

Magnepan MG 20.1 Loudspeaker

A fresh look at a perennial audiophile favorite.

Donald Saltzman

You're probably asking yourself, "What can this guy tell me about Magnepan speakers that I don't already know?" After all, this magazine has reviewed various Maggie loudspeakers over the years—raves all—and the 20.1 is the basis of HP's favorite surround-sound system. Moreover, the \$12,000 20.1 was *The Absolute Sound's* Product of the Year in 2003. So what can a guy like me add? Just this: Having lived with the MG 20 and now the 20.1 for a combined 13 years, I'm hoping I can provide some real-world insight to anyone looking for a state-of-the-art loudspeaker at a fair price.

The 20.1 is tall, thin, and sexy (my longed for, but never attained, physical state).

Magnepan's flagship, the 20.1 is tall, thin, and sexy (my longed for, but never attained, physical state)—the audio equivalent of the plasma video screen. The speaker consists of three large drivers mounted vertically on a board, with no enclosure save for a wooden frame. The ribbon tweeter occupies the space between one vertical end piece of the frame and a vertical dividing strip, while the midrange/woofer panel occupies the larger space between the dividing strip and the other vertical end piece of the frame. This box-free design eliminates resonance and the colorations introduced by typical loudspeaker enclosures.¹

The "diplanar" bass panel is the largest of the three drivers—some 786 square-inches in size. This low-mass Mylar diaphragm is infused with evenly spaced wires (which carry the music signals) and suspended between magnets (which provide the power). Unlike electrostatics, planar-magnetic designs do not require large transformers or a connection to an AC outlet to drive the panel. The 137 square-inch "quasi-ribbon" planar-magnetic midrange, although physically attached to one side of the bass panel, is of somewhat different construction and is driven separately from the bass driver. Unlike previous versions of the MG 20, the midrange panels of the 20.1 incorporate a true push-pull magnet structure. The improvement in midrange clarity and definition is the most salient difference between current and prior versions of the speaker.

The most addictive qualities of the 20.1 are its even top-to-bottom tonal balance and realistic portrayal of the soundfield in which the recording was made. Not only does the acoustic space sound lifelike, so do the sizes and place-



¹ Many Maggie owners bemoan the fact that the speaker somewhat flexes on its feet when pushed from the top. I have seen and heard many attempted solutions to this so-called "problem," generally consisting of complete rebuilds of the entire frame, with mixed sonic results (generally very detailed but somewhat dry). I am looking forward to trying the much simpler and modestly priced foot and bracing system manufactured by Mye Sound (myesound.com), which consists of metal feet that will accept spikes and metal brackets that attach well up the back side panels of the speakers.

ment of instruments on the stage. And unlike most speakers, the space and performers sit at a realistic height relative to your listening position—neither lower than stage height nor beaming down on you as if suspended from the rafters. While no

A few words are in order about amplification. Simply put: the more power, the better.

home sound system can truly convince you that a life-sized orchestra is laid out before you, the 20.1s come closer than most, and in this regard compete with speakers at any price.

The Maggies are also full-range loudspeakers, slighting the upper frequencies not at all and the lowest frequencies only to a minor extent. The bass is full, quick, and tuneful. It rocks on rock 'n' roll and moves large quantities of air when a symphony orchestra is playing full-tilt. And because the Maggies have no box, there is absolutely no sense of boxiness or cabinet resonance at the lowest frequencies. However, while the bass panels will play satisfyingly loud on almost all types of material, they can be overdriven by very dynamic low-frequency notes played at louder-than-life levels.

The midrange and high-frequency reproduction of the 20.1 is, in my view, state of the art. Whereas the midrange of the older 20 was slightly opaque and did not seamlessly blend with the ribbon tweeter, the new midrange driver of the 20.1 cures those problems. The midrange is transparent, open, and powerful. It seems to be impervious to overload or strain. It certainly isn't lacking body, but because it is a planar design you will not want to use associated equipment on the thin side of neutral. This is probably why I (and many others) prefer tubes with these speakers.

