MG 3.6: Magnepan's Newest Exotic Blend of Music and Magic

Since the introduction in 1983, the MG3 series of Magneplanars has earned a reputation as the most successful high-end, esoteric loudspeaker on the market. Numerous critics over the years have written of the product's advanced speaker technology combined with reliable, no-hassle performance.

Compare the MG3.6 against $10,000 dynamic speakers. In the areas of inner detail, depth, and the illusion of "you are there," the MG3.6 proves that spending more money doesn't always get better results.

Sometimes you just need a better idea.

The Magnepan '3' series of loudspeakers has had a long, successful career as a line of premier High End esoteric loudspeakers because they not only perform, but they represent 'real value'. The most popular 'High End Loudspeaker of all time' is also a real value in a field dominated by 'over the top' performers.

The most recently retired version of this family, the MG3.5R was selected by The Academy for the Advance of High End Audio as the:

"Best Value in Loudspeakers" for 1997.

Enter the MG3.6

The MG3.6 is the recent successor to that highly acclaimed MG3.5. The MG3.6 is a 3-way system with a low mass, line-source midrange and a true ribbon tweeter. The bass driver has 537 square inches of radiating area.

The MG3.6 boasts a larger, improved midrange than it's award wining predecessor which allows a lower crossover point between the bass and midrange, resulting in greater clarity and definition. In addition, the midbass dynamic "slam" of the MG3.6 has been improved.

The Absolute Sound's Harry Pearson awarded the MG3.6 the 1999 'Golden Ear Award' claiming roughly,

The MG 3.6, along with the MG 1.6 represent the years biggest thrill.

We know MG3.6 will prove to be a worthy successor to the Magneplanar MG3 series, and its increased performance makes it an better value than ever before.

Stereophile's by Brian Damkroger said this about the MG3.6 in August 2000

Taken on its own, however, the Magnepan Magneplanar MG3.6/R is a sensational speaker and, at $5,000/pair, very reasonably priced. In some respects it's the best speaker I've heard period. Even in the areas where it's perhaps not the very best, it's awfully close -even when the very best is several times more expensive. Some speakers I admire, some I like ... the Magnepan MG3.6/R, I think I'll keep. ***Very highly recommended!***

The MG3.6 has optional bi-amplification and bi-wire capability.

MG 3.6	
Description	3-Way / Ribbon Tweeter / Planar-Magnetic
Freq. Resp.	34-40kHz ±3dB
Rec Power	Read Frequently Asked Questions
Sensitivity	85dB/500Hz /2.83v
Impedance	4 Ohm
Dimensions	24 x 71x 1.625

Available in natural or black solid oak trim, off-white, black or grey fabric. (Dark Cherry trim available at an extra charge)

HOME ENTERTAINMENT
FEATURING THE FINEST IN AUDIO/VIDEO TECHNOLOGY & DESIGN

Magnepan MG3.6/R Review

Product Reviews **Speakers**

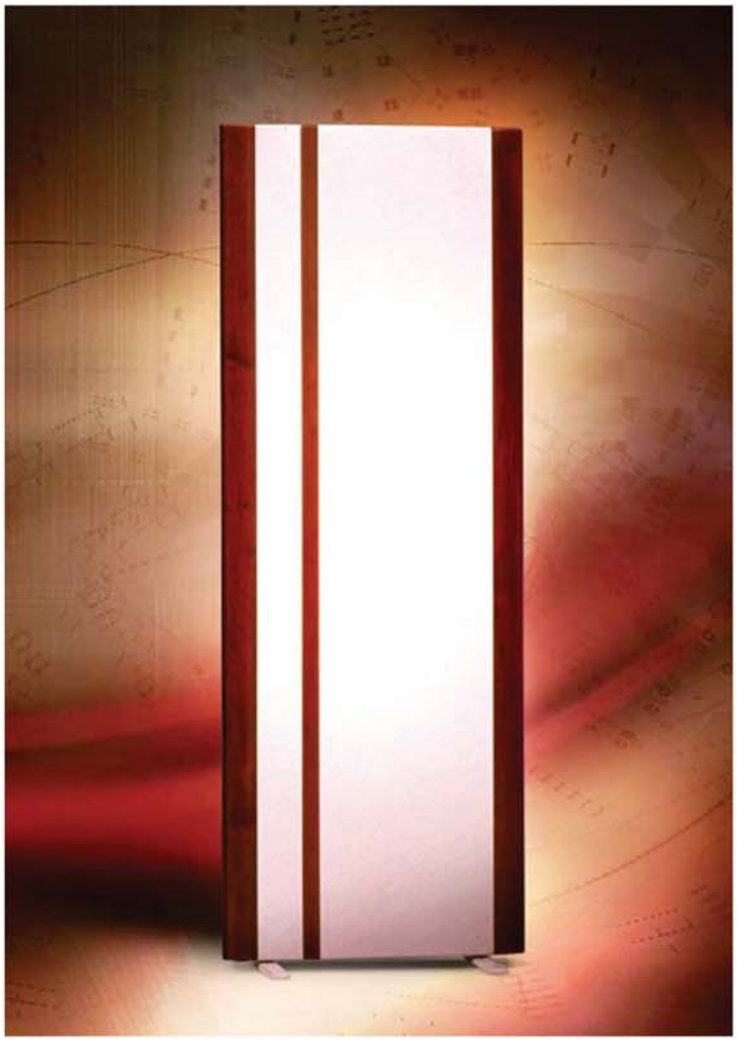
November 11, 2008 By Steve Guttenberg

Click the images below for bigger versions:

Speakers have the toughest job in audio; reproduce the deepest bass to highest treble and unleash the widest possible dynamic range. In stereo, the best speakers should provide a full-blown holographic recreation of the original sound event. For home theater you should feel like you're there.

That's the goal, but all speakers fall short of perfection. They never truly disappear as sound sources, and to a greater or lesser degree they all wind up sounding like an assortment of tweeters, midranges and woofers mounted in a box.

Not this time. For this review we're looking at a very different type of speaker.



The Magnepan MG 3.6/R is 71 inches tall, but a mere inch and a half thick. There's no box, just a nicely finished open-panel design with nary a dome tweeter, cone midrange or woofer in sight.

That's why the MG 3.6/R will sound like a revelation to first-time listeners; the gap between the sound of real, live music and recorded music feels a whole lot smaller.

The speaker projects a more full-bodied, three-dimensional soundstage than any box can—correction, the MG 3.6/R's sound was bigger and deeper than I've ever heard from a speaker retailing for less than $50,000. With the MG 3.6/R instruments and voices emerge closer to their real life scale and size. Clearly, Magnepan engineers changed the way speakers compress and rarefy air.

Mounted within the MG 3.6/R's statuesque panel are three "planar-magnetic" drivers: a 55-inch tall aluminum foil "ribbon" tweeter; a 199-square-inch 0.5-mil-thick Mylar midrange diaphragm; and a 500-square-inch Mylar woofer.

The MG 3.6/R is a dipole design, so it projects sound from its front and rear surfaces. The drivers are Magnepan patented designs, all manufactured at the company's factory in White Bear Lake, Minnesota.

More about the planar-magnetic midrange and woofers: Rather than use a conventional voice coil that pushes and pulls the center of a cone diaphragm, wire grids are deployed across much of the surface of the flat planar-magnetic diaphragm—the design gambit produces lower distortion than cone type drivers.

The MG 3.6/R's pleated aluminum ribbon tweeter directly carries the current and doesn't need additional conductors. It weighs far less than a dome tweeter and still has many times the surface radiating area of a dome. Without getting all technical on you let's just say it's a remarkable device; the Magnepan ribbon has been cited as the world's best tweeter by a number of audio reviewers, including yours truly.

The technology may be exotic, but the MG 3.6/R's design is far from cutting edge: It's been in production for more than ten years, and the original MG3 debuted in 1983.

Magnepan rarely introduces "all new" models; the speakers are so highly evolved design changes are infrequent. I find that refreshing, Magnepan is a very different sort of high-end speaker company.

The MG 3.6/R is available in dark cherry, natural or black oak, with off-white, black or grey cloth grilles. Contact Magnepan to discuss custom finishing options.

The sheer believability of the sound can be, at first, a little jarring. The ribbon tweeter is so much more realistic sounding than any dome tweeter I've ever heard. Cymbal crashes sound like crashes.

The treble dynamics/impact/vibrancy are absolutely state of the art. So much so returning to box speakers can be a letdown, they sound smaller, more contained, and well... boxier.

While there's astonishing resolution of fine detail the speaker somehow still manages to sound phenomenal with all sorts of music. The MG 3.6/R was surprisingly adept at cranking out nasty, distortion-strewn punk rock from the 1980s.

1960s psychedelia was also trippier, seemingly because the speaker imposes less of its own sound over the music. It's really as simple as that.

The ribbon tweeter has an effortless quality that almost always brings out the best in recordings; but bass definition/precision is just as extraordinary. It's supple and nuanced in ways that cone woofers never quite match.

The thing is, I have to interrupt this glowing review with a few caveats. First, the 3.6/R can be demanding about placement, it wants to be at least 30 inches away from the wall behind it; in my room the review pair needed more like 40 inches.

Same with side walls, get too close and the soundstage goes to hell and the bass loses its magic. Some folks slide the panels close to the wall when not listening. Thankfully, the speaker is pretty easy to move around.

The next hurdle is power, the MG 3.6/R is a hungry beast and needs *at least* 100 watts from a high-quality amplifier to strut its stuff (100 watt A/V receivers probably won't cut it). My JC-1, 400-watt Parasound amplifiers were a perfect match, so the power issue never came up for me.

If you like to listen loud or your room is large, don't scrimp on power. But even feeding it enough juice the MG 3.6/R won't satisfy headbangers, it's not going to rock out like a heavyweight tower.

Back to the rave. I played a lot of the earlier Simon & Garfunkel records. On "Cloudy" and "Patterns" there was a purity to the sound of the chimes and other percussion instruments that I swear I've never heard before. I had to stop and play those songs a few more times just to marvel at the sound.

And on S & G's *Live From New York City, 1967* CD the duo's voices were startlingly natural. The voices were so perfectly realized I can almost accept them as real. The concert had a live, in the moment feeling, as if the music was miraculously brought back to life. That's a trick that few speakers, even ones retailing for ten or more times the MG 3.6/R MSRP, ever pull off.

As good as the MG 3.6/R is, it's not the ultimate Magnepan—the MG 20.1/R ($12,500/pair) is the company's flagship. Magnepan will soon introduce a matching dipole center speaker, the MG CC/R for around $3,000. That, along with MG 3.6/Rs as surround speakers would make a dreamy home theater.

Me, I'll be hanging onto the MG 3.6/Rs, they're too good to send back!

PRICE: $5,000/pair
CONTACT: 800.474.1646, magnepan.com

The Audiophiliac
December 16, 2008 7:14 AM PST

Speaker of the year: Magnepan 3.6/R

by Steve Guttenberg

I've reviewed a gazillion speakers, and I can't remember more than a few dozen of them. They're just a string of big and little boxes; some sounded really nice, most were merely OK, and surprisingly few were truly awful.

Magnepan's speakers stand out from the crowd first because they're so thin, the MG 3.6/R is 1.5 inches thick, and standing 71 inches high, it's really tall. But it was the sound that blew me away. It's an incredibly clear, high-resolution sound, and sounds decidedly unspeakerlike. That's why it's the Audiophiliac's Speaker of the Year.

As I said in my ***Home Entertainment* magazine review** "That's why the MG 3.6/R will sound like a revelation to first-time listeners; the gap between the sound of real, live music and recorded music feels a whole lot smaller. The speaker projects a more full-bodied, three-dimensional soundstage than any box can; correction, the MG 3.6/R's sound was bigger and deeper than I've ever heard from a speaker retailing for less than $50,000. With the MG 3.6/R instruments and voices emerge closer to their real-life scale and size. Clearly, Magnepan engineers changed the way speakers move air."

The 3.6/R at home
(Credit: Magnepan)

Instead of the usual woofer and tweeter, the MG 3.6/R uses three "planar-magnetic" drivers: a 55-inch tall aluminum foil "ribbon" tweeter; a 199-square-inch 0.5-mil-thick Mylar midrange diaphragm; and a 500 square inch Mylar woofer. The speaker is essentially a panel that moves air, and projects sound from its front and rear surfaces. The drivers are Magnepan patented designs, all manufactured at the company's factory in White Bear Lake, Minnesota. American hi-fi at its best.

The affordable Magnepan, the MMG (Credit: Magnepan)

More about the planar-magnetic midrange and woofer. Rather than use a conventional voice coil that pushes and pulls the center of a cone diaphragm, wire grids are deployed across much of the surface of the flat planar-magnetic diaphragm--the design gambit produces lower distortion than cone or dome type drivers. Sounds radical, but the MG 3.6/R is far from a cutting edge design: It's been in production for more than ten years, and the original MG 3 debuted in 1983.

The sheer believability of the sound can be, at first, a little jarring. The ribbon tweeter is so much more realistic sounding than any dome tweeter I've ever heard. Cymbal crashes sound like crashes. The treble dynamics/impact/vibrancy are absolutely state of the art. So much so that returning to box speakers can be a letdown, they sound smaller, more contained, and well... boxier.

The MG 3.6/R goes for $5,395 a pair, and sure, that's a lot of money. But it's an investment that pays off over the long haul; it's the kind of speaker you can own and enjoy for decades. Let's compare and contrast the MG 3.6/R with **Nikon's latest dSLR, the D3**, that retails for $5,000, without a lens. Nikon will probably sell thousands of them.

I'm sure it's a great camera, but digital camera technology is still advancing at a fast clip, and this state-of-the-art wonder will be hopelessly out of date in a few years. Besides, anybody who can afford to drop that kinds of money on a camera will likely move on to the next big thing by then. It's "disposable" technology, so in that sense it's way more expensive to own that a great high-end audio system.

Some lucky so and sos blow $932 a day to **rent a Ferrari 355 GTS**.

I've blogged about the 3.6/R's little brother, the **MG 1.6/QR ($1,895)**, but if that's still out of range, check out Magnepan's $599/pair model, the MMG (**which is sold direct**). Match that baby up to a nice integrated amplifier like Rotel's sweet RA-1062 ($699), and you'd be well on your way. I haven't heard the MMG yet, but hope to review it sometime next year.

Steve Guttenberg is a frequent contributor to magazines and Web sites including Home Entertainment, Playback, and Ultimate AV. He is a member of the CNET Blog Network, and is not an employee of CNET. Disclosure.

May / June 2005

Magnepan MG 3.6

Getting Thin For The Summer

Review By Steven R. Rochlin
Click here to e-mail reviewer.

Loudspeakers come in all shapes and sizes. From small stand mounted minimonitor to the huge room hogging 500 lbs. monolithic "Dream Reference Statement". Virtually every high-quality speaker has many areas it excels in and areas it leaves a bit to be desired. For it is only *you* who knows which part(s) of the music you can live with and without. Nothing is perfect my friend. Bassheads need not venture into Minimonitor Land while small jazz ensemble lovers probably can do without the 32 drivers per channel "Dream Reference Statement." Then there are people such as myself who want it all. From small duets during the quiet moment in life to big rave club action for those Saturday night techno parties. Can one pair of speakers suit all my needs... or yours? In the end is it true what they say, "size matters?"

It is well known the optimum driver would be of extremely little weight, extremely rigid and have the ability to respond to electrical signals at blindingly fast rates without over or undershoot. According to the company's website "Magneplanars use ultra low mass components. For example, the Magneplanar ribbon element is so thin, that on edge, it is invisible to the naked eye. It is so light that when a piece of it is dropped from a height of 6 feet it takes and average of 5 seconds for it to reach the floor." Their old University website goes on with a bit more detail in saying "Using a .0005" Mylar diaphragm and a .001" ribbon this dipole, cabinet less design leaves the sound absolutely uncolored by box resonances." Box resonances have been an audiophile buzzword for many years now. There are a few 'schools of though' concerning cabinets. One is to have the most solid, heavy, inert and cross-braced cabinet. Another, employed by legendary Snell and Audio Note designs, is to take advantage of a cabinet's resonances as part of the design. Still another would be to have no cabinet at all, as experienced with Magnepan loudspeakers.

