup. We all agreed that if we had heard Rocky on a recording blind, we would incorrectly assume that we were listening to a semi-hollow body guitar. The bridge pickup was equally deceiving, with a thin, penetrating and incredibly powerful treble presence far more likely to be associated with a vintage Telecaster, but for the added authority and 3-dimensional character of the

PAF. There is a weight and organic depth at work in the PAFs that does not seem to exist elsewhere in 2008. When we were satisfied with our take on Rocky, we broke out the Riverburst for comparison, and the differences were starkly clear. Heard alone on its own merits, the neck Burstbucker sounded pretty damn good. It was only when we A/B’d it with Rocky that we noticed how much more content poured from Rocky’s



The Riverburst

neck pickup – a much bigger tone and character overall... a rich, ‘old’ sound with a soul and dimensionality that was clearly missing in the Burstbucker. Compared to Rocky’s

bridge PAF, the Burstbucker bridge sounded shrill, strident, linear and one dimensional – the term ‘hurtful’ was mentioned in comparison to the PAF, which was very bright, yet both musically pleasing and as threatening as a straight razor.



“Johnny” was stunningly good, with an even brighter neck PAF that produced the most gorgeous vocal tones we had ever heard from a neck humbucker – the ultimate, seductive

‘woman tone.’ The bridge was equally captivating, with less of an upper midrange bump than Rocky – very trebly, animated and scolding, as if a finger was being waggled in your face. We also began to discuss how the notes seem to jump and bloom from the initial pick attack and sustain longer, creating a rolling dynamic feel on single string runs and a freight train effect with chords. The PAFs also exhibit an exceptional *clarity* that is simply unlike anything we have heard in any PAF replicas to date. Johnny proved to be the most lively of the Bursts, with a truly incredible character. I swear to you, it was literally talking to us.



We’ll not drag you through a detailed description of all six Bursts, but the “African” was noteworthy for its comparatively reserved and restrained tone, which,

if you tend to place a lot of stock in resistance readings, blows up the “hot is better” theory. Well... maybe. The African simply sounded less lively and lacked the responsiveness of Johnny and Rocky. We’re talking in terms of degrees here, but the difference was no less apparent. The *tone* was there, but so much of what makes the sound of true PAF pickups remarkable has as much to do with feel – touch sensitivity, response, bloom, sustain, decay and harmonic content rather than strictly the mix of low, mid and high frequencies present.

Individually and as a group, the ‘59 Bursts did not disappoint, although there were subtle and sometimes distinct differences between each guitar. The greatest variations seemed to occur in the bridge pickups, where perceptions of dynamic response, rich, trebly overtones and sustain are most evident. Our favorite bridge PAFs seemed to be those found in Rocky and Johnny – their sound seemed to expand and explode from the initial pick attack in a way that some of the other PAFs did not quite match, and we loved the rich trebly patina that embraced the notes with stunning clarity and depth. The neck pickups seemed slightly more consistent, creating a massive

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foundation on the bottom three strings and absolutely mind-blowing treble presence on the top three. Rosie's neck pickup was also noteworthy for its exceptional vocal qualities and animated attitude. The PAFs share a remarkable vocal quality that mirrors the natural timbre of the human voice. It is also worth noting that the pickups in the neck position with the lowest resistance readings generally sounded clearer with stronger treble snap, and we considered this to be a very desirable attribute. But you can't always use resistance measurements as a clue to tone... the neck pickup in Rosie measured 7.86K, which is typical of later PAFs and patent number Gibson humbuckers.



The most telling comment came at the end of the day from Jonn... After we had played all the Bursts repeatedly, fondled them, discussed and shared what we had heard, formed a consensus and verified and clarified those conclusions with more playing and discussion, the energy in the room eventually dissipated as each of us quietly reflected on the day's events. Jonn sat motionless in his chair, glumly staring at Johnny cradled in his lap, and someone said, "What do you think, Jonn?" And Jonn replied, "What do I think? I think I wish that I had never heard any of these guitars." **TO**

"You can play a shoestring if you're sincere."—John Coltrane

## The PAF Mystique



Seth Lover's original prototype for the Gibson humbucking pickup was built with some of the same materials used in the manufacture of P90s (the early magnets are identical), and the patent application was filed in June, 1955. The first humbucking pickups in a production instrument have been attributed to the Gibson Consolette double-neck steel guitar, and they began appearing in Gibson solidbody and semi-hollow body guitars in 1957. In late 1957 the small 'patent applied for' sticker began to appear on the base plate, and in 1962 it

was replaced by the 'patent number' sticker, which was intentionally misrepresented as the actual patent number for Gibson's trapeze tailpiece; otherwise, a simple patent search would have made the PAF design easily available to anyone wishing to copy it.



From 1957 to 1961, Gibson arbitrarily used Alnico II, III and V magnets in PAFs, the higher numbers indicating slightly greater magnet strength. This *may* account for

some of the differences we noted among the Spanish Castle bursts played in Houston, but those differences could also be related to inconsistencies in the number of turns on each bobbin, inconsistencies in the #42 gauge wire used, and the degree to which the slug and screw coils differ in output. And there is the mysterious influence that the guitars themselves impose on tone...



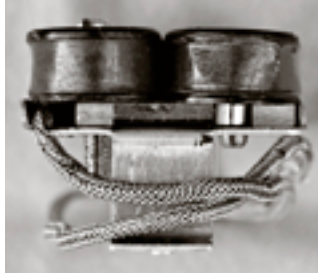
In early 1959, Gibson's supplier for PAF buterate bobbins sporadically ran out of black pigment, and for a short time Gibson received white bobbins in their place. "Double white" or "double cream" PAFs are especially coveted by collectors, with 'zebra' PAFs (one white and one black bobbin) a close second in collectible value and rarity.

In zebra PAFs, the slug coil is usually, but not always white. Do the white bobbins affect tone? Obviously not, however, during the same time that white bobbins were being



used, there are reports that Gibson also received a shipment of #42 gauge enamel wire that was actually out of spec and smaller than true #42 gauge, which resulted in more wire being wound on each bobbin, increasing output significantly. It is a fact that many double white and zebra PAFs measure well over 8K, and in some cases as high as 9K. It is also a fact that the true diameter of the #42 gauge plain enamel wire Gibson used often varied, which resulted in pickups with a variable number of turns on each bobbin and consequently, variable sound and output.

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By 1961 Alnico V was being used consistently, and the length of the PAF magnets was shortened by 1/8" from 2.5". Gibson's humbucking pickups also gradually became more consistent by 1962, with 7.5K ohms DC resistance

being the target, although we have measured PAFs from this period ranging from 7.2K- 8.3K. Around 1963, Gibson reportedly switched from enamel to polyurethane coated wire; otherwise, there is no structural or material difference between later PAFs and the patent number pickups made between 1962-1965.



However, the two small, black lead wires for each coil visible at one end of the pickup changed to one black and one white at some point after 1962. In 1965, the last year for patent number humbuckers prior to the introduc-

tion of Gibson's 'T-tops, the color of the two lead wires changed to orange and white, and the nickel silver covers were changed to chrome.

Other significant features that can be used to identify PAF and patent number humbuckers include:



- \* Black paper tape on each coil rather than plastic or ribbon-type tape
- \* Brass Phillips head screws on the base plate
- \* Both bobbins with a 'circle in a square' hole at one end



- \* Distinct 'L' shaped tooling marks on the mounting feet
- \* Original patent applied for and patent number stickers glow under ultraviolet light **Ta**



**PAF RESOURCES**  
*The Beauty of the Burst,*  
 Yasuhiko Iwanade  
*Gibson Electrics: The*  
*Classic Years A.R.*  
 Duchossoir, *Vintage Guitar*

Info [www.provide.net/~cfh/paf.html](http://www.provide.net/~cfh/paf.html)

## ToneQuest Sugar Cane

*I love ya, love ya like sugar cane*  
*Strip it down, sure is sweet*  
*You keep on chewin' till your dead on your feet*  
*I get high on your sugar cane*

– Jeff Beck Group, 1972



So you wanna know how to acquire true PAF tone? Well of course you do, and so did we. Having heard the Spanish Castle Bursts, we had no choice.

Flush with cash from an eBay purge and inspired by the December session at the Spanish Castle, Riverhorse was suddenly hell-bent on finding a Historic '59. He had the fever, and it was burnin' a hole in his pocket that had spread to other places. *Must have the precioussss...* But as we have observed so many times before, not all guitars are created equal – even those that cost over four grand new. Buying something like a '59 on eBay sight unseen and untested is generally for flame-o-phobes, collectors and the very brave. We're not saying you can't score an exceptional axe with a hope and a prayer plus a wad o' cash, but you can never really be certain of what you're getting until it's out of the box, and that's an undeniable fact. We do it occasionally, but we also understand and accept the risks. So we suggested to Riverhorse that we make a stop by Midtown Music in Atlanta on his behalf and check out the inventory. This too can be hit or miss – Dave Tiller's Les Paul inventory turns over very quickly, but on this day the gods were smiling. A dozen or so '58s and '59s were hanging on the wall awaiting adoption, and we quickly eliminated all but three on appearance alone.



We well knew what the Horse was craving, and it had to be a stellar, exceptional, eminently believable example of a true burst. After all, we had tasted the forbidden fruit and drunk deeply from the golden chalice... A fair to middling imitation just would not do, nor would any variation of cherry burst. A striking tea burst beckoned us, so we played the other two first, unplugged.

Both were in the neighborhood, but the tea burst really had the visual mojo working, with a moderately flamey top revealing an irregular, not too perfect, random 3-D wide fig-

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ure, and a dead nuts, perfect faded burst that would go down like a shot of Dickel with a Shiner chaser in Texas. The first chord iced the deal. When you know, you know, so we noodled on it for five minutes more, shot a couple of quick pix, verified Dave's predictably rock-solid price with free shipping, and made the call. Riverhorse has not been the same since. Meanwhile, the hunt for PAFs was on.



Our first pass was made on eBay, where we found a lone PAF with a Buy It Now price of \$1,500. Being a little feverish ourselves, we bit on it, paid through PayPal, and informed the seller who we were, and since he had a history of selling PAFs with excellent feedback, we explained that we wouldn't mind referencing him in this article as a service to our readers. Dude completely freaked out in a return e-mail, claiming that any mention of him would prevent him from acquiring more PAFs from people

who were "not fond of eBay." Fine, but eBay seems to be the worst place on the planet to be hanging out when you want to keep a low profile... We agreed to stay mum and proceeded to wait for the PAF to arrive. It never did. We resorted to filing a claim with PayPal, the seller provided a bogus USPS tracking number during the investigation, and we received a full refund in about four weeks through PayPal's buyer protection policy. Now, why would someone with positive feedback behave like that? We could only guess that he *really* didn't want his pickup reviewed... Suffice it to say that you need to watch yourself very carefully when tempted to buy 'vintage' pickups from an unknown source. Even then, watch yourself, because some people selling second-hand vintage pickups do not have the knowledge necessary to verify the authenticity of what they're selling. "Looks old" don't cut it, and if you were to unknowingly buy a re-wind, for example, you'd get some of the good thang, but not quite all of it. Our host at the Spanish Castle loaned us a PAF that had indeed been rewind, and it sounded good – close to the originals we tested, but the notes didn't jump from the strings with quite the same exploding dynamic gusto as the PAFs. Still, closer than current production humbuckers, which supports our theory that the materials available today may be skewing the results achieved.



Bart Whitrock

While we were busy tidying things up in Crazytown with PayPal, Riverhorse had been doing the cockwalk around Houston with his new Burst,

and happened to mention PAFs to Bart Whitrock, proprietor of Rockin' Robin Guitars. Bart informed Riverhorse that he was an idiot for blowing cash on PAFs, but if he was determined to throw his money down a rat hole, he should deal with Vintage Checkout.com. At least he could be sure that whatever he bought was legit. Riverhorse related this story to yours truly, we logged on, found a pile of PAFs, and made the call.

Kim LaFleur is the founder of both Vintage Checkout.com and Historic Makeovers.com. We explained what we were interested in acquiring and why, and Kim agreed to send us a



few PAFs from which we could choose two to buy if we wished. A day later he called back and suggest-

ed that he send the seven he had on hand, since he understood that we were developing a review article. As you can imagine, we nearly fell out of our chair. After all the bad juju we had experienced with the eBay deal, the motherload had just been laid at our feet. Exactly one day later we received seven PAFs valued at \$20,000 to evaluate for a solid month.

## Revelation



When we zipped open the UPS box and spread the PAFs out on the work table in the music room, it felt like a drug deal had gone down. Well, tone *is* a drug, eh? Each pickup was nestled in a small ziplock bag wrapped in bubble wrap and taped closed with a

spiffy Vintage Checkout adhesive label. Two PAFs were consignment pieces – a matched pair that had never had the covers removed. The rest were coverless, early double blacks with double black lead wires, a few with shorter braided leads, one with gold-plated polepieces missing the PAF sticker. We shot pictures and immediately measured the resistance of each pickup and attached a small square of blue painter's tape on the baseplates indicating the ohm readings.

Our main test guitar would be a 2007 '59 Historic that had found us last summer, specifically for this issue. We were at Midtown Music one afternoon in July for our weekly drive-by scratch and sniff when we noticed several unopened Gibson Historic boxes standing on end in front of the counter. While we talked with Dave, we scanned the white labels on

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# pickups



the box tops that describe the contents, like, '59 VOS FADED TB LP.' We asked Dave if we could open the box, and in a minute the case was on the counter. Dave peered

over the counter with a bemused look on his face as we unlatched and slowly lifted the top... Damn! "They sure got that one right!" Dave remarked. And they sure did. We played it for 30 minutes, spontaneous trading ensued, and the burst went home. There are no mistakes.

Our plan for the PAFs was to listen to each pickup in both the neck and bridge positions, taking notes throughout the process. The easiest way to do this is to loosen the strings enough to pull the tailpiece off the studs with the strings still loosely wound around the tuner posts and simply move the tailpiece and strings off to one side while swapping pickups.



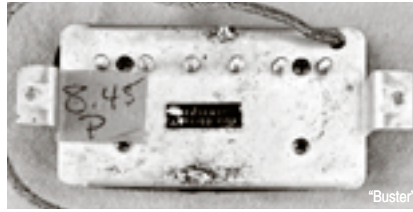
We started with the matched pair with covers, and along with the PAF with gold polepieces, they turned out to be

the least remarkable of the group. Actually, Goldie didn't sound bad – none of them did – but we eventually began to describe the sound as if Goldie were wearing "cuff links and alligator shoes." More sophisticated, less eager and brash... Subdued... Jazzy. Seth Lover once stated that gold plating increased the capacitance of the pickup covers and dulled the sound, so there you go. We suspected that part of what we were *not* hearing with Goldie was related to the gold polepieces, since this pickup sounded uniquely different from all the rest. The matched pair with covers were also a bit shy compared to some of the other PAFs – clear, with the musical depth and articulation common to PAFs, yet they seemed to



be holding something back. Presence, perhaps? Yes, covers were intended to further reduce noise, and as such, they create a certain amount of capacitance that can mute the sound slightly, but our subsequent experiments with currently produced nickel

silver covers on the PAFs did not change their sound significantly. Another possible reason for the PAFs with covers we received sounding less zesty could be attributed to an Alnico II or III magnet... We'll never know.



