

we want to admit it or not. High voltages can wear them out much quicker. From a sonic standpoint, it lets the amp breath, gives it some openness, removes the harshness, and I could go on and on with what everyone tells me after they get one.

TQR: Yes. The amps are so much happier with the Amp Maniac and voltage smoothed out. There is a sweet top end and fidelity, creamy roundness and harmonically beautiful sound, as well as a feel in your hands and fingers that makes things so much more inspiring and organically sweet. Our Texas power grid here is something else, we don't even have words for it some days, but thank goodness for the Amp Maniac. We fire it up religiously with everything and it is stellar, let alone for safety reasons. Tonally, it is a magic box. Most players will hear and feel the difference and find it fascinating to shape their tone with. Any last words of wisdom and what is ahead for you?



Aha, you nailed it! One of the things I've sometimes run up against is that the Maniac is rated at 2.5 amps of current. It will handle a Marshall 100-watt stack. Some guys want to run a pair of amps with it. Like a Bassman and a Showman. They worry about blowing a fuse. I've done custom orders where I make a 4.5-amp version, on a limited basis, because finding that transformer is very difficult. If someone wants one, we can discuss that. You can find YouTube videos where the Amp Maniac is demonstrated by my friend Stan Miller. Stan has a channel called Millstap, where you can see the Tone Preserver and an Amp Maniac tested and reviewed. Stan does an in-depth analysis of how the voltage changes within the amp that readers might find fascinating. Stan purchased one of the original Tone Preservers after he saw the review in ToneQuest back in 2009, so things have a way of running full circle. I recently saw a Facebook photo by Joe Bonamassa where he was taking delivery of a long sought after Dumble amp. What do you think was sitting on the floor next to the amp? An Amp Maniac! I usually build six to eight Amp Maniacs at a time, and I have a technologically savvy twelve-year-old grandson and hopefully I can eventually turn this over to him. Quest forth... **TQ** —Riverhorse

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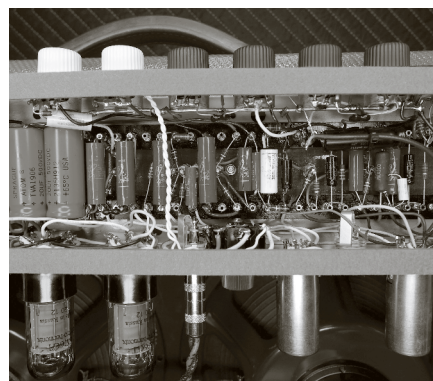
THE PAGANO

Double Chocolate Deluxe Amp



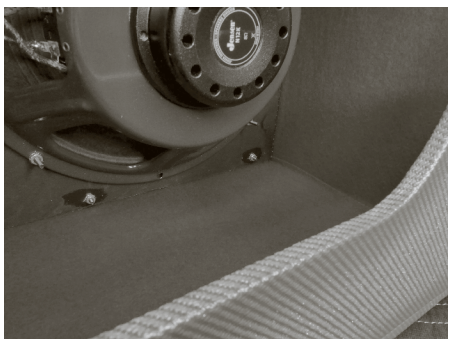
Client and ace guitar player Tim Parnin of Falling Stars, the Sweet Apple bands, the Guitar Riot guitar shop in Cleveland and the Rock and Roll Hall of Fame, brought me his vintage 1963 Fender 6G3 Brown Deluxe for restoration, along with a handmade modern clone of the same circuit. This circuit has enjoyed a lot of attention, due to some high praise from famed player and collector Joe Bonamassa and others. I've had a long love affair with this particular design and used the preamp in a variety of handmade amps with different power sections over the years. It never fails to satisfy. It's unique in the evolution of Leo Fender's designs, gainy and colorful, and has an excellent (though a bit noisy) bias oscillating tremolo. Tim expressed some "wish list" thoughts around it, not suspecting this would get my wheels turning.

For Tim's use, the 18-20 watts these amps normally produce through a single 12-inch speaker was shy of the stage volumes he needed. In my estimation, the clone sounded stiff compared



to the original, due to some parts choices. What could I build him that hit all the marks, along with my own refinements to this excellent design based on my experience?