The outstanding ribbon tweeter is delicate, crystal-clear, light, and powerful—all at the same time. But it does have certain operational limitations. While it will play to a very satisfying volume level, it too can be overdriven if some caution isn't exercised. You can generally rock out to your heart's content, but if you also try to rock your neighbors, you will often meet with blown fuses or, worse, blown tweeters.

Fortunately, the tweeters are user-replaceable. To put this in context, the 20.1 will play louder, without breakup of any sort, than any full-range electrostat I have heard.

The only other issue with the tweeter is that, depending on the associated equipment, it may tend to some brightness or glare at higher volume levels. If you encounter this problem it is easily remedied by slightly padding down the tweeter with either the supplied resistors or those of your choice. Depending on your room acoustics, the tweeter should need anywhere from no padding to no more than 1.5dB attenuation. The trick is to pad the tweeter down just enough so it does not call attention to itself.

CONTINUED ON PAGE 80

Design and Setup

The tweeter is a true ribbon and is undoubtedly the manufacturer's crowning achievement. Five feet tall, it is of such low mass that it is nearly featherweight. While not without problems if improperly driven, it is a driver of unsurpassed purity and detail. (I believe that HP has referred to it as possibly the best tweeter in the world, and who am I to argue?)

This entire affair of ribbon, quasi-ribbon, and dipolar bass panels is driven through two moderately complex crossovers. The first is internally mounted and divides the signal between the midrange and tweeter at approximately 3kHz. The second crossover is housed in two large metal boxes, one of which is typically placed behind each speaker. These passive units allow the speakers to be run full-range from a single amplifier, or bi-amplified using a stereo amplifier or two mono amplifiers for each speaker. Because there is no gain adjustment on this crossover, bi-amplification is best accomplished with identical amplifiers.

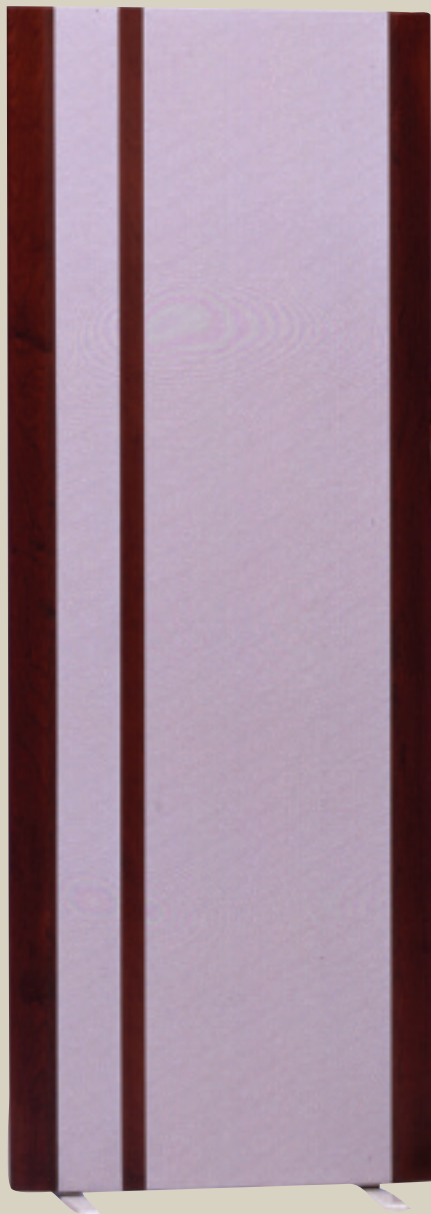
A few words are in order about amplification. Simply put: the more power, the better. The speaker is very low in sensitivity, with a factory rating of 85dB (and that seems generous). While use of the active crossover seems to lessen the power requirements, I don't believe you will experience the full capabilities of the speakers without at least 300 watts per channel into a 4-ohm load. You will certainly hear music with a less powerful amplifier, but it won't come to life in the same way. My VTL 450s are up to the task, as are other higher-power tube and solid-state amplifiers.