Evaluating the PAFs involved multiple sessions in both the neck and bridge positions over four weeks, with

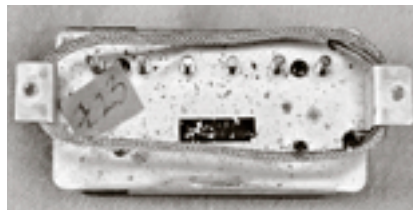
intentional breaks of 2-3 days when we didn't go near them to allow our ears to re-set and refresh. We routinely do this with everything we review to insure a final outcome that is grounded in something deeper than first impressions, because first impressions can change.

One pickup in particular was a wooly beast with a fat signature throughout every frequency range from top to bottom – a truly big-ass, bold as luv bridge humbucker that could tear your heart out. We called it 'Buster,' measuring 8.24K ohms – the highest of the group. This one was ultimately set aside for Riverhorse, who thrives on a diet of Newcastle, frijolés reposado and howling dog distortion at sundown. Buster was also a handful in the neck position – huge, rumbling and pornographic with typical PAF clarity and snap on the top – 'Dickie tone,' to some through the right amp, but far more rude and intimidating played through Riverhorses's early tweed Bassman and dual GA40s.



Two additional PAFs measuring 7.68K and 7.71K proved to be our personal favorites, both sounding exceptional in the neck and bridge. They embodied everything we find so rare and appealing in PAFs –

clarity with stunning string definition, percussive bloom emerging from the initial pick attack, brilliant sustain held aloft by open and airy harmonic content, tremendous treble presence in the bridge with rock-solid lows on the bottom strings, and a bigger than life vocal personality in the neck completely lacking the muffled and muted tone of typical replica PAFs. "Warm, sweet compression?" Hardly. In our experience, great PAFs are utterly majestic, extremely animated and endowed with an overwhelming character that, once heard, is unforgettable. Bright, yes, but 'sweet' they are not.



The second pickup we chose for the Riverburst was a short lead measuring 7.23K. It sounded very good in

our Historic '59 in the bridge, understandably lacking a little

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muscle compared to Buster. However, when we extended the lead wires to reach the volume pot for the neck pickup, the sound was arguably the best of all the PAFs in the neck, producing a brilliant acoustic quality and the reedy, woodwind vibe of a 'cello-phone' – throaty and supremely, eloquently vocal. That one tore us up for days.

## A PAF Alternative...

As our evaluations of the seven PAFs neared completion, Kim LaFleur casually mentioned that early patent number pickups were not only technically identical to later PAFs with the shorter magnets, but also less expensive – typically \$1100 versus \$2500 for PAFs with double black bobbins. Intrigued for precisely 1400 reasons, we asked Kim if he had any patent number pickups, and could he send a couple for review? He did, and we eagerly began to A/B the patent numbers with our favorite PAFs.



The patent number pickups measured 7.20K and 7.47K, and as our original pictures reveal, they clearly had been lifted from a guitar that had seen a lot of gigs. The polepieces in the 7.20K were

heavily tarnished with rust visible on and around each screw, the screws on both pickups showed signs of polish having gotten into the screw slots and dried, and both bobbins were sporting years of mystery crud. It was also clear that the more corroded pickup had lived in the bridge position of a Gibson ES model, where it absorbed a whole lotta luv, and both pickups had obviously been used for years with the covers off, hence the jibby smuck on the bobbins. They cleaned up nicely, however, and we listened to both pickups in the neck and bridge over several days. 'Rusty' was just ever-so-slightly less penetrating in the bridge, but both pickups possessed the same signature qualities of the PAFs. For the time being, we put Rusty in the neck position and the 7.47K in the bridge, thrilled that there wasn't a \$1400 difference in the sound of the patent numbers versus the PAFs. If there had been, we would have sent the patent numbers back and gladly spent

\$2500 on the PAFs. It just wasn't necessary.



We also acquired an even later patent number pickup (post '62) identifiable by the small black and white lead wires tucked between the bobbins. This one was a

mutant variation measuring a whopping 8.8K ohms resistance, and its voice was somewhat flatter and duller sounding than the best PAF pickups we had evaluated. So much for the theory that Gibson was unerringly winding pickups measuring 7.5K post 1961... Even more surprising, the elevated DC resistance reading did not result in any apparent loss of treble presence whatsoever, nor did it sound midrange-heavy. But it did seem to lack the depth, harmonic content and rich dynamic response of a great PAF.



The final chapter in our pickup tests concluded with a matched pair of original Gibson T-tops, which followed the last patent number pickups in 1965. We had played the original T-Tops in a '71 Les Paul for years on stage and recordings and



recalled their trademark midrange 'honk' and a duller overall tone. The set



we bought confirmed our memory of the T-Tops, which

remain particularly popular with metal heads for their ability to focus mids like a laser beam in edgy, high gain amps.

Like our session with the six '59s at the Spanish Castle, the PAFs and patent number pickups irrevocably altered and dramatically re-shaped the way we hear and appreciate the true sound of humbucking pickups. All of the magic we experienced in Houston was present and uncompromised in the PAFs installed in our Historic '59. Now, you may view the influence that 49 years of time imposes on the sound of a solidbody guitar as you wish – we're not out to change hearts and minds here, or suggest that whatever your perception and



beliefs are, they are 'wrong.' But we will share our opinion as a point of interest, and to provide a little fuel for the angry Internet wags who so desperately need to

tear something down to feel better about themselves. Get out the sledgehammers, boys... Those beautiful '59s in Houston were not weather-checked beaters that had been ridden hard for half a century. In fact, for the most part, they didn't look more than 10 years

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old – most less than that. And consider this – when the seminal albums featuring what are universally considered to be classic, vintage Les Paul tones with PAFs were made, *those* guitars were less than 10 years old, and many were virtually new. Do Alnico magnets pickups lose a significant amount of their magnetic properties over time, resulting in an ‘aged tone’ that can only be acquired by the passage of time? In a published interview, Seth Lover stated that Gibson bought Alnico II and III when they couldn’t buy Alnico V, which was preferred because it “retained its magnetism better and had a longer life.” Believe what you wish, but the later PAFs and patent number pickups we evaluated made with Alnico V were very consistent with our favorite pickups in the Spanish Castle Bursts. None of the 23 pickups we’ve heard seemed necessarily weak, soft or lacking output – the pickups we didn’t care for simply sounded comparatively dull and less lively than those we preferred. The point is, while vintage pickups and guitars do vary, we weren’t ready to attribute the sound of the ‘59 Bursts to old, ‘dried out’ wood. You should also know that PAF and patent number pickups do not sound ‘hot’ or as powerful as Gibson’s Burstbuckers, for example – particularly in the bridge.



Well, what *are* the factors that most significantly contribute to the unique sound of vintage guitars equipped with vintage PAF and patent number humbucking pickups? In our experience, point to the pickups, first and foremost. Then it comes down to a host of variables in play when the instrument was made. Some guitars simply fail to create a

pleasing and resonant, full frequency response with great sustain, culminating in a rich, musical voice with abundant overtones. We have owned guitars in which certain essential fre-



quencies created by the strings seemed out of phase with the dominant resonant frequencies naturally encouraged and emphasized by the guitar. The fingerboard, neck and body taken as a whole responded to certain frequencies at the expense of others, with an audibly detrimental effect. Others have just sounded dull, flat and dead. And we’re



talking about beautifully built, expensive guitars, like the two ‘54 Historic Goldtops we’ve owned. The unpredictable nature of guitar building and the results achieved are what make the entire

subject so fascinating, and it also provides the avid player or collector with plenty of compelling reasons to own more than one ‘identical’ model. To drive this point home and balance our perspective as we evaluated the PAFs and patent number pickups, we made the commitment to acquire a *second* new Historic ‘59 Les Paul that was quite different from the ‘07 tobacco burst. Specifically, the ‘07 burst weighs 8.90 pounds and produces a subtly ‘heavier’ tone with a slightly deeper bass and midrange response – a thicker, beefier voice that remains apparent regardless of the pickups installed. After playing this guitar for six months, we had become quite familiar with how the guitar asserted its natural, fundamental voice upon every pickup combination we tested. Put another way, we understood how all the pickups sounded in *this* guitar, but we continued to be dogged by the nagging feeling that we needed to test and validate our impressions with a different sounding Les Paul.

Back to Midtown in February 08, we scanned the wall and turned our attention to several Historic Les Paul cases sitting on unopened amp boxes in front of the counter – new deliveries. A few were already sold (we looked anyway) and one spectacular quilted ‘59 cherry sunburst Les Paul that had originally been ordered by a dealer in Japan required a photo for posterity. The last case held a ‘59 ice tea burst with a bookmatched, quartersawn top. We don’t really buy guitars based on figure, but this Lester intrigued us because of its weight – about as light as a solid mahogany Les Paul can be at 8.2 pounds. This was the sharp contrast to the tobacco burst that we knew was necessary and essential to the cornerstone of the Spanish Castle... How would a guitar at the opposite end of the spectrum given its less dense and heavy mahogany body alter and influence the sound of the pickups we now knew so well?

## Tumbling Dice

Technically the ‘same’ guitar, our two Histories present completely different interpretations of ‘59 Les Pauls, and they also represent the lowest and higher weight ranges found in the originals. For better or worse, weight seems to be very important in determining how a solidbody guitar sounds, and the lack of it is prized by many players, but it can also be a very unreliable predictor of tone. We have owned three very light, solid (not chambered) Historic Les Pauls, and you’ll notice we’re using past tense. They’re gone, in some cases for

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reasons of suspect stability issues with the neck, but most importantly because they had too little life in them compared to those that do, and we can't say why. We have also owned nine-pound-plus goldtops and '58s that sounded equally unimpressive. But it seems to us that once you have heard a *lively* guitar with the kind of personality that awakens renewed emotional intensity in your music... Once you have experienced *that*, there can be no turning back.



We bought another featherweight Historic for this issue because we had played several exceptionally light, vintage '59 Les Pauls (such as Gordon Kennedy's and 'Johnny' in Houston), and frankly, we weren't quite buying the idea that some magical crystallization of the wood fibers over 50 years was responsible for what we were hearing. However, we did believe that their comparatively light weight was uniquely contributing to an extraordinarily vibrant sound in a style that was audibly different from the heavier bursts. The fact that the notes seemed to jump so forcefully and 'faster' from some of the lighter vintage '59s was impossible to ignore. Not necessarily a 'better' or 'worse' sound, but sufficiently different that you might want one of each. The difference between our two Historic '59s could easily be heard acoustically by merely dragging a finger across the strings with both guitars sitting in stands, each body acting as a very effective tone filter.

Our new, featherweight Historic '59 ultimately produced the lively and inspiring character we had hoped for, noticeable from the very first chord with the Burstbuckers and Gibson strings. We dropped one of the patent number pickups in the bridge, switched to Pyramid .010-.048s and smiled as the guitar came to life. Yes, of course it felt new and unplayed. The nitro finish on the back of the neck would feel familiar, worn in and polished after a few months of use as the heady smell of the nitro lacquer continued to fade, the fingerboard and frets would become more comfortable and forgiving, and the stiff action of the tuners would diminish with time. We also noted that the feel and sound of the guitar responded positively when we raised the action a bit from the very low



factory setting and gave the truss rod a quarter turn to stiffen the neck and decrease relief. Even in its state of newness, the '59 was willin,' and the old humbucker thrived in this new wood, pushing the same clear, singing notes forward with the same pristine definition, bloom and mesmerizing character, as if a choir of six distinct voices lived inside the guitar, awakened by the slightest touch of the strings. Our concerns about the extraordinarily light weight of the '59 deflecting essential tones, sustain, and resonance, or lacking the full presence and volume of a heavier guitar were unfounded. Yes, this guitar definitely sounded different from the heavier tobacco burst – brighter, more percussive, 'faster' in its response to pick attack, and there was more of a bell-like chime embracing each note, enriching chords with a tremendous depth that is so uncommon in many modern instruments today. But the lower strings also held their own, strong, loud and proud, if not quite as full and bassy as the tobacco burst. Our experiment with our two Historic '59s confirmed what we had noted at the Spanish Castle in the six Bursts – specifically, how the unique weight and density of each mahogany body influenced the overall sound, resonant character and subtle vocal qualities of each guitar, and how the PAFs and patent number pickups amplify those qualities with such extraordinary, transparent clarity.

## Distortion – the Great Equalizer



And after our exhaustive tests of pickups and guitars, we must also add that introducing intense levels of distortion can quickly mitigate the magical qualities of the pickups we've discussed here at such length. Not the type of moderate, naturally-derived output tube distortion we all enjoy coaxing from our favorite amplifiers... But pushing high gain amps with multiple gain stages, or ramping up boost and distortion pedals will not only obliterate much of the airy, three-dimensional clarity and rich harmonic content we've described – distortion also effectively levels the stark differences between many modern pickups inspired by the original PAF design and the real thing. Obvious, perhaps, but it needs to be said. This may also

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explain in part why so many of the replica PAFs we have experienced fail to truly capture the sound that inspired them, and in ways that seem too similar to be coincidental. Considered as a group, the modern PAF replicas we have evaluated lack the clarity, string definition, seductive harmonic content, dynamic explosiveness and musical brightness of the vintage pickups reviewed here, but don't necessarily blame the builders for faulty technique... it isn't about that. In our opinion, many pickup builders today are handcuffed by the materials they use – the disparities between the magnets, wire, slugs, screws and other components commonly available for pickup manufacturing in 2008 versus the materials that were used in the '50s and '60s. The same problem exists with modern supplies for speaker reconing.



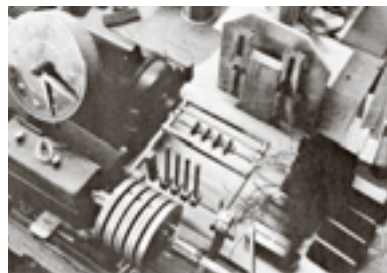
And why hasn't a current tube manufacturer managed to reprise the brilliant tonal qualities and rugged longevity of classic Telefunken, Mullard, Amperex, RCA and Tung Sol tubes? Even when the original tooling from these old factories has been put back into service, the results have fallen audibly short of the golden era of tube manufacturing.