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We must remember that Leo was mass-producing his product by the standards of his day. The modern builder has the luxury of not cutting

corners in any aspect of a build. I feel that a proper restoration of these classic circuits must never include parts that will degrade their tonal character, and parts choices in a new build must be quite intentional. Components must be selected with an eye toward achieving distinct goals. My top goals are always sonic integrity, refinement where possible, reliability, beauty and lasting value. Lesser considerations are effort required and cost of parts.

Here was the mission:

- Preservation of the original character of the '63 Brown Deluxe 6G3 tone
- More stage volume
- Light weight
- Classic appearance - no radically modern design elements (Plexiglas, etc.)

Simple, right? In the words of my great friend, mentor and occasional collaborator J.C. Morrison, "There are a million right ways to do everything." With those words echoing in my skull, I began my own attempt to bring Tim's preferences and a few refinements to this enduring design by Leo.



The Build Features

- Finger-jointed pine cabinet with layered gold sparkle and aged shellac finish. Multiple thin layers of shellac make a great sounding finish that is also non-toxic and durable. It consists of pulverized insect shells and pure alcohol as a solvent, which dries out fully leaving a hard shell, and is

commonly used for musical instrument finishes for both violins and guitars. There is no vegan option that works quite as well.

- In every build, there is at least one "happy accident." I incorporated the gold sparkle in the center of the panels to lend a unique and elevated appearance, but to not stray far from the classic looks that Tim prefers. The gold sparkle is not immediately obvious but becomes very lively and bright when stage light hits. A real "wow factor." As it turns out, Tim's favorite music is glam, and T. Rex and Mick Ronson are some of his favorite artists and musical inspirations. So, was this a happy accident or signals from the ether? You decide.
- A wool felt liner in complimentary red color serves to soften the back wave in the cabinet. This is a trick I learned from some Japanese horn-speaker builders that do incredible DIY cabinets for single driver hi-fi speakers. It also serves as a gasket for the sides of the floating baffle, which is anchored to the cabinet only at the top and bottom. I've found that friction from baffle edge vibrations can cause objectionable noises, especially when miked in the studio. This layer of felt addresses that shortcoming.
- A handmade custom heavy leather handle by Bob Schell of Brookwood Leather is more durable and beautiful than the plastic counterparts that are currently offered on production amps. A canvas "Victoria Luggage" type case refers to the original tweed cases that were offered as an option.

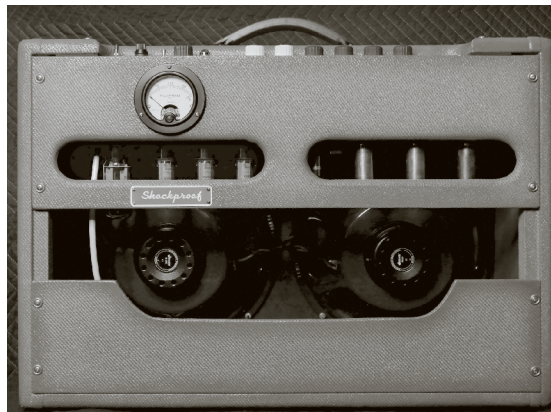


- Polyester film and foil coupling caps as in the original circuits which employed Ajax blue molded signal capacitors. The modern reissues by SoZo which I used in this build, have a somewhat different sonic character than the originals due mostly to their lack of hard encapsulation, but have a pleasing depth and musicality. Caps "sing" when musical signals are run through them, and materials matter quite a bit as they have different sonic signatures. Likewise, they have internal resonances that can be heard and vary with geometry and encapsulation materials. The Ajax caps were encased in a very hard plastic that, to my knowledge, has not been duplicated in modern types. But there are a number of excellent candidates these days in the film-and-foil arena.

