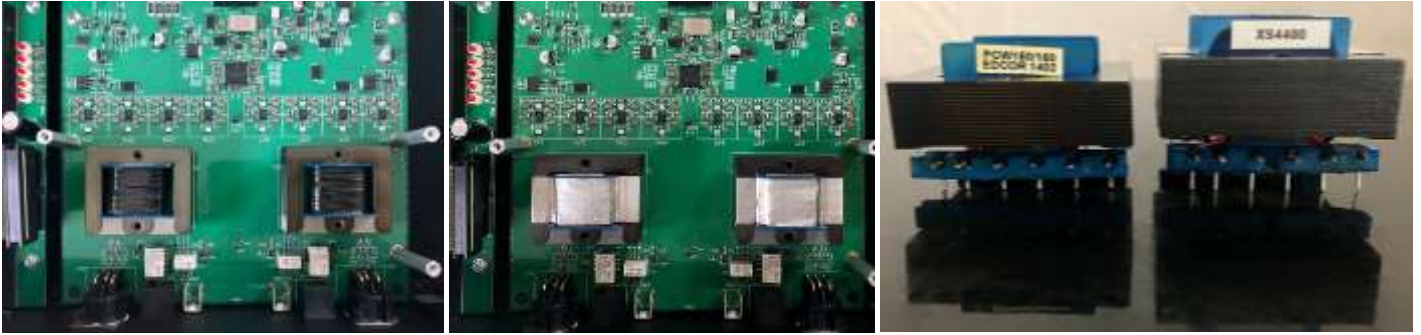




[yuriy](#)

Hi guys. I did it. The standard transformer on my [DS](#) was replaced with XS4400. The result is fantastic!



This is a regular [DS](#): https://www.edcorusa.com/pcw_series_26

And this is new: https://www.edcorusa.com/xs4400_46

My impressions after 180 hours of “burn-in”.

- Macro and micro dynamics have increased.
- All sounds have become more intelligible and tangible. Against their background, the space and silence in which they sound is much better noticeable)
- Image localization and focusing have improved significantly.
- The frequency range in the lower register has expanded, its amplitude has increased, and at the same time it has become more informative.
- The timbre accuracy has increased, this is especially noticeable on acoustic instruments, they have more shades and nuances.

But the most impressive thing is the VOICE!

As a result, [DS](#) enters the Premier League without alternative)

P.S. I listen to [DS](#) at 65-75% volume. At 100 I like the sound less and don't like it at all if I use the “FIXED” option.



[tedsmith](#) Chief digital dude

Also, note that it isn't easy to replace the transformers if you don't have rework experience. The vias in the [DS](#) boards don't have thermal reliefs, it'll take some heat both to solder and to unsolder.

It's probably best to clip the pins on the current transformers (probably destroying the transformers) so you can remove the pins one by one, then use solder wick, a solder sucker, etc. to clear the holes, and then good technique to solder the new transformers in. You could accidentally lift the pads off of the board and be in trouble (and hurt the sound.) If you don't understand what I said, don't try this mod yourself.



[jazznut](#) Long time contributor

Any other easy solder out / solder in tweaks?



[tedsmith](#) Chief digital dude

Most items on the boards are surface mount, I doubt that they are easy to replace by most people. That's why I recommended the transformers and replacing the analog board power supply as the two most user friendly mods.



[jazznut](#) Long time contributor

Thanks Ted, but the analog board power supply is not such an easy plug and play mod, where a certain type fits in exactly, right? I may have to examine the thread again.



[tedsmith](#) Chief digital dude

You just have to stick a separate quality 12V supply in the box somewhere (or outside for that matter) and plug the analog card into it (with the correct polarity, of course.) It's best if the supply goes on and off with the DS's back switch.



[jazznut](#) Long time contributor

Great! In case there's a concrete recommendation from you, that would be perfect, otherwise I scroll the thread what others tried...



[tedsmith](#) Chief digital dude

No, no specific recommendation(s) from me on this.



