

## EQUIPMENT RACKS

If you want truly great performance from your music or home theater system, then you should know that what you place your components on makes the difference between good results and great results. Today's sensitive electronic equipment is more and more sensitive to the distortions which come from an unexpected source - mechanical vibration. Even subtle vibration will affect the quality of what you hear and what you see, and the better your components, the more important vibration control becomes. Vibration control represents the leading edge in state-of-the-art audio and video system technology, and for this reason, the equipment rack is a component which has become vital in determining the ultimate character and quality of a home theater or music system.

We've helped lots of customers use maple platforms to isolate components from the evil-sounding resonances of flimsy plywood-and-hollow-tubing rack

With the right rack Transients are sharper and cleaner with no change in the tonal balance. The dynamic range also seemed a bit better with the quieter passages being quieter. Low level resolution and vocal nuances were excellent

### Classic Alpha Series Rack

This is a complete modular rack and allows the user to choose/select or use his own shelving material may it be glass, Plexi, granite.wood etc which can be procured by the user himself. Shelf Thickness upto 19mm is accommodated



The new generation Alpha rack was made using 1.5inch diameter Solid aluminum pillars/supports. For shelving Plexi glass 12mm was used. A testament to strength of 12mm plexi is here <http://img442.imageshack.us/img442/7263/diyrack8.jpg>

Make no mistake we have used 12mm plexi and loaded each shelf with close to 30kgs! Of course we have also gone all out and used 25mm plexi to take upto 60kgs/shelf but cost increases exponentially with thickness



Solid aluminum and plexi were found to be the most inert materials one can use for a hi fi rack, and we have been extremely happy with the results. These materials being non magnetic in nature are perfect for hi fi racks in addition they DO NOT impart any tinny characteristics to the music as glass and steel are believed to impart nor do they cloud or impart any muddiness to the music as plywood is believed to impart. UNLIKE Most rack designers who use hollow columns/pillars to save on material and shipping costs, we on the other hand use only SOLID aluminum.

This rack can be ordered in a 3 column or 4 column arrangements. The former is far easier to level.

The basic alpha set consists of the following

For a 3 column self leveling rack system

- 1.5inch Solid aluminum pillars (Called MODULES) of 4inch height & Brush Finished -3nos
- Solid Marine grade Stainless Steel (dia 32mm) Double Contoured CNC turned Spikes – 3nos
- Spike feet dia 32 in Stainless Steel – 3nos
- Top/end Caps dia 32 in stainless Steel (to scew over your topmost shelf)– 3nos
- Neoprene washers – 3nos

For a 4 column rack system

- 1.5inch Solid aluminium pillars (Called MODULES) of 4inch height & brush finished-4nos

- Solid Marine grade Stainless Steel (dia 32mm) Double Contoured CNC turned Spikes – 4nos
- Spike feet dia 32 in Stainless Steel – 4nos
- Top/end Caps dia 32 in stainless Steel (to screw over your topmost shelf)– 4nos
- Neoprane washers -4nos

The base Alpha set as described above is for a single shelf rack/pedestal (to accommodate 1 item of electronics;it may be a power amp, a preamp etc)Extra MODULES of 6,7,9 inch height have to be purchased in addition to the above according to the number of shelves that one requires and the height of the electronics that are to be accommodated. Each of these modules are simply to be screwed on, one on top of the other



The rack in the pic is the earlier generation of the classic rack which is a 4 shelf rack using 9 inch modules for the lower shelf (third from top) and 7 inch modules for the top two shelves.

Shelves can be cut to any size (24\*18 is good aesthetically for a 4 column rack and generally fits most equipment but you should choose your own size according to equip).Holes in the four corners (in case of a 4 column rack)of the shelves could be made 21inch by 15inch centre to centre distance if using the above mentioned size of glass).Alternatively 1.5inch away from each edge if using other sizes

Tip: while drilling please use centre to centre distances rather than distances from the edge of

The shelf for better accuracies

The upright uses 5/16 "threads- hence an 8 mm hole would suffice.