Other design concerns regard impedance. In my opinion lesser designs have an impedance that dips below 3 ohms in the bass and goes above 12 ohms in the uppermost ranges. While this type of design provides an average of 8 Ohms impedance, bass notes and very demanding on an amplifier and may cause cause problems with lesser amplification that does not also provide good current. Another school of thought is to have a high, 16 ohm impedance as seen in the old Rogers LS3/5a that is easy for an amplifier to drive. The other being a smooth, virtually flat 8 or 4 ohm impedance curve. While a good amplifier is necessary to drive the 3.6 speakers that present a flat 4 ohm resistance, I flirted around with a small 25 watt at 8 ohm solid-state amplifier to good affect and also a multi-hundred watt solid-state amplifier with great current drive.

Physical Aspects

This seemingly large speaker is 71" high and 24" wide, though only upon fully studying the speaker did visitors into my humble abode learn the 3.6 is a skinny 1 5/8" deep! Like all Magnepan speakers, a special ribbon tweeter is used for the upper frequencies while planar technology provides the lowermost audio spectrum. This model uses a 55" long (5/32" wide) ribbon tweeter, a 199 square inch planar midrange and 500 square inch

bass unit. Why use planar technology instead of normal dynamic driver (cone) units? For now here are the basics.

The Magnepan 3.6 speakers differ from the older 3.5 models in that the 3.6 uses a larger midrange panel. This, in turn, allows for a lower crossover point between the midrange and bass unit. The remaining improvements are primarily in the blending of drivers and good ol' audiophile speaker designer "toil and trouble." The 3.6 is bi-wireable for those of us with four channels of matching amplification or wire-heads like myself to have fun! An external crossover is used so those of you with really tweaky intentions can use many types of external crossovers and amplification configurations until musical nirvana is achieved.

For amplification i first used wonderful 47 Labs (25 wpc.) Gaincard (**reviewed here**) until the Magnepan suggested super powerful Bryston 7B ST (500 wpc.) arrived. While the Gaincard excelled in delicacy and small ensemble music, it did not have enough power to really drive the speakers when higher dynamic levels were desired. My guess is that the single chip amplifier within the Gaincard did not have enough current to truly handle the Magepan's 4ohm load. This is where the Bryston amplifier has more than enough brute force power. In fact, while using the Bryston 7B ST, the tweeter protection fuse within the Magnepan 3.6 blew a few times during my heavier usage. When i say "heavy", this is in reference to techno jams reaching louder-than-necessary levels.

As for speaker wire, I eventually settled on using either the Nirvana S-L or Kimber Select KS-3035. The Nirvana had better overall clarity while the Kimber rendered a bit fuller sound in the midbass. Front end was either my VOYD turntable/Audio Note silver-wired tonearm with Clearaudio Insider Reference wood body cartridge (mind-numbingly good folks) or my custom mastering-type system, which hardly resembles anything commercially available. Interconnects were either Audio Note AN-Vx all silver Litz or Kimber Select KS-1030.

Is Bigger Better?

My very first memory of Magnepan speakers was at the House of Stereo in Jacksonville Florida. I was done auditioning a preamplifier and was heading out the door when I heard some drums. It sounded like real drums! Oh joy! As a drummer myself I always enjoy hearing drums and wanted to check out who was playing those tasty chops. Low and behold it was the Sheffield Drum Test CD playing through, now get this, a Yamaha 5-Disc changer, Yamaha receiver and about five foot tall Magnepan speakers. I was in awe how such an inexpensive system could sound so good. Sometimes being an music lover contemplating buying a $4,000 preamplifier can be hard. That experience really shook me for months. How can not so "high-end" gear sound so very good? Is it legal?

Legal it is my friends as many years have come and gone since that first experience. I sit here today having had the pleasure of reviewing Magnepan's pride and joy 3.6. If there is one thing this review is filled with is memories. I remember how bad and metallic the Infinity EMIT ribbon tweeters sounded with acoustic music, but great with techno/electronica. In my humble opinion one of the biggest strengths is that the 3.6's long ribbon tweeter delivers mind-blowing transparency and very delicate upper frequencies. This is not *just* that "see through" clarity we have all heard about. This is in a league of it's own!

This type of tweeter must be experienced in a properly setup system to be understood in my humble opinion. Why? Because it is not *just* a high frequency reproducer like dome or smaller ribbon tweeters. The Magnepan ribbon covers a very wide rage of frequencies, from 40kHz to below 2kHz to be exact. Going down to 2kHz is quite low for a tweeter yet it never seems to suffer from breakup as I have heard from lesser drivers. What does this all mean to you? It means incredibly smooth upper frequency reproduction without all those peaks and dips due to crossover parts or horribly designed crossover networks getting in the way of the music. In fact the crossover for the 3.6 is extremely well designed and the icing on the cake is that it presents an almost flat 4-ohm load to your amplifier.

I make no secret that my favorite inexpensive (around $2,400 when new, now available used for under $1,000) dynamic cone speaker is the KEF 104/2. This speaker, like the 3.6 presents a very flat 4 ohm impedance curve. What seems to happen in Audiophile

Land is that once someone buys a speaker with a horribly wide impedance curve they are forever going to Amplifier City buying new boxes. This can also usually be said about speakers that use very complicated crossover networks. If you can not count the individual crossover parts on two hands I try to *strictly avoid* these designs in general. Maybe my experiences are different than yours, yet after in-home auditioning over ten different speakers within this past year has taught me something (I hope). *Beware wide impedance curves and complicated crossovers!* This way may lead to Audiophile Neverosa.

The midrange and bass panels are also impressive on the Magnepan 3.6, though maybe not to the extent of the tweeter. While the various other manufacturers panels I have heard sound more transparent than the Magnepan, the 3.6 does not have that overly sterile sound. There seems to be nothing "missing" with the 3.6's as far as musicality. The music is definitely whole in nature while, like any good panel, the imaging and soundscape is exceptionally impressive. Of course like all panels the "sweet spot" is also more narrow than a dynamic driver (cone) based design. Ya know what they say, "no pain, no gain." As large as the Magnepan 3.6 are, they never seemed to give clues as to their *true* size. Hmmm, perhaps in this case bigger is indeed better. Dynamic cone monoliths of this size generally give hints as to its size. Maybe the bass is low in the soundscape while the highs are near the ceiling. Most of us have heard large speakers where the drivers' positioning is obvious.

The supplied owner's manual gives very good detailed information about setup. Once they are properly positioned there was a seamless melding of all the frequencies. No "highs way up here and bass way down there" sound. The panels simply reproduced the music and the ambience on the software dictated the soundscape's size and shape. Because panel speakers are bipolar, emitting sound from both the front and rear, proper acoustic dampening of the listening room can yield a wonderfully natural balance between hall ambience and precise imaging. As it wisely says in the owner's manual, "Moderation is the word."

Maybe Size Doesn't Matter After All

It is amazing how such a physically large speakers can handle small ensemble music so *very* well. Virtually all big speakers seem to sound, well... big. Too big in fact when the music is on a smaller scale. How many of us have heard those super-wide super-high solo guitar music reproductions? American audio shows seem to be infamous for this "bigger is better" sound. While it is impossible for one pair of speakers situated in one position to reproduce the appropriate size of all music, the 3.6's seem to get more right than others. For instance, while playing the Sara K. *Hobo* DVD (CHDVD177), all those small and subtle highs were transported into my room with such delicacy that I sat there in awe. Of course stringed instruments were brought forth with uncanny natural vibrancy. Some days it feels good to be a reviewer.

On other relatively small-scale music such as the much (and rightly) raved about Patricia Barber *Modern Cool* (PREM-741-2), all the small timing cues are there as is the wonderful voice and piano playing of Patricia. This CD is a must-have for anyone looking for spectacular musicianship mated with refreshingly clever lyrics. Also, the CD from Chesky titled *The Unknown Piazolla* (CD 190) may be solo or duet pieces, yet some songs are dynamic dynamite! The musicianship here is, as on the Patrician Barber CD, nothing short of magnificent! The lower registers of the piano were very well defined, as one would expect with a large panel speaker such as this. So what about large-scale full orchestra pieces you ask?

Of course with so much sheer size these large panels easily play large-scale music without a hint of strain. In fact it seems the fuses blow before you really hear the panels strain. During one of my hard block rockin' beats the tweeter fuses blew. (Sigh) Well, maybe these speakers are not for those with over eager SPL tendencies from time to time. For instance the audiophile fave Berlioz *Symphonie Fantastique* (Reference Recordings RR-11CD) with its scary stringed parts takes one an even more spider web-like subtle glistening. The highs seem to dance and play as was intended by Berloiz. While I have mainly been praising the upper frequency registers it is now time for a bit

of harsh reality.

As much as panels are considered to be extremely transparent, the Magnepan 3.6's main tradeoff seems to be in the below 500Hz or so transparency. While not as a rain cloud on a wonderfully sunny day, it is more like very thin shading. Stringed bass and larger wind instruments seem to be ever so slightly veiled. On my favorite version of Tchaikvosky's *1812* (Teldec 4509-90201-2) by the Israel Philharmonic Orchestra, the cloudiness also manifests itself in slightly shortening the rear part of the front soundscape. While nothing to really be alarmed about in my humble opinion, it is my job to report what I hear. In fact I was very happy with the more "warm sounding" midbass which gave a wonderful sense of fullness. It was only during more modern music with extremely deep bass did I find the need for adding a subwoofer for that "gut pounding" bass. Still, there was something not quite Kosher in the frequencies below 500Hz or so. It took some time for me to realize why this ever so slightly lack of clarity was so easily heard.

This One Is Just Right

No, I am not going to play the ego trip of how well I hear or how good the upstream equipment is (or how good my room/power/lighting/exotic parrot/lover is). From what I can tell it is due to the extremely clear upper registers that this slightly less than totally translucent lower frequency reproduction seem more apparent. No speaker is perfect. I do not care if it retails at ten times the price of these speakers! For it is only *you* who knows the weakness *you* can live with (and without). As for myself, I would take the Magnepan 3.6 speakers in a New York second over sterile sound any day of the week.

Without pulling any punches I will say the Magnepan 3.6 speakers are one of the most amazing speakers for both large and small-scale music. For those of us who hate harsh or hard upper frequencies the Magnepan 3.6 could be *exactly* what the doctor ordered... and the rest of the frequencies are no slouch either. While large, these visually attractive units are among the *very few* speakers I could live with for *many* years without that nagging "upgrade me soon" feeling. My main caveats are the slight opaqueness below 500Hz and SPL limitation. Of course not everyone is looking to have a techno/house dance club in their listening room. Many audiophiles will probably audition the Magnepan 3.6 and fall in love for many years. By producing such wonderful sound and handling both large and small-scale music so very well how could you *not* fall in love? Beauty is in the eye and the ear of the beholder. Of course in the end what really matters is that you...

Enjoy the Music,

Steven R. Rochlin

Specifications

Type: 3-way, planar/ribbon

Driver complement:
55" long ribbon tweeter
199 square inch planar-magnetic midrange
500 square inch planar-magnetic bass

Frequency response: 34Hz to 40kHz (+-3dB)

Crossover points: 200Hz, 1700Hz

Sensitivity: 86dB

Impedance: 4 ohms (nominal)

Hookups: Bi-wirable / bi-amplifiable

Recommended Power: 75 to 250 watts

Warranty: Non-transferable ribbon foil element 1 year, balance of speaker 3 years

Weight: 70 lbs. each

Size: 24 x 71 x 1 5/8 inches (WxHxD in inches)

Price: $4,375 in Oak and Black Wood ($4,675 in Dark Cherry Wood)

Company Information

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Website: www.magnepan.com

Home Audio
Equipment Review

SoundStage!
www.soundstage.com

July 2002

"One of the finest loudspeakers I've had the pleasure of hearing."

SoundStage! Network Reviewers' CHOICE soundstagenetwork.com

Magnepan MG3.6/R Loudspeakers

by Andrew Chasin

Review Summary

Sound "The MG3.6/R's ribbon tweeter is a joy to hear" for its "natural silkiness that is reminiscent of the real thing"; Andrew was also struck by "the lack of coloration heard from the MG3.6/R's midrange driver," the "ability to faithfully render the scale of a large musical event," and the "downright authoritative" bass when the speakers were paired with the Simaudio W-5 amp.

Features "Three-way, full-range dipole design based on Magnepan's patented planar-magnetic driver (500 square inches in area for the bass, 199 square inches for the midrange) and 55" line-source ribbon tweeter"; "rear-mounted external crossover."

Use Adapters are required for using speaker cables with spade terminations; require "a few hundred hours" of break-in time; those who think that Magneplanar speakers can't do bass should listen "with a capable amplifier (or two), preferably in the 200-400Wpc range into 4 ohms."

Value "I know of not a single speaker at or near the MG3.6/R's price that can reproduce music as faithfully."

I have a soft spot for Magneplanar speakers. My first truly "high-end" system contained a pair of Magnepan SMGa speakers at its heart. Driven by a Naim NAP90 power amplifier, a NAC62 preamplifier, and using a Rega Planar 3 turntable as its source, this system sang like no other I'd heard at home before and started me on my audiophile journey. The entry-level SMGa eventually gave way in my system to a dynamic loudspeaker that possessed better transparency and dynamics, but I never forgot the unique boxless sound of the Magneplanar driver, and I always hoped to one day have a room large enough to accommodate one of Magnepan's more advanced designs.

A new home purchase last year gave me the opportunity to finally move my audio system into a room large enough (approximately 400 square feet) to house a planar loudspeaker. About the same time, the buzz on the Internet about the Magnepan MG3.6/R as well as my own exposure to the speaker at both the 2000 CES and a local dealer's showroom piqued my interest. With the cooperation of Magnepan, a pair of MG3.6/Rs was on a truck to California for review.

The MG3.6/Rs arrived in three boxes: two long, narrow boxes housing the panels and a third containing the outboard crossovers and mounting hardware. I had heard horror stories about Magnepan's "terrible" packaging, but it seemed more than adequate:

thick pieces of Styrofoam in all of the appropriate places, sturdy magnetic protection strips to keep the delicate ribbon tweeters in one piece, and a decent cardboard outer box. While it's certainly true that a misplaced forklift blade would go through this packaging like a hot knife through butter, a wooden crate or other more elaborate packing materials would certainly add to the purchase price of the speaker. In my opinion, Magnepan made a reasonable tradeoff here.

Unlike most of the other speakers you might be familiar with, the MG3.6/R requires some assembly. First, the painted metal feet that keep the speakers upright must be screwed to the panels. Second, the external crossover boxes must be inserted into the female connections at the base of each panel and secured using a series of small set screws. Finally, a metal brace is secured between the panel and the bottom of each crossover box in order to support the weight of the box and prevent it from pulling away from the panel.

Once the speakers are standing upright, the sheer size of the MG3.6/Rs becomes apparent. At 71"H x 24"W, the MG3.6/Rs will visually dominate nearly any reasonably sized room, and certainly proved the focal point of my relatively large 20' x 21' listening space. The speakers weigh 70 pounds each, surprising given their mere 1 5/8" thickness.

Design

The MG3.6/R ($4200 USD per pair) is a three-way, full-range dipole design based on Magnepan's patented planar-magnetic driver (500 square inches in area for the bass, 199 square inches for the midrange) and 55" line-source ribbon tweeter. The planar-magnetic driver is made from 0.0005"-thick Mylar film, while the ribbon tweeter is made from an aluminum strip barely 1/1000th of an inch thick. Crossover frequencies are 200Hz and 1700Hz. Magnepan quotes a 34Hz-40kHz frequency range and 86dB sensitivity for the speaker. Even with the delicate materials involved, I've heard very few reports of driver failures, and I experienced none during the time period I put the MG3.6/R through its paces. Most reported failures seem to be related to the ribbon being overdriven or otherwise abused, so Magnepan has protected the tweeter with a user-replaceable fuse to lessen the likelihood of amplifier-induced damage.