[vee](#)

Do you have a part number for the 12v connector on the analog board? I'm thinking of picking up a Farad with a GX16-4 terminated cable and route a mating GX16-4 connector mounted on the [Bridge](#) plate to the 12v on board connector.

Not really sure [how to](#) tie that connection to the power switch on the DSD, however. What happens if it's not powered on at the same time? The Farad is on a delay anyways because of the supercapacitor charging.



[tedsmith](#) Chief digital dude

You won't cause harm to the [DS](#) if you don't hook up the analog supply to the DS's switch, but if you don't turn off the analog before the DS (and power the DS on first) you'll be putting DC thru the output transformers. That won't hurt anything, but the sound might be muffled for a hour or so.

Do make sure that either the analog supply is isolated from it's power supply, or that you plug the external supply into the same outlet as the [DS](#).

Ignoring workability differences with differing solder, silver solder or at least lead free solder will probably sound better. The analog board uses less than an amp.

Also, note that it isn't easy to replace the transformers if you don't have rework experience. The vias in the [DS](#) boards don't have thermal reliefs, it'll take some heat both to solder and to unsolder.

It's probably best to clip the pins on the current transformers (probably destroying the transformers) so you can remove the pins one by one, then use solder wick, a solder sucker, etc. to clear the holes, and then good technique to solder the new transformers in. You could accidentally lift the pads off of the board and be in trouble (and hurt the sound.) If you don't understand what I said, don't try this mod yourself.

The [DS](#) analog board power connector is the TE Connectivity 350428-1:

<https://www.digikey.com/en/products/detail/te-connectivity-amp-connectors/350428-1/293716>

Near the bottom of the DigiKey page are the Mating Products that you could choose from.



[minimalist](#)

How did you deal with the two extra windings on the XS4400? (or am I missing something here?)

FWIW, I shielded the output transformers on the [DS](#) similar to the way they have done it on the XS4400 and while clarity seemed to improve (reduced RF noise, perhaps?), dynamics were reduced. I ended up removing the shields.



[tedsmith](#) Chief digital dude

The PC board is wired to put two windings in parallel on both the input and the output. The pins on the older transformers were "magically" wired to be compatible with this.



[WATChad](#)

I'm looking for the quality 12V supply and understand it will connect internally or externally via an appropriate mate to TE Connectivity 350428-1 Anybody else thinking around this mod? Which mate did you pick (if any)?



[tedsmith](#) Chief digital dude

The mate choice is purely color preference, there are no pins in the connector, you'll have to buy them separately (e.g. 350550-1 (tin) or 350537-6 (gold)) You'll also need a crimping tool, and perhaps an extraction tool 539764-1. The 539764-1 is ridiculously expensive, perhaps you can find the obsolete 318851-1 somewhere. If you don't make any mistakes or you buy extra parts to experiment with you don't need the extraction tool. I did two wrong before I got it down.

If you are careful you can probably also solder the crimp, tho that's not really necessary.

Like always, it's worth reading at least the datasheets before delving in. DigiKey (and other distributors) have links to the datasheets on the details page for the parts.



[yee](#)

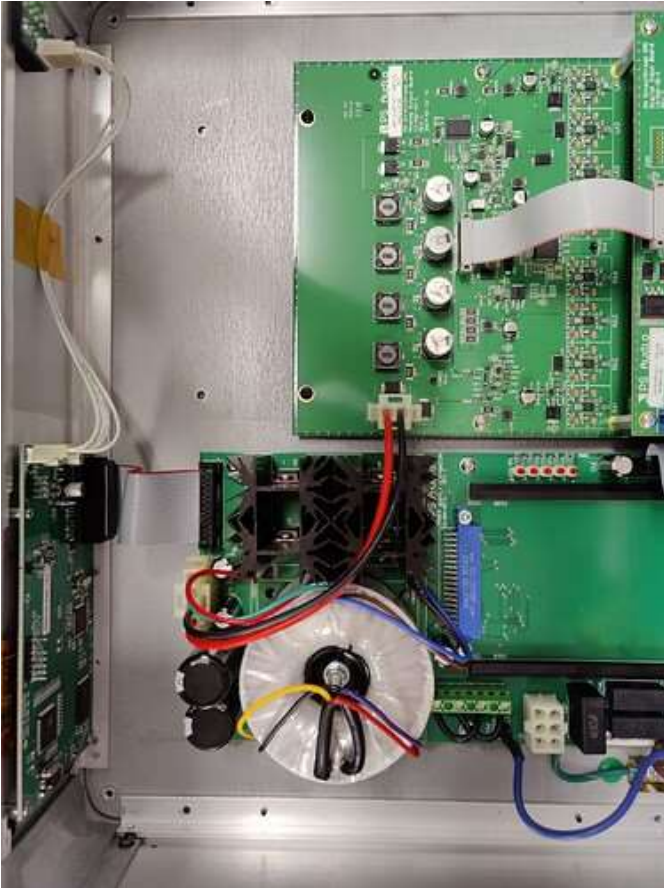
I just completed a test version of my 12v Farad mod. <https://faradpowersupplies.com/shop/en/home/51-22967-super3-power-supply.html>