## Alnico V and 'Aged Tone'



The truth is, we may never fully understand *all* the factors responsible for the magical sound of vintage pickups, but it seems logical to

assume that if the materials used for winding modern coils today were similar to those used in vintage pickups, the outcome would be similar as well. Based on the sound of the rewind but otherwise original PAF loaned to us in Houston, this assumption has merit. After all, the ladies at Gibson in the '50s were not using mysterious scatterwinding techniques; in fact, Seth Lover confirmed in a published



interview that the wire was not guided on to the bobbins randomly 'by hand,' but by an automated traverse. Could the Alnico magnets used in PAFs and patent number pick-

ups partially hold the secret to their tone? We asked Bob Wolf, VP at Alliance LLC, ([www.allianceorg.com](http://www.allianceorg.com)) a major distributor of magnetic products, to comment on the consistency of Alnico V magnets and potential variables. But before you proceed, please read the following article at: [www.inthesetimes.com/article/685/](http://www.inthesetimes.com/article/685/)

Bob Wolf: *Regarding the basic composition for Alnico V, I will give you three sources:*

	Al	Ni	Co	Cu	Ti	Fe
McCaig & Clegg	7%	14%	38%	2%	6%	33%
MMPA Standard	8%	14%	24%	3%	--	51%
Crucible Magnetics	8%	14%	24%	3%	--	51%

Note: *Physics of Magnetism and Magnetic Materials*, McCaig & Clegg, 1987

MMPA – Magnetic Materials Producers Association

*This shows that there can be some variety between the producers, none of whom divulged their exact chemistry to anyone. The various mills also used select additives to their chemistry. The variations in the chemistries were accounted for in the casting and heat treating processes to achieve some uniformity of magnetic performance seen by the customer. At Crucible, these variations in the manufacturing process produced seven (7) sub-grades of Alnico 5. These sub-grades had Br = 12,000 to 13,500 gauss, Hc = 580 to 720 Oersteds and BH = 4.5 to 6.5 MGOe.*



*In the 1950s and '60s, most of the raw materials were relatively pure. As the U.S. began recycling materials, aluminum and iron began to have increased impurities. Again, this was counteracted by the manufacturing process. Actually, these impurities were first noticed by people using electrical steels because of the change in the permeability of the steel. This was caused by the increased use of aluminum cans in the steel melt. I*

*really do not know how the two remaining Alnico producers in the U.S. are handling raw materials.*

*All magnetic materials "age" initially, but this usually occurs before the magnets are even shipped by the supplier. After that, there are no changes unless the magnets are subjected to shock, vibration or extremes in temperature. The one possibility, slim though it is, would be that the vibrations picked up over extended use change the magnetic characteristics of the magnets somewhat. Maybe you could find some magnets from the '50s or '60s that could be used in a 'new' pickup to see if the magnets are causing the change in tone. You might also compare the sound quality of a pickup wound with an old*

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magnet versus one made with a new magnet. Then remove the magnets and have their magnetic characteristics measured and a complete chemical analysis done. The only caveat would be that there probably will not be measurable differences that could be affecting the sound quality. I say this because the differences would be subtle, and there is no reliable way to ascertain the manufacturing process used.

Robert Wolf, Alliance LLC, Valparaiso, Indiana **TQ**

## Dirt Floors, Mud Molds & Shot

In a conversation with Lindy Fralin, he mentioned that he has continued to buy magnets from one of the last foundries in the U.S. – Arnold Manufacturing in Marengo, IL. We contacted them and spoke with Rob Strahs, VP Sales and Marketing, and engineer Steve Constantinides about Alnico V and the differences in manufacturing processes in the U.S. and China:

For the most part, we manufacture Alnico magnets the same today as we always have, and by that I mean that we buy pure alloys – pure nickel, aluminum, cobalt... and we have always done that. In the '80s we did some work with a large guitar manufacturer that brought us magnets from the '60s and asked us to duplicate them, and that's what we make today. We can make a functionally equivalent magnet to precise specifications, and the magnets we make today are called Alnico V HE, which stands for 'high energy.'

**TQR:** And your company has a long history of making magnets for many of the major U.S. guitar companies in the past...



PAF magnet

Yes, Arnold is the oldest Alnico manufacturer in the USA, dating back to 1939. Alnico V is an *oriented grade*, which means that it has a very specific direction of magnetization, unlike Alnico II, for example. Since its initial development in 1937, Alnico underwent improvements for several decades, culminating in what it is today. Alnico involves a complex manufacturing process, and while some of the chemistry was in the original patent literature, much of it was also developed in-house and kept as secret formulas by different manufacturers.

**TQR:** What are your thoughts on the idea that Alnico loses strength over time?

As a family of materials, Alnico is the most corrosion resistant, stable magnet material made today. The chance of it

aging? It will, but you're talking about minuscule amounts. If it were exposed to de-magnetization by bringing a very strong magnet near it, yes, but handled normally – it is *very* stable. In fact, it is more stable than ferrite. The National Laboratories have studied this and we're talking about changes of less than .1% over a decade. Basically, if we had a magnet that had been sitting in a box since 1967, we wouldn't expect it to be any different today than the day it was made.

**TQR:** And can you comment on the potential inconsistencies that exist in magnets made overseas?



Well, again, keep in mind that every manufacturer has developed their own special formulas and recipes. One may add a little titanium, another might add zirconium, much like spices in a soup, and we have our own set of spices. So every company will

be a little bit different in terms of their minor ingredients, and there will be some slight differences in their magnetic properties. For us, the chemical composition, the processing technique and even much of the original equipment used to make Alnico is the same as it was 40-50 years ago.

Regarding overseas magnets, in the past we made all the magnets for what we believe to be the world's largest guitar manufacturer. They were told by a consultant that they could use magnets made anywhere – it didn't matter – so they began buying all of their magnets from China. Now, when you cast Alnico rods, there are voids in them, and the guitar and pickup manufacturers don't want those voids to be visible for cosmetic reasons, so a fair amount of labor goes into



making them, which costs more here than in China. That's a fact of life. We went to China and acquired samples from every source we could find so that we could go back to them

and show what they were going to get and whether it was the same or not, so they could understand the pricing. What we saw in China was everything from literally dirt floors, one light bulb and women hand-packing mud molds, to decent-sized factories, but the main difference was their practice of using what is called 'shot.' Shot is basically reprocessed metal, which doesn't give you the control you have using pure alloys. We saw large boxes of scrap aluminum wire that

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was being used to make magnets. In their minds, aluminum is aluminum. We bought samples in China and brought them back to be tested and found that while some of the magnets were magnetically equivalent to ours, there was also a much wider range of magnetic variation.

**TQR:** How much of a savings are we talking about with Chinese magnets?

About two dollars a pickup. **To**

[www.arnoldmagnetics.com](http://www.arnoldmagnetics.com)

## The Grail Denied



The good news is this: If you never experience the sound of vintage PAFs or patent number pickups, you may remain blissfully happy with whatever you've got. We were. And we've got absolutely no problem with the humbucking pickups made by Fralin, Gibson, Holmes, Lollar, or your particular favorites, *whatever* they may be. This is no snobfest. Some players like a warmer, open and airy,

balanced humbucking sound, while others enjoy more focused, aggressive and powerful pickups that can push an amp to climax faster. But we also understand that some of you will wish to get as close as possible to the sound of the PAF and patent number pickups we've described, if others like Jonn Richardson just want to forget (he hasn't, by the way). And the inevitable question to be posed is all too obvious. "Who *has* most closely approached the sound of authentic PAF and patent number pickups?" A trap question to be sure, riddled with controversy, but we haven't brought you this far to parse words now. The fair and honest answer is that a few builders seem to have gotten as close as they can using available components and traditional design and construction techniques. There is no magic at work here – Seth Lover was an engineer, not a magician. You may be utterly charmed and inspired by a specific builder's pickups, perhaps after years of frustrating experimentation. It is not our intention to question your experience and judgment. What we are describing is an entirely unique and clearly *different* sound that ceased to exist in 1965 – not a convenient catch phrase. The very term 'vintage' has become so liberally misused to describe new gear that it is now meaningless. But we do wonder how many current pickup builders have studiously evalu-



ated their versions of PAF-inspired humbucking pickups against a representative group of authentic examples first hand? For those who have done so, nothing we've said here will come as a surprise. Strictly in terms of tone, a handful of modern pickups seem to be in the neighborhood; it's the

essential percussive clarity, transparency and dynamic bloom that seem to have gone missing. And again, we wonder why? Has no one noticed, or have they simply decided that people seem happy enough with things as they are? *We're making plenty of money... Why bother beating the details?* Well, that's



precisely what the suits at Gibson said when their guitars had gone to shit... For those pickup builders that have actually, *really* tried to nail the complete vibe of the PAFs and patent numbers, all we can say is *please try harder*. And for those who haven't

done their homework, fine... Just leave the terms 'PAF' and 'vintage' out of your product descriptions. How about this? "We don't really know how classic Gibson humbuckers sound, we don't care, and we have made no attempt to reproduce them..."



There are also a few pickup builders who have managed to create a name for themselves by copying generic pickup designs using common materials and attributing their extraordinary results to the magic of "handwinding," "scatterwinding," or the ability to intuitively channel the mysteries of the universe with no apparent mention or understanding of elementary physics. Their true talent seems to reside in the ability to weave stories of how they were inspired to divine the secrets of exceptional 'vintage' tone by some nebulous methodology that is never clearly explained. Well, if you like what they make, does it really matter? Not in the least – everyone must start somewhere, and fledgling builders who are inspired to pursue their dream deserve to do so. But the art of winding self-serving bullshit remains what it is, and people still buy it hook, line and sinker, which we find tremendously amusing. That said, anyone who truly believes they have tapped into the heart and soul of the sound of clas-

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sic PAF pickups is welcome to send us an example for review at TQR, P.O. Box 717, Decatur, GA 30030. If we fail to hear anything extraordinarily noteworthy in your humbuckers, we'll discretely send them back with a nice thank you letter and be done with it. And if you have indeed managed to reprise the true voice of early humbuckers, we'll gladly acknowledge your accomplishment in a published review.



We do know that Gibson, Fender, Rickenbacker, and pickup builders such as TV Jones, Seymour Duncan, Lindy Fralin, Tom Holmes, Jason

Lollar and Bare Knuckles in the U.K. have devoted considerable time and effort in creating their interpretation of pickups inspired by the sounds of the past, with uniquely varied results. In some cases, their research continues... We spoke at length with Lindy Fralin about this edition of *TQR* and our experiences with the Spanish Castle Bursts, PAFs and patent number pickups. In the end, he sent us a pickup described as, "My best effort at recreating a PAF." We hadn't asked for it – he chose to build and offer it solely on his own, and he added, "Perhaps all the testing you are doing will reveal



something that can help us all." That pretty much tells you all you need to know about Lindy Fralin. Jason Lollar is currently reconstructing the PAF using original parts, and Gibson's efforts to

recapture their former magic in producing humbuckers with the '57 Classic and Burstbuckers have been well-documented in these pages, as has the work of TV Jones with Gretsch pickups. It is also a well-known fact that Fender has at various times re-designed their most popular 'vintage' pickups guided by the sound of specific examples from the past, and Seymour Duncan was one of the very first true pioneers to have researched, studied and endeavored to reproduce vintage pickups. We invited him to comment on his study of PAF pickups in this issue, but our e-mail went unanswered.

For now, the answer to the question of who may have come closest to definitively awakening the sound of PAF and patent number humbucking pickups also remains unanswered, and in some ways the question itself seems profoundly flawed. We are reminded of a humbucker 'shootout' published years ago where a set of real PAFs were included in a group to be evalu-



ated in blind tests, and none of the 'shooters' apparently cared for the PAFs much at all (Fralin's 'won'). For all we know, *you* might not like a particular pair either, although we have had the distinct advantage of having recently heard exactly 23. How many players today have access to or have ever truly experienced the sound of PAFs and early patent number pickups – *not on vinyl or a CD, but in a guitar?* The sounds we've described can only be fully appreciated by actually hearing and experiencing what these pickups give back as you play. Like the liberal abuse of the term 'vintage tone,' we suspect that 'PAF' is often referenced for and by people whose actual familiarity with a pickup that ceased to exist over 40 years ago is virtually nil.

Nevertheless, our quest continues. Ultimately, we hope to identify those pickups that best deliver the qualities identified in the PAF and patent number pickups that we have explored on your behalf. For us, this project has been the most revealing and mind-altering tone-chasing experience we have pursued since *TQR* first came to life in 1999. Once begun, we must see it through to completion. Stay tuned for Part II...

At this point, we are duty bound to offer an audible example of the sound created by Seth Lover's classic invention – a sound that ultimately inspired a new era of rock music and pop culture that quite literally changed the world, and that honor can only fall to Michael Bloomfield. Log on to [www.tonequest.com](http://www.tonequest.com) and you'll hear an example of the very same sound we experienced at the Spanish Castle in Houston, and here in Atlanta...

***"If you wanted to play with some authority, you had to go down and prove yourself. You had to burn. You had to be up on stage with Buddy Guy or Little Smokey Smothers or Freddie King, if you're a guitar player. It was like the James Brown song, "It's a Man's World." You had to be a man up there, or you'd blow your whole scene."***

– Michael Bloomfield

Michael Bloomfield was an extraordinary guitarist and a devoted blues historian who literally and figuratively integrated the blues in all its varied forms into the American consciousness just as folk music began to wane. This was to be a legacy and a curse from which he never recovered, but from his brief career much remains to be savored. Bloomfield was equally adept at playing complex, acoustic rag, slide and (loud) electric blues, but his first brush with fame occurred

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on Dylan's *Highway 61 Revisited* sessions when, according to Bloomfield, Bob Dylan warned him that he "didn't want to hear any of that B.B. King shit." He continued to gain recognition in the Butterfield Blues Band, which in addition to

playing their own set at the 1965 Newport Folk Festival, also backed up Bob Dylan in his notorious 'electric' debut. By then, Bloomfield had already acquired a healthy aversion to the music business and the promise of fame that was so often dangled before him by record companies. But he went along for the ride when the idea for The Electric Flag was floated, which included a horn section and Wilson Pickett's former drummer (who could also



Buddy Miles

sing his considerable ass off) by the name of Buddy Miles. The Flag's first gig was at the Monterey Pop Festival, and Bloomfield's disenchantment with this band never diminished, nor did his affection for heroin, which close friends have attributed to

the Flag's horn section. But it was a loosely organized recording session put together by keyboardist and Columbia Records staff producer Al Kooper that ultimately earned Michael Bloomfield the recognition he so richly deserved and wished to avoid. In May, 1968, the *Super Session* tracks were recorded



with Bloomfield, Kooper, Steven Stills, pianist Barry Goldberg, Harvey Brooks on bass and Eddie Hoh on drums. The first nine-hour session captured Bloomfield at his best, playing a '59 Les Paul throughout, but it fell to Kooper, Stills and company to complete the

album. The morning after Bloomfield's first session he split for home in San Francisco, leaving Kooper a note in his motel room. "Dear Alan. Couldn't sleep well...went home...sorry." Kooper speculated that Bloomfield couldn't score in Los Angeles, hence the insomnia.

Bloomfield was dogged by the success of *Super Session* for the rest of his life, choosing to lead a reclusive existence in Mill Valley surrounded by close friends and convenient drug connections. Occasionally, he would venture out to play, but his fans refused to allow him to live in the present. During a European acoustic tour with Woody Harris, drunken crowds



threw bottles on the stage, yelling "Super Session!" fifteen years after the record's release. In the excellent book titled "Michael Bloomfield – If You Love These Blues," Michael's former girlfriend Christie Svane recounts a time when she

was touring Europe in a dance troupe while Bloomfield was at home in California, begging her to call him every day. "If I can hear your voice once a day, I can make it through."

