


ITEM	OWNER'S MANUAL		
FOR	M J O L N I R		
DESCRIPTION	BALANCED CROSSFET™ HEADPHONE AMPLIFIER		
MODEL NO	SCH-05	REVISION B	RANDOM NUMBER 110110111
NOTES	<p>MJOLNIR IS THOR'S HAMMER IN NORSE MYTHOLOGY. OURS IS A LITTLE LESS CLUNKY THAN THE ONE IN THE MOVIE. AND A LOT MORE MUSICAL. BUT WE THINK IT'S A GOOD NAME, GIVEN BW INTO 32 OHMS. JUST DON'T TRY TO USE IT TO POUND IN ANY NAILS. THAT WOULD VOID THE WARRANTY.</p>		
 S C H I T			HEADPHONE AMPS AND DACS

## SAFETY INSTRUCTIONS



The following is required by the roughly 9,542 government agencies and regulations we have to comply with. If you have some common sense, they should seem pretty straightforward. In any case, read these instructions before proceeding farther, follow all instructions, and heed all warnings. Or else!

1. If you don't know how to install audio devices, get a qualified professional to help.
2. Never use this device near water, and clean only with a dry cloth.
3. Assure adequate ventilation, do not block any ventilation openings, or place near heat sources.
4. Use only the supplied power cord or suitable replacement. Route cords away from traffic areas and protect them from being pinched. Unplug the cord from the outlet if the apparatus is unused for a long period of time.
5. To prevent electric shock, do not use the plug with an extension cord, receptacle, or outlet unless blades can be fully inserted.
6. Refer all servicing to qualified service personnel. Service is required when the device has been damaged, including cord or plug damage, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.



**WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE.**



Application for Council Directives 72/23/EEC  
Conformity declared for EN60065, EN50082-1

**THIS IS A BALANCED HEADPHONE AMP.  
IT REQUIRES BALANCED HEADPHONES.**

**USING ADAPTERS TO CONNECT UNBALANCED HEADPHONES WILL SHORT TWO ACTIVE  
OUTPUTS TOGETHER, AND YOU WILL TRIGGER THE INTERNAL PROTECTION.**

## WELCOME TO MJOLNIR!

Mjolnir is Thor's hammer. You know, the ultimate weapon to crush your enemies. Or something like that. We're from the USA, so we may not be up on all the Norse mythology, unless we saw it in a movie or something.

But back to Mjolnir. Don't use our Mjolnir to crush your enemies, use it to take control of the hardest-to-drive headphones on the planet. Or to add new life to ultra-sensitive cans. Because even though Mjolnir is stout (delivering 8W RMS into 32 ohms), it's also quiet enough to be used with efficient headphones as well.

Why? Thank Mjolnir's Crossfet™ circlotron-style output stage. It's unique in the headphone amp world, and it delivers both excellent performance and low noise. High-voltage JFETs provide voltage gain, while MOSFETs make up the Crossfet output stage for current gain.

Yeah, we know, we're swinging too hard into engineeringland here, but bear with us. The main thing is: this is one seriously cool headphone amp, not just two of the same amps in a chassis, or a single-ended amp with balanced connectors, or a balanced-to-single-ended-to-balanced converting amp with tons of extra circuitry.

Take a look through the top vents, and you may be surprised by how simple Mjolnir is. Or you may just want to look at the pretty lights. Which aren't just pretty lights. They're actually voltage references for the front-end current source.

Yeah. Engineering. It's fun. Tell your kids. And enjoy your time with Mjolnir.

## GETTING STARTED

1. **Choose an input and connect your source.** Mjolnir provides both balanced XLR and single-ended RCA inputs, but you can only use one at a time. Choose the one you want and connect your source.

2. **Plug in your amplifier and turn it on.** Some amber lights will glow inside the chassis and the power on LED will light. After 20 seconds, you'll hear a click as the relay engages the headphone outputs.

3. **Plug in your balanced headphones.** You can use 4-pin or dual 3-pin XLR connectors. You can run two sets of headphones at once. You can even plug them in before you turn the amp on, too.

And, in case you missed it: BALANCED headphones. Not single-ended with a balanced adapter. That's a bad day. You'll trigger the internal protection of the amp and you won't get any sound.

4. **Press play.** And enjoy your music!