As with all Magnepan speakers, the MG3.6/R is an enclosureless design. Only a light MDF frame holds in place the diaphragms and bar magnets that make up the planar-magnetic system. The speaker is nicely finished with attractive oak trim (available in standard natural or black, or optional light or dark cherry) and a non-removable grille cloth (you can take your pick of cherry-white, black or gray fabric). While the industrial design of the MG3.6/R isn't quite in the same league as that of, say, a Martin Logan ESL or the Ambience ribbon hybrid I reviewed last year, the speaker has reasonable visual appeal and good fit'n'finish.

The MG3.6/R's rear-mounted external crossover allows for single or biwiring as well as single or biamplification via a set of user-configurable jumpers. I only had a single amplifier on hand capable of adequately driving the relatively power-hungry MG3.6/R, so I didn't have an opportunity to go the biamp route.

I have two usability gripes with the design of the crossover box. First, affixing the box to the panel via the supplied set screws is tedious -- there's just too little space

between the set screws and the panel to be able to get more than a quarter turn from the allen key used to tighten the screws. Second, the speaker terminals on the rear of the crossover only support cables terminated with bananas. I had to borrow a set of spade-to-banana adapters in order to use my preferred speaker cables with the MG3.6/Rs. Magnepan does sell sets of nickel- and gold-plated adapters ($17 and $22 per pair respectively), but they are not included with the speakers.

Setup and break-in

As with most dipole loudspeakers, placement of the MG3.6/Rs had significant impact on performance: too close to the front wall and soundstage depth suffered, too far apart and the phantom center channel all but fell silent, too little toe-in and image precision was lacking. After considerable experimentation, I wound up with the speakers approximately seven feet apart, four feet from the front wall and nine feet from the listening position. Toe-in was about 10 degrees, and the tweeters of the mirror-imaged MG3.6/Rs were on the outside. I left the front wall untreated (a modeled plaster finish common in Northern California homes gave the walls some texture), but side-wall reflections were damped with thickly lined drapes. In this configuration, the speaker had a relatively smooth tonal balance (as measured by a Radio Shack SPL meter, recalibrated for even response and validated by my own ears), excellent soundstage width and depth, and good imaging.

Magneplanar speakers are known for their long break-in time, and the MG3.6/R was no exception. Out of the box, the speaker would best be described as diffuse-sounding, with little bass and a distinct lack of integration between the planar-magnetic panel and the ribbon tweeter. But all of this changes for the better after a few hundred hours (yes, it takes that long), at which point the panel and ribbon integrate nearly seamlessly, the panel begins to plumb the deepest depths of the orchestra, and the speaker begins to sing like few others. Like a fine wine, the Magnepan MG3.6/R only gets better with age.

To put what follows into context, I auditioned the MG3.6/Rs in the my usual reference system, which consists of an all-analog front-end (VPI Aries turntable, Graham 2.0 tonearm, Transfiguration Spirit moving-coil cartridge), an Audible Illusion Modulus 3A preamplifier with John Curl-designed Gold moving-coil phono boards, and a Simaudio Moon W-5 power amplifier. All cabling is by Harmonic Technology (Pro-Silway Mk.II interconnects, Pro-9 Plus single-wire speaker cables, and Pro-AC11 power cords), and all components were placed on a Finite-Element Pagode Reference rack.

Sound

The MG3.6/R's ribbon tweeter is a joy to hear. That a simple piece of aluminum thinner than a human hair can be made to reproduce music’s high frequencies with such beauty is a tribute to the engineering prowess of Magnepan chief Jim Winey. Just listen to a well-recorded violin on the MG3.6/R and you’ll see -- er, hear-- what I mean. Gone are the subtle ringing and harshness of even the best dome tweeters, replaced instead by a natural silkiness that is reminiscent of the real thing. The MG3.6/R ribbon is also capable of revealing fine inner detail buried by the faint distortions of lesser drivers, removing a layer of the proverbial scrim between the listener and his music. I listened to literally dozens of jazz, pop and orchestral LPs while looking for a chink in the ribbon’s armor, but I found none. This is certainly one of the finest high-frequency transducers currently available.

I don’t want to spill too many pixels focusing on this or that portion of the musical spectrum, but the MG3.6/R’s bass reproduction is

More on the MG3.6/Rs

worth singling out, if for no other reason than the speaker's lack of low bass has been so greatly exaggerated. The MG3.6/R's reputation for having little low-end extension has, I believe, more to do with a poor choice of partnering amplifier than it does with any shortcoming of the speaker itself. When driven by the Simaudio Moon W-5, an amplifier that, in my experience, has yet to meet a speaker it couldn't drive admirably, the MG3.6/R sounded downright authoritative in the bass. While listening to Zubin Mehta's reading of Holst's *The Planets* [London CS 6734, LP], replete with powerful bass-drum whacks and rumbling double-bass lines, my wife, who is an audiophile out of necessity rather than choice, shouted, "So much for the Maggies not having any bass!" No argument here. The ample low-frequency information cut into the Classic Records reissue of Holly Cole's *Temptation* [Blue Note/Classic Records JP5003 LP] also fell well within the grasp of the MG3.6/R, which managed to sort out all of the subterranean information buried in this dense musical mix. After my three months of listening, the myth of the missing Maggie bass has been put to rest in my mind. Detractors would do well to listen to the MG3.6/R with a capable amplifier (or two), preferably in the 200-400Wpc range into 4 ohms, and I have no doubt they'll hear what they've been missing.

While I've heard some of the better dynamic speakers reproduce the human voice in fairly convincing fashion, none compared to the MG3.6/R and its planar-magnetic driver. The distortions inherent to cones in boxes, which allow the mind to easily perceive the difference between a real voice and its electronically reproduced counterpart, were largely diminished by the MG3.6/R's lack of an enclosure and the use of a low-mass midrange panel driven uniformly across its surface. While not a great recording by modern standards, Ella Fitzgerald's *Ella Swings Lightly* [Verve MG VS-6019 LP] swung wonderfully on the MG3.6/Rs. Ella's superb

Once I had put the Magnepan MG3.6/R speakers into my system, I was struck by the fact that much of what I had heard about the speakers seemed greatly in error. Baseless reports of bass-less Maggies, for starters. It just ain't so! With the right amplification and careful setup, the MG3.6/R can offer surprisingly satisfying bass. And due to the fact that the ribbon tweeter is very narrow and hence has outstanding dispersion in the horizontal plane, the MG3.6/Rs have a much larger sweet spot than you may think. I suspect that reports to the contrary are products of assumption rather than observation. However, reports pertaining to the MG3.6/R's uncanny top-to-bottom coherence are not exaggerated, nor are reports of one of the most extended, airy and refined tweeters around.

But these qualities are only the beginning of what makes the Magnepan MG3.6/R such a success. I've owned a plethora of speakers ranging from dynamic boxes to electrostatics to ribbon/dynamic hybrids, and there's one thing that Magneplanars do like no other speaker. Where some speakers seem to be at odds with the room, Magneplanars work in concert with their environment and seem to invite it as a willing partner. I suspect that this is why, although I've heard Magneplanars in several showrooms, I've only come to appreciate them fully since I've had them in my listening space. Here they make the room absolutely come alive with what may best be described as total aural saturation. This immersion draws me into the performance, making for a more engaging experience. Where some speakers perform almost in isolation, the Magneplanars do a better job than most of drawing the listener *in* for a more profound connection with the performance. This is what I enjoy most about them.

One last thing separates the MG3.6/R from other exotic speakers: Once their appetite for watts is sated, these speakers are incredibly easy to *live* with. I've mentioned the sweet spot, which is unusually wide for a speaker of this ilk. But unlike electrostatics, which become absolutely unlistenable as you move off-axis, the MG3.6/Rs remain completely enjoyable. Also credit their stature and the full-length ribbon tweeter for the fact that they are amazingly uncritical of listening height. I frequently enjoy listening to the MG3.6/Rs while sitting on the floor playing with the kids. Try *that* with any other speaker.

The Magnepan MG3.6/Rs are wonderful speakers and even at their $4200 price a tremendous value.

...John Potis
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phrasing and intonation on "Little White Lies" and "You Hit the Spot" were beautifully rendered by the MG3.6/Rs, and the somewhat somber lyrics of "As Long As I Live" took on newfound emotion. Listening to a wide array of female vocal records, from artists as diverse as Tori Amos, Jewel, Nancy Bryan, and Cassandra Wilson, I was continually struck by the lack of coloration heard from the MG3.6/R's midrange driver and the way in which that lack of coloration translated into a deeper level of musical involvement.

Something that has always drawn me to large panel speakers is their ability to render faithfully the scale of a large musical event, such as the performance of a work for full orchestra. In this regard, the MG3.6/R did not disappoint. But just as importantly, I was impressed by the fact that the MG3.6/R did not inflate small-scale chamber works or jazz trios to unnaturally gargantuan proportions, which would have ruined the illusion of real musicians playing in a real space. Listening to Shostakovich's String Quartet No.8 [L'Oiseau-Lyre DSLO 11], I was struck by how realistically the MG3.6/R rendered the size of the soundfield and the instruments within it, lending the performance an almost physical presence.

Given the size of the panels involved, the MG3.6/R imaged pretty well. For those looking for narrow-baffle-like precision, however, they won't find it here. Image outlines as presented by the MG3.6/R were decidedly on the round and fuzzy side, but the level of musical satisfaction I enjoyed via the MG3.6/R *sans* pinpoint imaging made me question my previous fixation on this parameter of audio reproduction.

In terms of dynamics, particularly microdynamics, the MG3.6/Rs were second to none in my experience. The minutest change in pressure placed on the keys of a piano, the slightest variation in the vigor with which a violin's strings are plucked, and the subtlest change in the force of bow against string were all resolved easily by the highly revealing MG3.6/R. I hate to use a well-worn audio cliché, but the MG3.6/R *did* bring to light important musical information that had gone previously unnoticed on repeated listening. Large-scale dynamic swings, aided certainly by the Simaudio amp, were also handled with aplomb by the MG3.6/R. I made the mistake of listening to Edgar Varese's *Arcana* [Decca/Speaker's Corner SXL 6550] in the dark one night, and I was literally scared out of my seat by the dynamic realism of this grotesquely beautiful work.

Comparisons

The speaker I've auditioned at length that's closest in terms of price and design to the MG3.6/R is the $4500-per-pair Super Slim 1800 from Ambience of Australia. The Super Slim also employs a line-source ribbon tweeter for the high frequencies, but mates that to a dynamic driver for the bass and midrange. While I enjoyed the Super Slim and found it to be a good all-around musical performer with excellent integration of the ribbon and dynamic driver, the MG3.6/R was more coherent and offered superior top-end extension (the Ambience speaker sounded rolled off on top). The Super Slim also suffered from a measurable, and audible, suckout in the bass that I could never ameliorate. The MG3.6/R, on the other hand, had a relatively flat in-room frequency response and better overall low-end performance.

Other worthy competitors are the hybrid ESLs from both Innersound and MartinLogan. I haven't listened to the top-line Innersound Eros at length, but I did enjoy the budget Isis and thought it quite a good buy. Although considerably more expensive, the MG3.6/R is, expectedly, a couple of notches above the Isis in terms of refinement and musical accuracy. Unlike the Isis and the Eros, the MG3.6/R will throw a soundstage wide enough for more than a single listener to enjoy its charms. The MartinLogan ESL/dynamic hybrids certainly have it all over the Magneplanars in terms of industrial design. And while the MartinLogan

hybrids I've heard over the years have come a long way in terms of ESL/woofer integration, the MG3.6/R is better integrated still, sounding more of a single sonic cloth.

Conclusion

I know of not a single speaker at or near the MG3.6/R's price that can reproduce music as faithfully. Some speakers may play louder, some deeper, but none can bring the sound of real musicians playing in a real space into the listening room with conviction equal to that of the Magnepan MG3.6/R.

If you've got the space and money, and you don't give a hoot what your decorator thinks, then run out to your local Magnepan dealer and give the MG3.6/R a listen. Simply put, the MG3.6/R is one of the finest loudspeakers I've had the pleasure of hearing.

...Andrew Chasin
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Magnepan MG3.6/R Loudspeakers
Price: $4200 USD per pair.
Warranty: Three years parts and labor.

Magnepan
1645 Ninth Street
White Bear, MN 55110
Phone: (800) 474-1646

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- **Current Issue Equipment Reviews**

Home Audio
Equipment Review

December 2005

"A sane...high-end product, one that takes no deep pockets to buy, and no flowery language to understand and appreciate."

Review Follow-Up

Magnepan MG3.6/R Loudspeakers

by Marc Mickelson

Among the crimes that Madison Avenue has committed against society is the watering down of language, specifically the meanings of certain words that just happen to have unique utility in advertising. We have amazing apples, fabulous flooring, and extraordinary earrings, and because of this, nothing that's truly amazing, fabulous or extraordinary gets the acclaim it deserves. Consumers have built-in filters for advertising, it is true, but these only make the problem worse, as advertisers have to try ever harder to catch the attention of the buying public. Just have a look at a Victoria's Secret catalog for an idea of the lengths to which advertising will go -- and where it is still headed.

SoundStage! 2005 AWARD WINNER
Hall of Fame

What do words losing their meanings and Victoria's Secret have to do with Magnepan? I could make a joke about the meager lingerie needs in Magnepan's icy hometown of White Bear Lake, Minnesota, but doing so would only obscure the point of this follow-up review: that the Magnepan MG3.6/R has reached a unique place in the audio world, the status of a classic, even if such standing doesn't have the prestige today that it should.

Introduced in early 1998, the MG3.6/R has been widely written about, including as the subject of Andrew Chasin's 2002 *SoundStage!* review. It's a three-way, full-range dipole speaker that uses two of Magnepan's patented planar-magnetic drivers -- 500 square inches in area for the bass, 199 square inches for the midrange -- along with the company's 55" true-ribbon tweeter. The speaker requires some assembly due to its external crossover and metal support feet, but once set up, it looks distinctive and attractive -- like an unadorned panel

from a Japanese screen. All of this -- the esoteric drivers, the unusual form factor -- are part of MG3.6/R's allure. This speaker has an undeniable coolness about it; it is the speaker that Frank Lloyd Wright might have owned.

Another thing that makes the MG3.6/R appealing is its price. When the speakers were introduced, they cost $3750 per pair; six years later, they cost $4200 per pair, an increase of slightly over 10%. Exotic design and looks aside, these speakers represent honest value. You don't see any planar-magnetic/ribbon speakers coming from Asia, but if there were, Magneplanars would be competitive in terms of price and certainly built to higher standards. This also underscores the exclusivity that the MG3.6/Rs, and indeed all Maggies, possess. Who is making speakers like them? *No one.*

Earlier this year I got to hear Magnepan's top speaker, the MG20.1/R, for the first time. That demo made a lasting impression on me, and started me thinking about the MG3.6/Rs, which occupy an interesting place in Magnepan's product line. The MG3.6/Rs are tantalizingly close in size and technology to the MG20.1/Rs, but only about one-third the price. On the other end of the scale, the MG3.6/Rs are also an obvious upgrade for owners of the less-expensive MG1.6/QRs, the pull of Magnepan's ribbon tweeter, which the MG1.6/QRs don't have, being more than magnetic. Thus the notion exists that the MG3.6/R is a large slice of the best that Magnepan offers, but at a price that's in the middle of the speaker pack.

All of these peripheral considerations aside, the MG3.6/R is one *fine* speaker -- the best sub-$10,000 speaker I've heard. So much of its sonic aptitude boils down to the clarity with which it reproduces music throughout its entire range. I've come to associate even the best speakers that use ribbon tweeters, often smallish OEM drivers, with hard, splashy highs that "tizz" even when a brush lightly caresses a cymbal. Not the nearly five-foot-long Magnepan true ribbon. I have heard the MG3.6/R's treble sound hard at shows, but I can say with complete confidence that this is due to the partnering electronics, not the tweeter itself. Driven by Lamm M1.2 Reference amps (a great pairing, by the way), the ribbon's pure, filigreed sound is a revelation. Such extreme high-frequency detail is something listeners usually pay for with fatigue, but not with the MG3.6/Rs and a very good amp. Treble speed, air and delicacy are consummate, but not overblown in order to achieve such performance. Taken on its own, the Magnepan ribbon is the very best tweeter I've heard.