Svane: "When we finally got to Paris, the Moscow circus happened to be in town. Our hosts said, 'Come see the circus, and then we'll take you back to the apartment and you can



get settled in.' At the circus they had trained bears. Do you know how they train a bear to dance? They make it stand on a red-hot metal plate and they play music, and the bear lifts up one foot at a time to get it off that metal plate. And that's why it looks like they're dancing. From then on, when they hear that music they remember that experience, so they're reliving that torture when they hear the music.

At the circus I watched the bears, and I started weeping. For the first time in my life, I understood somehow what Michael had felt like... Why when we were in Italy Michael was saying, 'I want to go home, I don't want to finish this tour. I don't want to be this person for these people.' When we got back to the place where we were staying in Paris, the phone rang. It was my mother, saying Michael's body had been found in a car. And it was Valentine's Day."



It seems to us that Michael Bloomfield embodied the very essence of what early British blues players such as Eric Clapton, Peter Greene and

Jimmy Page had aspired to emulate, yet Bloomfield is rarely acknowledged as having been the first white blues guitarist accepted and openly embraced by Muddy Waters, Howlin' Wolf and Little Walter in the tough blues clubs of Chicago. They never had to tell *him* how to play the blues 'right.' No, sir. So be it. Michael Bloomfield's music speaks for itself. **To**

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- Super Session – Re-mastered by Al Kooper with bonus tracks*, 2006, Sony Music
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## Grist for the Grind – Gibson P90

*“I tried as much as possible to make the same sound [for the humbucker] as the P90 pickup, which was designed by Walter Fuller, the chief engineer at Gibson.” – Seth Lover*



Something tells us Walter Fuller would have regarded Leslie West and Mountain’s string of dashboard anthems celebrating free luv and the communal toke with shock and awe, to say the least... Gibson’s P90 pickup was introduced in 1947, and 50 years after the fact it remains indispensable to the modern guitarist’s full palette of essential voices rendered from an electric guitar. The P90’s historical significance is legendary, having been liberally used by



countless artists as diverse as T-Bone Walker, Freddie King, Wes Montgomery, Pete Townshend, Leslie West, David Gilmour, Carlos Santana, Doyle Bramhall II and Johnny Thunders, among many others. And like the PAF-inspired humbucking pickups made today, modern interpretations of the classic P90 abound.

Thanks again to Kim at VintageCheckout.com, we received two ‘dog ear’ ‘50s Gibson P90s to audition in our 2006 Historic Les Paul Junior, and the results were eerily similar



to our experience with the PAFs and patent number pickups. The first P90 we wired up meas-



ured 8.23K ohms and the sound was exceptionally clear and bright with tremendous string definition, thundering lows and a remarkably fat signature. Played cleanly through a Fender amp with headroom, the Junior was transformed by the most beautiful, corpulent clean tones imaginable, rich and balanced with a transparent harmonic presence that saturated the blackplate RCAs in our Vibrolux with lush, shimmering overtones. Number two measured 8.94K with characteristics that fully mirrored the first pickup, but presenting an even more imposing and impressive presence. Like the PAFs, these old P90s offer extreme clarity that positively enhances



string definition (no mud!) and harmonic overtones to a degree that is instantly audi-

ble and addictive. The treble intensity of the P90s is just that – intense, yet very musical and rich, perfectly balanced with the P90’s strong midrange and huge bass response. And of course, with the volume pot on the Junior opened up, the P90s create their beastly trademark, hard rockin’ sound – arguably the most satisfying distorted guitar tones and heavy sustain ever produced from an electric guitar. *“Never in my life have I felt as good as a Nantucket sleigh ride with the Mississippi Queen...”* By now, the glorious sound of a ‘50s P90, clean or dirty, is a matter of record. We paid \$325 for our P90 and it was the best \$325 we’ve ever spent.



Hint: For those of you installing older dog ear Gibson P90s in current Historic Juniors, for example, a slight adjustment is required before the pickup will sit properly in the pickup rout.

Viewing the bottom of the baseplate, note how the stiff braided wire terminates, connected to an eyelet washer held down by one of two baseplate screws. For the pickup to drop into the Historic rout and lay flat, you must loosen the mounting screw holding the washer just enough to swivel the wire and washer to the opposite side of the polepieces. Tighten the washer and your P90 will drop right in. **To**

[www.vintagecheckout.com](http://www.vintagecheckout.com), 407-314-6939

The Twin from Bloody Hell

## 1973 Marshall Super Lead

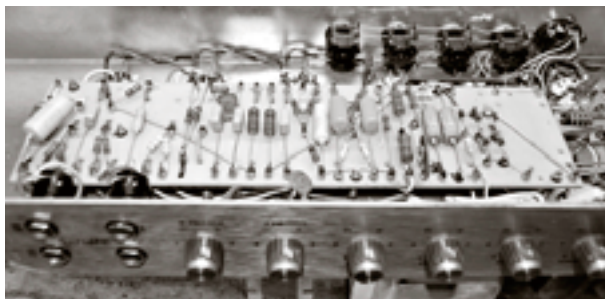
While Michael Bloomfield was playing cranked up blonde Fender Bassman and blackface Twin Reverb amplifiers, Marshall 100 watt stacks suddenly appeared thanks to The Who, Jimi Hendrix, Cream and Led Zeppelin. Throughout the '70s, rock was dominated by the sound of a Les Paul and Marshall amps, but despite its reputation as the ultimate rock machine, all four-input, 100 watt Marshall model '1959' heads are not the same...

The first 100 watt Marshall amps appeared in late 1965, and despite Marshall's decision to drop tube rectifiers for the less



forgiving, harder sound of solid state diode rectification, the 'Plexi' 100 watt heads remained more closely related to earlier Marshall amps inspired by the tweed Bassman than the Super Leads that would follow. In the early '70s, the 50 watt model '1987' head and 100 watt Super Lead were gradually modified to produce more gain faster, and the bright channel was pushed to a punishing level of thin, ear-shattering brightness, while Channel II remained too dull and bassy to be used alone.

We acquired a 1973 Super Lead – the last year before Marshall switched to printed circuit boards – for the modest sum of \$1,000, made possible by a recent Dagnall replacement output transformer. Two .022 mf caps had been replaced with Orange Drops and another removed altogether



in a futile effort to reduce brightness and gain – otherwise, the original Super Lead circuit remained intact and unmodified. Our plan was to run the amp at approximately 60 watts with just two EL34s, requiring the amp to be set at half the rated speaker impedance of our 8 ohm 4x12 Avatar cabinet, loaded with two Celestion Gold Alnico 12s and two 'Hellatone' 70th Anniversary G12H 30s.



As we discussed this project with Jeff Bakos, he mentioned that the 100 watt Super Leads not only sound very different from the 50 watt heads in ways that transcend a mere increase in power, but he also felt that the 100 watt Super Lead amps sound better with just two power tubes

instead of the full complement of four... "That's very common down here – I know a lot of players who prefer that sound." We also consulted with Sergio Hamernik at Mercury Magnetics on a suitable replacement for the modern Dagnall OT, and he suggested the Tone Clone '69 Marshall self-leaded version. 'Self-leaded' means that the actual wires wound within the transformer are extended to connect directly to the amp, rather than smaller diameter lead wires being attached to the transformer internally. Installing the self-leaded version is a bit of a bitch, since you are cutting and bending much heavier gauge wire to fit in tight spaces, and the insulation must be scraped off the wires before soldering. But Jeff had been here before, and all was taken in stride.

We also noted that the original power transformer in our '73 Super Lead was similar to those found in the early Plexi 100

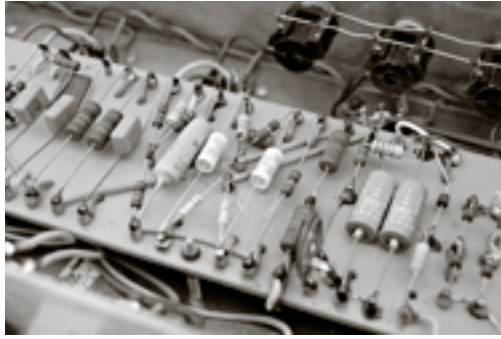


watt amps with plate voltages well above 500 volts. Our amp measured 522 volts, while the

plate voltage on most post-plexi 100 watt '1959' amps are usually lower – around 460 volts. The 'hotter' transformer in our Super Lead produces a comparatively higher and less compressed distortion threshold, and if not for our pair of NOS Mullard EL34s, we might need to be more selective about choosing current production tubes that can withstand +500 volts on the plates. Jeff was confident that JJs would hold up, less confident of Svetlanas.

We took the Marshall home and initially ran it with three spare Telefunken 12AX7s just to see if they sounded as sterile in a guitar amp as we had recalled in the past. They do. We could hear a distinct improvement in the mid and bass tones with the new transformer, but the bright channel remained far too bright to be used alone, even with a Les

-continued-



Paul. While we could manage to knock down some of the treble and acquire

a decent tone with the bright channel set on '3' and the bass channel patched with the volume on '6,' pushing Channel II so far above the level of the bright channel introduced an indistinct woofiness we didn't care for. The next day we returned to Jeff's shop for his standard Marshall 4-banger input channel mod, which simply involves moving the original .005 mf bright cap on the bright channel to the bassier



Channel II. We had done this before with our '69 50 watt and a vintage PA20, and it unerringly transforms the sound of the notoriously dull Channel II to a fat, warm, musically rich *and* bright sound that works perfectly every time. We also

replaced the two Orange Drop caps with Mallory 150s and pulled the super hi-fi Telefunks, replacing them with NOS RCA 12AX7s – the warmest, creamiest pre-amp tube ever made.

With the Super Lead thus optimized and tweaked, its voice was transformed from an angry soprano chainsaw to a classic Marshall with all of the requisite thick, rich, historic hall of fame tones at our fingertips. We could mine brilliant clean tones on '3' at a usable volume level that revealed all the gorgeous detail of the vintage patent number pickups in our Historic Les Pauls, and our Stratocaster, Nocaster and Les Paul Junior all sounded equally good. Add Fender outboard reverb and you do indeed have the Twin from Bloody Hell. As Jeff predicted, the big power supply in the Super Lead also produced a much more formidable and impressive presence than a typical 50W. Yes, the Super Lead is still a beast, tamed for your consideration and our enjoyment. But if classic Marshall tone is the sound you crave, a properly groomed Super Lead is hard to beat, and given today's booteek and vintage amp prices, it's a solid steal. **to**

BakosAmpWorks, 404-607-8426  
www.mercurymagnetics.com, 818-998-7791

## Duesenberg Guitars Redux

# NOT Made in Korea



Just as last month's issue featuring Mike Campbell and his signature Duesenberg guitar went to press, we discovered that contrary to what many people seem to

believe, Duesenberg guitars are *not* built in Korea. We asked Nathan Fawley, US distributor for Duesenberg to clarify...

**TQR:** As we noted in our review, we found the pickups to be very interesting and unique. Where are they made and who designed them?

Dieter Gölsdorf designed them 30 years ago. In 1978, Dieter wanted a P-90 pickup that would fit into the housing of a humbucker. He had a quite large collection of Gibson P-90 guitars, and in examining the pickups, he quickly discovered that there was very little consistency in the resistance or number of turns on either the neck or the bridge pickups. The same inconsistencies also applied to humbuckers from that period. Consequently, Dieter began working on his own pickup designs to create a classic vintage tone with more 'open' sound qualities, while still remaining fairly powerful. There are a lot of copies on the market, but none of them really match the Duesenberg Tone.

**TQR:** The guitars are designed by Dieter Gölsdorf in Germany and made to spec where?

Dieter Gölsdorf designs each Duesenberg guitar, and we have chosen the best products or we have designed our own parts, sourced from all over the world. Our wood comes from the USA, our specialized pots are made in Japan, and our jacks from Italy. Dieter's design workshop and the Duesenberg factory (where all the guitars are built) are located in Hanover Germany. The rumor about Korea started when Duesenberg made a few guitars for Sam Ash back in early 2000 which were a 'B' version of one of our German models called the Starplayer Special. This guitar was made in Korea with no serial number and different hardware. Since this model was the first introduction of Duesenberg into the United States, many people have incorrectly assumed that all Duesenbergs are made in Korea.

**TQR:** Including us.

Well, thanks for giving us the opportunity to correct that perception. **to**

www.duesenbergusa.com, 714-580-1547

# Resource Directory

## Sound Better Play Better™

**Don't miss your opportunity to save 10% on selected products offered by members of your ToneQuest Resource Directory!**

**Look for exclusive ToneQuest discount offers in gold and reference TQR when placing your order.**

**TQR Directory News! The Gibson Repair Shop, Nashville, new gear from Visual Sound, and Carr Amps! Welcome, Mercury Magnetics!**

**A Brown Soun** The all-new Hemp E Cones, Bass 10's, and 10's for guitar are here! In addition to A Brown's original hemp cones, John Harrison has created a new "E" cone that is a bit brighter than the original hemp cone. Killer tone for Fender amps, or in combination with the original Hemp Tone Tubby speaker. The bass 10's have received rave reviews from none other than Tommy Shannon, and the 10's for guitar will knock you out in your Princeton, Vibrolux, or Super. A Brown Soun was founded in San Rafael, California in 1974 by John Harrison – a working musician who refused to settle for the few reconing choices that existed when he first needed speakers repaired in the Bay Area. Since then, John has been recognized by artists such as Carlos Santana, Neil Young, Pearl Jam, Van Halen, and many others as California's top speaker reconer. In addition to its famed reconing services, A Brown Soun also custom builds speakers and cabinets for virtually every application. The renowned Tone Tubby speaker developed by A Brown Soun has received rave reviews from top professionals around the world. Brown's recently released series of speakers for guitar and bass featuring hemp cones is setting a new benchmark for guitar and bass speaker performance, with dramatically improved clarity, note definition, frequency response, durability, and power handling. Whether you need new speakers, custom built cabinets, or vintage speakers rebuilt and sounding right, A Brown Soun is your professional resource. As the Tone Tubby logo says, "We're committed to tone!" and that means yours.

*A Brown Soun Inc. San Rafael, CA  
www.abrownsoun.com 415-479-2124*

**Acme Guitar Works** offers a comprehensive selection of top-quality pickups and guitar electronic components. Their signature service is providing complete pre-wired electronic assemblies, with or without pickups, that allow you to easily upgrade the electronics in your guitars. Whatever your skill level may be with regard to wiring and electronics, these turn-key solutions offer a real benefit by allowing you to concentrate on the fun part of your craft (playing your guitar!) rather than spending your day off with a soldering iron in your hand.

Assemblies are available in a number of different configurations. Opt for Fender parts - such as pickguards and control plates/knobs - or order your assembly on a template and use your existing plastic.

Pickup options include Lollar, Fralin, Suhr, Van Zandt, Fender, and Duncan.

Assemblies for many guitars are available, including Strats, Teles, and Les Pauls, along with Fender

basses. If you don't see what you want on their website then give them a call.