## IN THE BOX

### ONE

Mjolnir headphone amplifier

### ONE

Power cord (for, like, well duh)

### ZERO

Stick-on feet (because the amp already has screw-in feet—you've reached the big leagues now, guys)

## FRONT PANEL



**1 Volume Knob.** Turn it to the right to make the music louder. Stop before smoke comes out of your cans. Seriously.

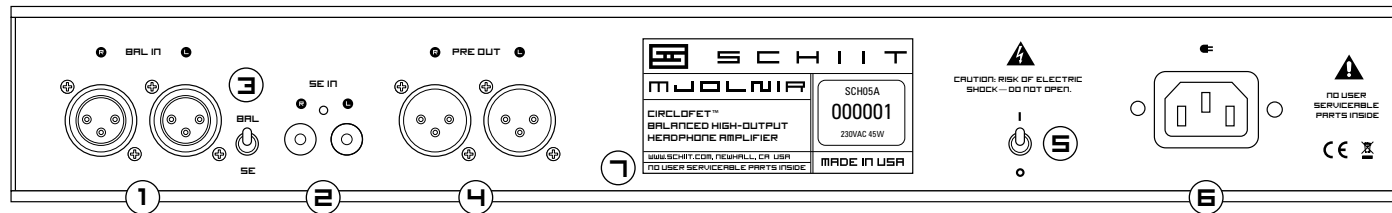
**2 Power On LED.** When this is lit, the power is on. When it's not lit ... well, you get the picture here. Mjolnir delays the output for 20 seconds when first turned on to protect against turn-on thumps.

**3 Four-Pin XLR Headphone Jack.** This is where you plug your balanced headphones in, using a standard 4-pin XLR connector. In case you missed it, DO NOT use any adapters for single-ended headphones. They short the outputs together. Boom. Well, not boom but click. That's the internal protection saving you from frying the amp.

**4 and 5 Three-Pin XLR Headphone Jacks.** Alternately, you can connect balanced headphones connected with two 3-pin XLRs here. Right side is the right channel, left side is the left channel. And yes, you can run these outputs simultaneously with the 4-pin jack.

**6 Top Vents.** Mjolnir runs plenty warm, and needs the airflow out of these vents to keep its cool. Don't block them by stacking other equipment on top. If you want to stack, put the DAC on the bottom.

## BACK PANEL



**1 XLR Balanced Inputs.** Connect your balanced source here for best sound. Mjolnir does not convert balanced to single-ended and back again.

**2 RCA Single-Ended Inputs.** If you have a single-ended source, don't despair. Mjolnir's inherently balanced amplification stage converts every input to balanced output. But be sure to hit the switch (see #3.)

**3 Single-Ended Grounding Switch.** Your single-ended inputs sometimes appreciate a ground reference for lowest noise. Sometimes they don't. Down grounds the RCAs, up lets them float.

**Important:** connect only one pair of inputs at a time (RCA or XLR). The inputs are shared, so you're shorting them together if you connect both RCA and XLR.

**4 XLR Balanced Preamp Outputs.** Mjolnir can be used as a high-quality balanced preamp. Outputs are muted for 20 seconds when the amp turns on, and whenever the amp is in protection mode.

**5 On-Off Switch.** Up is on. Down is off. Pretty simple here. We recommend turning off Mjolnir when you're not welding...er, using...it.

**6 AC Input.** Plug the power cord in here. Plug the other end into a wall outlet of the correct voltage. Trying to run a 115V unit on 230V will result in a blown fuse, no music, and a void warranty.

**7 Disclaimer.** No, seriously. Don't take this apart. Don't stick paperclips through the holes on the top or side. There are dangerous voltages inside, and we don't want you to die.

## FAQ

### **I hear hum through the headphones, what do I do?**

It's most likely a ground loop. To fix a ground loop, try a GFCI outlet or a ground loop isolator.

### **Hey, the amp just clicked and I get no sound. What gives?**

Mjolnir has sophisticated internal protection for overcurrent and DC—did you just try to connect your unbalanced headphones? Or did you try to drive speakers with the amp? If so, you hit the protection. Unplug the headphones and turn the amp back on. The protection will reset and allow you to use balanced headphones as intended.

### **There's no sound for a while after I turn Mjolnir on. Why?**

That's perfectly normal. Mjolnir delays the headphone output for 20 seconds after you first turn the amp on to protect against turn-on thumps. A minor click is normal when the relay is engaging.

### **Can I leave Mjolnir on all the time?**

You can, but we really recommend you power down the amp if you aren't going to use it for an hour or more. Mjolnir uses a reasonable amount of power, and runs pretty warm.

### **Can I power speakers with Mjolnir?**

That's not a great idea—speakers require more current than headphones, and you may trigger Mjolnir's internal protection.

### **It doesn't turn on, what do I do?**

Plug it in to a different AC socket. Ensure you are not currently in a blackout. Then call us if it still doesn't turn on.

### **Hey, you know this amp runs pretty warm?**

Yep.