That the planar-magnetic panels keep up with such a fast tweeter is a feat. The panels continue the MG3.6/R's clarity through the mids and into the bass. The MG3.6/R starts and stops in binary fashion. It is seemingly either reproducing the music, without blurring or overhang, or it is not. Each note takes only its space in time and nothing more. As you can guess, this makes even some of the best speakers sound a little blurry and imprecise, and the MG3.6/R does its thing without any tricks -- no goosing of any region to impart an unnatural sense of resolution. The bass takes some time to come around, but it will never have wall-flexing power. It sounds light and stiff at first, but with 50 hours or so of use on the speakers, bloom and weight begin to show up. I know some listeners mate the MG3.6/Rs with a subwoofer, but I wouldn't do it. It's very easy to accept what this speaker does without worrying about what it doesn't do.

Among the various factions in high-end audio, Magnepan owners are some of the most knowledgeable and sensible audiophiles around. They *learn* about their speakers. Some can fix minor problems with the panels when they occur, and others have built custom crossovers. They all generally accept the idea that audio is about music, not about continuously building an audio system. Their extreme loyalty to the Magnepan brand adds to the charm of the company's speakers; Maggie owners often keep their speakers long enough that they wear out and have to be *repaired* -- an unusual concept with consumer-electronics products these days. As a group, secondhand Maggies have value beyond that of any audio

products other than vintage McIntosh gear.

The audio world certainly has its share of wackiness, but Magnepan isn't adding to it. Above all, the MG3.6/R is a *sane* (albeit uncommon) high-end product, one that takes no deep pockets to buy, and no flowery language to understand and appreciate.

On second thought, maybe "classic" is too limiting. MG3.6/R for president!

...*Marc Mickelson*
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- **Current Issue Equipment Reviews**

Magnepan Magneplanar MG3.6/R loudspeaker

Brian Damkroger, August, 2000

Bonnie and I decided to avoid the crowds last weekend, and instead settled in at home to watch the recent remake of *Great Expectations*, with Ethan Hawke and Gwyneth Paltrow. It seemed like a pretty good movie, but before long I found my thoughts drifting to the review I had in progress: my audition and analysis of the Magnepan Magneplanar MG3.6/R. True, *Great Expectations* is a little slow, and a few explosions or car chases might have better held my attention, but if ever there was an audio product to which the phrase "*great expectations*" applied, it's the Magnepan 3.6/R.

The MG3.6/R's immediate predecessor, the MG3.5/R, was a breakthrough product for Magnepan. It was a huge commercial success, and established a spectacular new level of performance for Magnepan in terms of dynamics and transparency. As if that weren't enough, the 3.6/R comes right on the heels of the MG1.6/QR, another huge success, and an industry-wide benchmark for performance in a $1500 loudspeaker. I reviewed the 1.6/QR in January 1999; it is the least expensive speaker in Class B of *Stereophile*'s "*Recommended Components*," and one of the least expensive to ever appear there.

Months before the MG3.6/R was even introduced at the 1999 WCES, a buzz permeated the Internet about "*the new Magnepan*," and I received a steady stream of e-mail messages asking about it. "*Is the 3.6 as good as I've heard? Is it really all of the updates developed for the 1.6, now applied to the 3.5?*"

Nowhere were expectations greater than at Casa McKenzie-Damkroger. I've been listening to Magnepans evolve for two decades. I've admired their coherence and loved the uncanny way they could capture the sense of real instruments playing in a real space. Conversely, their lack of dynamics and slight opacity were always barriers between the music and me, barriers diminished in each succeeding generation, and nearly eliminated in the MG3.5/R and 1.6/R. Now comes the MG3.6/R, so maybe...?

Great expectations, indeed.

Basic Technology: What is an MG3.6/R?

Several Magnepan loudspeakers have been covered in these pages, including two of the MG3.6/R's predecessors, the III and IIIA. The 3.6/R carries forward the same configuration, layout, and driver technology. It's a three-way design with crossover points of 200Hz and 1700Hz. The planar-magnetic driver is a 0.5-mil-thick Mylar diaphragm, onto different areas of which have been fastened separate, current-carrying wire grids for the bass and midrange. The top end is handled by Magnepan's unique, 55"-long ribbon—a true, free-standing ribbon in which the current-carrying aluminum ribbon is also the driving element.

The 3.6/R is cosmetically identical to the 3.5/R: a slim, elegant tower approximately 6' tall by

2' wide by 1½" deep. My pair was covered with an oatmeal-colored, open-weave fabric, with dark cherry strips flanking the panels and separating the tweeter and midrange-bass sections. The panels are mirror-imaged, with the planar-magnetic driver located to the inside in the recommended setup, and the ribbon tweeter to the outside (footnote 1). Connections (single or biwire) are made via banana plugs to an external crossover box that plugs into the panel's rear. Magnepan also makes an optional crossover for bi-amping, but I did all of my listening with the standard unit.

Although it retains the 3.5/R's basic configuration, appearance, and driver technology, the 3.6/R differs slightly in some system parameters. The changes reflect both a response to perceived shortfalls in the 3.5/R and lessons learned in the successful transformation of the 1.5/QR into the giant-killer 1.6. The goals for the 3.6/R were to improve low bass power and articulation, smooth the in-room midbass smoothness, and better integrate the drivers. The first was accomplished by increasing the midrange panel's area from 170in² to 199in², allowing the bass/midrange crossover point to be lowered, and the bass panel's tuning to be optimized for a narrower frequency range. Better integration and smoother in-room response were achieved primarily by careful optimization of the tensioning, damping, and partitioning of the diaphragm—the "*black art*" responsible for much of the transformation of the 1.5 into the 1.6.

Footnote 1: The tweeters should be slightly farther from the listener than the bass-midrange panel, so will be placed inboard or outboard, depending on distance and toe-in.

System and Setup

I did all of my listening in my main 17' by 23' listening room, with the Maggies firing across rather than down the room's length. The setup put them approximately 3'6" out from the front wall, and the speakers' outer edges approximately 7'10" from the left wall and 4'11" from the right. The speakers' inside edges were about 5'8" apart, their centers each about 13' from my listening position. I settled on a slightly toed-in configuration, with the speaker axes crossed at a point approximately 6' behind the listening position.

My past experience with Magnepans led me to expect a fairly easy setup and optimization process, and that proved to be the case. A few things are worth noting, however. The MG3.6/R's radiation patterns—dipole for the bass, a line source for the midrange and tweeter—reduced bass problems with room boundaries, but made sidewall interactions a bit more of a concern. Positioning too close to a side wall could cause the image to come forward along the side walls, distorting stage placement and image size. In my room, with a 23'-long wall behind the speakers, it wasn't an issue. It's also been my experience that Maggies in general work best when backed by a solid but irregular wall. Hard plaster and adobe are good, brick and stone are better. None was an option for me, so I had to make do with drywall and lath over concrete block.

Another consideration is that although the 3.6/R is a benign load—mainly resistive and a fairly flat 4 ohms—at 86dB/2.83V/m they're not terribly sensitive. The VAC Renaissance 70/70 is an unusually strong 70W amp, but wasn't really enough to make the Maggies sing. The Mark Levinson No.20.6s, VTL Ichibans, and Classé CAM-350s all did better jobs of resolving low-level dynamics and detail, and opened up the soundstage noticeably. I spent time with all three, but ended up preferring and doing most of my listening with the Classé monoblocks, which are rated as delivering 700Wpc into the Maggies' 4 ohm load.

The rest of the system remained constant throughout the review period: my VPI TNT IV/JMW Memorial turntable/tonearm combo with Grado Reference cartridge, SimAudio's new Moon Eclipse CD player, and a VAC CPA1 Mk.III preamplifier at the center of it all. Nirvana's new S-X interconnects arrived mid-review and immediately claimed their territory. I biwired the MG3.6/Rs with Synergistic Research Designer's Reference when the Classés were in use, and used Kimber's Bi-Focal XL with the VTL and Levinson amps.

Bright Star's Rack of Gibraltar and Air Mass, Big Rock, and Little Rock isolation products kept everything stable and quiet, and AC was fed through an MIT Z Stabilizer (amps) and Z System (front end), with a Nirvana isolation transformer providing an extra measure of isolation for the Moon Eclipse.

I ended up using only a minimum of room treatment—a single 14" ASC Tube Trap in one front corner (reflective side out), an EchoBuster diffuser panel in the other, and a combination of EchoBuster BassBuster columns and homemade panel resonators in the rear corners. EchoBuster absorbers were mounted to the rear wall, behind the listening position.

Use and Listening: Can Great Expectations be Met?

Great Expectation No.1: A huge, open, holographic soundstage. Magnepans have always gotten "*the space thing*" right. Whatever their other pluses or minuses, they've been able to create a more realistic soundstage than most speakers, and better capture the sense of real instruments playing in a single, coherent acoustic environment. The 1.6/QRs were very good in this regard; the MG3.5/Rs were outstanding.

The MG3.6/Rs didn't disappoint me in the least. Their soundstage was huge—extending well outside the speakers, and the deepest of any speaker I've used. Front-to-back layering was superb; in fact, the 3.6s set a new standard in this regard. They didn't just clearly define the position of the instruments on the stage and the surrounding hall boundaries, or even do so with a greater degree of precision and specificity than other speakers—they also quite clearly described the spaces between the performers, and between the instruments and an adjacent hall boundary. A lot of speakers can do this in the lateral plane, but none—in my experience—can do it so well with respect to the front-to-back distances.

The effect is particularly riveting on naturally recorded works, where the hall ambience is discernibly woven between the instruments. For a dramatic example, try John Eliot Gardiner's recording of Henry Purcell's *The Tempest*, with the Monteverdi Choir and Orchestra (Musical Heritage Society 4479). Most speakers can assign the correct depth cues to the orchestra and various singers, and correctly place the images on the stage. Good speakers clearly track the singers as they move forward and backward on the stage.

With the MG3.6/Rs, there was also a continuous ambience field that stretched from the side walls down into the front-to-back spaces between singers, who were clearly and obviously moving around within a single, defined acoustic envelope. I often felt as if I could actually enter the recording's acoustic environment and wander around among the performers. Even on good studio recordings, where there's no real "*stage*" per se, the soundstage and images were so tangible that it seemed as if I was almost able to get between and behind the performers.

Great Expectation No.2: Pinpoint precision and extraordinary detail. While Magnepans have always done a good job of soundstaging and their images have always been wonderfully coherent with the surrounding space, they've never had quite the precision of the best cone-type speakers. Each succeeding generation of Maggies has improved on their performance in

this regard, and both the MG3.5/R and the 1.6/QR were dramatic improvements over their predecessors. But the picture was still a little diffuse—certainly not a Monet, but not quite a laser photograph either.

The MG3.6/Rs didn't noticeably improve on the 3.5s' performance in this area. The performers' images were natural, and there was sufficient detail to resolve, in a general sense: individual instruments within an orchestral section, even within dense, complex passages. Similarly, the images' edges interacted naturally with the surrounding space, the notes blooming and expanding, the overtones dissolving into the background ambience. However, there weren't the layer upon layer of fine detail, the complexity, or the density with which speakers like the best Thiels and Avalons can imbue an image.

The situation wasn't perfectly black-and-white, however. I typically sit somewhere mid-hall at local symphony and chamber orchestra performances, and the perspective there isn't terribly dissimilar to the Maggies' slightly diffuse portrayal. Conversely, the added detail that the Thiel CS7.2s provided (se February '00, pp.119-127) unquestionably made voices and instruments more vibrant and alive.

A great example was "*Chuck E.'s In Love*," from Rickie Lee Jones' live acoustic album, *Naked Songs* (Reprise 45950-2). Through the MG3.6/Rs, her guitar and vocals, even the audience sounds, sounded very natural, nicely detailed, and dimensional. With the big Thiels, however, the extra detail and complexity seemed to supercharge the images and make them breathe, and gave the performance a presence and life that had me turning out the lights and sitting spellbound in my chair.

Great Expectation No.3: Seamless top-to-bottom consistency. This is another traditional Magnepan strength, and an area in which the MG3.6/R proved a solid improvement on its predecessor. The 3.5/R *is* wonderfully consistent across the frequency range, but if you listen closely, it loses a bit of articulation in two areas: from the midbass on down, and in the upper midrange to lower treble, just before it transitioned to the ribbon tweeter.

The 3.6/R was every bit as seamless and consistent as the 3.5. There was a slight warmth to its tonal balance in my room, probably reflecting a boost in the upper-bass region, but no overt discontinuities in character or distortions—nothing to draw attention to the speaker. Both instruments and soundstage remained consistent—cut from a single cloth, if you will—across the entire range of frequencies and levels.

The 3.6/R's bottom end was an improvement over the 3.5's, remaining powerful, clean, and articulate all the way down to about 35Hz in my room. The fast electric bass runs on Fourplay's "*Bali Run*" (from *Fourplay*, Warner Bros. 26656-2) are a true torture test. The 3.5/R got muddy and confused during these passages, but the 3.6/R sailed right through them. There wasn't the absolute power or last bit of detail at the very bottom that I hear from the Thiel CS3.6 and CS7.2, but the Maggie had a goodly amount of slam, with crisp, fast transients and excellent pitch definition.

The 3.6/R's upper-midrange performance was excellent as well, with no perceptible loss of detail or obvious transition to the ribbon tweeter. Piano recordings showed this off well, and Dick Hyman's *In Recital* (Reference Recordings RR-84CD) is a particularly good example. This very natural-sounding recording has a slightly distant perspective and a very well-defined portrayal of both the instrument and its interaction with the surrounding space. With some speakers, the piano will sound slightly different as its pitch moves up and down, or its size and placement within the recording space will seem to change. With the Maggie, the piano's tonal balance and the combination of the notes' attack, bloom, resonance, and decay were entirely consistent across the instrument's range, as were its size and placement.

Great Expectation No.4: Pure, articulate upper bass and midrange; airy, detailed highs: The MG3.5/R is superb in these areas, but the MG3.6/R was probably just a bit better. Vocals were treated well, with a natural mix of chest, throat, and mouth tones, but strings really

showed off the Maggie's upper bass and midrange best. One of my favorite albums is Franz Helmerson's performance of solo cello works by Bach, Hindemith, and Crumb (BIS BIS LP-65). Listen carefully to some of the slower passages in Bach's Suite No.2, in particular. When Helmerson draws his bow across the string, I could hear the combination of sounds that were layered on each other to build each note. The bow's initial contact, the resinous draw across the string, the string's vibration, and, finally, the resonance building within and expanding out from the cello's body—all were exactly right in their balance and timing. The result was a beautiful, almost heartbreakingly pure cello sound.

The MG3.6/R's highs were nothing short of superb. Piccolos were pure and clear, and maintained all their detail and sharp metallic cut all the way to the top of their range—and without getting hard or steely. Solo violins were delicate and sweet, and high, massed violin crescendos had tremendous power and presence, but never crossed over into a hard, unnatural screech. Cymbals are perhaps the best example, and the Maggie unfailingly had exactly the right balance: a rich, bell-like tone at the center, a palpable sense of waves of overtones emanating from the cymbals' vibration, and, surrounding it all, a cloud of shimmer that seemed to permeate the entire space.

Great Expectation No.5: Dynamics! From the subtlest micro-shading to the most explosive crescendo: Another longtime Magnepan bugaboo has been the need to play them loud to get a sense of realism. The MG3.5/R and 1.6 were dramatic improvements over the previous models in their ability to reproduce large dynamic transients, but they still lacked the *n*th degree of resolution at the *pppp* end of the scale. With the MG3.6/R, Magnepan seems to have eradicated this shortcoming. Big crescendos were startling in their power, as were drum sets, particularly rimshots and toms.

