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Author	Thread
<p>Dave Pactow Administrator LP Forum Founder</p>  <p>Registered: Jul 2001 Location: Connecting with the universal forces that surround us all Posts: 3597</p>	<p style="text-align: right;"></p> <p>Anyone build the Angela guitar amp?</p> <p>I've always been curious about this amp that is on the Angela site, the super single ended guitar amp. Anyone here ever build one?</p> <p>----- Angela Instruments Super Single-Ended 6V6 Guitar Amplifier Project So, you dig the single-ended 6V6 sound but a Champ or Princeton just isn't loud enough for your needs? Here's a project for you! The Angela Super Single-Ended amp! This little beast is more than twice as loud as a single 6V6 amp, and more than twice as nasty. Basically, the circuit is very similar to the Princeton project on this site but we've pumped up the output stage and the power supply. If one 6V6 sounds good, WHY NOT USE TWO OF 'EM IN PARALLEL SINGLE-ENDED? If one 5Y3 is enough for the power supply, let's try two of 'em parallel like some of the old hi-fi amps used. This amp also has yet another unique feature you have a choice between two different input tube types. Go for a classic, cutting 12AX7 sound OR an extra fat, smooth octal 5691/6SL7. No, you don't have to rewire the amp; just pull out one type and put in the other in the 'alternative' socket you've installed right next door. We've also given you some more tonal choices: there's a BRIGHT/DEEP switch as well as a cathode bypass switch that lets you choose between a tight, classic twangy Fender sound and a more full bodied cranked VOX tone. In our prototype amp we used an Audio Note EXPERIMENTER 2.5K single-ended 15W output but you can use anything that fits, between 2.5K and 4K or so with good (but different...) results. Hammond and other suppliers make output iron that'll work great. Check out the NEW 125ESE, etc on our Hammond pages. If you're really, really broke you can scrounge suitable iron from old radio/phono junkers or even use half of a push-pull transformer. Just remember that the primary impedance required is half that of a Champ, since there are two output tubes in parallel. We've used a Fender Deluxe reissue power transformer, putting out 337VAC per side under load, resulting in around 370VDC on the plates of the 6V6GT output tubes. Any 'combined plate and filament' type with similar specs will work. Look for close to 335VAC on the high voltage tap if you want the amp to "grow!" but not much more unless you've got a barn full of good 6V6GT socked away! A transformer with a high voltage current rating of about 150-200mA is adequate, with 5V/3A for the rectifier tubes and 6.3V/3-4A for the other filaments. See the TRANSFORMER pages of this Web site for other choices. Most of the other parts for this project are similar to those used in the single 6V6 amp project shown in our '96 Catalog. I recommend using vintage style parts at first; electrolytics, carbon resistors and such. Later, you can try film caps and more exotic stuff.</p> <ol style="list-style-type: none"> 1. Mod Number One. Worried about burning up 6V6GT power tubes? No problem! Just yank out one of the 5Y3GT rectifier tubes and the B+ will drop down to 350VDC, plus you'll get a softer sound with less "drive." 2. Mod Number Two. Lower the hum inherent in this sort of SE circuit by jacking up the value of the first filter cap (before the choke...) from 40uf to 80uf/450VDC. We will also try fooling around with a hum balance pot and maybe even regulated DC on the filaments and report here later. <p>We had some questions about the connections between the 6SL7 and 12AX7 tube sockets, so we have included some detailed instructions on this:</p> <p>CONNECTIONS BETWEEN THE 6SL7 AND 12AX7 TUBE SOCKETS</p> <p>6SL7 SOCKET LUG #1. A green wire runs between the 6SL7 lug #1 and 12AX7 socket lug #2, where you will also find the hot wire from a shielded two-conductor cable. Note that there is no connection of the shield in this area, the wire is simply stripped back and the shield braid is cut flush, well away (.25 inch or so) from the inner hot wire. This shielded cable runs under the left side of the circuit board up toward the volume pot where it connects.</p>

