

ITEM	OWNER'S MANUAL		
FOR	GUNGNIIR		
DESCRIPTION	BALANCED ADAPTICLOCK™ DIGITAL TO ANALOG CONVERTER		
MODEL NO	SCH-06	REVISION A	RANDOM NUMBER 00000001
NOTES	<p>GUNGNIIR IS ODIN'S SPEAR IN NORSE MYTHOLOGY.  IT'S SO COOL IT NEVER MISSES ITS MARK.  OUR GUNGNIIR WOULD MAKE A TRULY CRAPPY SPEAR.  BUT IT DEFINITELY HITS THE MARK MUSICALLY.  WARNING: NOT APPROVED FOR JAVELIN EVENTS.  USING GUNGNIIR LIKE THAT WOULD VOID THE WARRANTY.</p>		
 <span data-bbox="354 844 894 887">SCHITT</span>		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.**



Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Modifications not expressly approved by the manufacturer could void the user's authority to operated the equipment under FCC rules.



Application for Council Directives 72/23/EEC, 89/336 EEC  
Conformity declared for EN60065, EN55022 Class B, EN50082-1

## WELCOME TO GUNGNIR!

Mjolnir is Odin's spear, which never missed its mark. Yeah, we know, it doesn't sound so impressive in these days of nuclear weapons, Higgs bosons and so all, but ya gotta consider the context. And who knows, "a spear that never misses" might be Norse for "hydrogen bomb," for all we know. And yeah, we know, we started this out with a discussion of weapons. Well, we are Americans, after all. Sorry about that.

But back to Gungnir. Don't use our Gungnir to stab your friends, use it to deliver unfailing, on-target reproduction of your digital music library, whether it's on CD or in a computer server. Enjoy your time with Gungnir!

## GETTING STARTED

- 1. Connect Gungnir to your source and your amp or preamp.** You'll need a set of XLR or RCA cables to connect the Gungnir's outputs to your amp or preamp, and the appropriate digital cable or cables (coaxial BNC or RCA,, Toslink, or USB) to connect your sources.
- 2. If you are using USB and have a Windows computer, download the USB drivers from [schiit.com/drivers](http://schiit.com/drivers) and install them.** Instructions for installing the drivers are provided on the website. The driver package will install the correct drivers for current versions of Windows.
- 3. If you are using a computer source, ensure it is set to output to the Gungnir.** Sometimes PCs and Macs get confused and want to use internal speakers, or your powered USB headset, or whatever. Make sure you've selected "Schiit USB Interface" for USB, or external SPDIF output.
- 4. Select your source using the button on the front panel.** And enjoy your music!

## UPGRADES

Gungnir is upgradable via modular D-A/Analog and USB Input Cards. Please contact us for any card purchases and additions. All cards must be added or changed by authorized service personnel.

**USB Card Addition.** For customers who do not have the USB Card, and want to add it, you can purchase the card and installation from us. Contact [info@schiit.com](mailto:info@schiit.com) to order your USB card addition.

**Analog and USB Upgrades.** We'll announce selected upgrades when there have been significant changes in technology—or, in other words, we won't be starting a D/A chip-of-the-month club. If you'd like to be the first to know about upgrades as they become available, go to your customer account on [schiit.com](http://schiit.com) and allow us to send you email.

## IN THE BOX

### ONE

Gungnir DAC

### 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 Input Select.

Press the button to cycle through the inputs: USB, Optical, RCA Coaxial, and BNC. Only one can be selected at a time, unless you ordered the special Reality Distortion Field™ option. (Not available anywhere in this universe, except perhaps Cupertino.)

### 2 USB Input LED.

When this is lit, the USB input is selected. If you don't have a USB card, you won't be able to select this input (it'll be skipped.) If you install a USB Card later, the Gungnir's Giga-Computer Brain™ will automatically detect the card and allow you to select the input. Gungnir is so smart, it might be able to beat up your old TI calculator.

### 3 Optical Input LED.

When this is lit, the optical input is selected. Pretty simple, huh?

### 4 Coax Input LED.

When this is lit, the coaxial input is selected. You probably already knew this.

### 5 BNC Input LED.

And...when this is lit, the BNC input is selected. Yeah, we know.

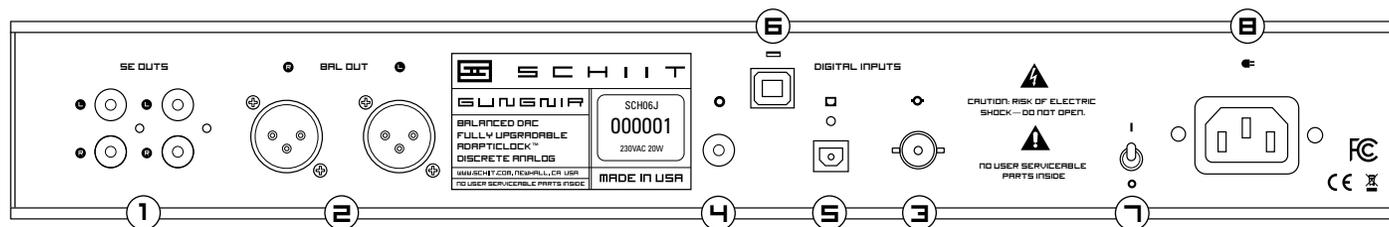
### 6 Clock Mode LED (aka the "Buy Better Gear Light.")