At the other end of the scale, when the 3.6/Rs were paired with a muscle amp like the Classé monoblocks, they did a first-rate job of capturing microdynamic shadings. On "*What a Dif'rence A Day Made*." from her *Never Make Your Move Too Soon* (Concord Jazz CCD-4147), Ernestine Anderson often floats the faintest, subtlest traces of vibrato on the very last breath of notes. A lot of speakers, even some excellent dynamic models, can't capture that vibrato, but the 3.6/R did it beautifully. I'd often find myself holding my breath, just to make sure I didn't miss these delicate whispers.

Great Expectation No.6: Transparency: no opacity, no texture: For all their great strengths, Magnepan speakers have always suffered from a slight opacity. The MG3.5/R and 1.6/QR were spectacular advancements in this regard, retaining only faint vestiges of a slightly filmy texture. The 3.6/R is another big step in this direction, its transparency rivaling that of the best cone-type speakers I've heard. This showed up in added purity through the midrange and upper midrange, slightly more complex harmonic mixes, and improved dimensionality. The improved transparency was most apparent, perhaps, in how it helped expand and remove congestion in the back half of the soundstage. The MG3.6/R was the best I've heard at opening up the spaces between trumpets, for example, and maintaining their size and detail.

The flip side of the 3.6/R's transparency, however, was that it wasn't nearly as forgiving as earlier Magnepans. Even the 3.5 wouldn't penalize a listener too much for their choice of upstream components, as long as they included a clean, powerful amplifier. With the 3.6/R, I had to be a lot more careful. My Ultech and Parasound CD players just didn't cut it, for example, and until the SimAudio and Oracle players showed up, I listened almost exclusively to vinyl—and had to scrupulously level, adjust, tweak, and warm up my TNT. Selecting cables became an agonizing series of trials and tradeoffs. Even my beloved VTL Ichibans became a limiting factor, ironically contributing a touch of haze of their own. Ditto the Mark

Levinson No.20.6s, which had a slightly dark, liquid presence. It was only when I installed the Classé CAM-350 monos and optimized the setup around them that I truly appreciated the MG3.6/R's transparency.

Summary

Okay, I'm a Magnepan guy. I've owned several pairs over the years, and I absolutely flipped over the MG3.5/R. In these pages, I pronounced the 1.6/QR "*one of the great audio bargains*". Nowhere were expectations for the MG3.6/R higher than in my listening room. And, point by point, the 3.6/R delivered.

The 3.6/R builds on the great strengths of the 3.5/R, and successfully incorporates some of the magical touches that transformed the 1.6/QR into such a small wonder. Its re-creation of the original soundstage and recording environment are incredible, and with the latest improvements, its dynamics, resolution, and transparency approach those of the very best speakers I've heard.

The 3.6/R does need to be driven by a good, powerful amplifier to sound its best, and will clearly reveal the weaknesses of upstream components. But when all the pieces are in place, it's magic.

The 3.6/R is unquestionably better than the 3.5/R—stronger, more articulate, and better integrated. It's not a quantum step, though, so 3.5/R owners needn't feel the need to immediately dump their speakers in the "*garage sale*" pile and upgrade. Similarly, the 3.6/R is a substantially better speaker than the 1.6/QR, in every way. It's flatter, more refined, much better at the frequency extremes—the list goes on. However, if bucks are really, really tight, I suggest you opt for the 1.6/QR, invest the difference in upgrades elsewhere in the system, and not lose any sleep about it.

Taken on its own, however, the Magnepan Magneplanar MG3.6/R is a sensational speaker, and, at $3750/pair, very reasonably priced. In some respects it's the best speaker I've heard, period. Even in the areas where it's perhaps not the very best, it's awfully close—even when the very best is several times more expensive. Some speakers I admire, some I like...the Magnepan MG3.6/R, I think I'll keep. Very highly recommended!

Sidebar 1: Specifications

Magneplanar MG3.6/R

Description: Three-way, floorstanding, planar dipole loudspeaker.
Drive-units: 500-in² planar-magnetic bass driver,
199-in² (3.5"×55") quasi-ribbon midrange driver,
0.16"×55" true-ribbon tweeter.
Crossover frequencies: 200Hz & 1.7kHz.
Frequency response: 34Hz-40kHz, ±3dB.
Impedance: 4 ohms nominal, constant, resistive (4.7 ohms bass, 4.2 ohms midrange/tweeter, 3.3 ohms tweeter only).
Sensitivity: 86dB/2.83V/m.
Recommended power: 75-250W.
Dimensions: 71" (1800mm) H × 24" (610mm) W × 1.625" (42mm) D.
Shipping weight: 145 lbs/pair.
Finishes: white, off-white, cherry white, gray, and black fabrics; natural oak or black

trim standard, natural or dark cherry available at additional charge.
Serial numbers of units reviewed: 069721-1/-2.
Price: $3750/pair.
Approximate number of dealers: 65.
Warranty: limited, nontransferable; ribbon element, 1 year; rest of speaker, 3 years.
Manufacturer: Magnepan Inc., 1645 Ninth Street, White Bear Lake, MN 55110.
Tel: (800) 474-1646.
Fax: (651) 426-0441.
Web: www.magnepan.com.

Sidebar 2: Associated Equipment

Analog source: VPI TNT Mk.IV turntable, JMW Memorial tonearm, Grado Reference cartridge.
Digital source: SimAudio Moon Eclipse, Oracle CD players.
Preamplifier: VAC CPA1 Mk.III.
Power amplifiers: VAC Renaissance 70/70, VTL Ichiban, Mark Levinson No.20.6, Classé CAM-350.
Cables: Nirvana S-X, Kimber Bi-Focal XL, Synergistic Research Designer's Reference.
Accessories: Bright Star Rack of Gibraltar and isolation systems; Tiptoes; PAC Super IDOS; MIT Z System and Z Center, Nirvana AC systems; Synergistic Research A/C, Reference Master Couplers; VPI 16.5 record cleaner, Decca/Hunt record brush, Sumiko Fluxbuster, Dennessen Soundtractor, Shure stylus-pressure gauge, Immedia Needle Nektar stylus-cleaning fluid; Nordost ECO3 and Music Fidelity DiskSolution CD treatments; *Sheffield/XLO Test & Burn-in CD*, *StereophileTest CD 1* and *2*; EchoBuster and ASC room-treatment products.—**Brian Damkroger**

Sidebar 3: Measurements

The Magnepan's estimated voltage sensitivity was on the low side, at 83.5dB(B)/2.83V/m. However, in a typical room the speaker's quasi-line-source vertical dispersion should make it sound a little louder than might otherwise be expected. (The in-room loudness of a true line source falls off in a linear manner with distance, rather than as the square of the distance, as is the case with a point source.) But it should be noted that BD did need a good beefy amplifier to drive the Maggies to useful levels.

The speaker's impedance (fig.1) approximates a resistive load of around 4 ohms over much of the audioband. However, there is a slight magnitude peak centered at 1.6kHz, due to the crossover between the ribbon and the midrange diaphragm. The minimum value is 3.3 ohms at 10kHz, which is not going to be problem for any good amplifier to drive, while the increasingly positive electrical phase angle at the top of the audioband is, I assume, due to the residual inductance of the ribbon driver. There is a small wrinkle in the trace between 50Hz and 60Hz, which is probably due to the tuning of the woofer diaphragm.

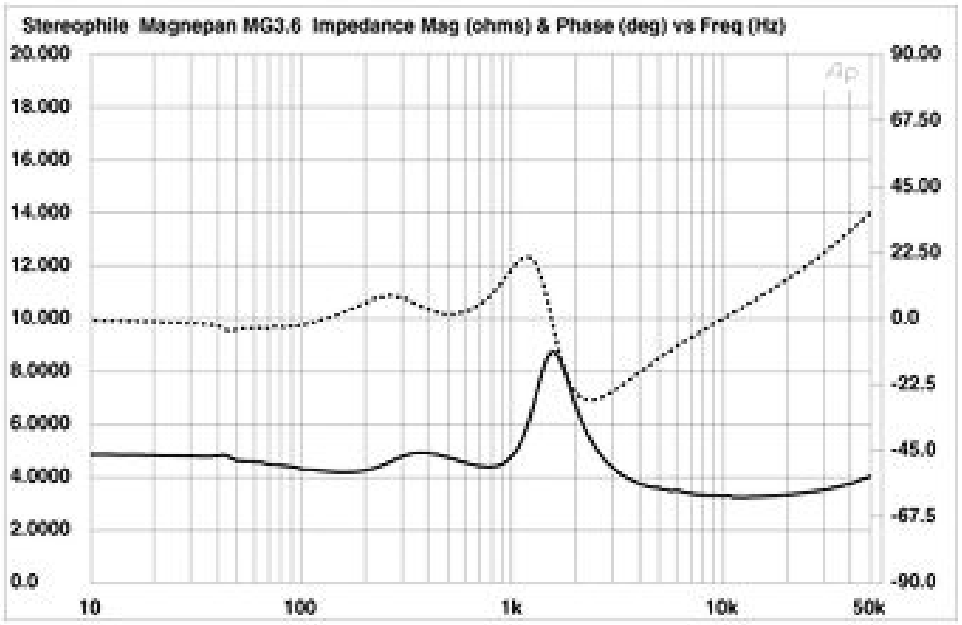


Fig.1 Magnepan MG3.6/R, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

This can be seen to the left of fig.2, as the big peak in the mid-bass. This is a nearfield measurement, which will exaggerate the behavior of the bass panel [*see the letters at the end of this reprint—Ed.*]. This does not necessarily mean the speaker will "*boom*" in an out-of-control manner—BD commented that the MG3.6/R's low frequencies sounded "*powerful, clean, and articulate*" down to about 35Hz in his room—but such *measured* bass behavior does appear to be characteristic of panel speakers. Yet the midrange diaphragm does not have a response peak apparent. It neatly covers the 200Hz to 1.2kHz region, with relatively steep rolloffs above and below that bandpass. From this graph, the ribbon tweeter seems both to be set a little low in level, and comes in rather high in frequency. I imagine that the narrow peaks and dips in its response, are due to local interference effects. They should therefore not have any subjective consequences.

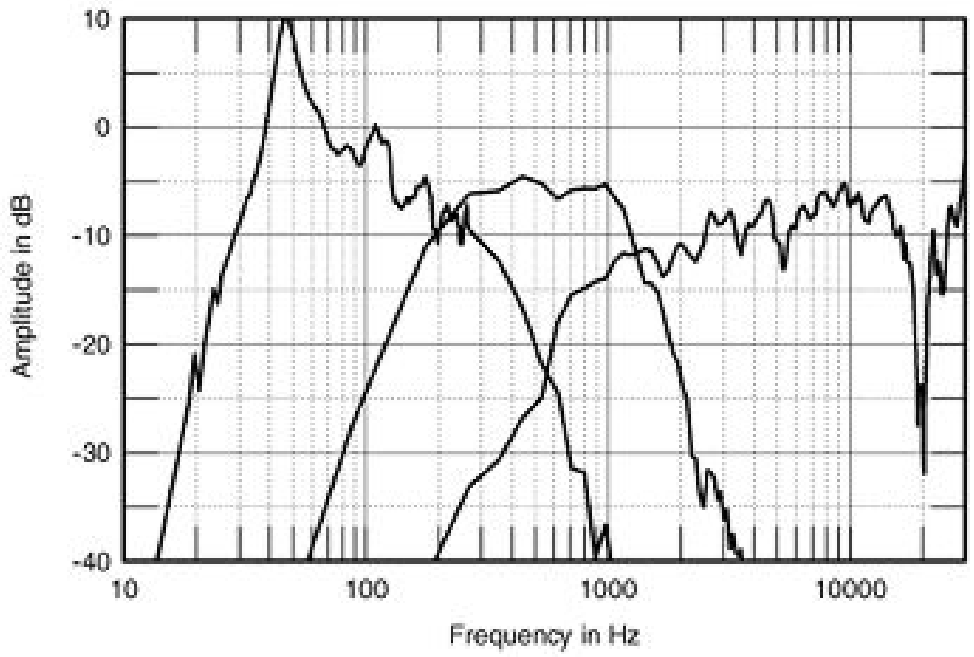


Fig.2 Magnepan MG3.6/R, acoustic crossover on tweeter axis 36" from the floor at 50", corrected for microphone response, with the nearfield woofer and midrange responses each plotted below 300Hz.

The Magnepan's overall response, measured on the ribbon axis 36" from the floor (*ie*, halfway up the ribbon) and averaged across a 30 degrees lateral window is shown in fig.3. The microphone was at a 50" distance, which results in a significant proximity effect with such a physically large speaker. This accounts for much of the downward response tilt evidenced between 200Hz and 2kHz in this graph. The level mismatch between the midrange diaphragm and the ribbon tweeter is still evident, but I wonder how this will manifest itself at a normal listening distance. (Circumstances dictate that I use a 50" microphone distance for my acoustic measurements.) The logistics of the magazine's relocation to New York meant that I could not perform in-room measurements in BD's listening environment, but I suspect that the MG3.6/R's behavior will be better behaved in a room.

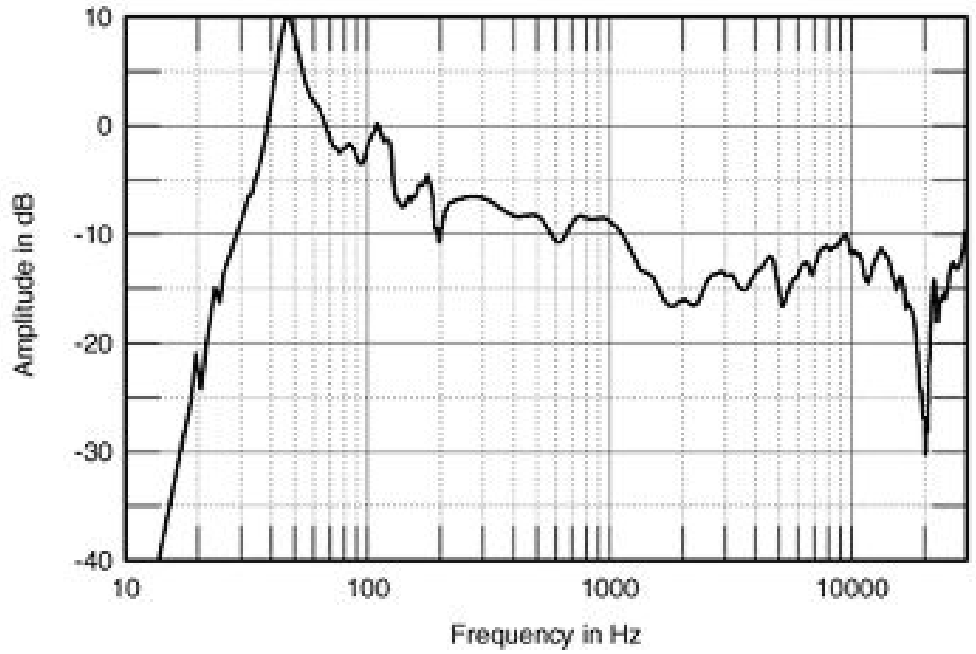


Fig.3 Magnepan MG3.6/R, anechoic response on-axis at 50", averaged across 30 degrees horizontal window and corrected for microphone response, with the complex sum of the nearfield woofer and midrange responses plotted below 300Hz.

Magnepan recommend that the speakers be used with the tweeters on the outside edges. There is more treble energy apparent laterally off-axis on the woofer side of the panel (fig.4). Vertically (fig.5), as expected from a speaker that behaves to some extent as a line source, the balance doesn't change over a significant listening-height range.