Initial test listening reveals more authoritative, controlled bass with a slightly wider, more enveloping soundstage. There's more precise sound placement, finer micro details, especially with guitar plucks.

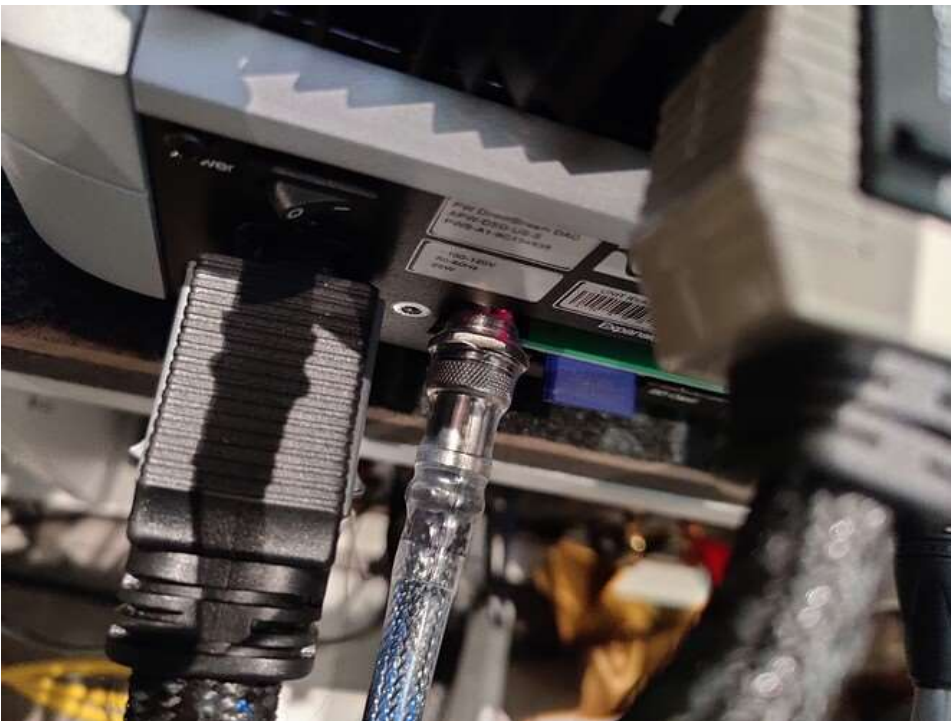
I'll go back in a couple weeks to finalize the mounting plate because I need a large enough drill bit to punch the hole in the [Bridge](#) placeholder plate. I'm contemplating finding a star [quad](#) 14awg wire for the next build to match the 4 pin connector.

The new wire is doubly shrink wrapped and double sided tape mounted to the digital board for now. I used 10awg fine stranded copper wire with silver [Cardas](#) solder to a Farad Level 2 cable. Power on sequence is Farad first to blue light then DSS back switch.