6SL7 SOCKET LUG #2. You will find two blue wires soldered to this lug. One blue wire runs between the 6SL7 lug #2 and 12AX7 socket lug #1. The other blue wire runs between 6SL7 lug #2 and the turret terminal board junction of a .022 signal capacitor and the 150K 1W resistor. 6SL7 SOCKET LUG #3. You will find two yellow wires soldered to this lug. One yellow wire runs between the 6SL7 lug #3 and 12AX7 lug #3. The other yellow wire runs between 6SL7 lug #3 and the turret terminal board junction of the positive end of a 25uF/50VDC capacitor and a 1.5K .5W resistor. 6SL7 SOCKET LUG #4. You will find one green wire and the hot wire from a shielded two-conductor cable connected here. Note that, here again, there is no connection of the cable shield in this area, the wire is simply stripped back and the shield braid is cut flush well away (.25 inch or so) from the inner hot wire. This shielded cable runs under the turret terminal circuit board up to the volume pot where it connects. The green wire runs from 6SL7 socket lug #4 to 12AX7 socket lug #7.

6SL7 SOCKET LUG #5. You will find two blue wires soldered to this lug. One blue wire runs from 6SL7 lug #5 to the top end (from underneath) of the turret terminal board where it connects with a .022 signal capacitor and a 100K .5W resistor. The other blue wire runs between 6SL7 lug #5 and 12AX7 lug #6.

6SL7 SOCKET LUG #6. You will find two yellow wires soldered to this lug. One yellow wire runs between 6SL7 lug #6 and 12AX7 lug #8. The other yellow wire runs between 6SL7 lug #6 and the bottom end of the turret terminal board where it connects with a 2.7K .5W resistor and a short ground buss to three other turret terminals.

6SL7 SOCKET LUG #7. You will find two green wires soldered to this lug. One green wire runs between 6SL7 lug #7 to 6V6GT socket lug #7. The other green wire runs from 6SL7 socket lug #7 to 12AX7 socket lugs #4 and #5 (yes, this wire is soldered to BOTH of these lugs).

6SL7 SOCKET LUG #8. You will find two green wires soldered to this lug. One green wire runs between 6SL7 lug #8 and 12AX7 socket lug #9. The other green wire runs between 6SL7 socket lug #8 and 6V6GT socket lug #2.

SOME OF YOU HAVE ASKED US FOR A 'PARTS LIST'...HERE'S HOW THE PARTS ON THE BOARD RUN FROM LEFT TO RIGHT (STARTING WITH THE FILTER CAP NEAREST THE POWER TRANSFORMER)...ALSO THE LONE RESISTOR AT THE BOTTOM OF THE BOARD...