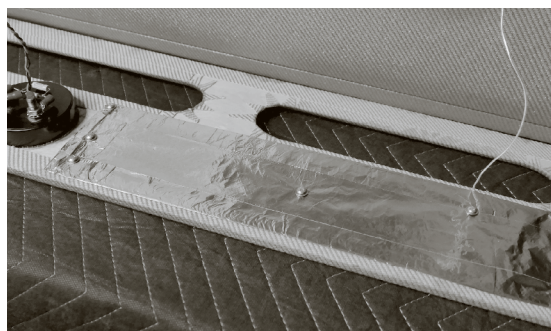
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- Carbon composition resistors in direct signal path, and mil-spec Wirewound resistors in power supply. Carbon composition plate load resistors are essential to a Fender restoration or Fender type build, but in the power supply Wirewounds offer distinct advantages that won't negatively affect tone and are less prone to drift and noise.
- Vintage style electrolytic capacitors with similar formula and ratings as the original Fender type. Modern electrolytics have their place in modern amplifiers and hi-fi circuits, but not in classic Fender restoration or Fender type builds. Yes, modern capacitor technology is vastly improved. We see caps with vanishingly low ESR, higher current handling and ratings of 10,000 hours or more as opposed to the 2000 hours accorded to vintage types. For hi-fi upgrades or modern designs, they are excellent! In this case we are seeking a preferred sound, and that sound is altered considerably by using those types.
- A handmade brown phenolic turret board for component mounting, mounted to the chassis on anti-vibration rubber isolation mounts. The vulcanized paper eyelet boards that Leo used tend to warp over time due to moisture absorption and constant heating and cooling, causing intermittent scenarios. They can also become conductive in some cases. Phenolic turret boards eliminate those possibilities. The grain of the layered linen in the resin has a beauty that matches the classic look and feel of the build, and the stability and electrical properties are top notch.
- Vintage type paper wound 40-watt output transformer with switchable 4/8/16 ohm taps for use with outboard cabinets. A negative feedback control on the top panel to dial in cabinet resonance, variable from "loose" to "tight" control of speakers. Speakers have a dialogue with the output stage of the amplifier! This is referred to as "counter-electromotive force" or "back emf." As such, an adjustment pot is useful to tune this nexus by ear per cabinet or speaker type.
- Jensen Neodymium speakers on board for smooth sound, high power handling and light weight. The whole build weighs in at 32 lbs., easy to carry. The Neos have a tiny magnet structure that belies their 100-watt speaker power handling capabilities.
- 4 x 6V6 power tubes in the power section yielding 36 measured watts at clipping (a straight-up doubling of the original 6G3 power section), easily adjustable up or down with change of rectifier tube and rebias. Operating points throughout the circuit landed exactly to the Fender schematic with a 5U4GB fitted. 2 x 6L6GC could also be fitted as a preference and will preserve correct matching to the speaker load.
- Bias meter with locking activation switch for quick verification of power section operating point, or field tube replacement. The fitted Weston meter was made in the

'50s, bought at a ham radio fest in the '80s, but finally found a home in this build. It's rugged and beautifully built, a throwback to a time when quality was foremost in the construction of measurement equipment. I have sourced modern equivalents by Simpson for subsequent builds. They bear no resemblance to the common plastic Chinese product of today.



- Chassis is mounted with thick vibration absorbent 70 Durometer Sorbothane sheet gaskets to isolate electronics from vibration. Sorbothane is a unique plastic that acts vibrationally as a liquid when loaded correctly and is used for isolating industrial machines from the floor, among other things. Combos have a very high sound pressure level inside the box where the chassis is mounted and isolating the chassis from vibration can extend tube and component life. Thick felt gaskets are also employed at all back panel/chassis contact surfaces to quell objectionable rattles at higher sound pressure levels.
- Back panel shielding is constructed of layered copper and faraday cloth, which, unlike conventional shielding, is capable of blocking cell phone signals. Original tweed amps have an asbestos panel (!) and no shielding. Certainly, the electromagnetic environment of the 1950s was much cleaner than today. Although a single panel on the rear cover alone cannot be 100% effective at blocking electro-magnetic interference like wireless modems and cell phones, it provides at least some level of protection from radiated noise.
- Tremolo footswitch and tremolo circuit modified to reduce the "motorboating" at the deeper settings that are a characteristic of the original 6G3.