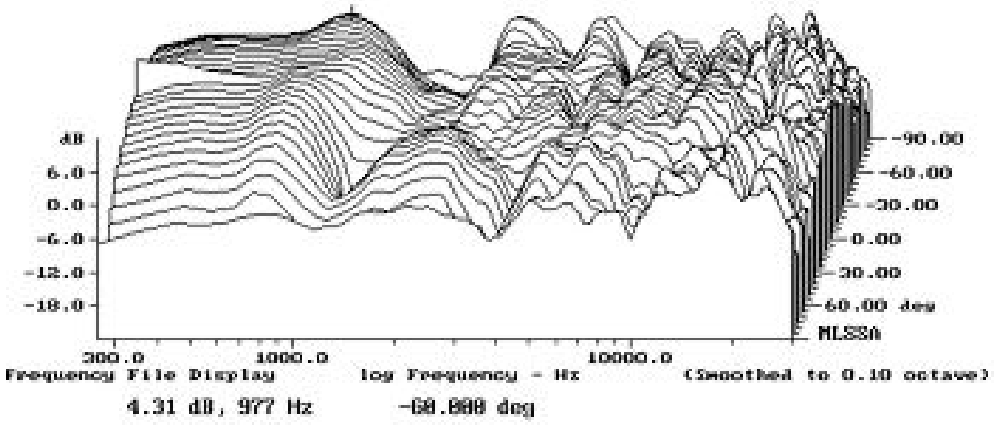


Fig.4 Magnepan MG3.6/R, lateral response family at 50", from back to front: response 90 degrees-5 degrees off-axis on woofer side, reference response, response 5 degrees-90 degrees off-axis on tweeter side.

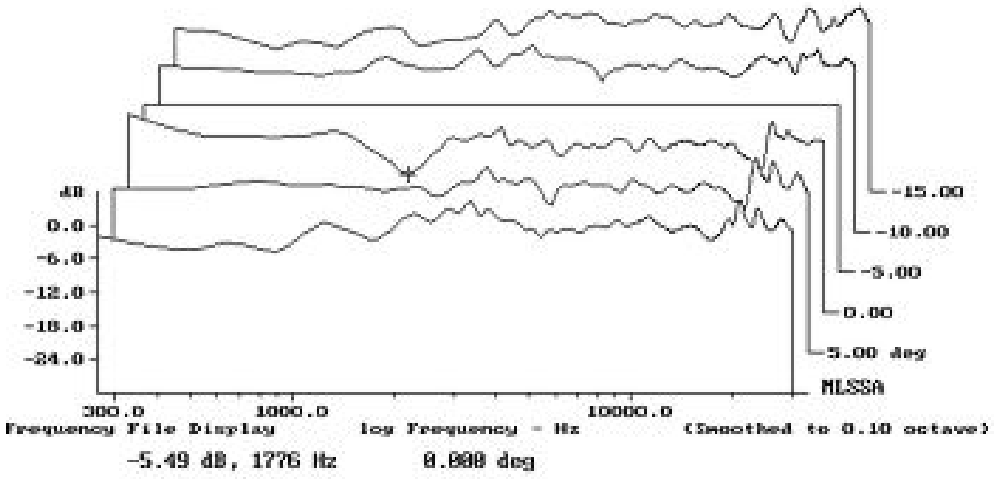


Fig.5 Magnepan MG3.6/R, vertical response family at 50", normalized to response on middle of tweeter axis, from back to front: differences in response 10 degrees-5 degrees above axis, reference response, differences in response 5 degrees-15 degrees below axis.

In the time domain, the Magnepans' step response (fig.6) indicates that the ribbon tweeter and woofer diaphragm are connected in positive acoustic polarity, the midrange diaphragm in negative polarity. Because the drive-units are mounted side-by-side, this will swing the main lobes to the woofer side of the panel, hence Magnepan's placement instruction. The cumulative spectral-decay plot (fig.7) shows an initially clean decay in the treble, but then some hashy behavior. This, I believe, is not due to the presence of resonances but to early reflections from the physically large radiating areas.

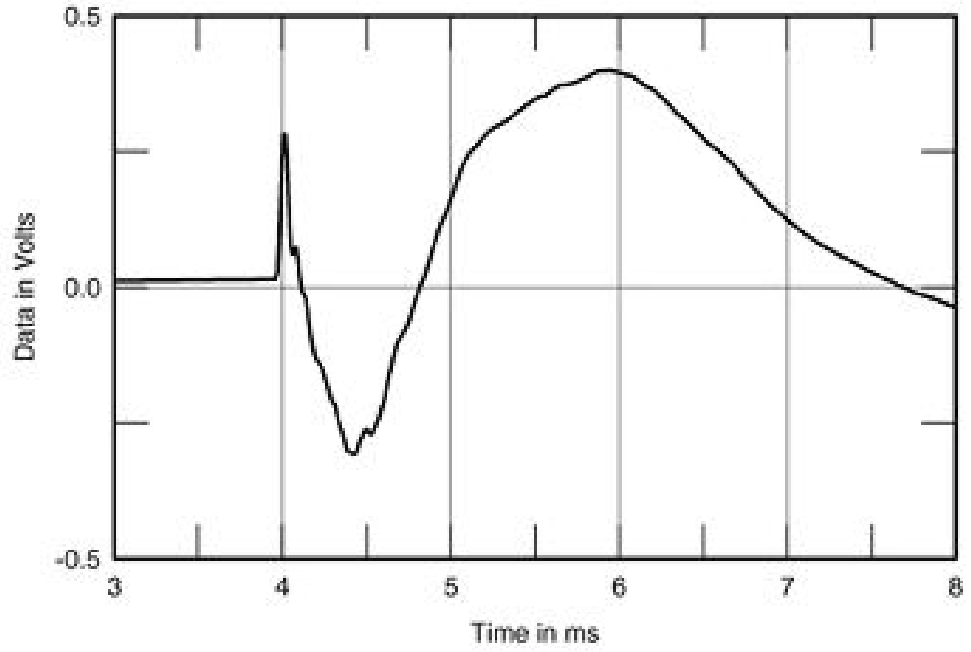


Fig.6 Magnepan MG3.6/R, on-axis step response at 50" (5ms time window, 30kHz bandwidth).

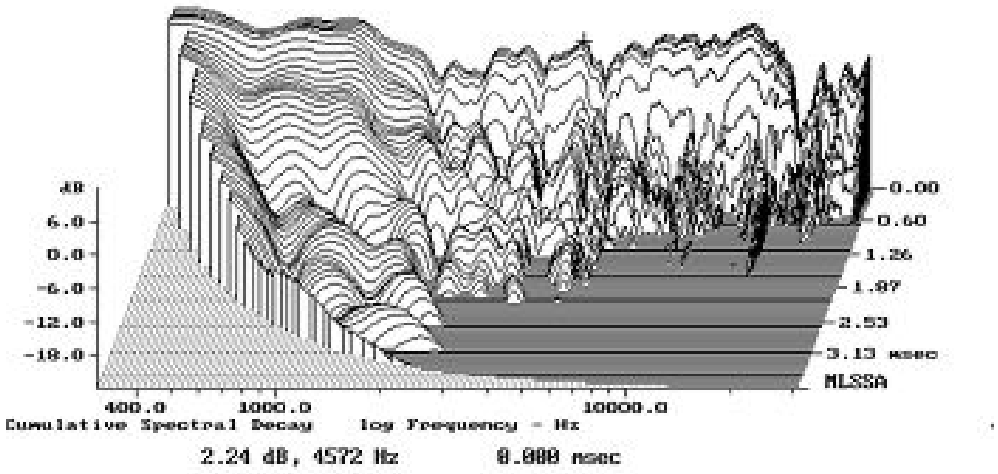


Fig.7 Magnepan MG3.6/R, cumulative spectral-decay plot at 50" (0.15ms risetime).

As I have written before in these pages, measuring physically large speakers with in-room quasi-anechoic techniques is in some ways a fruitless task. The usual assumption, that the measuring microphone is very much farther away than the largest dimension of the speaker being measured, is clearly wrong. Yet without access to a large anechoic chamber costing many hundreds of thousands of dollars, in-room measurement techniques are all we have to rely on.—**John Atkinson**

A letter in response appeared in November 2000:

Stiffen those Maggies

> Editor: I read the August 2000 review of the Magnepan MG3.6/R with great interest. It was a very well-written, informative article. Brian Damkroger is among my favorite writers at *Stereophile* and has similar tastes in speakers to boot. However, I do have a couple of questions.
>
> It was stated that Magnepan recommends setting the speakers up with the tweeters to their outside edges (or at least so that the tweeters are farther from the listener than the woofers). It was never stated if Brian ended up using them this way, or if he experimented with having the tweeters inboard.
>
> Also—my main reason for writing—doesn't anyone make aftermarket stands for Magnepan speakers? I know how much importance *Stereophile* generally places on speaker stands, yet there was not even any mention of putting cones under the MG3.6/Rs' feet to stabilize these mammoth speakers. I can't see how the Maggies would not improve greatly from the use of some good-quality stands or, at the very minimum, a set of cones.
>
> I have an old set of MGIIIAs for which I am fabricating a set of custom stands that will fasten to the standard bolt-hole pattern at the bottom, and will also fasten about 16" from the top. (The speakers can be easily moved 4-5" front to back at their tops; I would imagine the MG3.6/Rs are not much different.) The base will have 95-100 lbs of sand in it.—*Grant VanderMye*

Thanks for your kind words, Mr. VanderMye. To answer your questions:

I tried the Maggies in a wide range of configurations, including many with the tweeters to the inside. In my room, I could space the speakers farther apart, toe them in more, and still end up with the tweeters farther from my head. My preferred setup was the one I described, however. I generally got a more even, more expansive image with the tweeters outboard. Having them to the inside gave me a more triangular image, with the rear corners becoming murky and shrunken.

If, on the other hand, you're dealing with a long, narrow room, and have the speakers firing down the long axis, my experience with other Maggies suggests that you have to be concerned about proximity to the side wall. In those setups, having the tweeter outside might cause the image to move forward along the wall, "wrapping around" the listener a bit. I found (in a shoebox room) that I could sometimes get a better balance of image width and depth with the tweeters inboard. I would have included more on setup in the review, but it was already longer than it should have been.

I understand and share your concern about speaker stands. (I'm not positive, but I think that Sound Anchors may make stands for the Maggies.) It's certainly disconcerting to have this huge, flimsy panel waving in the breeze, after we've all convinced ourselves that super-rigid coupling is the way to go.

The Maggies' size may work a bit in their favor, because the panels don't have as much displacement as a cone driver. I did play around with Tiptoes with the 3.6/R and several other Maggies, but it never seemed to make that much difference in the sound. The floor/stand coupling isn't the weak link, in my opinion, but rather the stand/panel coupling, the rigidity of the stand itself, and the rigidity of the panel itself. Just putting the stands on cones—even bolting the stands onto cones—*doesn't do much.*

I didn't want to do anything beyond that, because my practice (and Stereophile*'s policy) is to test products in a completely unmodified state. Back when I had Infinity RS1bs, I did make modified bases for the midrange-tweeter panels that had a triangulated aluminum brace coming about two-thirds of the way up the speaker's back. But the Infinity's structure was far more rigid than the Maggie's, so the stand and coupling were easy to fix. I plan to keep the*

3.6/Rs; maybe I'll play around with something like your attachment 16" from the top.—**Brian Damkroger**

Comments on Nearfield Measurements of Panel Speakers: (The following letters were received but were not published.)

Siegfied Linkwitz comments

Editor: The review of the Magneplanar MG3.6/R in the August *Stereophile* caught my attention. I am a proponent of open-baffle speakers because of their room acoustic advantages and the absence of sound coloring boxes. So I looked with great interest at figs.2 & 3 on page 89 showing individual driver frequency responses and their summation.

The nearfield measurements of woofer and midrange in fig.2, presumably taken only an inch or so from the driver surface, are a valid set of data. You also could have measured the tweeter at such close range and obtained useful information. Where things fall apart is in fig.3 when you form the complex sum of nearfield measurements and the 50" tweeter "*farfield*" measurement. This curve does not represent the frequency response a listener might experience at any distance and is therefore extremely misleading.

The nearfield frequency response of an acoustic source is only proportional to its farfield response if the source is small, *ie*, omnidirectional, and if it is in free-space. Summing a driver diameter corrected woofer nearfield response to a farfield midrange response works for a small monitor on a stand, but already has errors when the speaker is larger and the woofer is close to the floor—when the conditions move away from free-space or anechoic.

The Magneplanar is clearly not a point source and, being open-baffle, it has an acoustic short circuit between front and back. This causes a 6 dB/octave low-frequency roll-off in the farfield response. So from all open baffle nearfield measurements you have to subtract first a 6dB/octave (= 20dB/decade) slope before you can sum the data with other farfield measurements. When you apply this correction to the MG3.6 woofer response you see that it flattens from 400Hz to 60Hz and shows a peak at 47Hz. Similarly the midrange has to be corrected before you can use it for the composite response. The actual room response is still different from this composite, though, primarily due to the effect of the floor on woofer radiation.

You might consider to add a measurement taken with a 50ms time window at your listening position, spatially averaged and half-octave smoothed to include the room. I think as a measurement that allows true comparison between speakers, this would be more useful than the composite data that are correct only in a few special cases.

I hope this letter helps your readers to understand the difficulties in describing a loudspeaker by measurements.—Siegfried Linkwitz, Corte Madera, CA, www.linkwitzlab.com.

Mike Gough comments

Editor: I read with interest the measurement section of the Magnepan Magneplanar MG3.6/R review in the August 2000 *Stereophile*, specifically John Atkinson's comments on the midbass peak of the nearfield response. The following may be of interest.

Some years ago, while designing the SCM8 dipole surround speaker (the triangular one) for

B&W's original THX Home Theatre System, I was discussing with Quad's Peter Walker the problems of coping with the bass roll-off imposed by front-to-back cancellation of dipole designs. I was having a problem meeting the (then) THX bass extension with such a small enclosure, but did not want to revert to monopole in the bass (as so many do).

Peter told me of a technique he used on the Quad electrostatics, which I was ashamed I hadn't also thought of, which was to engineer an underdamped bass alignment. That gave a basically rising response with decreasing frequency down to the nominal cut-off frequency, which compensates the roll-off due to dipole cancellation. This underdamped characteristic, of course, shows up in a nearfield measurement, but not in the far field. It is not apparent in the midrange panel because it is not needed. The dipole cancellation starts at a frequency defined by the smallest dimension of the panel and this is the same for all sections in a common panel size. The midrange panel operates above this frequency.

So such a nearfield peak is often a deliberate part of the design of dipoles (of which panel speakers are an example). Mind you, both Peter and I went for much more modest peaks. The dipole imposes an extra roll-off rate of 6dB/octave. You can add a second-order Q=1 to a first-order at the same frequency to get close to a third-order Butterworth or, for a more extended "*flat*" response; a second-order Q=2 added to a first-order at twice the frequency gives something akin to a Tshebychev with a 1dB ripple. The Magnepan peak does seem a little excessive, but it all depends how it interacts with the modes of the listening room.

This technique does open the debate as to what the ear actually hears. A Q of 2 has a pretty abysmal transient response and the question is whether the dipole "*equalisation*" ameliorates that effect in the total response. As both mechanisms are minimum-phase, I suspect and believe that that indeed happens. As it is ultimately third-order, though, the response will have an inferior low-level transient behaviour to a well-adjusted second-order. It should have some similarity to the series C (capacitor) closed-box alignments we used while I was at KEF with Laurie Fincham. There the -3dB point was lowered by putting a capacitor in series with an acoustic alignment with Q of 1. In those days we wanted to protect speakers from turntable rumble.—*Mike Gough, Senior Product Manager, B&W Loudspeakers Ltd.*

MAGNEPLANAR® MG3.6/R

Instruction Manual

MAGNEPLANAR® PRODUCTS

WHITE BEAR LAKE, MINNESOTA 55110

www.magnepan.com

1. INTRODUCTION

Congratulations on your purchase. The Magneplanar MG3.6/R loudspeaker was conceived and designed for perfectionists. One of the most revealing loudspeakers made, it will provide outstanding music reproduction when used with high quality components. Due to the elegant simplicity and ruggedness of the design, the Magneplanar MG3.6/R loudspeaker will give many years of trouble-free service.

2. GENERAL DESCRIPTION

The MG3.6/R speaker system consists of a pair of mirror-imaged panels, labeled "1" and "2" (for identification). Each panel contains one, five-foot long ribbon tweeter and one mid/bass planar-magnetic driver. The planar-magnetic driver consists of a bass section and a midrange section on a common ½ mil. Mylar diaphragm.

The crossover components for the bass and midrange are housed in a pair of external crossover boxes. The midrange to treble crossover components are housed in the speaker panel and are non-defeatable.