Acme also stocks a complete selection of top-quality wiring kits. These kits include the finest components at reasonable prices, with no hype involved. Just the good stuff, no fluff.

*Acme Guitar Works  
Bear, DE  
www.acmeguitarworks.com  
302-836-5301*

**AllParts** Top players and guitar builders rely on Allparts for the right guitar and bass parts they need, in stock and ready to ship. AllParts offers a complete range of finished and unfinished guitar bodies in a variety of premium tone woods, including alder and swamp ash, with optional highly figured maple tops. Finishes include all of the most popular vintage colors, including see-through blonde! Premium necks are also available with maple, rosewood, and ebony fingerboards in a variety of neck shape profiles, with or without binding. **Custom design your next guitar with AllParts, including tailpieces, tuning keys, bridges, nuts and saddles, pickups, pickguards (that really fit), knobs, hardware, and electronics for many popular models.** Bass players and lefties can also find the parts they need at AllParts! You can also rely on Allparts for hard to find parts, along with vacuum tubes and amplifier hardware.

*AllParts, Houston, TX  
www.allparts.com 713-466-6414*

**Analogman** TQR readers are invited to save \$25 on the Sunface NKT with Sundial Fuzz, or receive free shipping on all handmade Analog Man brand pedals, Foxrox, Teese wahs, and the PedalPower2!

Mike Piera is one of the premier guitar effects dealers and manufacturers serving professional players worldwide. Analogman is unique, since it manufactures, modifies, buys, sells, and repairs vintage and new guitar effects. Specializing in vintage and high-end effects, you won't find cheap Taiwanese "happy meal" style, toy effects there. Analogman is dedicated to helping you successfully pursue your quest for tone, and every customer is treated as a prospective friend. Analogman can meet all your effects needs, including: Buying and selling vintage, new, and custom built effects, and modifying pedals to sound and function better. A full repair service, including referrals to specialists. Creating the best new effects with vintage values, schematics, and original owner's manual copies. FREE help with effects problems by e-mail or in our Web Forum, plus professional consultation and technical services. Analogman specializes in pedal modifications for the Ibanez and Maxon Tube Screemers and several Boss pedals (SD-1, DS-1, BD-2, DD5, etc). They also modify Fuzzfaces to vintage germanium specs. Analogman hand-built pedals include the Clone chorus, Comprossors, and Sun Face fuzz pedals. There are 3 versions of the Comprossors available, based on the Ross style and/or the Orange Squeezer style of compression. Other hand-made pedals available from Analog Man include the FOXROX Captain Coconut and TZF flanger, Teese RMC wahs, Z Vex, Black Cat, Tubester, Ultravibe, Pedaltrain and George L cables. Jim Weider recently collaborated with Mike on the King Of Tone overdrive pedal, which is being introduced in December 2003! Please check the web site for more information, and e-mail if

possible. If you must call, please mention ToneQuest and they'll make time to help you.

*Analog Man, Bethel, CT  
www.analogman.com 203-778-6658*

**Antique Electronic Supply** Antique Electronic Supply carries the largest selection of parts for guitars, amplifiers, high-end audio, antique radios and amateur radios.

Looking for an obscure vacuum tube? Antique Electronic Supply has the world's largest inventory of NOS vacuum tubes, carrying hard to find tubes from such companies as RCA, GE, Sylvania, Tung Sol and others. They carry a great selection of currently produced tubes from JJ/Tesla, Winged-C (which are manufactured in the JSC Svetlana Factory in St. Petersburg, Russia), Valve Art and EI. In addition they stock Groove Tubes, Ruby Tubes and other current production tubes from both Russia and China.

Along with vacuum tubes AES has a wide range of parts for Ampeg, Vox, Fender and Marshall amplifiers, carrying such items as speakers from both Jensen and Celestion, tolex, handles, grill cloth, reverb tanks, resistors, capacitors, transformers, knobs, switches and other much needed parts. Antique Electronic Supply also carries Korg keyboard parts, as well as components for Leslie cabinets and a variety of books, software, test equipment, soldering supplies and chemicals.

Antique Electronic Supply has a great selection of parts for guitars and basses. They offer a full range of parts for both Fender and Gibson, stocking such items as bridges, pickguards, knobs, potentiometers, and tuning knobs. They have recently started carrying Badass Bridges, and they also sell Pro Co and Maxon effects pedals. Information and images are available for all of their items on [www.tubesandmore.com](http://www.tubesandmore.com).

For 22 years Antique Electronic supply has been in business and they know how to please their customers, offering same day shipping on orders placed before 2:00 p.m. MST. Catalogs are available upon request.

*Antique Electronic Supply, Tempe, AZ  
www.tubesandmore.com, 480-820-5411*

**Avatar Speakers** was founded in 1991 by Dave Noss and is known for selling well-built, high value guitar and bass speaker cabs loaded with the best speakers in the world from Celestion and Eminence. We also offer the best prices on raw speakers from these fine companies.

Avatar recently introduced the new G2112H Premier cabs available in Red, Orange, Green, Brown, Black or Blonde tolex, loaded with your choice of speakers. Features include 13 ply baltic Birch cabs with superb dovetail corner joints and your choice of open, oval, or closed backs. Grill cloth colors include Wheat, Black, vintage Fender and Oxblood with white piping.

We also offer a Premier Vintage cab modeled after the '60s Bluesbreaker.

Avatar also markets their great sounding Hellatone line of 12" guitar speakers – aged Celestion G12H30's and Vintage 30's, both of which have

# Resource Directory

received stellar reviews.

*Avatar Speakers, Dalton Gardens, ID  
208-762-5251, www.avatar-speakers.com*

## **Callaham Vintage Guitars & Amps**

Bill Callaham is a builder of exceptional electric guitars that exceed the original quality, tone, and beauty of the vintage models that inspire his work. "Better than vintage" is an apt description for the Callaham "S" and "T" model electric guitars that feature premium lightweight ash and alder bodies, custom hand-shaped rock maple necks, and cryogenically treated Lindy Fralin pickups specially wound to Callaham's specifications for true vintage tone. Bill also offers cryogenically treated, pre-wired vintage pick guards for Strat style guitars, and his exclusive formula for cold-rolled steel alloy tremolo blocks continue to delight players around the world with improved resonance and sustain. Callaham vintage saddles also improve sustain while minimizing string fatigue and breaks. Additional Strat parts include stainless steel trem arms, string ferrules, bridge plates and mounting screws, and string retainers. Attention Tele Players! Callaham now offers a complete line of custom Tele parts. Please visit their web site for information on pre-wired control plates with premium pots, capacitors, and cloth-covered wire, specially wound and cryogenically treated Fralin vintage Tele pickups, compensated brass bridge saddles, bridge plates, knobs, jacks, tuners and string trees! The only thing better than Callaham parts is a Callaham guitar. We said that, and you can take it to the bank.

*Callaham Guitars, Winchester, VA  
www.callahamguitars.com 540-955-0294*

## **Carr Amplifiers**

Check out the ALL NEW Carr Mini-Mercury! The Mini-Merc is an extremely versatile combo with all tube Reverb, 3 position Boost switch, Treble cut switch, and a built in attenuator yielding 8, 2, fi, or 1/10 watt output. 100% hand wired and every amp is rigorously tested before leaving our shop.

The Mini-Mercury offers tones and big amp 'feel' ranging from lush 60s American reverb to modified 'brown' '70s British crunch at almost any volume. The cabinet measures a friendly 19.5" wide by 15" tall by 10" deep at the bottom sloping to 9" deep on the top. Our new Mini-Mercury has the same electronics as the standard 1-12" Mercury differing only in its smaller cabinet and its warm and smoky 10 inch Eminence "Lil Buddy" hemp cone speaker.

Plug into any Carr amp and you'll immediately understand why we said in our first very first ToneQuest review, "Finally, somebody got it right." Right, as in the perfect marriage of classic Fender balance, clarity, and head room, with innovative overdrive features that produce natural, sweet tube distortion, but never at the expense of the tone you've worked so hard to capture in your instruments. Lots of small-batch amp builders use premium components and labor-intensive, point-to-point construction, and Carr is no exception. The Solen filter caps used in Carr amps alone cost more than the sum of the parts in many boutique circuits!

Carr amps are professional tools and works of art that will inspire you for a lifetime. Check out the many stellar reviews and dealer locations for Carr amps at their web site, and contact the boys at Carr for more information about which Carr model is best for you.

*Carr Amplifiers, Pittsboro, NC  
www.carramps.com 919-545-0747*

**Celestion Ltd.** Nobody knows more than Celestion about guitar loudspeaker design and manufacture. Think of your all-time favourite guitar riffs and solos, chances are, they were played through Celestion guitar loudspeakers. For the last fifty years - since the birth of the Celestion Blue (the first ever purpose-built guitar loudspeaker) - our magical mix of metal paper and magnets has formed an essential part of the sound of guitar music.

Some of the greatest speakers available today are part of the Celestion Classic Series. Over the years, we've applied our design expertise to build a range of speakers that will give you classic Celestion tone, no matter what style you play. The Alnico Series and the Heritage Series, both hand-built in Ipswich, England, are the result of meticulous attention to detail, created for those who are absolutely dedicated to the pursuit of true Vintage tone.

For high-volume OEMs, Celestion Originals represent outstanding value for money. We have the specialist experience coupled with the most advanced, high-volume manufacturing techniques to deliver Celestion tone, quality and brand appeal at extremely competitive prices.

*Celestion International Ltd www.celestion.com  
For OEM Enquiries, contact Andy Farrow at  
Celestion America, 732-683-2356  
For retail and distribution enquiries, contact  
Group One Ltd 516-249-1399 www.g1limited.com*

**The Chicago Bluesbox** by Butler Custom Sound is a series of amplifiers built with the blues player in mind, but is also compatible with virtually any style of music — from traditional to progressive blues rock. The Chicago Blues Box delivers clear, clean, harmonic complexity with headroom to spare, to thick, authentic, in-your-face crunch.

The flagship of the Chicago Blues Box series is the Roadhouse model, an all-tube, point-to-point, hand-wired, single-channel 50-watt tone machine hand-built in the USA right in Chicago. The straight-forward design makes this a favorite among players seeking authentic, full-sounding tone across the entire sound spectrum.

Over 60 hours of hand-built assembly goes into every Chicago Blues Box. Butler Custom Sound starts with a sheet of rubber impregnated fiber board, drills and tapes over 150 solder eyelets. The board is then assembled with electronic components and soldered from the bottom side for a reliable connection. The custom-wound, paper bobbin transformers, pots and switches are installed into the 16-gauge steel chassis which provides road-worthy strength. BCS then installs their proprietary Magic Wand ground bar system and the final wiring process begins. Before any tube is

installed, each undergoes a stringent hand-selection process. The boards are vibration-tested for intermittent connections, lock-tight is applied to hardware, and wires are twisted and bundled.

Before any amp leaves the Butler Custom Sound factory, each undergoes 60 hours of sound and quality testing. "We're players, not only engineers and technicians, so part of our job is to plug in to each amp and test for output noise levels, vibration and most importantly, tone," says BCS president, Dan Butler. The Chicago Blues Box has captured the elusive 3-dimensional, harmonic rich tone that is missing from so many of today's new amplifier designs. This amp is alive and ready to help inspire any player's art form.

*Chicago Bluesbox,  
Butler Custom Sound  
chicagobluesbox.com.630-832-1983*

**Dave's Guitar Shop** offers Fender, PRS, National, Taylor, Gretsch, Guild, Hamer, Vinetto, Ernie Ball, Rickenbacker, Martin, Santa Cruz, and many other fine new and used instruments, plus new and used amplifiers such as Fender, Marshall, Line 6, Carr, Matchless, Victoria, Bad Cat, Dr.Z, Savage Audio, Ampeg, plus hundreds of guitar effects, aftermarket pickups from Joe Barden, Seymour Duncan, and more. Due to their inventory of over 1,000 guitars, amps, and accessories, Dave's is an excellent resource for top of the line Custom Shop and Historic reissues, to intermediate new and used gear. Unlike some dealers' out of date stock lists on the web and in print, Dave's inventory is updated daily. The selection of new and used instruments is truly exceptional, and you can often select among several models of the same new guitars to find that special instrument that was meant for you. Dave's staff is friendly and extremely knowledgeable about the instruments and gear they sell, because they're players, too. Please check the web site for current inventory, and you are welcome to call for more information or an accurate, in-hand description.

*Dave's Guitar Shop, LaCrosse, WI  
www.davesguitar.com 608-785-7704*

**Doug's Tubes** Doug Preston founded Doug's Tubes in 2002. It became an evolution originating from his passion for music, guitars, and tone. We are now serving thousands of satisfied guitar players and audiophiles internationally. It has been my intention from the beginning to seek out the most reliable and great sounding current production tubes, and to help influence manufacturers into reproducing many NOS tubes to keep our vintage amps going, such as the JJ 7591. We offer the most common choice NOS, currently manufactured, and hand selected used tubes at a fair price. If you need help in selecting tubes for your particular application, call Doug at Doug's Tubes, your one stop tube shop. Making music sound better, one amp at a time.

*Doug's Tubes, Levittown, NY 516-314-0357,  
www.dougstubes.com*

**Eastwood** - Since 2001, Eastwood has been creating some of the most exciting Electric Guitars the world has ever seen. Our RADICAL VINTAGE REMAKE series feature a variety of models

-continued-

# Resource Directory

based on popular sixties designs - from the classic Mosrites to our top-selling AIRLINE - they capture the excitement and style of the originals. Each year the prices of the originals skyrocket - getting harder to find and harder to play! Eastwood's focus is to make top quality replicas - that cost less and play better - so the average musician can experience the excitement of playing one of these beautiful vintage guitars as their every day player.

**TONE & STYLE** - All Eastwood Guitars are fitted with high-quality modern components that offer an optimal playing experience that far exceeds their 1960's original counterparts. It is hard to find a guitar these days that oozes more vintage style than an Eastwood! All Eastwood Guitars are setup professionally before shipping to our customers.

**VALUE** - All Eastwood Models are subjected to extensive research and development to continually raise the level of performance. At the same time, we are very careful to maintain an affordability level that our customers expect. These elements combine to deliver peak performance and higher quality than the originals at a much lower price.

**SERVICE** - A product is only as good as the people who stand behind it. Eastwood Guitars service is second to none in the industry because we simply treat customers the same way we would expect to be treated. All guitars come with a 3 Year limited Warranty. Guitars purchased directly from us receive a no-questions-asked return policy. Or, if you are located near an Eastwood Dealer, you can buy from them at the same direct price we offer online.

**THE FUTURE** - We continue to bring new models to the Eastwood line-up. Our goal is to introduce 3-5 new models each year, available in a wide variety of colors and of course, including left-hand versions. Please feel free to email us directly if you have some suggestions for models that we should consider developing in the future!