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- And finally...a medical grade power cable that is virtually indestructible, and old school lead bearing eutectic solder used throughout. We needn't worry about this build hitting the landfill and poisoning ground water - it's built to last. Non-eutectic solder forms a bond at a range of temperatures, as opposed to eutectic solder which has a strict melt point and bonds properly and reliably at a single temperature. It's the preferred solder for military applications.



That's the rundown! And you know I put a Mullard 12ax7 in V1 and also gave Tim a sweet Telefunken to roll and taste test tonally, as well. As you can see, some of my choices were driven by repair experience and seeing things that commonly break over time, some choices were driven by tips gleaned from high end audio building, some by studio experience, and others were just meant

to be. I'm super grateful to Tim for making this build possible and look forward to any final tweaks, if necessary. After all, the stage is the final destination for this gigging amp and leeway for adjustment is baked in.



Tim Parnin Chimes In For The Record

Tim Parnin not only plays in numerous bands such as Falling Stars and Sweet Apple, he is also the Rock and Roll Hall of Fame Vice President of Digital Technology. His music has been featured on the Jon Stewart Show, MTV, Sons of Anarchy and more. He also owns one of our all-time favorite guitar stores, Guitar Riot, in Cleveland, Ohio. Tim chimes in on his new Pagano amp.



photo by Amber Patrick

Blackie, this is great! A perfect summary of such a phenomenal amp and fun project! It truly is an amazing artistic and technical accomplishment. I fired it up the first time and it sounded freakin' amazing. The guy next to me said, Geezus, it sounds like the Who! I'm excited to spend time with it and kick the tires. Thanks for all the stellar amp, Blackie. Suffice it to say I'm blown away by your work, creativity, and attention to detail.



It's my favorite amp! Through the years, I've been lucky to acquire some desirable Fenders from the '50s, Marshalls and Vox from the '60s, and reputable boutique amps—and comparatively, my new Blackie custom tweed crushes. It sounds like rock and roll—very musical, warm, responsive, and full. I first plugged in a Strat and noticed the beautiful clean highs and warm substantive low end; it was both musical and spanky! I was amazed at how responsive it was as I toggled between the three pickups. When I cranked it up a bit, it reminded me of the memorable guitar tone of Ron Wood on The Faces albums. Next, I fired it up with a 1963 Gibson LP/SG and let it rip. When I tapped on a Klon it sounded like a The Who live concert in the 1970s. When you turn it up, I dig how it has a slightly percussive thrust, like a great Marshall, rather than immediately cascading into Crazy Horse fuzz like many lower-watt Tweeds.

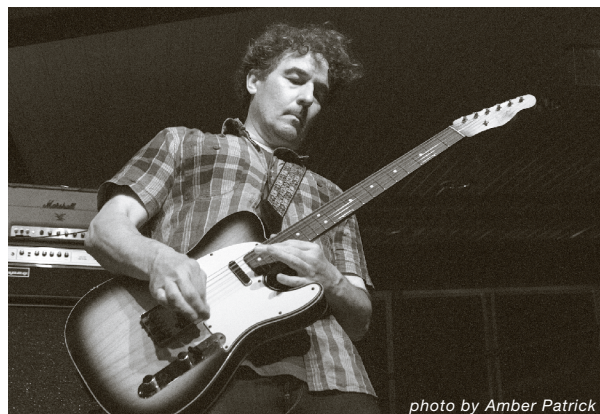


photo by Amber Patrick

The tone and configurability of the amp is incredible. The negative feedback dial allows me to fine-tune gain, brightness and sag based on each guitar and each pickup. I view this amp as a responsive instrument in the same way that I view an electric guitar. Very inspiring! Cosmetically, it is next level. Considering the aesthetic and build quality, this amp belongs in an art or industrial design museum. It is a standalone beautiful art piece; the result of Blackie's labor of love acquired through decades of passion, artfulness, technical experience, and his golden ear. Blackie over-delivered on my custom build and I am grateful.

Based on our results with this build and the amount of fun I had making it, I've decided to do a strictly limited edition run of four more in different colors with the above features. Each build will be unique and named for the person commissioning it. Contact me for details and Quest forth... **TQ** —Blackie Pagano

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