

When employing the IT-REFERENCE you will immediately notice far clearer, stunningly focused sound and visual images from your system. Video presentation will be crisp and colors true. Sonic transients will be startlingly fast with bass fundamentals that shake foundations with their weight and visceral impact. Mid and high frequencies will bloom with sweet, non-glaring ease and imaging will improve dramatically, all the while remaining true to your system's inherent virtues.

Installation

Before unpacking your unit, inspect the carton for any obvious severe damage to the box and internal protective materials. If internal damage is likely, contact the carrier who delivered the unit before proceeding with unpacking. If, after unpacking, shipping damage is evident, contact the carrier. Save all shipping and packing materials. You may need them if you should ever have to return the unit to the factory for servicing.

The box should contain the IT-REFERENCE unit, Owner's Manual, and Warranty Registration Card. If anything is missing, please contact Furman Customer Service. Fill out and return your warranty registration card. Registration is recommended because it can be used to establish whether the unit is within the warranty period should your original ownership documents be lost, and it assists us in informing you about upgrades or other vital information.

The power source to which the IT-Reference is connected must be adequate for use at 20 Amps. Though the system may function with a 15 Amp panel circuit breaker, nuisance tripping and vastly inferior protection could result. If your system includes audio power amplifiers that require more than modest power demands, a circuit breaker with a rating of at least 20 Amps is essential for optimum performance. If other electrical loads are used on this same AC line, and the continuous load from your equipment is in excess of 10 Amps, we recommend a 30 Amp circuit breaker wired with #10 gauge wire. For installations which must comply with NEC codes, a dedicated 20 Amp circuit is the minimum requirement. If in doubt, consult your local electrician.

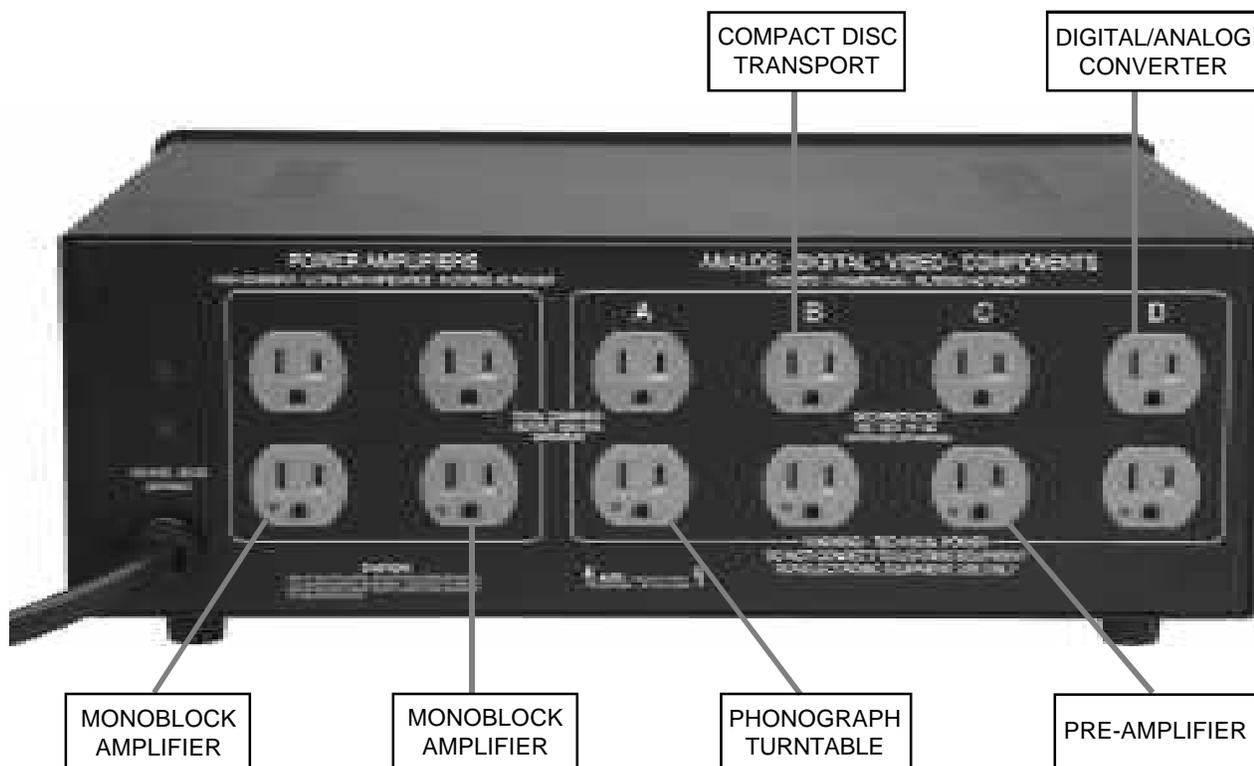
The IT-Reference is manufactured with four rubber feet for placement on any table, cabinet, shelf, or floor capable of supporting its weight. Because of the IT-Reference's advanced internal magnetic shielding, placement or proximity to other components is not critical, and the IT-Reference does not produce any appreciable heat.