*Eastwood Guitars, Toronto, Canada  
www.eastwoodguitars.com, 416-294-6165*

**Eminence** Eminence is proud to present the Patriot and Redcoat series of guitar speakers. Incorporating both British and American cone technology into speakers that we manufacture in the USA gives us the ability to provide you with virtually any tone you desire. Be it British or American, clean or dirty, big bass or screaming highs, we have a speaker that will allow you to "Pick Your Sound." Choose from one of seventeen new models! Eminence has been building speakers to custom specifications for nearly every major manufacturer of guitar amplifier and sound reinforcement products since 1967. Their new Legend Series of guitar speakers captures the essence of the vintage American and British speaker designs that are held in such high regard today by so many discerning players. The Legend Series includes classic British and American designs for 6," 8," 10," 12," and 15" speakers utilizing ceramic and AlNiCo magnets, British or American cones, and Kapton polyamide voice coils for superior heat dissipation and durability. Best of all, because Eminence has been successfully competing for years with other speaker manufacturers as an OEM supplier, the Legend Series speakers are priced far below those of many other popular manufacturers

of "reissue" and custom speakers. The Eminence Legend Series delivers all of the tone and durability you need, at a lower price, with no compromises in quality. To locate genuine Eminence dealers in your area, please visit their web site or call Eminence Speakers.

*Eminence Speaker LLC, Eminence, KY  
www.eminence.com 502-845-5622  
Contact: Chris Rose*

**Evidence Audio** was founded in 1997 by Tony Farinella to supply the MI and Studio community with performance-based cables at reasonable prices. The most well-known cable is the Lyric HG (High Gain) guitar cable. Readers of Guitar Player Magazine voted the Lyric HG as "Best Accessory of 2004" supporting the opinion drawn by editors of magazines from around the world.

In simple terms, cables from Evidence Audio are built different; as a result, they sound different. The Lyric HG features two solid core high grade IGL copper conductors and a braided shield that is grounded at the amp end only. This is the correct way to "drain" spurious noise. By using solid core conductors strand interference is eliminated as well. Designed to be neutral and honest, the cables don't actually "improve" your tone, they simply replace a cable in your signal path which was likely destroying it. What you hear is a tighter more muscular bottom end, a clearer more complex mid-range and a sweeter more detailed high end. Dynamics and harmonics are improved and sustain is no longer masked. Overall the guitar becomes more three-dimensional sounding, cuts through clearer and at the same time takes up less space in the mix.

The Siren Speaker Cable and The Source AC Power Cable compliment the Lyric HG. They offer a solution to distortions cause by cables in other areas of the signal path and power supply. The effects of the speaker and power cable are consistent with that of the Lyric HG: you hear the guitar and amplifier, not the cables.

While not inexpensive, cables from Evidence Audio are still one of the most cost effective ways of improving your tone. It's like changing pickups or a bridge - a small detail with big results. Please visit the Evidence Audio website to locate a dealer near you and demand a demo!

*Audionova Inc., <http://www.audionova.com>  
514-631-5787 ext. 22*

**Fargen Amplification Inc** was founded by Benjamin Fargen in 1997 to accommodate the needs of working guitarists that want pure vintage hand crafted tube tone, quality, modern features, reliability and value. Fargen Amplification started out from day one building custom one of a kind amps that filled a void in the market for those looking for a "tone match"...some of those early one-of-a-kind amps have become staples in the Fargen Amplification product line such as the "Blackbird" and "Bordeaux" amplifiers. We still offer full custom "one of a kind" builds from our Fargen Custom Shop. "Rather than just building nice vintage clones...I set out to improve upon what I thought were the best tube amp designs ever built and then put a signature spin on them. The signature elements that

have been added were drawn from years of gigging around town with my own vintage gear as well as vintage tube amp service work. I kept notes on all the mods, tweaks, adjustments and repairs that I made over the years while also noting the comments and overall wants of working guitarists. Because I also consider myself a "working guitarist" I find it very easy to relate to people on a "player to player" level rather than just a "technician to player" level. This goes a long way in getting people the tone they want and are looking for."

Check out our full hand wired tube amp product line @ [www.fargenamps.com](http://www.fargenamps.com) and find the tube amp sound you have been looking for!

*Fargen Amplification, Sacramento, CA  
916-971-4992, [www.fargenamps.com](http://www.fargenamps.com)*

**Fishman** Widely recognized as the premier designer and manufacturer of acoustic amplification products, Fishman is committed to making acoustic musicians heard while faithfully maintaining their own natural tone, for the best possible sound.

The Fishman product line began with the BP-100(tm) acoustic bass pickup, originally developed to meet founder and president Larry Fishman's own jazz performance needs. With a track record of quality engineering, reliability, functional simplicity and - most importantly - the natural tone it enables, Fishman firmly established a reputation of excellence that consumers have come to expect from the brand.

For acoustic guitar, Fishman offers the flagship Acoustic Matrix(tm) Series active pickup system, the Rare Earth(tm) Series active magnetic soundhole pickups, and the Neo-D(tm) magnetic soundhole pickup, as well as passive undersaddle, classical, archtop, and resonophonic guitar pickups. Fishman's new Ellipse(tm) series combines the Acoustic Matrix(tm) pickup with our industry leading preamp design. Designed to fit in the guitar's soundhole, the Ellipse(tm) system provides volume and tone control at your fingertips and easily installs without any modification to your instrument.

Fishman pickups are also available for banjo, mandolin, harp/piano, violin, viola, cello and acoustic bass. In addition, the Concertmaster(tm) amplification system for violin and the Full Circle(tm) upright bass pickup offer two elegant and cutting-edge string amplification solutions.

Utilizing cutting-edge Acoustic Sound Imaging(tm) technology, Aura(tm) features the most innovative acoustic amplification technology available today. This stompbox-sized unit captures your instrument's true acoustic sound with stunning, studio microphone quality. Anytime, anywhere. Aura(tm) eliminates the boundaries of conventional acoustic amplification and gives the most natural, realistic amplified acoustic instrument sound available - both on stage and in the studio. Joining the award-winning Loudbox(tm) and Loudbox Pro(tm) acoustic instrument amplifiers, the new Loudbox Performer(tm) completes Fishman's popular, highly-acclaimed family of acoustic amplifiers and represents the size, power and features that musicians demand. Setting a new standard in acoustic amplifiers, the Loudbox(tm) series feature a powerful tri-amped system that delivers sweet highs and undistorted lows-even at tremendous volumes.

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# Resource Directory

As Fishman celebrates its 25th year as the leader in acoustic amplification, the company continues to redefine the benchmark of acoustic sound. For more information, please visit [www.fishman.com](http://www.fishman.com).

*Fishman Transducers Inc.  
Wilmington, MA  
[www.fishman.com](http://www.fishman.com) 978-988-9199*

**GHS – The String Specialists** Who plays GHS strings? Artists as diverse as Eric Johnson, Martin Barre, Charlie Sexton, Will Ray, Warren Haynes, Tom Morello, Ritchie Sambora, Steve Howe, Brent Mason, Junior Brown, Zakk Wylde, Tommy Castro, Rene' Martinez and TQR advisory board member and AC30/Telecaster stud Mr. James Pennebaker, to name just a few! GHS has been manufacturing guitar strings since 1964, and whatever your musical tastes, GHS has the right string for you. You're invited to try a set of GHS classic Boomers, brilliant Nickel Rockers, Burnished Nickel strings for a warm, vintage tone, Compound Nickel strings for electric arch tops, and the recently introduced Infinity Bronze coated acoustic strings for extended tone and brilliance. All GHS strings are available in a wide range of gauges to appeal to every player. Refer to the GHS "Brightness Bar" found on select packages of strings and at our web site. It's your guide to determining which strings will produce the specific range of tone you're seeking.

Please check out the all new GHS web site at [www.ghsstrings.com](http://www.ghsstrings.com) for expert information about GHS strings, including technical documentation on the entire GHS line of strings for fretted instruments, tech tips, string tension calculations, the "Brightness Bar," and a comprehensive list of the top artists who play GHS strings. All GHS strings are manufactured to continually exceed your expectations.

*GHS String Corporation  
Battle Creek, MI  
[www.ghsstrings.com](http://www.ghsstrings.com)  
1-800-388-4447*

## **Gibson Gibson Repair & Restoration World Class Repair of Stringed Instruments**

Over the years, Gibson has received countless requests from players needing work on their guitars, mandolins, etc. These players all say the same thing: "I don't trust anyone but Gibson to work on my instrument!" Until recently, these folks had to rely on whoever was available in their local area and hope they had the skills and experience to do the required work.

All that has changed now. Gibson has opened the doors of its in-house repair facility and is accepting stringed instruments of all types and all brands for repair or restoration. Offering a state of the art, temperature and humidity controlled environment, as well as a full staff of highly skilled and experienced luthiers, Gibson is fully equipped to perform any and all operations required in all phases of repair and restoration.

Among the services offered are:  
**Pro Set Up – Acoustic or Electric**  
**Fretwork – Fret Dress to Plane & Refret**  
**Custom Wiring/Pickup Installation**  
**Structural Repairs – Body Cracks, Bracing, Broken Headstocks**  
**Neck Resets**  
**Custom Paint/Finish Repair/Relics**  
**Total Restorations**

So whether it's an acoustic or electric guitar, mandolin, banjo, ukulele or oud, if it has strings and it needs attention, we can help. It doesn't even have to be a Gibson – we're an equal opportunity Repair Shop! Call, write or email. We'll guide you through the process and we'll help with shipping and insurance information so your instrument gets here and back quickly and safely. We'll tell you upfront what your costs will be and no work is begun before what is to be done has been explained and approved by you.

*Gibson Repair & Restoration  
Nashville, TN  
615-244-0252  
[www.gibson.com/Products/Places/Repair/](http://www.gibson.com/Products/Places/Repair/)*

## **Guitar Adoptions**

Since 1999 Guitar Adoptions has provided musicians with an unmatched selection of premium electric and acoustic guitars, amplifiers and accessories online, combined with exceptional customer service personally provided by the company's founder, Dave Schmidt. The Guitar Adoptions online concept is simple: Select instruments that offer the best proven performance and value available today, present them online with superior photographic detail and sound clips, and directly consult with customers to assist them in making the right choice the first time.

Guitar Adoptions maintains an extensive inventory of acoustic and electric guitars that includes G&L, Giffin, Gretsch and Original Senn electrics, Guild, Morgan and Northwood acoustics, K&K Sound, Schertler and L.R. Baggs acoustic pickups, and Guitar Adoptions is the largest Larrivee and G&L dealer in the US. We also maintain an extensive inventory of guitars for lefties!

Our extensive selection of custom amplifiers includes Fargen, Louis Electric, Gretsch, Victoria, Clark, Sewell, Ultrasound, Schertler and L.R. Baggs. We also carry a wide selection of excellent stompboxes, including: Ellis Acoustic, MI Audio, MXR, Retro-Sonic Custom Effects, Seymour Duncan, Sweet Sound Electronics, Dunlop and T-Rex Engineering.

Guitar Adoptions also maintains an outstanding selection of pre-owned instruments by G&L, Gibson, Fender, Larrivee, Heritage and more, always described in detail and available for in-hand descriptions. Check our web site often for new arrivals! Whether you are an experienced pro, collector, a weekend warrior, or beginner who wants quality, we are dedicated to helping guitarists find the instrument of their dreams with hands-on, personal service and product knowledge that big online sites simply cannot offer, and always at competitive prices.

To view our inventory, please visit [www.guitaradoptions.com](http://www.guitaradoptions.com) and rest assured that all e-mail and phone inquiries will be promptly answered by Guitar Adoptions founder, Dave Schmidt.

*Guitar Adoptions  
Wonder Lake, IL  
815 653-6500  
Toll Free 877-241-4580  
[www.guitaradoptions.com](http://www.guitaradoptions.com)*

## **Hamer USA**

In 1973 Jol Dantzig kick started what we know today as the boutique guitar industry by crafting a custom guitar for himself?then for a host of famous and influential players from Aerosmith to ZZ Top. Thirty-five years later, Dantzig and his crew of ten craftsmen continue the Hamer tradition of building modern guitars with a vintage soul. Over the years, Dantzig and Hamer have quietly brought innovative features, thoughtful solutions and impeccable quality to guitarists. Not only an inspiration for countless small builders who sprung up in their shadow, Hamer has also been a weathervane for the big manufacturers who are looking for marketing cues and trends.

Today, not content to be a "job-shop" Hamer is positioned as a "designer" brand with Jol Dantzig at the creative helm. It's a small outfit with the big-time chops that can help you envision a dream guitar and then execute it with authority.

Despite the boutique label, Hamer guitars remains dedicated to beauty, functionality and purpose whether they're building an ornate showpiece or a low-down tone machine. If you value substance over hype, Hamer can deliver the goods.

*[www.hamerguitars.com](http://www.hamerguitars.com),  
[www.guitarguru.typepad.com](http://www.guitarguru.typepad.com)  
860-379-7575*

**Just Strings.com** Now more than ever, guitarists are reaping the benefits of technical innovations in string making that have led to the widest selection of guitar strings ever available. JustStrings.com is dedicated to providing guitarists with the largest selection of acoustic, roundwound, and flatwound strings, complimented by exceptional personalized service and outstanding value. Trying different types of strings often results in amazing new discoveries that not only improve the sound of your instrument, but dramatically enhance your playing enjoyment. From traditional hand-crafted strings to high-tech exotics, **JustStrings.com exists to help you get the most out of your instrument. Try a new set today, or order your favorite acoustic or electric sets and SAVE!**

Juststrings.com offers the best prices on all of the major and specialty brands, promptly delivered to your door. Shop online at [JustStrings.com](http://JustStrings.com), or place your order by fax at 603-889-7026 or telephone at 603-889-2664..

*[JustStrings.com](http://JustStrings.com), Nashua, NH  
[info@juststrings.com](mailto:info@juststrings.com)*

**KCA NOS TUBES** Mike Kropotkin's KCA NOS Tubes offers a wide selection of hard-to-find and rare new old stock (NOS) American and European tubes for guitar amplifiers and tube hi-fi, including American 6L6 and 6V6, 12AX7, 12AT7 tubes, tube rectifiers, European 6V6, EL84 and EL34 power tubes, and other hard-to-find NOS tubes for guitar amplifiers and audio equipment. KCA has expanded it's offerings to new production tubes including SED (Svetlana), Electro Harmonix and Sovtek tubes. Due to the growing demand for NOS

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# Resource Directory

tubes, KCA's stock is constantly changing, and inventory is regularly updated on the web, or you may call for more information. Ordering is simple through a secure online shopping cart. If you're not sure which tubes will sound best in your equipment, contact Mike for unbiased advice via e-mail. KCA's web site also provides reliable information on tube substitutions and general advice on tube selection, and Mike services and restores new and vintage point-to-point amplifiers.