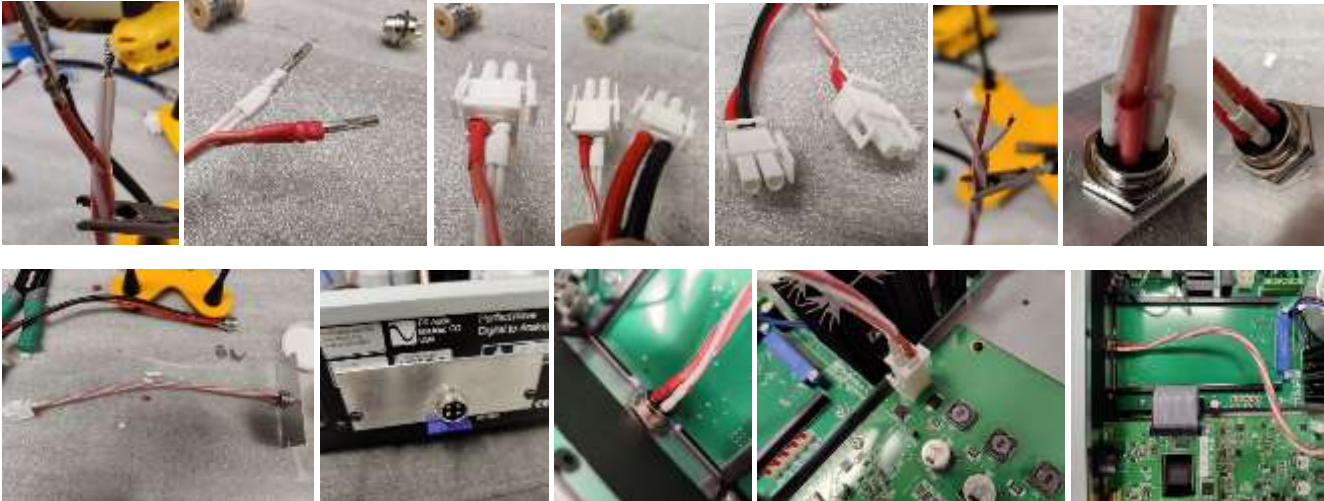
Pre:



Post:



Version 2 – 4x18awg star [quad](#) cable and custom aluminum back plate for the Farad Super3. Cable was recommended by Chris at VH Audio. Backplate off Amazon cut with grinder and drill.



[tedsmith](#) Chief digital dude: Cool. I almost recommended that very hookup cable



[vee](#) That's the same connector found on the Super3, a GX16-4 connector. The Farad can be ordered with a cable that terminates to GX16-4 on both ends. When you order the Super3, shoot Mattias an email to let him know what you're doing and he can add a set of connectors to your order.

[vee](#) It's a 1.5 hour DIY job with all the right tools. First impressions... just turned the whole system on, so it's not all warmed in yet, but...

1. The midbass is more punchy and I like it. The subbass is more controlled.
2. Pluck sounds have a more defining leading edge.
3. All sounds feel more alive with more presence.
4. Soundstage is deeper and runs further back. Width is similar to before. Instruments in space are more defined.
5. I've been running Snowmass, so will switch to Windom later.