Tip if using glass: ask the glass cutter to use an 8mm drill bit. You will see the final result will end up being MORE than 10mm which is good for adjustments or inaccuracies in measurement). Assemble the modules with the shelving WITHOUT spikes so that the first module rests flat on the floor. Add spikes when entire rack is assembled. If the holes don't line up slightly loosen a module - and tighten after holes align themselves

## Stealth Beta





This rack was primarily designed for stealth and aesthetics & looks fantastic when loaded with equipment. A clear favorite with the women of the house is rack uses a combination of two principles; the 3 point cantilever (remember your physics) and a 3 point support. The idea here was a minimalistic look (i.e. once the equipment is loaded - you can't see the rack) It's as if the equipment is suspended with no visible columns as in conventional racks

The centre stage here is the equipment and not the rack. Hence the shelves are made smaller in dimension than the size of the equipment (just enough to accommodate the feet)

The rack is 26-30 inches tall which makes it ideal height to be placed below a wall mounted LCD and the nifty cable mgt on the rear hides away all those connecting cables giving your drawing room a neat modern and minimalistic look

Another feature here is that the shelf height is adjustable since the brackets slide and lock along the central column in any desired position. The same rack can therefore be used for all upgrades/changes in electronics irrespective of the equipment height. Shelving can be of any material as desired by the user ranging from glass to acrylic.

Pics Below show one rack using 6mm toughened glass shelving and one rack with 19mm thick granite

Here unlike the type 1 rack there are no holes to be cut in shelves etc. Just get a sheet of glass/acrylic/granite and place it onto the 3 point cantilever brackets and your good to go. The larger rack below (the one with granite shelving) has a huge base so as to accommodate large AVR's

Due to the principle of cantilever this rack is limited to having shelving for only 4 electronic equipments and is most popular with HT users wherein the AVR is placed on the bottom shelf with equipments like DVDPs setup boxes, CD players, Blue rays, routers and media consoles being placed on the upper shelves.

Recommended use is to have a power amp at the base a pre amp above it followed by a CDP.

It is recommended that the top most shelf be reserved for lighter equipment that is not operated manually

AVR on the last shelf can be upto 18 inches deep

However other shelves are made to accommodate equipment that is only 12 inches deep

The picture shows a 130 Lbs (60kgs) classe Power amp at the base an Acousitc Research premap and a Q sonix music management system on the top shelves.

The entire framework rests on 4 Stainless Steel Spikes which isolate the rack as a whole. Furthermore each shelf rests on a 3 independent adjustable spikes which help in isolating each electronic component individually

#### Recommended Shelving

Base: 22\*18: Granite is recommended but any of the materials below would work too

Shelves other than Base (18\*16)

10mm Plexi-black or smoked finish

6mm toughened Glass-Black or smoked finish

### **Type 3- Gamma rack**



The gamma series is a revolutionary concept we had been working on for some time now. It allows for infinite shelf adjustment at any level with moderate to high load capacities. Most importantly DIY options are also available for this rack.

Those of you that are familiar with "T-slot" extruded aluminum recognize the versatility of this system. Much like a child's erector set, these universal components allow you to design and build a rack having virtually any configuration you can imagine. Aluminium extruded section struts slide into T slotted side pillars and can be locked into any position/level along the length

of the side pillars. These struts serve as shelf supports over which any kind of shelving that the user wishes can be placed. Thus making the shelves **infinitely height adjustable**

Framework is made from pure aircraft grade aluminum billet extrusions offering inert performance with superior structural strength and rigidity. Custom designed aluminum extrusions form the heart of this framework. Both extrusions are designed with an internal cross brace that is instrumental in not only making the profile strong but also makes it **highly inert by rejecting any sort of ringing or resonances** that are commonly found in typical hollow sections. Additionally the framework is designed to **reject “sway”** which is one of the most important aspects in an audiophile rack

(“**sway**” is the pendulum motion you get when you push the top shelf of an ill designed rack – ever experienced the movement of a rack where it sways toward the back when pushed and then comes back to equilibrium ? )

The shelves can either be wood composites (walnut grain as shown in some pics) or can also be our proprietary granite and silicon composites (shown in some pictures ) or can simply be solid maple wood which is our recommendation for those on a budget

Both composites are highly suited to most acoustic installations (You can read more about them in the accessories section). The picture shows a gamma rack with an upgraded top shelf (to be ordered separately) especially for critical electronics like TT's. This shelf is larger than the others and can be independently levelled. Furthermore it is isolated by its own set of spikes. Our proprietary QUAD ESL spikes are standard with the rack.