*KCA NOS Tubes, Sterling, VA 703-430-3645  
www.kcanostubes.com*

**Klon** Since its inception in 1994, Klon has been a one-product company, and given the overwhelming success of that product, the Centaur Professional Overdrive, it's not hard to see why. Designer Bill Finnegan, assisted by two circuit-design specialists, set out in 1990 to create an interactive and ultra-transparent overdrive, one that doesn't put its own stamp on your sound, but rather brings out in a very organic way more of what your rig was already giving you. Bill's premise was that there were many players who, like himself, had great guitars and amps, and who, as he likes to put it, "were not looking to reinvent the wheel," and the fact that he has sold some four thousand Centaur units (as of November 2002) attests to his intuition, as well as to the perfectionism that led him to spend over four years developing a single product. That perfectionism, of course, is also evident in the production unit: Bill builds every Centaur himself, by hand, using only the finest components and assembling them with meticulous care. Each unit undergoes a series of rigorous tests before shipment, and each is backed by a comprehensive ten-year warranty. Given the ongoing demand for the Centaur and Bill's disinclination to let anyone but himself build them, expect a wait of several months for delivery, but also expect your Centaur, when you receive it, to manifest a sonic superiority, a construction quality, a physical beauty, and a conceptual rightness beyond your expectations.

*Klon, Boston, MA 617 666-1551  
www.klon-siberia.com info@klon-siberia.com*

**Keeley Electronics** – Check out the new Keeley Katana Preamp! ToneQuest subscribers receive 10% off on all pedal mods and the Keeley Comp, Java Boost and Time Machine boost! Keeley Electronics recently won a *Guitar Player Reader's Choice Award* and Keeley is now the exclusive distributor for Framptone! Robert Keeley's Time Machine Boost, Keeley Compressor, and his custom, state-of-the-art modifications for vintage pedals continue to receive rave reviews from guitarists around the world. Keeley pedals are used by Aerosmith, Abbey Road Studios, Steve Vai, legendary producer Bob Rock, George Lynch, Peter Frampton, James Burton, and many, many more guitarists and music pros around the world. The Time Machine Boost is a versatile 2 channel, 3 mode pre-amplifier designed to drive your amplifiers into overdrive or saturation. The two channels are labeled "Vintage," and "Modern," with the "Vintage" side inspired by rare germanium boosts like the Dallas Rangemaster. The "Modern" channel is a new +23dB gain, dual JFET transparent signal amplifier. The Keeley Compressor is a superb audiophile and studio grade compressor with true bypass switching and premium metal film resistors

and capacitors for the cleanest Ross clone compressor ever available. Available with a standard Ibanez/Boss style adapter jack and/or battery power, you can say goodbye to that old red Dyna Comp!

Robert Keeley pedal mods include 2 versions for TS9's – the TS808 mod, and the "Baked TS9" for searing hot Tube Screamer tone. Keeley uses the original TI RC4558P chip that appeared in the early TS808's, while increasing the bass response and overdrive range. The result is a perfectly voiced 808 that's cleaner when turned down and produces twice the drive/gain when turned up, with all of the stock 808 character in the middle. The Keeley modded BD-2 is not a fuzz pedal but has the best characteristics of a fuzz pedal, and it's much smoother and more realistic sounding. Other exclusive Keeley modifications include the Boss Blues Driver BD-2 Tube Mod, the PHAT Switch BD-2 Mod, Rat Mods, Boss DS-1 Seeing Eye Mod, Boss SD-1, and Boss Chorus CE-2. For detailed specs, user comments, dealer information, sound clips, and ordering information, please visit the Keeley Electronics website.

*Keeley Electronics, Edmond, OK  
405-260-1385, www.robertkeeley.com*

## K&M Analog Designs – Two Rock

K&M Analog Designs, LLC, was formed in northern California in 1998 by Bill Krinard and Joe Mloganoski. The company brings a combined 65+ years of experience in tube amplification and guitar tone to the boutique amp market. As talented designer/engineer and seasoned guitarist (respectively), Bill and Joe have developed a uniquely toneful, dynamic and affordable line of hand built vacuum tube amplifiers that are instruments designed to completely complement your individual playing style. Each amp is equipped with proprietary custom transformers and coupling caps, the best available new and NOS tubes, and each model has unique build architecture and layout not found in other modern hand built designs. Early K&M customers such as Carlos Santana helped launch the company to the forefront in its earliest days. Current K&M and Two-Rock devotees include John Mayer, Steve Kimock, Mitch Stein, Barney Doyle, Mark Karan, Michael Kang, and Volker Strifler, among others. The company launched its line of Two-Rock amps in the summer of 1999. Past models include the Amethyst Special Indoor Storm Model, Emerald 50, Sapphire 100, Emerald Pro and Topaz. Current models include the Custom and Custom Reverb, Onyx, Opal, and Ruby and LTD recording amplifier. Recently Two-Rock introduced their **Signature** series of amplifiers, by far the most popular of any Two-Rock series to date. Future models will include a single channel clean amp in various power levels. A number of customized versions of the aforementioned have also been built for players seeking the ultimate personalized tone machine.

*K&M Analog Designs, LLC.  
www.Two-Rock.com  
707-584-TONE(8663)  
In Japan: www.Two-Rock-jp.com*

**Koch Guitar Amplification** was founded in 1988 by Dolf Koch in the Netherlands and are known worldwide as a manufacturer of high end boutique guitar amplifiers. They have many models for all

styles of music from the new 20W Class "A" Studiotone combo to the 120W Powertone II head.

All amps are channel switching with two or three extremely versatile channels. They are recognized for having both sparkling clean channels and wide ranging drive/gain channels. They were the first to utilize trim pots on their heavy duty circuit boards enabling anyone to adjust bias with only a screwdriver and voltmeter. Speaker damping switches which when toggled from high to low alter the tone to a more scooped sound. Rhythm volume switch on the footswitch (included) which when engaged drops the level to a pre-determined "Rhythm" level. It's the opposite of a boost and does not alter the lead tone as a result. It so useful guitar players tell us that they're surprised that no has done this before. All amps have Accutronics reverbs and Koch designed speakers that have a sweeter more extended high end. These speakers also handle more power and have a better bass response than almost any guitar speakers available. They are an integral component to the KOCH sound.

Other products include the Loadbox which attenuates a tube amplifiers output without destroying its tone, i.e. no huge loss of high frequencies. The Pedaltone is a semi-four channel, foot operated preamp which has four 12AX7 preamps tubes. One of these tubes acts as a .5W power tube! It has many patch points and output options for almost any application.

Some famous people that use Koch are: Paul Reed Smith, Al Di Meola, Randy Bachman, Buzz Feiten, and Jimmy Bruno to name a few. KOCH also manufactures the 300W EDEN VT300 all bass head and the 200W Sadowsky SA200 bass head on an OEM basis.

*Audionova Inc.  
www.audionova.ca/  
514-631-5787 ext. 22*

## Lollar Custom Guitars & Pickups

According to Jason, he never really set out to become a custom pickup designer and builder. Jason Lollar is a guitar builder on Vashon Island, Washington (near Seattle) who originally began building pickups for his own guitars and a few friends when he couldn't find the tone he was after. The word spread, and now Jason custom builds over 30 different pickups, including Strat, Tele, humbuckers, P90's, custom steels and Charlie Christian-style pickups, all personally designed and wound by Jason. He is especially well known for his P90, Imperial Humbucker and Tele replacement pickups, but he has also designed pickups for many unusual applications...

Recently, Jason was acknowledged by gonzo pedal steel player Robert Randolph for having wound the pickups in his two custom Fessenden pedal steels. And the list doesn't end there – Jason has wound pickups for guitar greats such as Billy F Gibbons, Peter Stroud, Kevin Russel, Rick Vito, Elliot Easton, Duke Robillard, and the Beastly Boys, among others.

Jason is always happy to personally consult with his clients via phone and e-mail to determine the pickups that are right for each player, and TQR recommends Lollar pickups without exception. His Lollar Special Strat pickups are standard equipment in our custom built ToneQuest guitars.

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# Resource Directory

Call Jason or check out all the options available on his web site.

[www.lollarguitars.com](http://www.lollarguitars.com), 206-463-9838

**Mercury Magnetics** The basis of every tube amp's characteristic sound is the unique design of its transformers. Mercury transformers are legendary for their stunning tonal superiority, build quality, consistency, and reliability. We believe in old-world customer service and single-minded focus. Transformers are our only business, allowing us to concentrate on providing you with the best-sounding guitar amplifier trannies in the world.

If your amp is suffering from bland and unexciting tone, then it's time for a transformer upgrade or repair. Here are your options:

## **ToneClone™ Best-of-Breed Series**

**Transformers:** Behind every great-sounding vintage guitar amp is a piece of transformer history. Within any amp line there are usually a large number of transformer variations, inconsistencies and just plain ol' building errors that affect their sound (good or bad). At Mercury, we seek out, study, blueprint and replicate only the best-of-breed transformer designs (including their all-important anomalies) and add these discoveries to our catalog. And we make these incredible tonal selections available to you through our ToneClone™ line.

**Axiom® Series Next-Gen Transformers:** Next-generation guitar amplifier transformers. The Axiom series are in a class by themselves. We've taken our advanced knowledge of modern transformer design and mated it with historically best-sounding designs of the past. Axiom trannies are hybrids that take vintage tone to the next level! More bloom, more overtone color, and awesome tonal depth. If you ever needed convincing as to how outstanding transformers affect your sound, Axiom trannies will astonish you.

**Mercury Vintage™ Transformer Service:** Most vintage transformers have already outlived or are nearing the end of their life expectancies. That's the bad news – now for the good... Mercury will restore, rebuild or rewind your valuable original transformers. Or, we can clone your originals so that you can continue to play your old amp without fear of further "wear and tear."

**Free Transformer Testing And Evaluation Service:** Do you think there might be something wrong with your transformer? Send it to us. We'll test it in our lab and report back to you. Our evaluation procedures are thorough, complete and reliable, and always free. The only transformers that come with a 10-year Manufacturer's Warranty and a Money-Back Tonal Guarantee. Made entirely in the U.S.A.

*Mercury Magnetics*  
[www.MercuryMagnetics.com](http://www.MercuryMagnetics.com)  
[Sales@MercuryMagnetics.com](mailto:Sales@MercuryMagnetics.com)  
818-998-7791

**Midtown Music, Atlanta, GA** is one of our very favorite sources for guitars, amplifiers, effects, and

accessories. Midtown opened in 1988 as a small vintage instrument store, and they now offer a lot of new items in addition to high end used gear. They have a large selection of new custom shop instruments by Gibson and Fender, and they also stock other fine instruments by Martin, Guild, PRS, Larrivee, and Gretsch. The back room is lined with hand wired tube amplifiers by Carr, 65, Dr. Z, Victoria, Fender, Savage, Two Rock, and HiWatt. The staff is experienced and helpful, and they're all players, too! Midtown Music is highly recommended and definitely ToneQuest approved! View a sample of their inventory online or call the store for prices and availability.

[www.midtownmusic.com](http://www.midtownmusic.com)  
404-325-0515

**Nash Guitars** Have you ever thought, "If they would just make a Tele with..." , "I love my Strat but it just doesn't..." "Why don't they make a Jaguar that could..." Well, you've come to the right place. From exotic woods, custom paint, unlimited neck types, custom designed logos, pickup selections, Timewarp aging, or any other feature imaginable – Esquires with hidden neck pickups, Strats with interchangeable pickup assemblies, Custom Shapes — whatever... If you can dream it, we can build it.

Each guitar is a unique work of art, handcrafted by me. The use of 100% nitrocellulose lacquer, high quality vintage hardware, superior woods and a wide variety of pickups and options produce magical instruments that have thus far not been available "off the rack". The level of aging on our Timewarp guitars can be adjusted from "played it once a month at church" to "used to break open a window during a fire in a Louisiana roadhouse."

Bill Nash is an Olympi, WA based builder of aged vintage guitars inspired by Leo Fender. Available through Nash Guitar dealers in the US and Overseas. Please see [Nashguitars.com](http://Nashguitars.com) for information and a dealer near you.

*Nashguitars*  
*Olympia, WA*  
[www.nashguitars.com](http://www.nashguitars.com)  
1-877-484-8276

**Mojo Musical Supply** is the all-inclusive amplifier parts supply house. ToneQuest readers receive an exclusive 10% discount on all Mojo products! Just reference the "MojoQuest304" discount code when placing your order. Mojo specializes in pre-1980 amplifier parts, including a wide range of custom and vintage reproduction cabinets, a line of exact reproduction transformers, and hard-to-find electrical components. Mojo continues to supply a full range of speakers for the guitar market, including Jensen, Celestion, and of course, their own custom Mojotone speakers. The in-house cabinet shop at Mojo specializes in making authentic Fender and Marshall reproduction amplifier cabinets, custom cabinets from your own design, as well as cabinet repair and re-covering. Mojo stocks over fifty different amp coverings and grill cloths to insure that vintage enthusiasts and custom amp creators have a large palette to choose from. Within the last two years, Mojo has become one of the largest vacuum tube importers in the world, stocking over 20,000 tubes. Because they buy tubes in large volumes, their prices remain

very competitive. For completed electronics, Mojo is the east coast distributor for Belov amplification and also the home of Mojotone Custom electronics. Mojo manufactures and markets the Tone Machine amplifier, a powerful and eclectic tube guitar combo. They are also able to offer turnkey and partial component electronics and cabinets for OEM's and builders of all sizes. The future of Mojo lies in their ability to work directly with manufacturers, or bring the manufacturing in house. Our plans for the coming months and years are focused on making quality vintage parts available at even better prices, while assuring that all of their products are of the highest quality.

*Mojo Musical Supply*  
*Winston-Salem, NC*  
[www.mojotone.com](http://www.mojotone.com)  
1-800-927-MOJO

**PLEK** The brand name PLEK stands for a technology which allows the best fret dress and setup work, based on a computer controlled scan.

The Plek is a computerized tool that scans an instrument strung to pitch, generating graphic views of the fret plane, fret heights, fret shape and placement, fingerboard relief radius, humps and bumps — basically everything that luthiers and repair pros have wanted to see well but couldn't, until now. Besides having measurement and dressing capabilities many times more accurate than the human eye allows, the PLEK has two particularly great advantages over manual fretwork.

First, it scans and dresses a guitar while it is tuned to pitch. This is a major breakthrough, since necks are subjected to approximately 100 pounds of string tension. This string tension invariably affects the shape of the fret plane, creating curves and humps that change when the strings are removed for a fret dress. The PLEK identifies precisely what needs to be done for perfect results when the instrument is re-strung, whereas even the most skilled luthier or repair professional must guess about how to compensate for the effect of string tension when dressing the neck with the tension released.

Secondly, the PLEK applies very sophisticated formulas for optimum neck curve or relief, adjusting the calculations for the actual string height and individual string gauge from the treble side of the fingerboard to the bass. Achieving these same results by hand would be lucky and extremely rare at best!