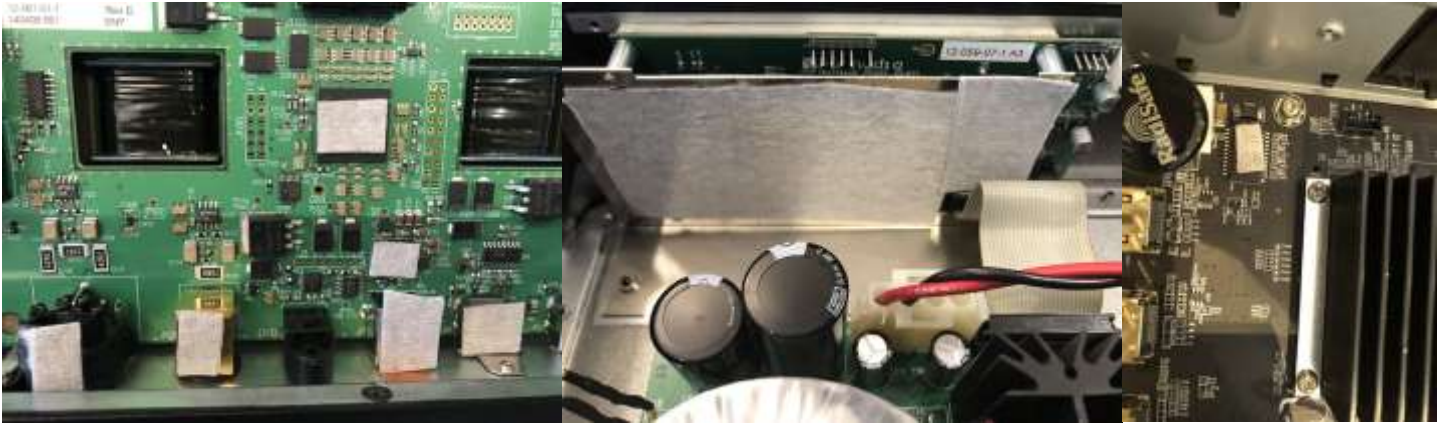
I recently switched to fixed LOW output at 106 and I thought the sound lost some oomph, but it's now quite alive even with attenuation. The DSD noise floor is practically nil.

Some install notes:

1. I used 500 degrees on my solder station. The solder cools FAST when extracting, so you really need fast heat and fast extract to prevent damage. I used a medium point tip. Flat tip doesn't work.
2. You won't remove all solder, so when there's a partial extract, I resolder and tried again until there was 95%+ removed. Then I use the solder iron to push the pin away from the side it's still soldered to.
3. Don't force it when trying to remove the transformer. I used the soldering iron to push pins gently until they came loose from the pad while pulling the transformer gently.
4. When installing the new former, don't push. It should slide right in. Clean the pads and holes with wick if you have any resistance.



[VEMANOEL](#) I have followed your lead to block EMI from the big chips and inputs. Wow, [bridge II](#) is now a completely different animal. DSD Sr. now is a reveling beast. Soundstage is wider with more focus. I used the stillpoints EMI absorber sheets <http://www.stillpoints.us/index.php/product/ers>. Covered all big chips and LAN input. Big chips, front panel and USB/HDMI/AES-EBU inputs. More detailed but less forgiving.



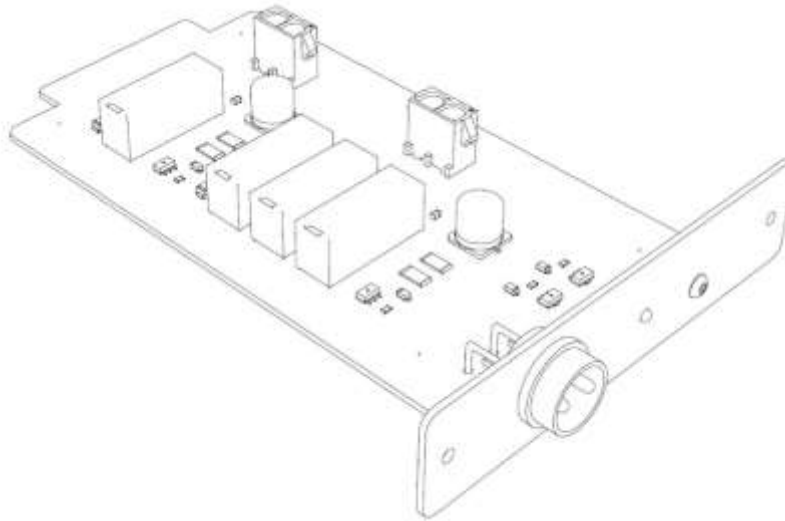
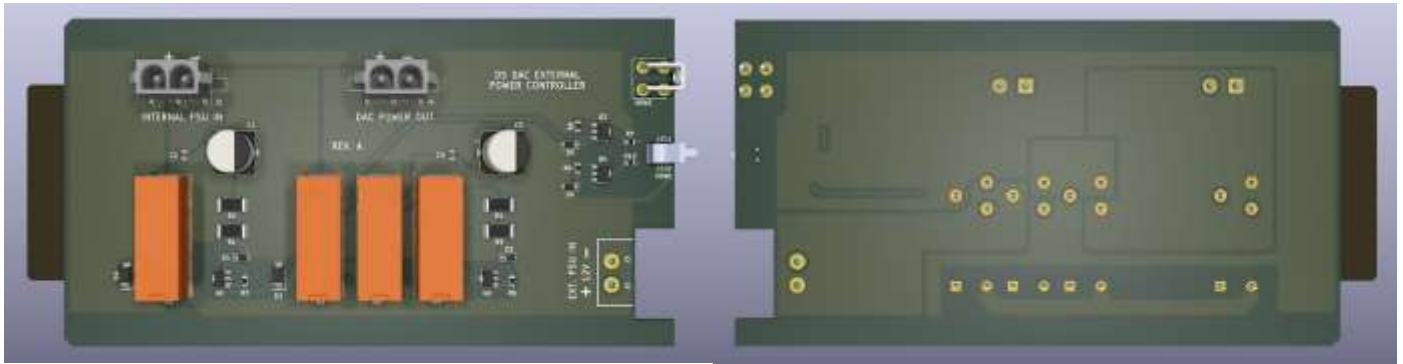
J