When this LED is on, this means Gungnir cannot lock to the source with VCXO regeneration, and has defaulted to VCO regeneration. Don't panic. What this means is you're still getting re-clocked data, but the quality is lower, because the source is off-frequency. Time to look for another source.

### 7 How Come These Holes Don't Go Through?

Hey, you try getting FCC-friendly radiated noise on a DAC that has vents in the cover. Go ahead, try. But hey, they look cool, right?

## BACK PANEL



**1 RCA Single-Ended Outputs.** If you don't have balanced connections, use these to connect to your amp or preamp. We've provided two pairs for your convenience. There's no difference between them.

**2 XLR Balanced Outputs.** If the rest of your gear is balanced, use XLR cables to connect Gungnir to their inputs from these outputs.

**3 BNC Input.** If you have a source with a BNC digital output, Gungnir provides a true 75 ohm BNC input for highest-quality data transmission. Connect this input with a true 75-ohm BNC cable.

**4 Coaxial Input.** Connect your coaxial output source with . . . wait for it . . . a coaxial cable! Very exciting.

**5 Optical Input.** Use a standard Toslink cable to connect to the optical input. If you're using an Apple computer with integrated optical output, you'll need a Toslink with a 1/8" (3.5mm) plug on one side, and a standard Toslink on the other.

**6 USB Input.** Or not. If you don't have the USB card installed, this input will be covered. If you do, use a standard USB A-B cable to connect.

**7 Power Switch.** Up is on. Down is off. It doesn't go sideways.

**8 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.

## FAQ

### **I hear hum from Gungnir. What do I do?**

Gungnir's noise floor is insanely low, so it's most likely a ground loop. To fix a ground loop, try a GFCI outlet or a ground loop isolator.

### **Hey, this thing clicks between songs/between inputs/etc!**

Yes, it does.

### **Care to explain why, smartass?**

Sure. That's the muting relay engaging when there's no input. Many computer sources turn off the digital audio output between songs and when changing sampling rates. We went with a muting relay because it's the best way to ensure there are no clicks or pops when the input is unlocked. But it does click a bit.

### **It takes a few seconds to change inputs and play music!**

Yes, it does. Gungnir is doing a lot when you change inputs. It's actually looking at the quality of the input signal and making a decision on which clock regeneration system to use, as well as which clock frequency is appropriate to the sampling rate. It's a hell of a job, so it takes it a few seconds.

### **What's better—the balanced or single-ended outputs?**

We don't really have to answer this, do we? While the single-ended outputs are summed from the hardware-balanced outputs, balanced is the best way to go. By far.

### **So when do I get the killer upgrade to the next level from you?**

Make sure you're on the mailing list, and we'll let you know when we've released new USB or analog boards.

### **My Windows computer doesn't see the Gungnir via USB. What's up?**

You'll need to download the drivers for Bifrost. Go to [schiit.com/drivers](http://schiit.com/drivers) and enter your serial number to download them.

### **How do I install the Windows USB drivers?**

Follow the instructions at [schiit.com/drivers](http://schiit.com/drivers). To the letter. And pray there's no driver conflict. Yes, we love Windows.

### **I installed the USB drivers, but Windows still doesn't see the Gungnir!**

Microsoft. Microsoft is up. The ways of Microsoft are varied and fickle. Check for driver conflicts, uninstall and reload the drivers, then email us and we'll see if we can help. Note: we can provide only limited support for Windows installations, due to the wide variety of systems and complex driver interactions.

### **There are a hell of a lot of Windows questions here!**

Yes, there are.

### **I don't get any sound from Gungnir! That's really zen-like, but it's not what I was expecting.**

Are your sources on? Check those first. If you're using a computer source, ensure that your computer's sound output is set to go to the Gungnir via SPDIF or USB.

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

Sure, if you want to. It won't hurt anything.

### **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 email us if it still doesn't turn on.

## SPECS

**Sampling Rates:** up to 24/192 for all inputs; all modes except 176.4 for USB

**Analog Stage:** fully discrete, JFET differential input, high-current BJT output, internal summing

**Output Impedance:** 75 ohms

**Frequency Response:** 2Hz-100KHz, -1dB (analog stage)

**Maximum Output:** 4.0VRMS (XLR), 2.0VRMS (RCA)

**THD:** <0.003%, 20Hz-20KHz

**S/N:** > 108dB referenced to 1VRMS

**Upgradability:** Modular USB Input Card and DAC/Analog Cards

**Power Consumption:** 20W

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

**Weight:** 10 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.

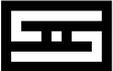
### WARRANTY LIMITATIONS

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, DEFACTED 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	<b>OWNER'S MANUAL BACK COVER</b>	
DESCRIPTION	GRAPHIC FOR THE BACK COVER OF THE MANUAL	
NOTES	<p>YES, ALL SCHIIT 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>SCHIIT AUDIO          22508 MARKET STREET          NEWHALL, CA 91321 USA          PHONE 323 230 0079          WWW.SCHIIT.COM</p>	
 <span data-bbox="354 844 894 884">SCHIIT</span>		EVERYTHING ELSE AIN'T.