The Plek is now in use by some of the top repair and restoration experts worldwide. We invite you to contact the Plek repair shop nearest you, or learn more about Plek technology at [www.plek.com](http://www.plek.com)

*Plek, Berlin/Germany*  
+49 30 5369-6339, [custom@plek.com](mailto:custom@plek.com)

*Joe Glaser, Nashville/TN*  
(615) 298-1139, [glaserjoetoo@aol.com](mailto:glaserjoetoo@aol.com)

*Gary Brawer, San Francisco/CA*  
(415) 621-3904, [gary@brawer.com](mailto:gary@brawer.com)  
*FretTek, Los Angeles/CA*  
(310) 474-2238, [plek@frettek.com](mailto:plek@frettek.com)

*Philtone, Baltimore/MD*  
(410) 783-0260, [philtone@erols.com](mailto:philtone@erols.com)

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# Resource Directory

*Peekamoose Guitars, New York, NY  
(212) 869-2396, www.peekamoose.com*

*Suhr Guitars, Lake Elsinore/CA  
(951) 471-2334, johnsuhr@suhrguitars.com  
Charlie Chandler's Guitar Experience  
London, UK +44 20 8973-1441  
sales@guitarexperience.co.uk*

*GuitarLabs Scandinavia, Stockholm, Sweden  
Phone: +46 8 644-9480, info@guitarlabs.se*

## RS Guitarworks

RS Guitarworks is your one-stop source for expert finishing, refinishing and aging, complete guitar assembly and repair, custom electronic upgrade kits, pickups, hard-to-find hardware, and more!

Located in Winchester, Kentucky, RS Guitarworks began as a small repair and refinishing shop in 1994. As the word spread among guitarists, our business rapidly grew and today we receive expensive guitars from around the world for aging and refinishing. We offer many hard-to-find vintage replica parts and other specialty items related to vintage Fender and Gibson guitars, and we also custom build complete guitars, including our "Old Friend" Series, "Step-Side" and "Artist Replica" models.

RS Guitarworks Premium Wiring Kits offer a dramatic and immediate improvement over the factory electronics found in even the most expensive guitars. During a year of research and development we tested over 20 different tone capacitors and nearly every type of potentiometer made before developing our upgrade kits, which feature measured CTS pots within 10% of their specified value, and RS Guitarcaps in .022uf and .047uf values made expressly for us by Hovland. Our customers tell us that our wiring upgrade kits impart a fuller, clearer tone than standard factory components, with a smoother, more even and responsive taper from each pot. Additionally, each potentiometer is tested on a digital meter, checked for the proper sweep pattern and sorted and labeled as a neck/volume, neck/tone, bridge/volume or bridge/tone control.

Wiring Upgrade Kits are available in 5 different styles for various Les Paul type guitars, as well as Telecaster, Stratocaster, and PRS guitars, and Explorer and Flying V types. Nearly any other configuration can also be built with a call to our shop. RS Guitarworks is also an authorized Fender, Jackson, Charvel, Guild and Gretsch Service Center.

Please call or visit our web site for complete information on finishing, refinishing and aging of new and used guitars, custom wiring kits, vintage repro parts and repairs.

*RS Guitarworks  
859-737-5300, www.rsguitarworks.com*

**Ruokangas Guitars** Located in Hyvinkaa, Finland, Juha Ruokangas is a custom designer and builder of unique, handmade electric guitars. Many companies today use the terms "hand-made" and "custom-built" to describe expensive

guitars that are built in large numbers in a factory – Ruokangas' vision has always been to design and build instruments completely by hand in a low-production environment using the finest materials available in the world, and uncompromising craftsmanship.

Ruokangas guitars are available with a variety of unique custom options, including four standard neck profiles, three fret sizes and a wide range of finishes, binding, genuine pearl inlay and hardware combinations. All instruments are built using Thermo-Treated wood to impart a vintage look and sound even when new, and specific models feature genuine Arctic Birch figured tops combined with Spanish cedar – an exceptional wood with properties similar to Honduran mahogany. Models include:

### The Mojo

Inspired by many requests received by our customers, the Mojo delivers all the twang you will ever need! Standard features include an Alder body, Rock Maple neck, Thermo-treated wood, high gloss finished body, satin finished neck, 25.5" scale length and 12" fretboard radius. The latest additions to the series - Grande and Supreme - have proven to be the most popular models with the unique semi-hollow Spanish Cedar body and Arctic Birch top.

### The V.S.O.P.

All of us at Ruokangas are big fans of vintage guitars, and the V.S.O.P. offers fans of vintage Strats a bolt-on instrument that plays, feels and sounds like a classic. The V.S.O.P. can be designed with traditional single coils, humbuckers, or both utilizing spilt coils, and all models feature a Wilkinson tremolo tailpiece. The VSOP Supreme takes the Strat concept to the extreme with the Spanish Cedar body and Arctic Birch top, fretboard and pickguard.

### The Duke

The Duke Series covers all the bases – from the stripped-down solidbody Sonic, to the original carved top design that started the Duke Series as the Standard, the striking appearance of the Deluxe with highly figured maple or Arctic Birch top, to the vibrant, woody, semi-acoustic style of the semi-acoustic Artisan.

The best way to experience and appreciate the entire range of Ruokangas models and options is to visit our web site and take the tour! You can custom design any guitar we build online with all available options, and of course, we will be happy to answer your questions and offer our advice via e-mail.

*Ruokangas Handmade Guitars  
www.ruokangas.com  
US contact: Eero Kilpi, New York,  
1-914-316-2414*

**Stewart MacDonald** Stewart-MacDonald offers a complete line of hard-to-find tools, parts, accessories, instructional videos and books for building, repairing, setting up, and optimizing the playability

and tone of stringed instruments. Whether you are just getting started or you're a seasoned luthier, you'll find everything you need in the Stew-Mac catalog, including: fret wire, finishing supplies, glues and adhesives, wood, bodies, necks, binding, tuners, nuts and saddles, inlay, bridges, tailpieces, electronics, pickups, and free information sheets and professional advice! Their friendly customer service and technical support staff are trained to help you make the best product choices, and they also offer an Unconditional Return Guarantee. If you're not satisfied with an item for any reason, simply return it.

Stew-Mac is the leading supplier of innovative products for guitarists and repair pros, and every thing they make is guaranteed to work well, because every product is tested by the professional luthiers at Stewart MacDonald first! The master builders and repairmen on staff include Dan Erlewine – well-known author of guitar repair books and magazine articles, member of the ToneQuest Report advisory board, and a regular contributor to TQR. Dan and all of the experienced luthiers at Stew-Mac personally develop and test every product the company offers, and they are also dedicated to education. The Stewart MacDonald catalog is packed with helpful tips, and the company produces an extensive series of training videos at their facility in Athens, Ohio.

For more information on the entire range of products available, please visit the Stewart MacDonald web site. In addition to their free online help service, your telephone call is also always welcome.

*Stewart MacDonald  
www.stewmac.com,  
1-800-848-2273*

**Toneman** Veteran working guitarist Don Butler is an experienced tech who specializes in servicing and restoring JMI-era Vox tube/valve amps as well as many other vintage British amps including Marshall, Selmer, Hiwatt, Sound City and Orange amps. Don also services and restores vintage tweed, blonde, brown and blackface era Fender amplifiers. Don's modifications and upgrades to vintage reissue Vox, Marshall, and Fender amps have earned him a solid reputation among players throughout the country for achieving dramatically improved, authentic vintage tone from reissue amplifiers. Don uses hand-made Mercury Magnetics Axiom Tone Clone transformers, along with the correct, premium signal path components to bring reissues to vintage specs. He also modifies reissue Vox wahs to vintage specs, and he offers upgrades to Vox Valve Tone pedals and reissue Ibanez TS9's. For the past 6 years, Don has been building the famous Rangemaster Treble Booster, which is an exact replica of the original Dallas Rangemaster unit from the early 60's. In addition to the original treble model, Don builds a full range model and a switchable model combining the features of both Rangemaster units. Don was also the very first dealer for Pyramid strings, and you can count on him to maintain a full inventory of Pyramids at all times.

*Don Butler, Newhall, CA  
www.tone-man.com  
661-259-4544  
10-6 PST, Tuesday-Saturday only*

-continued-

# Resource Directory

## TonePros Sound Labs & Marquis Distribution

Since our first published review article, The ToneQuest Report has enthusiastically recommended the patented TonePros system of guitar components. TonePros tailpieces feature a patented locking design. For years, guitars with stop tailpieces and wrap-around bridges have been cursed by “lean” or tilt on their stud mounts. Since string tension was all that held tailpieces on, the only contact area was just a bit of the edge of the bottom flange, just a bit of the lip of the stud top, and often just as little contact with the intonation screws. TonePros® Locking Studs provide 100% of the contact area of the bottom flange, 100% of the contact area of the stud top, no lean, and dramatically improved sustain, resonance and tone.

TonePros bridge and saddle components feature the “patented pinch” - the lateral pressure that is applied from the strategically placed “tone screws” that greatly reduce the play or wiggle of the bridge posts in their inserts. The posts are frozen in place, resulting in a solid connection between the strings, bridge, and guitar top, transferring more string vibration and resonance to the guitar body, resulting in an audibly stronger, sweeter, woodier type of resonance and sustain. And once your guitar is set up, it’s locked. Bridge height and intonation settings remain intact and exact, even after restringing. TonePros® System II Components are found on the world’s best guitars, played by the world’s best artists.

*TonePros Sound Labs International,  
www.tonepros.com  
www.guitarpartsdepot.com  
818-735-7944*

## Marquis Distribution

At Marquis Distribution, we offer the highest quality guitar parts to fit your needs. We specialize in guitar replacement parts, and hard to find, vintage-inspired and vintage replica parts, including aged TonePros and TonePros Kluson parts, emphasizing your desire to achieve a vintage look and tone at an exceptionally high level of performance. Whether you need to replace one part on your guitar or outfit many guitars with whole new setups, our focus remains on the individual customer and your unique needs.

*www.marquisdistribution.com, 209-845-9579*

**Victoria Amplifier** From our first Victoria to the one we build for you, every Victoria amplifier is meticulously crafted for real musicians and built to be played for a lifetime. We utilize components and manufacturing techniques that are chosen for their proven ability to meet both the sonic and real world gigging demands that musicians depend on. From the real Allen Bradley resistors (new manufacture, not surplus) to the finger jointed pine cabinets, every aspect of a Victoria Amplifier is designed to provide years and years of faithful service and superior tone. With the addition of our new Victorilux and Sovereign amplifiers, Victoria now offers amplifiers with features like reverb, tremolo and high gain circuits that will surpass anything currently available and define the word “tone” for years to come. But manufacturing new amplifiers is not all we offer! Our restoration and

repair department is equipped to turn the most heinous, hacked up old amp into an inspiring gem. Our obsession with period correct components and our real world expertise are your assurance that an investment piece or an old road hawg will leave the shop with all of its tonal potential maximized. The job gets done right at Victoria Amplifier. You can be sure that we at Victoria Amplifier Co. will continue to provide the finest guitar amplifiers available anywhere, at any price. New from Victoria — the Victorilux and Victoriette — the ultimate club amps, plus, the Sovereign — our answer for players seeking true vintage British tone with master volume and reverb at a stage-friendly 35 watts!

*Victoria Amplifier, Naperville, IL  
www.victoriaamp.com 630-820-6400*

**Vintage Amp Restoration** For nearly 20 years, Vintage Amp Restoration has specialized in the complete, period-correct restoration of vintage amplifier and speaker cabinets. Our specialty is Fender tweed amps, but we also stock period-correct materials and parts for many different makes and models of amplifiers and we have extensive experience applying them in the original style, including Marshall, Hiwatt, Vox and Ampeg.

We are also the Number One source for Ampeg replacement parts and restoration, including ‘60s and ‘70s vinyl covering and grill cloth, metal corners, handles, chrome, logos, engraved Lucite, Portaflux latches, shock mounts, dollies, replacement cabinets and parts, and recovering.

In addition to providing pro cabinet restoration, parts and supplies, we offer pro speaker re-coning, new and used speakers, and Vintage Amp Restoration is the source for custom-made authentic Victoria Luggage Co. covers for tweed, blonde and brown Fender amplifiers.

Vintage Amp Restoration founder Gregg Hopkins also co-authored the most detailed and information-rich book ever published on Ampeg amps - “Ampeg - The Story Behind the Sound.” Signed copies of the book are also available at [vintageamp.com](http://vintageamp.com).

For a complete description of restoration services, parts, supplies and pricing, please visit our web site.

*Vintage Amp Restoration  
www.vintage-amp.com  
314-631-5030.*

**Visual Sound** Founded in 1995 by guitarist Bob Weil, Visual Sound is pleased to announce that its product line of high-quality effects pedals has increased, with the release of the V2 Series of effects pedals.

In addition to new, improved versions of the best-selling dual effects pedals – **Jekyll & Hyde**, **H2O**, and **Route 66** – the V2 Series also boasts of a brand-new dual effect pedal, **Double Trouble**, which accurately reproduces the sound of the TS-808 Tubescreamer, but with a Bass Boost switch and far more output volume than the original.

However, the new V2 Series doesn’t stop there. Bob, along with chief engineer R.G. Keen, have designed single-effect pedals from the favorite effects that have made Visual Sound a growing hit in the guitar-playing world: **Son of Hyde** is the same distortion channel found in the acclaimed **Jekyll & Hyde pedal**; **COMP 66** takes the compressor channel from the **Route 66** and lets it ride solo; **Liquid Chorus** is a wonderfully-voiced effect for electric, acoustic, or bass guitar, taken from the **H2O pedal**, but with the second output being a true stereo output – ideal for spacious sounds when used with two amps or a PA system; **Route 808** is designed to take the sound from the TS-808, but with a bass boost switch and greater volume output – along with Visual Sound’s proprietary tone-sweetening ingredients. Last – and far from least, the **Angry Fuzz** is an original effect that will blow away any other fuzz pedal out there; although it has an octave circuit which can be blended with the fuzz, it is not at all like an Octavia or other vintage pedal...playing angry has never been so much fun!

As if that weren’t enough, the 10th Anniversary edition of the **Visual Volume pedal** and the **Workhorse amps (60W212 Stallion)** continue to find their way onto pedalboards and rigs all around the world, as well.

For more information about Visual Sound, mp3 downloads and product information, please visit the Visual Sound web site or MySpace site, or contact Bob Weil personally.

*Visual Sound  
www.visualsound.net  
www.myspace.com/visualsoundusa  
931-487-9001*

**Willcutt Guitar Shoppe** Located in Lexington, KY, Willcutt Guitar Shoppe is one of the world’s premier boutique guitar and amp dealers. Customers may select from guitar lines such as PRS, Hamer USA, Fender, Gibson, McInturff, Gretsch, McNaught, Nik Huber and Taylor. With a vast inventory of over 1500 guitars always on hand, Willcutt’s staff of experienced guitarists can reliably assist you with the purchase of your next dream guitar or amplifier.

Recognizing that a superb electric guitar requires an amp of equal quality, Willcutt offers a tremendous selection of handbuilt amplifiers, including Dr. Z, Victoria, Carr, Bad Cat, Bogner, Mesa, Fuchs, Rivera, and Koch.

Willcutt’s staff of veteran, working guitarists has the hands-on product knowledge necessary to assist players at every level in finding just the right guitar or amp the first time. The store’s website features high quality digital photos of nearly every item in stock, and 99% of all high end instruments are kept in their cases – not on display – insuring that every instrument remains in the best possible condition prior to sale. Pictures and detailed, in-hand descriptions are always available on request.

*Willcutt Guitar Shoppe, Lexington, KY  
www.willcuttguitars.com  
859-276-0675*

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