

USER GUIDE



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THANK YOU!

Congratulations on your purchase of the Shunyata Research Delta Power Distributor. Shunyata Research power products are used by many of the finest recording studios, mastering engineers, recording artists and electronics manufacturers worldwide.

Chances are that some of the music you listen to and the equipment that you own was produced using Shunyata Research products as part of a reference system or mastering system.

Thank you for choosing us to be a part of your system.

Caelin Gabriel
President

IMPORTANT SAFETY INFORMATION

WARNING: POTENTIALLY LETHAL VOLTAGES INSIDE!

THERE ARE NO USER-SERVICEABLE PARTS INSIDE. REFER ALL SERVICE TO SHUNYATA RESEARCH SERVICE DEPARTMENT (or an Authorized Distributor).

	WARNING Risk of electric shock. DO NOT OPEN.	
To reduce the risk of electric shock do not remove cover or back. Non-user serviceable parts inside. Refer servicing to qualified service personnel.		

CHECK VOLTAGE RATING

Verify the maximum voltage rating listed on the side of the box and on the unit before applying power.

WATER

This unit is NOT water proof. DO NOT submerge unit in water or any other fluid. DO NOT operate unit in an environment of water condensation. DO NOT operate unit with standing water on the floor.

INPUT POWER REQUIREMENTS

This unit requires a properly installed AC Mains power connection. Ensure that the AC polarity is correct and that a safety ground is present. DO NOT operate this unit with a cable that has the ground pin disconnected. DO NOT operate this unit with a cheater plug that disables the safety ground connection. DO NOT operate this unit without a grounded outlet.

CONTACT ENHANCEMENT FLUIDS

Contact fluids, pastes, and gels are NOT recommended for use with this device. Many of these types of products leave a residue that can contaminate or damage the contact metals over a period of time. The products labeled as *silver-bearing grease* or *silver-impregnated silicon* are particularly harmful. Some of these are difficult or impossible to remove. Damage caused by these products will void your warranty! Never attempt to clean the contacts inside the outlets. If you wish to clean the external contacts, use CAIG DeoxIT® or DeoxIT® GOLD.

CRYOGENIC TREATMENTS & BURN-IN DEVICES

This unit has been treated with KPIP™, a proprietary process developed by Shunyata Research. DO NOT connect this unit to a burn-in device, as doing so will degrade performance and sound quality.

DO NOT cryogenically treat Shunyata Research products. Cryogenic treatment will damage plastic connectors and degrade insulation, shortening the life of the product. CRYOGENIC TREATMENT WILL VOID YOUR WARRANTY.

READ ALL WARNINGS *and* INSTRUCTIONS BEFORE OPERATING THIS UNIT

UNPACKING

KEEP PACKING MATERIALS

Keep all the packing materials. If you need to ship the unit, you must use the original boxes and protective inserts. Shipping without the original materials will void the warranty and you may not be entitled to claim shipping insurance losses if the unit was improperly packed!

If your packing materials are missing or damaged contact Shunyata Research Customer Service for replacements.

DO NOT plug in the unit until you have read the complete instructions!

TECHNOLOGY and FEATURES

Shunyata Research power distributors supply power to multiple components while reducing noise from the power line and intercepting component-to-component noise. The Delta D6 features patented technologies and proprietary components that are simply unavailable in other products. It is available in different regional models, such as the Denali D6 in the US and Asia, or the Delta D6 EU in European countries.

There are subtle variances and specification differences between regional models.

DTCD® DESIGNED (*Dynamic Transient Current Delivery*)

The Delta was designed using Shunyata Research's DTCD® analyzer. DTCD® Analysis measures instantaneous current through extremely low-impedance electrical conductors and contacts. Shunyata Research uses it to optimize the design and performance of our power conditioners and power cabling.

CCI™ NOISE REDUCTION

Traditional power conditioners are designed to block incoming noise from outside the home but do not address the noise that is generated by the electronic components themselves. In fact, most conditioners reflect noise back into other components connected to the power conditioner. CCI™ (*Component-to-Component Interference*) is one of the most significant but often overlooked aspects to power system performance. Shunyata's CCI™ filter consists of a proprietary multi-stage filter that reduces electrical noise and power supply generated interference.

NIC™ NOISE REDUCTION

The NIC™ (*Noise Isolation Chamber*) is a patented technology that reduces high frequency power line noise. NICs™ use *ferroelectric* substances that actually absorb high frequency noise. This allows the Delta power distributor to reduce noise without any of the negative interactions associated with conventional power conditioner designs. [US Patent: 8,658,892]

GP-NR NOISE REDUCTION

When it comes to reducing noise, engineers focus primarily on the AC electrical lines, with little thought given to the ground lines. The incoming ground line and the internal power conditioner ground plane can actually act as antennae, drawing in electrical noise that may interfere with the operation of the connected components. *Ground Plane Noise Reduction* is a proprietary technology developed by Shunyata Research to significantly reduce interference caused by this phenomenon, thereby providing a more pure audio experience.