The IT-Reference may also be rack mounted in a standard 19" rack by attaching the optional IT-Reference rack ears. These optional rack ears mount flush with the back portion of the IT-Reference's front panel. They are attached to the chassis by removing the (3) countersunk screws on each forward-side of the chassis top cover. Each rack ear is installed with pan-head Philips screws contained within the IT-Reference Rack Ear mounting kit. Due to the weight of the IT-Reference (80 lbs.), it is recommended that placement be at or near the bottom of your rack when choosing this mounting option.

Once the IT-Reference is placed, its AC cord must be plugged into an appropriate socket (see current rating recommendation above). This AC cord will carry substantial unbalanced AC current, so it should be dressed away from critical signal-carrying cables, or at the very least, cross them at a 90 degree angle. The same is true of the power amplifier AC cords when plugged into the IT-Reference's "Amplifier Power" AC filtered outputs. All other components plugged into "Discrete Symmetrical Power" outlets (A) through (D) have symmetrical balanced AC current and will radiate virtually no field; as a result of this technology, their placement is not critical.

The IT-Reference's "Symmetrical Power Outlets" should be employed for all components other than power amplifiers, powered subwoofers, or powered loudspeakers. Each "Discrete" bank (A) through (D) contains two parallel outputs, that are symmetrically balanced, filtered, and totally isolated from adjacent output banks or the "Amplifier Power" outlets. It should be noted that as each AC bank's outlets are in parallel, component power supply noise could potentially "back-wash" between these units. For this reason it is recommended that systems with minimal componentry (four units

Suggested AC Connection: Example 1



or less, excluding the power amplifiers) utilize one "Discrete" bank per component. This will maximize performance by eliminating inter-component AC noise contamination entirely! For systems utilizing more componentry, high performance will still be achieved with careful routing of component AC cords to the IT-Reference's four "Discrete" power banks. We recommend separating digital processors, DVD's, and CD transports from pre-amplifiers, tuners, and tape machines. Further, video monitors should ideally be separated from audio components.

Most audiophile and premium audio/video systems will have combined continuous current demands far below 10 Amps. It is rare, in fact, for relatively high current drawing units such as power amplifiers to draw as much as 5 Amps continuously. However, for the ultimate in performance, it is vital that an AC filter possess extraordinarily low impedance, and possess the capability to pass peak current demands far in excess of the RMS (continuous) current rating. The IT-Reference was designed to more than meet this demand. Additionally, our Power Correction Circuitry effectively creates a current reserve in excess of 8 Amps that is cleaner and faster than a dedicated line from your local power station. This benefits audio and video performance dramatically.

When power correction technology is employed with even the most sophisticated circuit breakers, it effectively adds to the perceived current load. Though the IT-Reference was designed for steady 20 Amp operation, and peak current demands many times that, it is recommended that the total continuous current draw be limited to 1500 Watts per IT-Reference employed. This is far in excess of typical home demands. If you are unsure of your system's current draw, consult your Furman dealer or Furman service representative. The total continuous current draw of most electronic components is typically listed in Watts by their AC input cord or AC connector. Watts ratings are simply added to determine the total system RMS current draw. It should also be noted that the IT-Reference's correction circuitry has no actual effect on the power drawn from your utilities' power meter. The IT-Reference draws a mere 8.5 Watts independent of other components.

Soft Start and Continuous Use

When power is first applied to the IT-Reference, the Soft Start feature is activated. The extraordinarily low-impedance of the IT-Reference's proprietary transformer can draw as much as 200 Amps for the first ¼ second power is applied. This creates a system capable of incredible instantaneous power demands without a trace of the typical dynamic and transient compression common in many other, inferior designs. Still, the circuit breakers in your service panel could nuisance trip with such a large toroid transformer when power is applied. Furman's Soft Start circuit eliminates this potential inconvenience by absorbing the initial current surge, then bypassing its circuitry within two seconds of energizing the IT-Reference. There is an audible "clack" when the IT-Reference is first turned on or off. This sound is produced by the Soft Start circuit's massive 25 Amp relay engaging or disengaging. It is best to avoid re-energizing the IT-Reference from turn-off mode until the "clack" sound has occurred (typically within two seconds).

There is nothing in the IT-Reference's construction, design, or componentry to wear over the life time of the product, and there is no power draw from your electric service meter aside from the LED power indicator, relay, and GFCI protection circuit. For this reason the IT-Reference may be left with its power engaged permanently at a cost of pennies per month. This is an added benefit, as many audio/videophiles find performance improves significantly when leaving low-powered components permanently charged (turned on).

Ground Fault Interrupter (GFCI)

The IT-Reference's "Discrete Symmetrical Filtered AC outlets" incorporate a balanced AC power output, whereby both the neutral and positive leads of the AC cable run at 60 Volts AC in opposing polarity, referenced to ground (0 Volts AC). This is but one of the IT-Reference's advantages over other AC-filter/protection designs. Though virtually all domestically produced electronic equipment is designed to detect electrical shorts and other potentially dangerous equipment problems in the positive lead referenced to its ground,

Suggested AC Connection: Example 2