[jazzbirder](#) There is a Audiogon discussion from Aug. 25, 2013 about “Stillpoints ERS cloth for EMI/RFI” ! The discussion moves to an alternative which is 3M AB5100S sheets.

A

[andynotadam](#) Mouser is asking about \$20 more than Digi-Key’s \$80 per sheet so I ordered mine from Digi-Key...3M7050F-ND Is the Dig-iKey item number I believe. 3M AB7050HF RF ABSORB SHEET 11.693"X8.268" is the product.

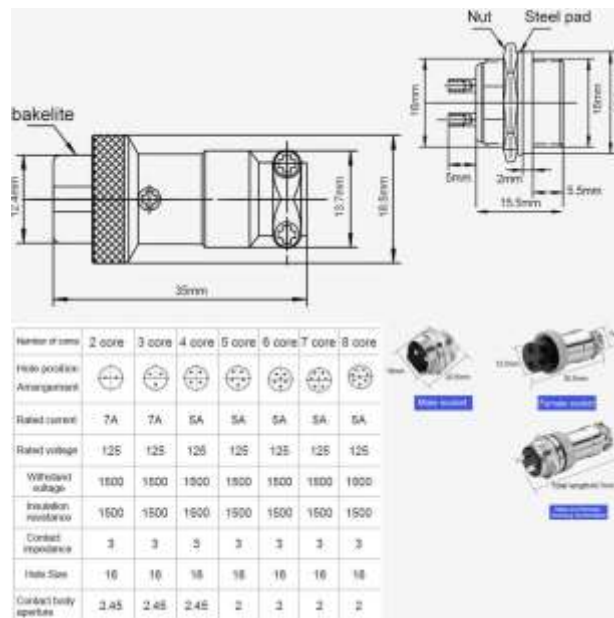
External Power Supply Auto Switching Board



Included with the kit is the power cable that connects this board to the analog power connector. (we re-use the original power cable for internal power supply feed when no external power supply is used). A power connector for the external power supply and this board. You need to supply the external 12v power supply and cable. Recommend at least 2 amps.

The connectors we use are held in place by screw-on threads and can handle the power needed. You can make an adapter or cut the 5.5 off and attach the included connector.

The 2-Pin connector we use.



[jkrichards](#) This batch is SOLD OUT which should be here by the end of the week. We can run another batch if we get enough interest. Let me know.

It's very simple to install.