HIGH CURRENT CAPABILITY

The Delta D6 is rated at a full 20 Amps of continuous current, ensuring unfettered power delivery to complex entertainment systems, including those with high-powered amplifiers. Advanced electromagnetic breakers in addition to massive buss and 8-gauge ArNi® conductors provide exceptional dynamic contrast and bass impact.

HYDRAULIC ELECTROMAGNETIC BREAKER

Common power conditioners use fuses or thermal breakers for over-current protection. When heavily loaded, they may cause voltage drops, increased contact impedance, thermal noise, excessive heat generation, and current-limiting effects. The Delta uses a more advanced solution called a *hydraulic electromagnetic breaker* that operates right up to the maximum current rating without the limitations of fuses or thermal breakers.

HIGH-QUALITY OUTLETS

The US and Asian model Delta power distributors include Hubbell outlets that use a triple-wipe contact system and have broad contact areas to grip a plug from three different sides, providing superior electrical integrity. Hubbell outlets feature a solid brass back-strap that ensures a reliable ground connection that may reduce noise and hum. The European model Delta includes Euro-style mains sockets that feature alloy contacts designed to accept large-gauge conductors.

CABLE CRADLE SUPPORT SYSTEM

The Delta D6 includes Shunyata Research's unique solution for the problem of heavy high-end power cables. The Cable Cradle supports the weight of the power cables, preventing them from pulling away from the outlet. This system is designed to ensure reliable and secure electrical connections. ***The Cable Cradle is only available on US and AS models.***

ArNi® CONDUCTORS

Shunyata Research has developed a proprietary line of ArNi® conductors. They are made with certified OFE C10100 (*Certified ASTM F68*) copper. The wire strands are arrayed in a proprietary *hollow tube VTX™* geometry that reduces skin effects. ArNi® conductors are treated with Shunyata Research's exclusive *Kinetic Phase Inversion Process™ (KPIP™)* for a period of 8 days.

VIBRATION MANAGEMENT

Mechanical vibration can be very destructive to system performance. The Delta was designed from its inception to include advanced forms of vibration control that improve the recovery of subtle musical detail and nuance. All chassis panels and internal structures are treated with vibration-dampening materials. The outlets are individually isolated from the chassis with vibration-dampening gaskets that reduce vibration conducted through the AC cables. All internal modules, filters, and electronics are encapsulated in a vibration-absorbent compound.

KPIP™ “BLACKBIRD” PROCESSOR

Each Delta is treated with Shunyata Research’s proprietary *Kinetic Phase Inversion Process™ (KPIP™)*. The KPIP™ dramatically reduces burn-in time and significantly improves sonic performance.

CRYOGENIC TREATMENT

Many of the electrical components in the Delta are treated in Shunyata Research’s own advanced *computer-controlled* cryogenics lab. Further cryogenic treatment of the unit is strongly discouraged, and will void your warranty.

VIBRATION-DAMPENING FOOTER

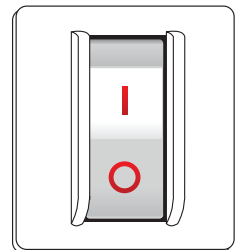
The Delta comes standard with Shunyata Research’s vibration-dampening footers. Power distributors react very similarly to amplifiers in relationship to floor-borne vibration. Shunyata Research’s footers were specifically designed to reduce vibration from the supporting platform.

The footers may be optionally upgraded to SSF-38 stainless steel footers. After researching multiple forms of energy dissipation methods, Shunyata Research developed the SSF-38 to provide the performance characteristics of an expensive after-market isolator but at a fraction of the cost.

CONNECTIONS AND POWER UP

THE ELECTROMAGNETIC BREAKER

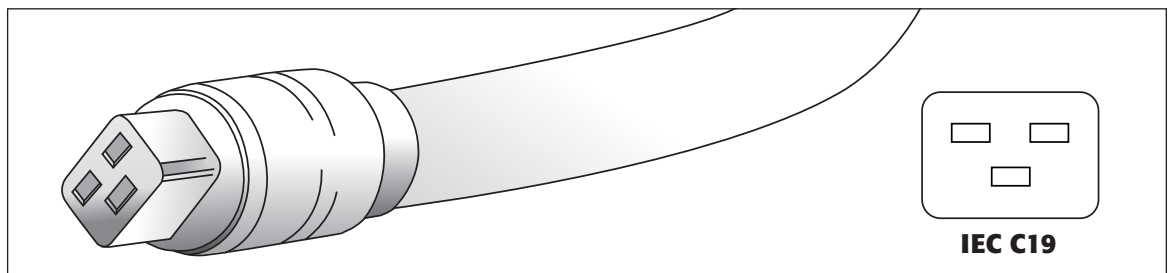
This is NOT a master ON/OFF switch. The breaker is designed to protect the unit and the components in the event of an over-current event. You should NOT use it to turn your system ON and OFF.