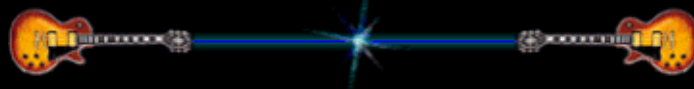
1. Sprague Atom 80uF/450VDC polarized axial lead electrolytic, anything close will work fine but make sure that the rating is 450VDC or greater. Please note from our commentary above that we started with a 40uF capacitor in this position on our prototype, so you may want to try that value first and see if you prefer the sound. Actually, any value between 40uF and 100uF will work fine, with different sonic results. A higher value cap here will give a 'tighter sound' with a bit more bass and less hum, a lower value cap will result in more 'slop' and harmonic content.
2. Sprague 16uF/475VDC polarized axial lead electrolytic. 20uF, 22uF or anything 'in the ballpark with a **voltage** rating equal to or greater than 475VDC will work fine. You can also use metalized film caps like Angela Fast Caps, SCR, Solen, etc.
3. Another Sprague 16uF/475VDC or something close.
4. 10uF/100V polarized axial (radials are OK if the leads will reach...) electrolytic, any OK brand will do. You can also use Black Gate, ELNA CERAFINE, Nichicon Muse or other audionut capacitors.
5. 250 ohm 5W resistors. Wirewounds are cool; try to find something that says BROWN DEVIL on it for the karma, right? Metal oxide will do if that's all you can find.
6. 220K .5W resistor, carbon composition, Riken, whatever.
7. .022/600VDC signal capacitor, old Mylars are cool, Angela Tin Foil signal caps, paper in oil caps if you're rich, etc.
8. 100K .5W resistor, carbon composition, Riken etc.
9. 150K 1W resistor, carbon composition, Riken etc.
10. Another .022/600VDC signal capacitor.
11. 1.5K .5W resistor, carbon composition, Riken etc.
12. Sprague Atom 25uF/50VDC polarized axial lead electrolytic.
13. 2.7K .5W resistor, carbon composition, Riken etc.
14. Another 25uF/50VDC Sprague Atom.
15. .68/250VDC signal capacitor. Old Sprague Mylar, Angela Tin Foil, SBE, etc. 600VDC caps are probably the easiest to source so don't hesitate to use those.
16. 10K .5W resistor, carbon composition, Riken, any other good resistor.

There's a couple of 1.5K .5W resistors on the power tube sockets. Carbon composition, Riken, etc. will do just fine.

You'll also need a .0047/600VDC and a 47pf/500VDC for the tone circuit. I prefer old Mylar Spragues but if you're forced by circumstance to use modern silver mica, SBE, etc. it's OK. It really doesn't matter that much. This is a good circuit and it'll sound fine no matter what type of signal caps you'll use.

Dave Paetow

Les Paul Forum Founder



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07-24-01 10:21 PM



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NewOldCokeDave
Administrator
Treasurer



Registered: Jul 2001
Location: Land of Nod
Posts: 1877

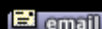
I've been looking at that one for years myself. I was particularly interested in the switching input tubes, but have never gotten around to it.

Are you seriously thinking about building one?? Let me know as I have most of the componenets in stock and can build you an eyelet board with G10 if you want...

-NOCD

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07-24-01 10:37 PM



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Dave Paetow

Administrator
LP Forum Founder

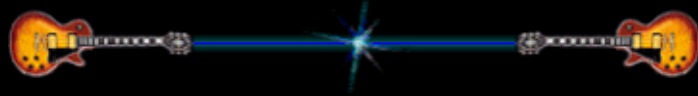


Registered: Jul 2001
Location: Connecting with the universal forces that surround us all
Posts: 3597

I've got an beat old '50's tweed **Champ** cab with no chassis laying around, wonder if it would fit? Probably too tight.

Dave Paetow

Les Paul Forum Founder



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07-25-01 12:32 AM



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RICH

Lord of the Flying V



Registered: Jul 2001
Location: Z' HA' DUM
Posts: 3671

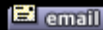
Man my brain hurts.:X



"Someone set up us the bomb"

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07-25-01 05:21 AM



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NewOldCokeDave

Administrator
Treasurer



Registered: Jul 2001
Location: Land of Nod
Posts: 1877

You may be able to squeeze a **champ** size chassis in there.
You'll need 4 octal holes and one nine pin.. Maybe a folded aluminum BUD box will do it.. Let me know I have the manual punches as well .
Could be a pretty cool project. You don't need that much room to clear 5Y3, 2 6V6, 1 6SJ7 and one 12AX7
Mouser probably has a perfect size chassis for that.. about 10" long, 4" wide about 3" deep??

Damn RICH, dude.. I told you to keep your head out of the microwave.. You can watch the popcorn from the OUTSIDE too, man!! That's why the headaches, dude!!

