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# UP CLOSE AND PERSONAL

## GRADO'S RSI HEADPHONE AND RAI HEADPHONE AMP PUT YOU FRONT ROW CENTER

BY PHIL GOLD

THERE ARE MANY companies making dedicated headphone amps, and many that sell headphones. Meet John Grado of family-owned Grado Labs. He would like to cover both bases for you, and we like what we hear. John is a nephew of Joseph Grado, credited with the invention of the stereo moving coil cartridge, who founded the company way back in 1953. All Grado cartridges and headphones are hand made in the New York factory, including the carved mahogany Reference Series headphones that John has developed. The RS and its baby brother the RS2 sit between the range topping Statement Series and the less expensive Prestige Series headphones.

Common to all Grado headphones is an open back design featuring a vented diaphragm with a large air chamber for extended bass response. The diaphragm is made from a low mass polymer mated to the compliance of the suspension to optimise the low frequency resonance. The voice coils are wound from ultra-pure, long crystal oxygen-free copper, which is also used in the nine foot connecting cable. Very high power neodymium magnets are used for high efficiency (98 dB SPL at 1mV). As a bonus the RS1 comes with a high quality 15 ft extension cable and a converter for connection to an iPod. It's also nice to know that the ear cushions are user-replaceable.

The RS1 is efficient enough to mate well with an iPod, but for the best sound you should use a headphone amplifier, such as the companion Grado RAI. This small wooden box (5" x 5.5" x 1.5") is powered by two 9v batteries, good for up to 50 hours of listening. Grado also offers an AC powered version. For those headphones with higher impedance and lower sensitivity, a high gain version, the RAI-HG fits the bill. We used the battery-powered

version for our tests, alongside the reference Graham Sleek Solo (US \$950).

The specs reveal a very wide bandwidth device, response extending from 12 Hz to 30 KHz with very tight driver matching, while the low weight of 9 ounces contributes to user comfort. Now comfort is a very personal thing, and my vote here goes to the new AKG K701, which surrounds but never touches the ear, or the older AKG K1000, which grip only at the temples. I find the Grados much more comfortable than the vice-like grip of the Sennheiser HD 650. Some people will find the ears get a little warm when wearing this kind of headphone, so they may need to turn the thermostat down.

Synergy is always a key to getting the best performance, and there is a lesson to be learned here. The RAI and RS1 are made for each other, and even though the inexpensive RAI is not in the same class as the Graham Sleek Solo, it provides the better mate for the RS1. It doesn't reach quite the same level of definition in the bass or match the speed of response of the Solo, but it does provide a realistic image size. The Solo spreads the image so wide with the RS1 as to leave something of a hole in the middle, despite pairing very well with some other fine 'phones. So for our testing we will compare the RAI/RS1 combination to the Solo/AKG.

The Grado combination is punchy and warm, bringing you close to the music even at relatively low listening levels. There is a lot of kick in the bass and warmth in the midband, which will suit cool digital sources a lot better than some more analytical 'phones like Stax electrostatics.

The Grados work very well together, representing a realistic sound stage with strong dynamics and as much volume as you should safely consume. Grand opera comes through

### FACTS

**MANUFACTURER**  
Grado Labs, Inc.

**RATING**  
 (RAI)  
 (RSI)

**PRICE**  
\$350 (US)

**CONTACT**  
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Audio Group  
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**Feed them a top quality source and the grados act like a magnifying glass to the recording**

with real presence and the full weight and beauty of the voices is there to enjoy. Give it some aggressive music, like Benny Green's jazz trio and you get visceral excitement, really strong bass and all enveloping swing. With the AKG K1000/Solo pairing music is much more clearly defined up top, smoother and more pleasant, but you don't get the full force of the bass energy and without that the music loses its passion.

It soon becomes clear that the Grados act like a magnifying glass to the recording. Give them a top quality disc, such as you find on *The Inner Ear* sampler (no longer available), and you get magnificent, detailed and full-bodied music, totally captivating. It's like sitting in the front row. Feed it with less than perfect material and you see all the flaws in living color. This is not a forgiving combination. The AKG is consistently lighter, faster, more open and transparent, as if set back quite a few rows, and is more forgiving of weaknesses in the recording process.

The Achilles heel of the Grados emerges in very large-scale orchestral music where, to do justice to a big orchestra, you need pinpoint imaging to put every instrument in its distinct location. The AKGs can do this wonderfully, as well as any speaker system, but the Grados compress the image size and that wonderful spacious concert hall acoustic is not fully revealed. In fact the Grados do as well as most high-end headphones in this regard. The AKGs are simply the exception. The Grados do capture the weight of the full orchestra and are strong on preserving string color. However, detailed as they are, they cannot match the skill with which the AKGs retrieve low-level information in a very busy mix, although this complaint may be directed more at the RA1 than the RS1.

Small-scale music, instrumental or vocal, electric or acoustic, is very satisfying when heard through the Grados. The image



## HEADS UP

may be smaller than with the AKGs but it is stable and well located, giving a convincing if narrower image size. Haydn's quartets emerge particularly well on these 'phones, perhaps because the mahogany frames preserve the rich sound of the wooden instruments. When the cello grunts you feel it, and when the violin soars, rich harmonics abound. When it comes to vocals, there's meat on the bones, while the AKG K1000 can sometimes sound quite lean and miss the artist's passion.

The Grado RA1 goes about its duties in minimalist fashion. Small, unpretentious, with a simple volume control and a toggle switch to select either of two inputs or the off position, it operates flawlessly and with a quiet background. The battery compartment could be a bit more convenient; it

sometimes being a struggle to fit the battery leads back in the limited space. You may prefer the A/C version for this reason, or to save the cost of replacement batteries.

The RA1 offers excellent value for money at US \$350, and does a fine job powering phones from Sennheiser, Shure and Ultimate Ears. It does especially well with Grado 'phones, and does not embarrass itself next to state of the art components. The US \$695 RS1 is at its best with instrumental, vocal and small-scale groups, particularly if you like your music up front and personal. However, it faces tough competition from the recently revised Beyerdynamic DT880 (US \$299), Sennheiser HD650 (US \$499) and AKG K701 (US \$450), all of which undercut its price. However, the Grados are clearly a music lover's component, trading a little accuracy and detail for warmth, presence and tonal color—a trade most tube lovers would make any day. Try them on for comfort and sound, you'll not be disappointed.

**You get magnificent, detailed and full-bodied music, totally captivating. It's like sitting in the front row**



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