Pedestal stands for your power amps or monoblocks can be made the same way to match your main rack

#### Features

- Rigid Framework using aircraft grade cross braced “ring free” aluminum extrusions for absolute inertness and 0” sway”
- Infinitely adjustable shelf height
- Choice between real wood ( parawood) and MDF shelving
- Marine grade Stainless Steel Spikes for level and isolation
- Recommended for TT's

#### Specs

- Size : 24\*18 inch – height customizable However standard height is 35 inches
- Weight 28 kgs
- Color : custom – however standard is Black
- Standard shelf spacing

.Following are the rack components

### Our Multi-Element Granite Platforms:



Granite is well-known for its ability to maintain precision flatness and has sufficient mass to naturally resist motion, not to mention its stunning beauty. Natural stone however, will ring like a tuning fork unless certain measures are taken.

We combine the granite slab with a sheet of medium density fiberboard (MDF) which has excellent anti-resonant properties (that is why MDF is widely used in the manufacturing of speaker enclosures). The bonding is achieved through the use of our special anti-resonant conduction material. Our secret is the way energy is transmitted back and forth between the different materials. The intentional use of different materials aids in negating the ill effects of each material and focusing on its advantages

DIYers have tried their own version of this design by substituting other materials between the MDF and granite (or worse yet just plain granite)! And the results are always the same, a compromise in soundstage and a sense of hardness in the upper midrange. [More here....](#)

### The Frame Assembly:



The simple, clean design of this rack frame is based on just two basic components: the cross-beam and the column. Much like a child's erector set, these universal components allow you to design and build a rack having virtually any configuration you can imagine. And better yet, if your needs change, just tear it apart and start over.

We offer these racks two ways: Complete rack solutions, or as mix-n-match component DIY sets. Just send us a sketch or a written description of your requirements and we will provide you with all the materials needed to build your "custom" rack.

#### The Horizontal struts/Shelf Supports



These are Extruded aluminum cross-beams, machined ends with pre-installed connector assemblies. A universal T-slot runs along the top edge, making it easy to install after-market coupling and wire-management devices.

### The Connectors:

The entire rack may be assembled using just one simple allen wrench. Rotating the socket-head screw causes the T-bar to retract, thus locking the cross-beam to the column. In the 45sq series the allen key locks a sliding support cast connector to lock the horizontals with the verticals

### The Capitols



Also referred to by us as “End Caps”, these serve dual purposes. Not only do they allow us to hold together the top most shelf in a rack they also add a touch of class. The capitols are precision machined components that provide a means of coupling (or decoupling) and allow platforms or additional rack layers to be placed above the columns. Optional brass caps can be ordered that can be leveled so as to support a plinth ( for a TT ) on the top shelf



### The Footers:

The primary function of spiking is to focus the weight of the rack onto an infinitely small surface area, thus allowing it to function as a diode and transmit vibrations and energy only in one direction-rack to the floor. We have various kinds of footers on offer however we generally use only the *isosphere* footer or the *SureSpike* both of which are CNC machined marine grade SS components. Spike feet to protect your floor are also available

## Type 4 - Theta Rack

The theta rack by SoundFoundations is a classic spider rack design incorporating a Steel X frame for each shelf providing extreme rigidity and support. In addition to this it provides an option of going truly “shelfless”. You can place your electronics directly onto the cross members, thus removing “shelf signatures”. Alternatively those who want shelves can just place and level them on the X frame.

Our multielement platforms are superb for this purpose

With this design we truly enter the realm of high end audio. The rack is neutral sounding across the entire audio spectrum and known to add no coloration. In fact it helps in achieving a life like soundstage with incredible focus and separation.

The columns are Heavy gauge beefy cross braced Extrusions with extra large dimensions for an aggressive look. The rack makes a Solid statement. Bring on those monster Krells and Levinsons. It's nice to know that our theta series racks are so strong and heavy, that you could actually anchor your boat to it!

### Theta Rack “Signature Series”



This series comes with 4 oversized heavy gauge T slotted pillars into which 4 Steel X frames Slide into. Each is infinitely adjustable and supports our multielement shelves incorporating our tested anti resonant technology. Each shelf has a capacity of 250 Pounds (that's over half a ton per rack!) and measure 18\*18 inches (this can be customized but is adequate as long as the equipment feet land in this dimension). It is most likely one of the most rigid racks anywhere. Each X frame comes equipped with leveling aids and associated hardware for fixing to the side pillars.