Although the MG3.6/R system is set up for conventional single amplifier operation, the speaker input plates provide for bi-wiring or bi-amplification as an option.

3. ACCESSORY CARTON CONTENTS

4 - Speaker Support Feet

8 - Speaker Support Bolts

2 - 2-1/2 Amp Normal Blow Fuses, Type SAG (Tweeter)

2 - 4 Amp Normal Blow Fuses, Type SAG (Midrange)

2 - External Crossover Boxes

1 - Direct-Connect Crossover Installation Bracket Set

1 - Hex Wrench

2 - Speaker Emblems

2 - 1 Ohm Resistors

1 - Owner's Manual

4. IMPORTANT PRECAUTIONS

FRAGILE! The foil element in the ribbon tweeter is quite fragile. Handle the speaker panel with care. Do not drop flat on the floor. Air pressure can rupture the element.

RUPTURED RIBBON ELEMENTS ARE NOT COVERED UNDER THE WARRANTY!

5. PACKAGING

Save all packaging, including the protective cover for the ribbon tweeters. If you need to transport the speakers, they can be shipped safely only in the original packaging. You may never have to return your speakers, but should the occasion arise, they should not be shipped in any packaging but the original. Should you discard it, factory packaging is available, including special packaging for ribbon tweeters.

6. SPEAKER UNPACKING AND ASSEMBLY

UNPACKING SPEAKER-DO not pull a speaker abruptly from the carton. The resulting partial vacuum could burst the ribbon. Do not remove the tweeter protector strips until the speaker is completely assembled.

SUPPORT FEET INSTALLATION-The four support feet are shipped in the separate accessory carton along with the eight mounting bolts. Two feet must be fastened to the backside of each of the panels. The nuts are already installed in the panels.

A. Lay the speakers on the side as shown in Figure 1. We suggest you have a second person hold the speakers during installation to ensure they do not fall.

B. Locate the four holes in the fabric along lower backside of the panel.

C. Carefully place a foot from the backside against the panel so the holes in the foot align with the holes in the panel. Using your fingers, insert bolts through the foot and into the panel until they engage nuts in the panel. Care should be taken so the bolts do not cross-thread. Final tightening is done with a Phillips #2 screwdriver. Repeat for remaining foot.

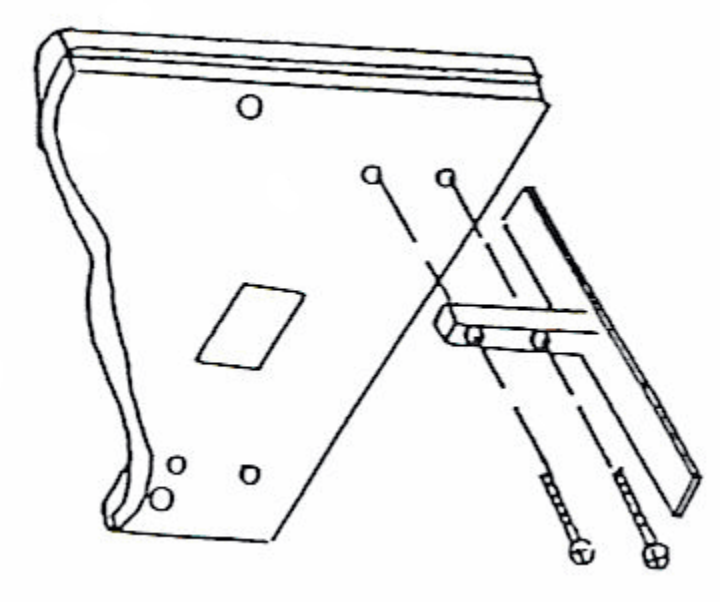


Figure 1

7. HOOKUP

This section covers amplification with a single stereo amplifier. For instruction on bi-amplification or bi-wiring, refer to Sections 11 and 12.

DIRECT-CONNECT CROSSOVER INSTALLATION

A. Insert the small connectors in the four output ports of the crossover box, using a 5/64" hex wrench. See Figure 2, Page 4.

B. Screw the support bracket to the bottom of the crossover box with the 3/8" long screw provided. DO NOT OVER TIGHTEN!

C. Insert and secure the crossover box to the respective connector holes in the nameplate, using a 5/64" hex wrench.

D. Locate the lower mounting hole on the speaker panel 5/8" up from the bottom of the panel, and located on the center line of the nameplate (as shown). Hand-insert the 3/4" long machine screw. CAUTION: Do not cross thread the screw. Tighten with a Phillips head screwdriver.

The MG3.6/R features high-current cable connectors which provide optimum contact area with speaker cables up to 10 gauge. To prepare cables, strip 1/2" of insulation from the end of the cable. Insert the bare wire into the connector and tighten the set-screw with the Alien wrench provided. Take special precautions to ensure correct polarity on all speaker cable connections. Most speaker cables have some sort of coding on one lead, either printing, colors, or a "rib" to help in maintaining polarity.

Spade lug adapters are available from your Magneplanar dealer for speaker cables that are incompatible with the Magneplanar high-current connector.

MG 3.6/R DIRECT-CONNECT CROSSOVER INSTALLATION

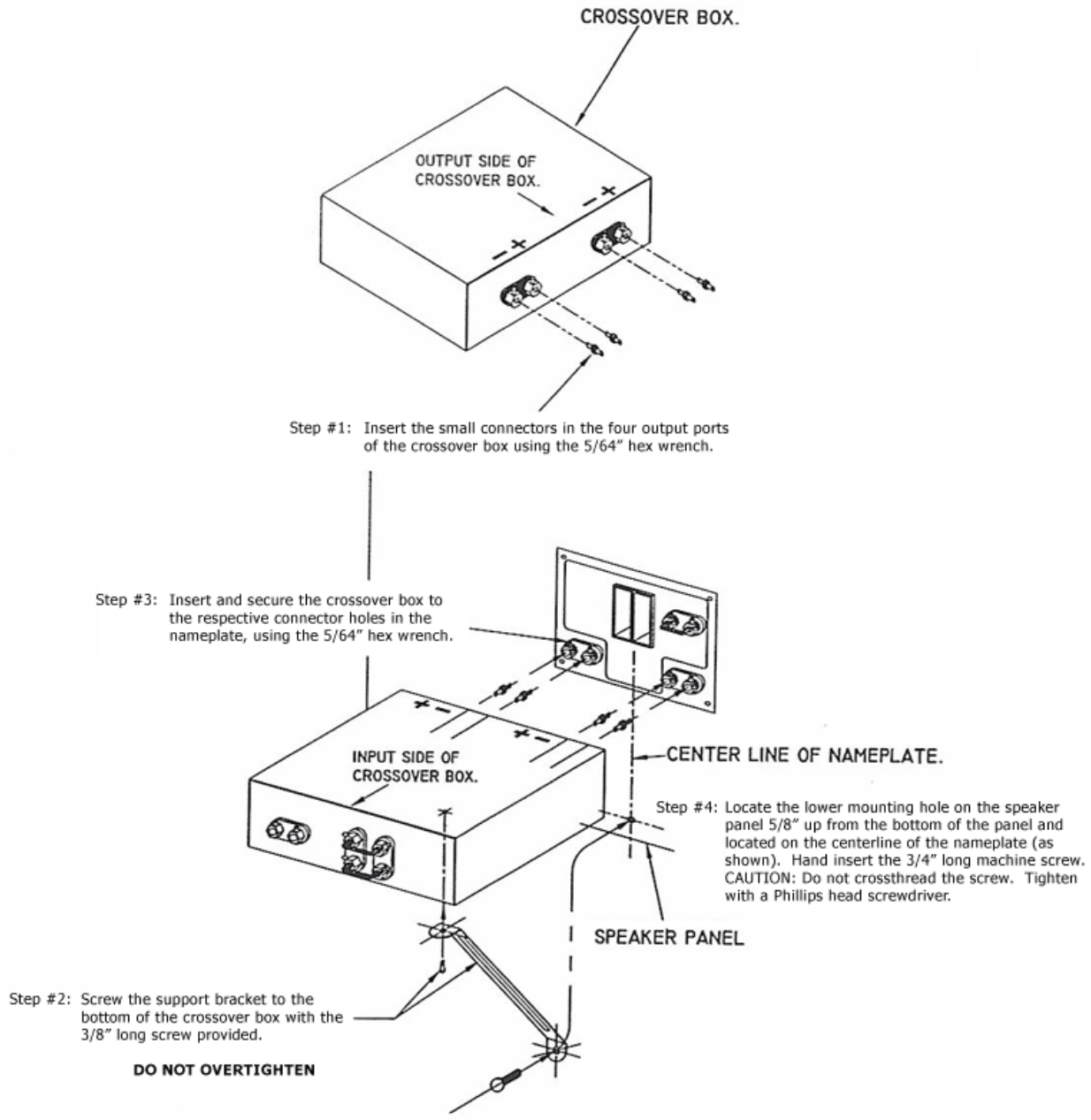


Figure 2

FUSING – The mid and treble sections of the MG3.6/R are protected with Type SAG normal blow fuses (4 amp for midrange; 2-1/2 amp for tweeter). The bass section does not require fusing protection. The fuse values should never be increased or bypassed. Do not use slow-blow fuses. Fuses remain in effect when bi-amplifying. This is done for your protection since it prevents overdriving from an amplifier, or the distortion that results from an overdriven amplifier (clipping).

In case the MG3.6's do not sound "quite right," especially after high volume levels, please check the midrange fuse. When it is blown some owners do not realize it, since a blown midrange fuse is not as apparent as a blown tweeter fuse. Some amplifiers will distort or go into thermal overload when driving MG3.6's with a blown midrange fuse.

BURNED OUT MID OR TREBLE SECTIONS ARE NOT COVERED UNDER THE WARRANTY.

8. SPEAKER PLACEMENT

Proper speaker placement and room acoustics can have more effect on a music system than upgrading one of the components in the system. Unfortunately, there is no definitive guideline which will cover all possible listening rooms. Considerable experimentation is required for locating the optimum position. The following are a few general guidelines:

TWEETER PLACEMENT

The MG3.6 tweeters are mirror-imaged. For proper phasing between the bass, midrange, and tweeter, the bass driver should be closer to the listener than the tweeter (ahead in time). If the tweeters are placed on the outside, the angle of the speaker in relation to the listener should be as shown in Figure 3. If the tweeters are placed on the inside, the speaker angle should be as shown in Figure 4.

BASS RESPONSE

If you do not have access to a spectrum analyzer, play a record with a repetitive bass line (preferably an acoustical bass instrument). Try the speakers in several parts of the room. Start experimenting with the speakers about 3 feet from the back wall. Try moving the speakers forward or backward by increments of 6 to 12 inches at a time. One part of the room should be noticeably better than the rest, as should one distance from the rear wall as shown in Figure 5.