-NOCD

Last edited by NewOldCokeDave on 07-25-01 at 05:38 AM

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07-25-01 05:36 AM



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Tonefiend

Fiendish One
Forum Moderator



Registered: Jul 2001
Location: The fifth axis
Posts: 2391


I know the info and technology exists for a electronic bonehead like me to put an amp together not knowing anything, but I need to exercise some constraint here. This is the last thing I need to think about to get me sidetracked!

Ian Anderson



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07-25-01 06:04 AM

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Snags
Sir Snagsalot
Reluctant Moderator




Registered: Jul 2001
Location: I'm on the top of the world looking down on creation
Posts: 6023

Distract on this, bonehead!



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07-25-01 08:58 AM

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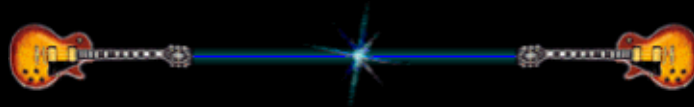
Dave Paetow
Administrator
LP Forum Founder



Registered: Jul 2001
Location: Connecting with the universal forces that surround us all
Posts: 3597

The next time I run to the electronics place, I'll look and see what they have for premade chassis.

Dave Paetow
Les Paul Forum Founder



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07-25-01 04:19 PM

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NewOldCokeDave
Administrator
Treasurer




Registered: Jul 2001
Location: Land of Nod
Posts: 1877

Cool.. If you need any help / parts for it let me know..

-NOCD

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07-25-01 05:07 PM

 email

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DrBob
Les Paul Forum Member



Registered: Mar 2002
Location: Chicagoland
Posts: 357

just found this thread. yeah, i built one of these. i used the hammond universal SE/PP OT. the amp is essentially nothing more than a tweed princeton with a second output tube wired in parallel. i went a bit farther and installed a multipole rotary switch to allow switching of the amp topology from single ended to push pull, so you could basically go from the DeuxChamp (R) to Deluxe with a flick of the wrist.

Gentlemen... Start Your Engines!

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05-29-02 04:22 PM

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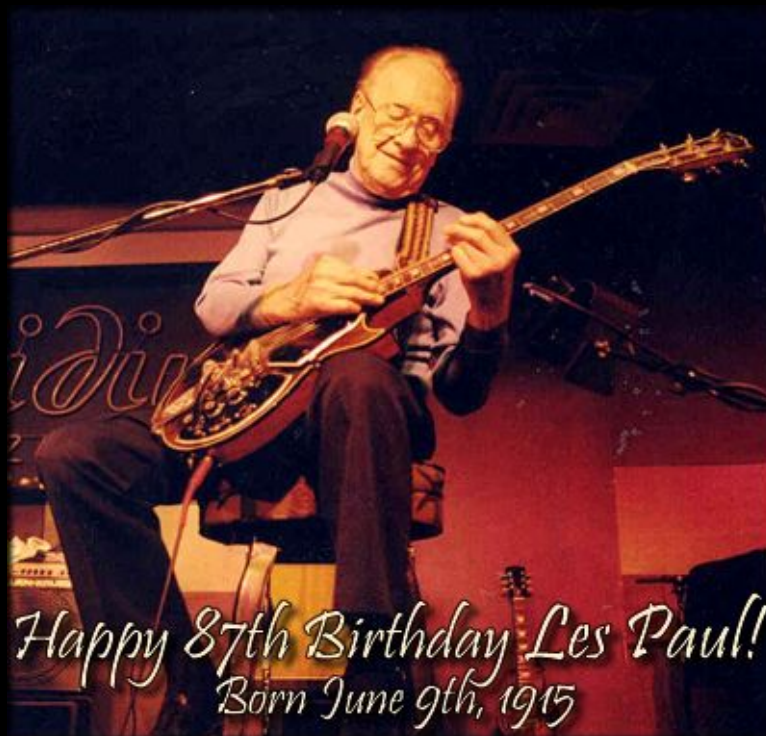
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[Dave Paetow](#) ~ Administrator / Founder & Host

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