## **.Theta Rack "Reference Series"**



The reference series is a stackable version of our signature rack which goes a level further in isolating your equipment individually and independently. The rack is suited for use in serious high end setups. The open framework construction provides clean airflow and access to the components while the granite and metal set-off its good looks. Being modular, it is fully customizable and upgradable. But there's much more behind this design. The high-mass cones effectively couple each level to one another. Concave footers ensure stability. The resulting "stack" behaves much like a one-piece rack. Another important feature is the ability of the user to add a level when needed or alternatively even join two racks to form one whole structure. The resulting structure fits and looks the same always.

With the serious audiophile in mind, this modular AV rack employs the latest technology in design and materials to unleash the full potential of your system. Although designed primarily with function in mind, it looks pretty "cool" as well!

Features:

Load capacity: Conservatively rated 300 pounds per shelf

Overall Dimensions: Width 25", Depth 25", height 37 1/2" including the cones. (other heights available) Access between the columns is 20 inches.

Shelf spacing: Infinitely adjustable

- \* Genuine granite shelves, bonded to damping material, eliminate resonant waves.
- \* Mathematically calculated support points further reduce shelf resonance
- \* Super strong one-piece mig-welded tubular steel frame for each shelf.
- \* Vertical struts and T-Slots are more robust than those used on competitive units.
- \* Sand or shot fill-able for increased damping. Although this is not necessary.
- \* Modular construction may be expanded vertically or horizontally.
- \* Assembles in minutes using provided tools

#### Our Multi-Element Granite Platforms:

Our concept is sound, combine the benefits of different materials using and focusing their best acoustic properties, at the same time compensating for their ill effects when used individually. Each stone slab is bonded to a 3/4 inch thick anti-resonant substrate. The notable aspect is the way energy is transferred back and forth through the multielements to achieve a flat response throughout the entire audio spectrum Collectively the shelf translates into a sonically neutral platform providing an unparalleled sense of realism to music

Next, we calculate the best points in which to support the slab such that it tries to oscillate outside of the stones natural resonant frequency thus affecting its ability to "ring". The granite is essentially coupled through the supporting frame and on to the floor. The result is a "rock solid" and quiet platform for your components. You'll hear the true timbre of the music with no added coloration.

Independent of component weight - whether it's a huge heavy power amplifier, or a sensitive phono stage, the results are fantastic. In addition to this they can be paired well with a wide range of tweaks as seen in our accessories section.

*More here....*

### The Support X Frame:

Since aluminum is used for the vertical columns, we use ferrous metal for the horizontal beams. Rack frames made entirely of aluminum exhibit phenomena referred to as "cage effect". This is caused when vibration energy loops around the rack frame and feeds back into itself. Since this is caused by vibration along the longitudinal axis, simply applying a damping material to the surface won't eliminate the problem.

Try this simple experiment: Take an aluminum extension ladder and drop it on the ground. The loud clang sound you hear is an example of this phenomena which is inherent in the sonic signature of rack frames made entirely of aluminum.

The solution is obvious. We simply use a material for the cross beams that has different properties than that of the columns. Our rack frames are among the quietest in the industry.

Our shelf support-frame utilizes heavy-gauge steel tubing fully welded at the center point to increase torsional stiffness. The attachment plates are fabricated from 1/4 inch steel plate. Steel, like granite, rings like a bell unless it is properly damped, so the weight of the granite rests at points that interfere with the linear resonance of the tube. When filled with sand (or lead shot), the frame becomes about as sonic as "a stick in the mud" yet it continues to couple energy toward the floor. Leveling is provided by a 1/4-20 conical set screw and jam nut at each leg of the support frame.



### The Columns:

The columns are huge 45mm cross braced precision extrusions especially designed to be "ring free". The cross bracing throughout its inner length adds rigidity and strength. The T slot running along its side serves dual purposes. Not only does it allow us to lock the X frame in place at any

desired height but also allows us to actually join two racks to form one coherent framework. Aluminum is used for its neutral signature and hence is perfect for audio racks. The heavy gauge column is designed to transmit vibration energy quite well down its longitudinal axis, where it is easily drained by your floor.



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### The Footers:

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*[Read more about spiking and isolation here](#)*

## Theta Rack "Signature Series"



## Theta Rack "Reference Series"



