

Placement

The Niagara 7000 is manufactured with four rubber textured polymer feet for safe, secure placement on any table, cabinet, shelf, or floor. When rack-mounting is required, these feet may be removed with a standard Phillips screwdriver. The Niagara 7000's design obviates the need for compliant or high-Q isolation feet. Although many audio/video products benefit greatly from these devices, the Niagara 7000 does not.

Placement or proximity to other components is not critical, and, under standard use, the Niagara 7000 does not produce any appreciable heat. The Niagara 7000 may be rack-mounted in a standard 19" rack by attaching the optional Niagara Series 3-RU rack ears. To attach the optional rack ears to the Niagara 7000 chassis, first remove the three Phillips flathead screws from the front portion of both the left and right sides of the cover assembly. Next, mount the rack ears flush against the back of the Niagara 7000's front panel. Finally, secure the rack ears into place by installing the rack-mount kit's Phillips pan head SEMS screws.

When tight installations do not provide adequate room on a shelf or cabinet, the Niagara 7000 can actually be placed on its side. Such placement will pose no safety or performance compromises, but we recommend placing a soft towel or carpet under the unit to prevent the chassis and front panel from being scratched or marred in any way.

Connection to Audio/Video Components

AC Cable Routing

Once the Niagara 7000 is placed, an appropriate 20-amp-rated AC cord must be connected to the rear panel AC inlet (IEC-C20) connector. The AC cord must have an IEC-C19 female end connector and a grounded male 120VAC Edison/NEMA plug for use in North America or Taiwan. We highly endorse the use of any AudioQuest NRG Series 20-amp-rated AC cord, but the Niagara 7000 will function properly with any appropriate AC cord that meets the aforementioned requirements.

When facing the Niagara 7000's rear panel, the IEC-C20 inlet is located on the unit's lower-left side. The AC input cord must be connected to an appropriate AC outlet (see "Power Source," page 6). Though a conventional AC outlet will function safely and yield high performance, for the very *best* sonic performance, we highly endorse the installation of the **AudioQuest NRG Edison 20** (or NRG Edison 15, if the electrical panel will only accommodate a 15-amp RMS service).

Whenever possible, it is best to keep at least three inches (approximately 7cm) between AC cables and any signal cable. When this is not possible in a practical layout of system cabling, crossing the AC cables to signal cables at 90 degrees is best to minimize induced noise.

Connecting AC cables to the Niagara 7000's NRG Edison AC outlets – **WARNING!**

The AudioQuest NRG Edison AC outlets feature the strongest grip of any commercially available AC outlet in history. There are many reasons this was done—lower impedance, superior transient current delivery, and vastly reduced noise, to name a few. However, there is a price to be paid for superior performance: It will take some time and patience to both insert an AC cord into and remove an AC cord from these receptacles.

We have made every effort to exercise these receptacles during testing and final inspection, but they will still require slow and careful "wiggling": When either inserting a plug into these receptacles or removing an AC cord's male plug from the receptacles, gently move the male AC cord's plug from side to side while providing an even forward or backwards pressure. If you find it is simply too difficult to insert an AC cord's male plug into one of the outlets, it may be that its male prongs are slightly oversized due to either its design or generous quantities of plating material.

This is not a reason to return the Niagara 7000 or abandon the use of such an AC plug! Typically, the outlet in question can be slightly opened up by gradually exercising it with an AC plug. For this, we actually do *not* recommend an AudioQuest or any other premium brand of AC cord or male plug. For exercising the outlet, obtain from an electrical supply house or hardware store a generic three-prong 15-amp-rated AC cord or plug that affords a generous and secure area to handle. Any will work, but the *best* will be those with three brass (un-plated) prongs so that if multiple insertions are required, no nickel plating from the generic AC plug will find its way into the AudioQuest NRG Edison outlet.

High Current/Low-Z Power Banks

There are two High Current/Low-Z Power banks (labeled "1" and "2") with two AC outlets each. The outlets feature our Transient Power Correction Technology, and are designed to enhance the performance of power amplifiers via our circuit's low-impedance transient current reservoir. Power amplifiers, monoblock amplifiers, integrated amplifiers, powered receivers, or powered subwoofers should be connected to these four outlets. The *primary* mono, stereo, or multi-channel power amplifier(s) should be connected to Bank 1. This enables the standby sense circuit, which requires the current draw of a power amplifier connected to (and only to) outlet Bank 1. In terms of sonic performance, there is no difference between outlet banks 1 and 2. If the standby sense circuit is not utilized, and the sense circuit bypass switch is set to "Enabled," any outlet on the two banks may be utilized.

For systems with only one or two power amplifiers, the two uppermost outlets of banks 1 and 2 will provide *slightly* superior performance due to their closer proximity to the AC outlets' radio frequency noise-dissipation circuit. However, the outlets located directly below will certainly afford exemplary performance!

Regardless of class of operation or circuit topology (valve, solid-state, digital, or otherwise), the Transient Power Correction Circuit will not compress the current of any power amplifier. Quite to the contrary, it will improve the amplifier's performance by supplying the low-impedance current source that the amplifier's power supply so desperately needs.

However, the other four AC outlet banks (Ultra-Linear Noise-Dissipation/Dielectric-Biased Symmetrical Power), are *not* appropriate for power amplifiers. They have been optimized for line-level audio preamplifiers, DACs, universal players, turntables, and video products that utilize constant current voltage amplifier circuits. These circuits never suffer from current compression, but their lower input level and higher gain require a more robust means of noise dissipation. This is key to the Niagara 7000's discrete AC power banks, in that not every circuit is treated the same, but rather isolated bank by bank and optimized for best performance.

Ultra-Linear Noise-Dissipation System/Dielectric-Biased Symmetrical Power Banks

There are four banks that utilize this technology within the Niagara 7000. Further, the first two banks (3 and 4) are 100% isolated from banks 5 and 6. All four of these are in turn 100% isolated from the High-Current/Low-Z banks 1 and 2. This offers a great advantage in controlling the complex interactions of RF (radio frequency) and other induced noises present in the AC power supplied from your utility, the noise that will be present on and in every AC cord, and the noise that is produced within your system's components and that "backwashes" into the Niagara 7000's output circuits.

Though it would be simple to recommend putting the digital or video components into banks 3 and 4, and the line-level audio components and turntables into banks 5 and 6, the quest for optimal performance is more complex. This scenario will work, and likely work well, but a certain amount of experimentation is best given the fact that no filter or screen can eliminate 100% of all noise, the size of many of these RF-induced waveforms is as small as the edge of this paper you're reading, and the interactions are complex. So long as the power amplifiers are in their appropriate banks, and the other components are in banks 4 through 6, you should experience exemplary performance. Still, for the audiophile with patience, the reward will be system performance with the highest possible resolution and lowest possible noise.

To achieve that optimal performance, we recommend the following guidelines. For systems that utilize very few components, bear in mind that it is advantageous to use the uppermost outlets in each bank as they have a closer proximity to the final stage noise-dissipation circuits. (The same holds true for the High-Current banks.) Again, because banks 3 and 4 are 100% isolated from banks 5 and 6, placing a DAC and/or universal player in one isolated group, and a preamplifier and turntable in another, would be an excellent way to start. For systems that are much larger and require more outlets, try starting with the most basic setup, then adding one component at a time. Try either of the two isolated bank groups to see which works best for you. The bank that *sounds* best (yielding the greatest resolution) is the best one for *your* system!