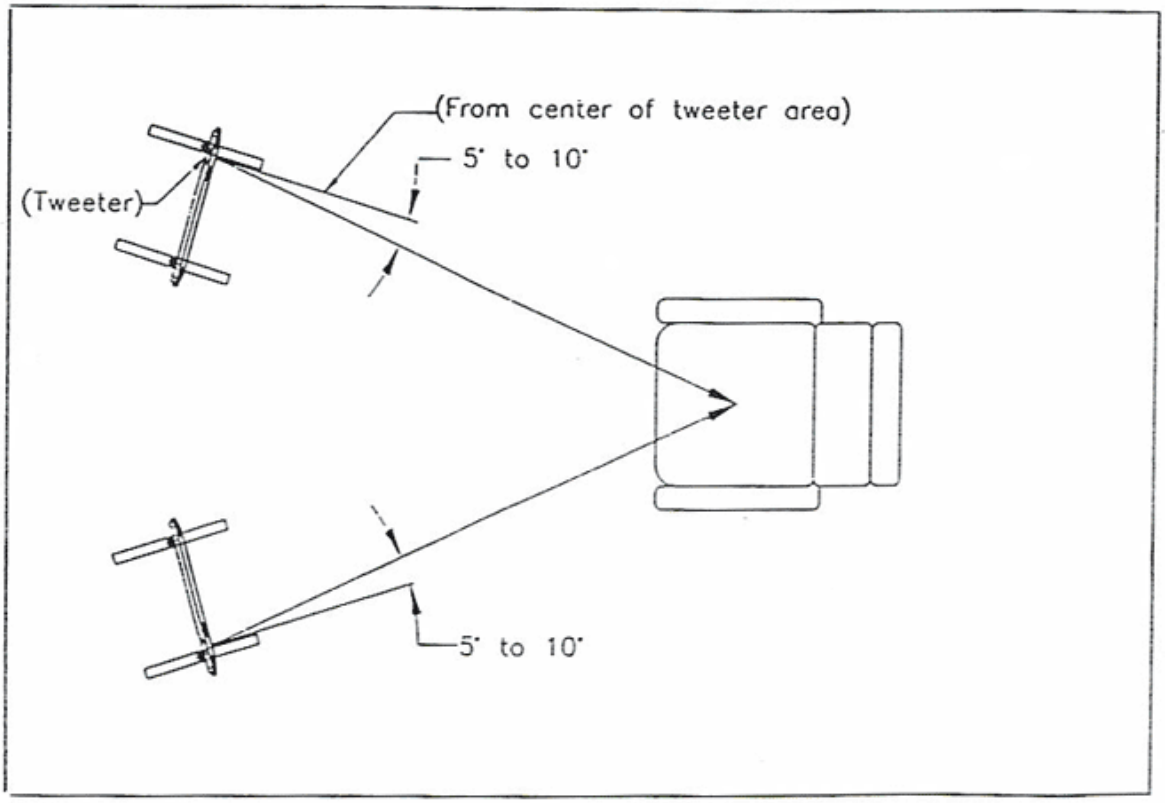


Figure 3

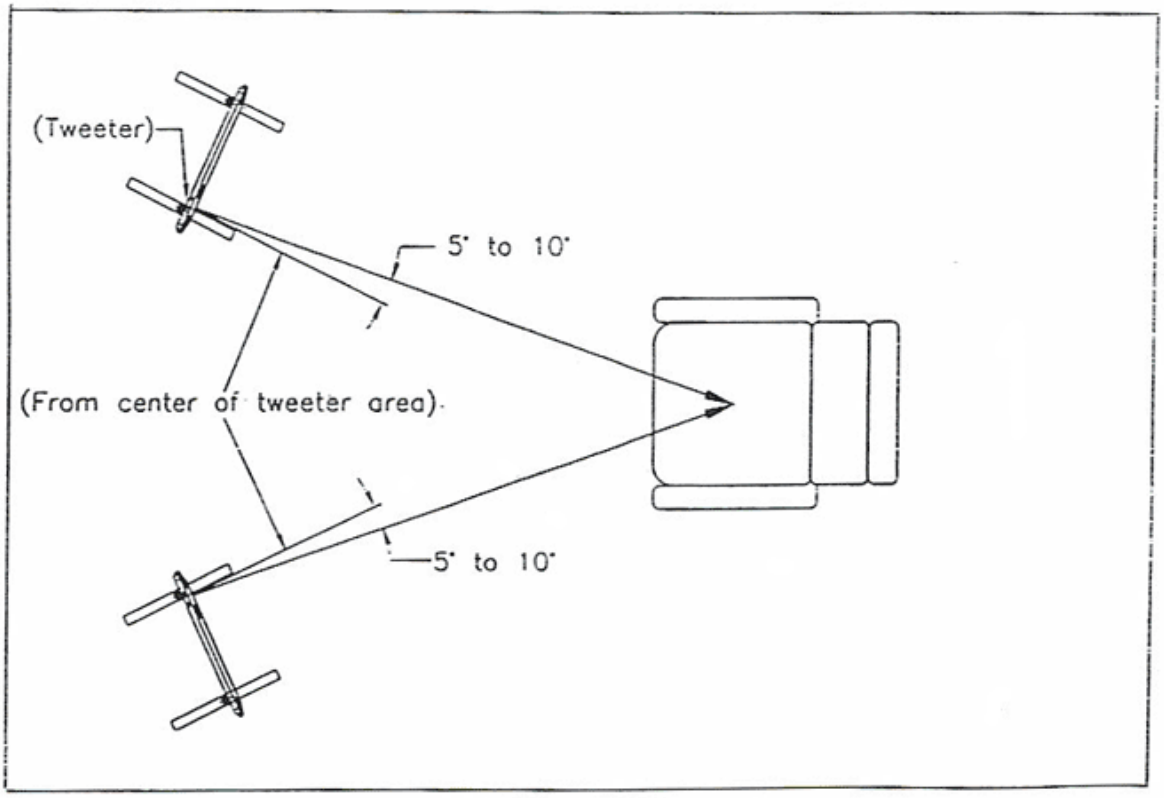


Figure 4

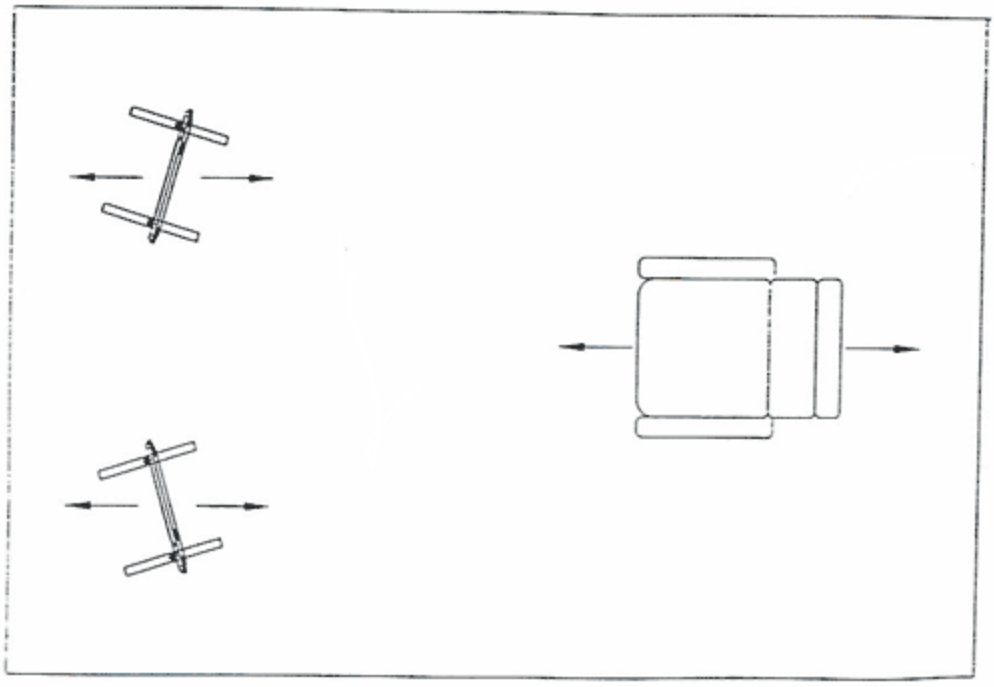


Figure 5

STEREO WIDTH AND IMAGING

Once you have located the best position for the speakers and your chair for good bass performance, separate the tweeters by 50% of the distance from your chair to the speakers. (For example, if your chair is 10 feet from the speakers, move the tweeters 5 feet apart.) Now move the speaker apart in increments of 3 or 4 inches at a time, listening carefully at each position. At some point you will start to hear two separate speakers instead of getting a "stage effect" (or continuous image). If you have a hole-in-the-middle effect, your speakers are too far apart: begin moving the speakers closer together in small increments until you notice a point at which you achieve one cohesive "sound stage." See Figure 3 or 4.

A small tack or piece of tape can be attached to the carpet so the ideal spot can be easily relocated when the speakers (or chair) are moved for cleaning, etc..

The entire placement procedure may seem like a great deal of work, but is necessary in the setup of any high quality system. The time and effort expended should be necessary only once, but will repay the owner with countless hours of musical enjoyment.

9. ROOM ACOUSTICS

Magneplanars, like other bipolar speakers, usually sound best with a moderately reflective surface behind the speakers. In situations where the speakers must be placed closer than 2 feet from the back wall, a heavy damping material directly behind the speakers is advised; however, it should not cover the entire wall.

Damping material in other parts of the room is a matter of trial and error. A word of caution-when audiophiles discover the effectiveness of damping material, they sometimes overdo it (on the premise that if a little is good, more is better). Before you make a permanent change to your room, experiment with the positioning of the damping material. Usually a portion of one or two parallel walls should have some damping.

An overdamped room will provide very precise imaging, but you will have a reduced sense of ambience (less reverberation, spaciousness). An underdamped room may heighten the illusion of being in a concert hall, but the imaging will seem imprecise with all the instruments mixed together. Moderation is the word.

10. OPTIONAL RIBBON TWEETER ATTENUATION

There are two principal reasons for needing to attenuate the Magneplanar Ribbon Tweeter:

A. Recordings, typically in the "pop" or "rock" vein, often exhibit a pronounced rise in the treble region.

B. The Magneplanar Ribbon Tweeter is very efficient in its total "energy dispersion." If the surrounding walls are exceptionally reflective, the overall perceived acoustical balance will be tipped towards a "hot" high end.

Attenuation is performed through insertion of a simple non-inductive resistor in series with the tweeter.

There are inputs provided on the connector plate of each speaker for insertion of a resistor. To insert a resistor, simply loosen the Alien screws, remove the jumper, insert the resistor, and tighten the screws.

The pair of 1 ohm non-inductive resistors provided will attenuate the tweeter approximately 1-2dB. Other values are available from your Magneplanar dealer.

11. BI-AMPLIFICATION WITH CONVENTIONAL ELECTRONIC CROSSOVER

The MG3.6/R is arranged conveniently for bi-amplification. By adding an additional stereo amplifier and a crossover, you can enjoy the benefits of increased dynamic range and lower distortion.

1. Set your electronic crossover at the following points and slopes:

   Low Pass: 18dB per octave at 250Hz

   High Pass: 6dB per octave at 200Hz

2. Connect the bass and mid/treble amplifiers directly to the speakers as shown in Figure 6. Do not use the MG3.6 external crossover box.

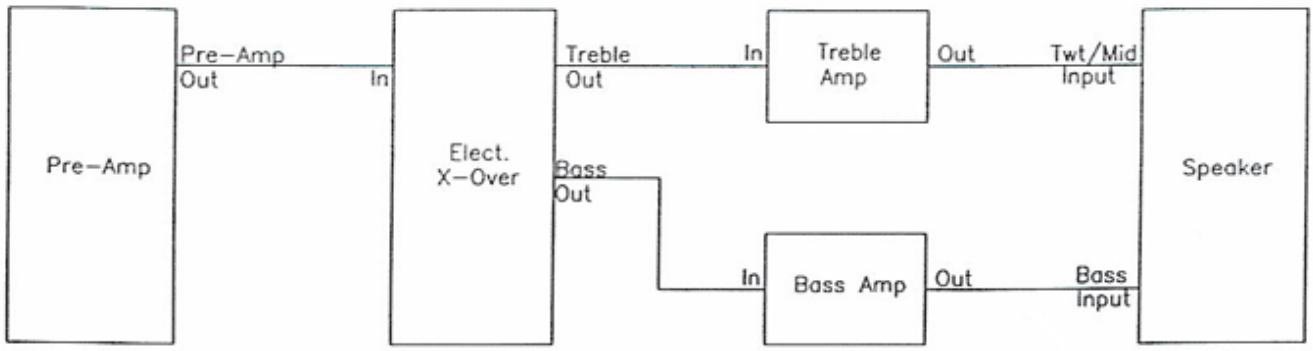


Figure 6

3. Since the effective crossover point for the MG3.6/R is approximately 250Hz, the power requirements for the bass midrange/treble amps are nearly the same. Therefore, use amplifiers of similar power rating. It is suggested to use amplifiers rated at 100 watts RMS or greater, into 8 ohms.

12. BI-WIRING OPTION

Bi-wiring requires two sets of speaker cables. They may be identical or one set may be specialized for high frequencies and the other specialized for low frequencies.

A. Remove both jumpers on the crossover box.

B. Connect one set of cables to the low cable input and the other set to the high cable input. Connect the other end of the cables together (observe +/- polarity), and connect to one channel of the amplifier outputs. If frequency specialized cables are used, connect them to their respective inputs. In either case, the other ends are connected to the same amplifier channel.

C. Repeat same procedure for the other channel.

13. MAINTENANCE

The wood trim can be cleaned and polished with a damp cloth. In the event the speaker's fabric is damaged or soiled, replacement covers are available. For owners with cats, we recommend cat repellant around the base of the speakers. Do not use a vacuum cleaner!

14. SERVICE

In the unlikely event you should need service for your MG3.6/R loudspeakers, we recommend you return them to your dealer. He is experienced in providing service and can assist you if the speakers must be returned to the factory.

If it is determined that your speakers must be returned for repair, you must call the factory first for a return authorization repair number. Ship your speakers (freight prepaid-ask for Class 100) to:

Magnepan, Incorporated
1645 Ninth St.
White Bear Lake, MN 55110
651-426-1645 or 800-474-1646

Include a packing slip or letter describing the nature of the problem and your return authorization repair number. Please include your name, address, and a daytime telephone number.

Before packaging, very carefully install the steel protector strips over the ribbons. Do not let the steel strips slap against the magnets.

THE RIBBON ELEMENT WILL BE RUPTURED IF SHIPPED WITHOUT THE STEEL PROTECTOR STRIPS AND WOULD NOT BE COVERED UNDER THE WARRANTY.

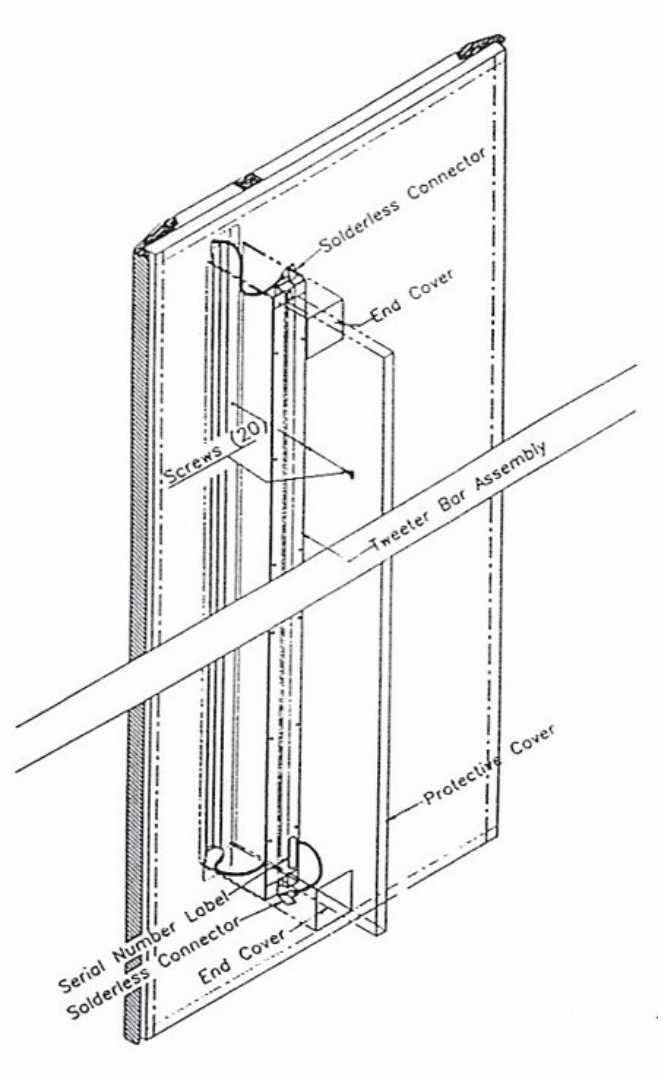
15. THE RIBBON TWEETER

Because the foil element in your MG3.6/R line source tweeter is only .00015 inches thick, it is very fragile. It's the price we pay for ultra-high performance. Most users will never require a replacement tweeter. Failure will generally occur from mishandling, or from very high impulse signals from a few unusual compact discs used with very high powered amplifiers. Users that frequently push the 2.5 amp tweeter fuse capacity will be the most likely to experience early failure. Because of this, the tweeter has been designed to be easily replaced, requiring only a screwdriver. The time required should be less than 30 minutes.

If you have a defective tweeter, you should contact your dealer for a replacement. Ribbon tweeters for previous MGIII models cannot be used in your MG3.6/R's. Your defective unit will be returned to Magnepan for installation of a new foil element at a minimal charge to you: there is no charge if it is within the one-year warranty period that covers the foil element and Magnepan determines that there is no evidence of abuse. DO NOT SHIP A TWEETER BACK TO MAGNEPAN WITHOUT CONTACTING YOUR DEALER OR MAGNEPAN FIRST. Tweeters must be returned in authorized containers only. Tweeters that are damaged in shipment are the responsibility of the customer.

16. 60" VERSION 2 RIBBON TWEETER REPLACEMENT

Tools Needed: #2 Phillips Screwdriver
Needle Nose Pliers



1. Place protective cover over backside of ribbon tweeter, as shown (to prevent damage to ribbon while moving the speaker panel).
2. Carefully lay speaker on a flat table or working surface.
3. Remove the protective cover and pry away the two end covers.
4. Pull off the connector at each end of the ribbon tweeter with a pair of needle nose pliers.
5. Reinstall protective cover over ribbon.
6. Remove the screws that attach the ribbon tweeter to the frame and then remove the tweeter.
7. Install the new ribbon tweeter in the frame. Serial number label must be at the bottom.
8. Insert the screws. (Tighten until snug, then back off ½ revolution.)
9. Remove protective cover and reattach connectors to the ribbon lugs.
10. Peel liner from back of end covers and adhere to each end of tweeter.
11. Install protective cover.
12. Reposition speakers in listening position and remove protective cover.
13. Pack old tweeter(s) in the tube and packing provided and return to your dealer or Magnepan.

CAUTION: Do not bump of touch the ribbon at its end terminals. Also do not tug on the fine wire jumper that is soldered to the foil and attached to the end terminal. All ribbon tweeters returned to the factory MUST be returned in the factory packing.

17. MG3.6/R SPECIFICATIONS

SYSTEM DESCRIPTION: 3-Way True Ribbon Tweeter, Planar-Magnetic Midrange and Bass with Bi-Amplification Option

BASS SECTION: 500 Sq. In. Planar-Magnetic

MIDRANGE SECTION: 199 Sq. In. Planar-Magnetic

TWEETER SECTION: 5/32 Inch Width, 55 Inches Long FREQUENCY RESPONSE: **34Hz to 40kHz ±3dB

POLAR RESPONSE - RIBBON DRIVER: 180° Horizontal dispersion both front and back to 20kHz

RECOMMENDED POWER: 75 to 250 Watts RMS (8 Ohm rated). SENSITIVITY: 86dB, 500Hz, 2.83Volts

IMPEDANCE: Bass- 4.7 Ohms

Midrange/Ribbon Tweeter- 4.2 Ohms Ribbon Tweeter- 3.3 Ohms

CROSSOVER: Crossover between bass and midrange is 200Hz
Crossover between midrange and tweeter is 1700Hz

DIMENSIONS: 24'W X 71"H X 1-5/8"D

WARRANTY: Limited. Non-transferrable - Ribbon Foil Element - 1 Year

Balance of Speaker - 3 Years

SHIPPING WEIGHT: 145 Lbs. With Accessory Package

*Because there are no universally accepted methods for loudspeaker measurement, frequency response specifications may be stated by most manufacturers without reference to measurement techniques and/or specific locations in rooms. Magneplanar loudspeaker frequency response curves are minimum average performance levels that may reasonably be expected in normal installations.

**New Magneplanar MG3.6/R speakers will not display their full bass potential. After a month or two of use the bass response will lower 5Hz or more. At this point the response will stabilize and the speakers rated performance (or better) can be realized. While this 5Hz or more of lower bass response is important, the most important factors in obtaining good bass response from the MG3.6/R speakers are room size and geometry, wall material, and speaker placement.