OFF POSITION

THE POWER CORD

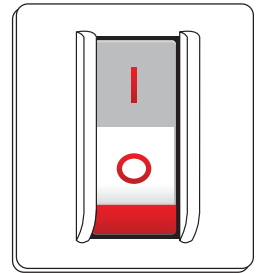
The Delta requires an IEC C19 terminated power cord. **ONLY** use a power cord that is rated for 16/20 Amps of continuous current.



POWER UP SEQUENCE

- ❶ Put the breaker in the OFF position.
- ❷ Plug the C19 power cord into the unit's inlet.
- ❸ Ensure all electronic components are in the OFF position.
- ❹ Plug each component into an available outlet.
- ❺ Put the breaker in the ON position.
- ❻ Turn each of the components on.

Wait approximately 5 seconds between each component.



ON POSITION

POWER DOWN AND DISCONNECTION

WARNING: DO NOT PULL THE PLUG

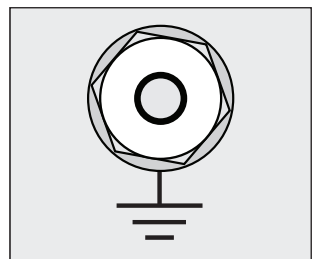
DO NOT ever pull the unit's power cord from the wall outlet while the system is operating. This unit carries very high currents and pulling the cord may cause a large arc that may damage the power cord contacts, the wall outlet and potentially the unit's inlet connector.

To remove the unit from the system, reverse the previous procedure.

- Turn OFF each connected component.
- Turn the unit's electromagnetic breaker to the OFF position.
- Unplug each of the power cords attached to the unit.
- Unplug the unit's power cord from the wall outlet.

CHASSIS GROUNDING SYSTEM

The Delta includes a chassis grounding terminal that provides a central grounding point for electronic components in the system. Grounding the chassis of all the components in the system to a common ground point may eliminate system hum caused by ground loops.



PERFORMANCE OPTIMIZATION

SETTLING TIME

The Delta is constructed using massive wiring and heavy-duty contacts throughout. It is treated with Shunyata Research's exclusive KPIP™. This significantly reduces the amount of time required for *burn-in*. However, the unit will improve in performance over a period of time. Allow several days of continuous power, with a load, to achieve optimal performance. We recommend connecting a 100-watt lamp or a small fan to accelerate the settling period.

MOUNTING PLATFORMS

Ideally the Delta should be placed on a proper shelf, amp stand or solid platform. A heavy plank of hardwood or a granite slab also works well.

AC WALL SOCKETS

It is strongly recommended that you replace the wall outlet with a high-quality commercial-grade unit. A standard wall outlet is usually not ideal for high current applications. There are many audiophile-grade outlets that may be plated with a variety of metals including silver, gold, rhodium and others. Our experience is that these do not provide significant improvement over a quality commercial-grade outlet. Shunyata Research strongly discourages the use of rhodium-plated outlets with its products. Shunyata Research recommends the Hubbell model 5362 outlet or Shunyata Research's own CopperCONN® outlet for best performance.

OTHER POWER COMPONENTS

Using Shunyata Research power distributors in conjunction with other power distributors, conditioners, or regenerators is strongly discouraged. Connecting power conditioners in series usually gives unpredictable or poor results. Other power conditioners and regenerators can be *highly reactive* and may degrade the DTCD® and the CCI™ advantages built into the Delta.



Fig. 1: Delta D6 (US/AS)



Fig. 2: Delta D6 EU

SPECIFICATIONS

MAXIMUM VOLTAGE

- 90 - 125 VAC r.m.s. unregulated (US)
- 220 - 240 VAC r.m.s. unregulated (EU, ASIA)

INPUT CURRENT RATINGS

- US/Asia maximum continuous current: 20A
- Euro maximum continuous current: 16A

OUTPUT CURRENT RATINGS

- US/Asia max current/outlet: 15A
- Euro max current/socket: 16A

TRANSIENT SUPPRESSION

- Maximum transient protection: 40,000 A @ 8/50 μ s

OVER-CURRENT PROTECTION

- Hydraulic electromagnetic breaker

WIRING SYSTEM

- 8 gauge ArNi[®] VTX Buss system
- 10 gauge ArNi[®] VTX outlet wiring
- Ratings: 600 VAC 105° C

NOISE SUPPRESSION

- Input to Output (100 kHz - 30 MHz):
> 40 dB reduction
- Zone to Zone (100 kHz - 30 MHz):
> 50 dB reduction

OUTLETS & CONNECTORS

- Inlet: IEC C19R
- US outlets: 6 NEMA 5-20R
- AS outlets: 6 NEMA 5-20R
- EU sockets: 6 CEE 7/3

VIBRATION CONTROL

- Vibration dampening panels (internal)
- AC outlet dampening gaskets
- Shunyata Isolation Footer (standard)
- Shunyata Isolation SSF-38 Footer (optional)

CONSTRUCTION

- All aluminum chassis
- Anodized, brushed aluminum faceplate

DIMENSIONS

Width: 17 inches (43.2 cm)
 Depth: 9 inches (22.9 cm)
 Height: 4.6 inches (11.7 cm)
 Weight: 9.5 lbs (4.31 kg)

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