1. Remove top cover and [Bridge II](#) / Cover. Use a ground wrist strap for static protection.
2. Slide this [DS DAC](#) EXTERNAL POWER CONTROLLER board in the [Bridge II](#) slot and fix with the 2 screws.
3. Remove the power connector from analog board and connect to the [DS DAC](#) EXTERNAL POWER CONTROLLER boards [INTERNAL PSU IN] connector.
4. Use supplied power cable and connect from analog board power connector to the [DS DAC](#) EXTERNAL POWER CONTROLLER boards [POWER OUT TO ANALOG BOARD] connector.
Note: all power connectors are keyed for correct polarity.
5. Test the unit by powering on the DAC AC switch "without" the external power supply connected. The DAC should work as it did before using the internal power supply. (NO LED) Internal power supply mode.
6. Power down the unit with the AC switch on the back of the DAC. Connect the external power supply to the [DS DAC](#) EXTERNAL POWER CONTROLLER boards external connector and turn on the power supply "only" at this time. The LED on the Power board should light RED (Standby Mode)
7. Power on the DAC's AC switch. The LED should turn GREEN indicating you are now powered from the External Power Supply. (Normal External Power Mode).
*Always turn on the external power supply first or at the same time as the DAC AC power.
You can leave external power supply on 24/7 as the [DS DAC](#) EXTERNAL POWER CONTROLLER board will sequence the external power supply to the analog board at the correct time.

*** AS IN ALL MODIFICATIONS, WE TAKE NO RESPONSIBILITY FOR THIS MOD IF DONE INCORRECTLY OR OTHERWISE. THIS MOD IS DONE SOLELY AT THE OWNERS RISK. THIS WILL VOID ANY WARRANTY.

Thanks!

The reused cable is only used to pass power to the analog board only if you don't use or power on the external power supply. Remember the unit will still work off of the internal power supply if no external power supply is used. The external power supply cable inside the unit is 14AWG 2.4mm OD Silver Plated FEP Wire High Purity OFC Copper Cable. Your welcome to make whatever mods you feel is necessary like supplying you own cables. We are not changing the design for individual needs.

That connector is supplied with the DS DAC EXTERNAL POWER CONTROLLER board however if you want to purchase your own to get started here it is.



[Amazon.com: DIYhz GX16 2 Pins Panel Metal Mount Circular Metal Aviation... 11](#)

10 Pcs - DIYhz GX16 2 Pins Panel Metal Mount Circular Metal Aviation Connector Adapter Male Female Plug Socket
Product Features: * The product is made of flame-retardant material, high safety, perfect quality. * Widely used...

[dcaudioguy](#) Just finished building the cable for external power supply. Scrolling through the thread but having a hard time finding the power up sequence. Should the analog board have power first from the LPS? Then switch on the dac?



[tedsmith](#) Chief digital dude...The analog card should be powered up before or at the same time as the digital card. Basically, the analog card needs to be up before the FPGA starts running.



[toolbox149](#)...Jkrichards, I went ahead and bought one of the "Black 100VA 12V 6A Low Noise R-core DC LPS Linear Power Supply +display" model you mentioned in post #1885. The LPS comes with a cord that is terminated with a 5.5

mm plug. Just so I have this straight - when your upgrade card arrives you include a screw-on plug. I will need to cut off the 5.5 mm LPS plug and solder in your plug in place. After that, I'm all ready for the install, correct?



[jkrichards](#)...You are correct. You cut / de-solder the 5.5 plug and install the supplied aircraft plug. Pin 1 is positive. The cable that ships with that power supply has red / black pair. Red should be positive which should be connected to pin 1. That's a great power supply. I really like the sound of mine.



[tedsmith](#) Chief digital dude...*Q from another post, "Are there any findings about fine tuning the output voltage? Or is this not advised with the analog board?"* Don't tune the output voltage. Dropping it lower will add noise and raising it higher will add heat. It was designed for an already semi regulated 12V. There are filtering and multiple levels of regulation between the 12V and any power use.



[jkrichards](#) Verify you have 12Vdc and the plus is on pin 1. I have mine set to 12.07 Vdc the same as the internal power supply. I measured it before I did the MOD. With my power board I would recommend you set the external power supply the same as internal supply by measuring them before you do the mod.



[tedsmith](#) Chief digital dude 12V +/- 0.5V is fine. Aim for 12V, but a few tenths off isn't a problem at all.