### **What do I do if my headphones don't have balanced connectors?**

Many headphones with detachable cables offer optional balanced cables from the manufacturer. Contact them and see if they offer balanced cables, or check with the aftermarket cable manufacturers.

### **What if my cables are attached to my headphones?**

Then you'd better get a screwdriver and soldering iron if you want to use them with Mjolnir. Some headphones are relatively easy to re-cable, because they already have 4-conductor cables. However, we don't have an exhaustive list of these, so please contact the headphone manufacturer for details.

### **Hey, once I re-terminate my headphones with balanced connectors, how do I use them with single-ended amps?**

There are tons of adapters for converting 4-pin XLR to 3-pin TRS jacks—and they are totally safe to use. It's the other way around that gets messy.

### **Why don't you have a single-ended output as well as balanced?**

Unlike other "balanced" amps, Mjolnir isn't just two of the same amps in a box with one run inverted, or a single-ended amp connected to a 4-pin XLR jack for looks. It's an inherently balanced topology that cannot be unbalanced without heroics like summing the outputs together (additional circuitry) or having a completely separate gain stage. We wanted to maximize performance for balanced output, so we stuck to balanced-only.

## SPECS

**Headphone Impedance:** 8-600 ohms

**Speaker impedance:** not recommended for speaker use

**Frequency Response:** 20-20 kHz, -0.2dB, 2Hz-400KHz, -3dB

**Maximum Output:** 45V P-P into 32 ohms

**THD:** Less than 0.008%, 20Hz-20KHz, at 1V RMS

**S/N Ratio:** >100dB referenced to 1VRMS

**Output Impedance:** <1.5 ohms

**Topology:** Balanced Crossfet™ circlotron-style topology

**Protection:** 20 second delay on start-up, DC sense, and overcurrent sense

**Power Consumption:** 45W

**Size:** 16 x 8 x 2.25"

**Weight:** 12 lbs

## 5-YEAR LIMITED WARRANTY

Schiit Audio warrants to the original purchaser that the product shall be free from defects in material and workmanship for five (5) years from the date of purchase. Exceptions: Tubes. Tubes are covered by a 90-day limited warranty with the same terms. If a defect covered by this warranty occurs during this warranty period, Schiit Audio will repair the defective product, free of charge. Date of purchase will be based on customer-submitted receipts, otherwise date of manufacturing will be used to determine warranty period.

**If you believe you need warranty service, CONTACT US first.** There may be a simple solution to your problem. Schiit Audio products sent back to us without a RETURN AUTHORIZATION (RA) will be returned to the sender without repair. To contact us and obtain an RA, call (323) 230-0079 or email support@schiiit.com. We will respond quickly to either phone or email messages.


### WARRANTY LIMITATIONS

THIS WARRANTY SHALL NOT APPLY IF THIS PRODUCT: (a) IS MODIFIED OR TAMPERED WITH; (b) IS DAMAGED BY NEGLIGENCE, ACCIDENT, UNREASONABLE USE, COFFEE, OR BY OTHER CAUSES UNRELATED TO DEFECTIVE MATERIALS OR WORKMANSHIP; OR (c) HAS HAD THE SERIAL NUMBER ALTERED, DEFACED OR REMOVED.

ANY APPLICABLE IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY LIMITED IN DURATION TO THE WARRANTY PERIOD (5 YEARS). IN NO EVENT SHALL SCHIIT AUDIO BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES RESULTING FROM THE BREACH OF ANY IMPLIED OR EXPRESS WARRANTIES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR EXCLUSION OF CONSEQUENTIAL OR INCIDENTAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights. You may also have other rights which vary from state to state or province to province.

Schiit Audio's address is: Schiit Audio, 22508 Market Street, Newhall CA 91321 USA.

ITEM	OWNER'S MANUAL BACK COVER	
DESCRIPTION	GRAPHIC FOR THE BACK COVER OF THE MANUAL	
NOTES	<p>YES, ALL SCHITT PRODUCTS ARE MADE IN THE USA.  YES, PRIMARILY OF US-SOURCED COMPONENTS.  YES, IT'S PRONOUNCED EXACTLY LIKE YOU THINK.  NO, WE ARE NOT ON FACEBOOK.  NO, WE'RE NOT ON TWITTER.  AND NO, WE'RE NOT ON YOUTUBE.</p> <p>SCHITT AUDIO  22508 MARKET STREET  NEWHALL, CA 91381 USA  PHONE 323 230 0079  WWW.SCHITT.COM</p> <p>CE</p>	
 SCHITT		EVERYTHING ELSE AIN'T.