Like all high-end loudspeakers, what you get out of the Maggies largely depends on what you put into them. They are so revealing that it would be a mistake not to use outstanding components and cables upstream. I've heard many great combinations of same, at various price points, that make the 20.1 sound magical, yet to me tubes seem to produce the most magic, especially in the midrange. I have also heard a number of solid-state components I could happily live with.

The speakers are large and require special care in placement because of their dipole radiation pattern. In particular, to enjoy the most they have to offer, it is essential that they not be placed too close to the wall behind them. While some critics grumble that the Maggies "don't do depth," they are sorely mistaken. My listening room is approximately 25 feet long by 16 feet wide and the speakers reside about 6 feet out from one of the short walls. All of the walls are covered, from ceiling to about three feet from the floor, with silk cloth over cotton batting. I generally get outstanding depth of soundstage, or so I thought until I visited a friend whose listening room is much larger and who has at least 15 feet between his 20.1s and the rear wall. In that setting not only is the depth of stage staggering, but the speakers, as large as they are, truly disappear into the acoustic of the recording.

DS

Trying the 20.1s with the **Pass Active Crossover**



The stock Magnepan crossover works well enough, but I have always wanted to try an active crossover with the 20.1. Pass Laboratories was kind enough to oblige by sending me its XVR1. This is a serious piece of gear, consisting of two beautifully finished chassis (the crossover network itself and a separate power supply). The crossover has only four controls on the front panel—separate volume pots for left and right high pass and for left and right low pass. The back panel offers balanced and single-ended inputs and balanced and single-ended outputs for high and low pass.

A great deal of thought went into the design of this \$5000 crossover. Depending on the internal settings chosen, between 6dB and about 17dB of gain (single-ended Class A circuitry) is available in each channel. This should let you match the gain of almost any amplifiers chosen for high- and low-frequency use. Internal jumpers allow the user to use an enormous number of crossover frequencies. More interestingly, each high- and low-pass filter is user-configurable at a 6-, 12-, 18-, or 24dB-per-octave slope, with the choice of three independent Q (sharpness) controls for each filter. Thus, the XVR1 offers almost unlimited crossover flexibility. Additional XVR1s can be added for tri-amp, quad-amp, or even more complex setups. The only things missing for the intrepid speaker-builder is some type of equalizer.

When I initially installed the XVR1, I chose crossover settings almost identical to the Magnepan factory settings. (I subsequently experimented with other settings but ended up preferring the factory ones.) High pass was set at 290Hz with a simple 6dB slope, while low pass was set at 110Hz with an 18dB slope. The Q setting was at “medium” for each. The VTL 450s were used for high-pass amplification and a Sunfire Signature stereo amplifier was used for low-pass duty. The volume controls on the Pass unit allowed precise matching of volume for each amplifier, after a few hours of trial and error on very familiar musical material. My goal was to set the bass level, relative to the mid/highs, as close as possible to the stock Magnepan crossover.

The most immediate effect of the Pass was a greater sense of headroom and dynamics. And while I was using a second amplifier of higher power, I don't think the results were due solely to the additional amp. Even the mids and highs, driven by the VTLs, were more dynamic and alive than before, which could be attributable to one or both of two factors: The VTLs no longer had to reproduce bass frequencies, and they no longer had to drive the Magnepan external crossover. Using an active crossover, you may well be able to drive the mid- and high-frequency sections of the 20.1 with lesser power, and you could also choose a less expensive but still-sufficient amp for the bass.

The Pass unit operated flawlessly and was dead silent. Though transparency through the XVR1 was excellent, I can't really say that the sound was more transparent than through the factory crossover.

So, what's the best way to cross-over the Maggies? The overall sound through the XVR1 was somewhat more open and dynamic than the stock crossover, but I am not talking orders of magnitude. It was ever-so-slightly brighter than the stock unit, but never objectionably so. I also seemed to gain an extra octave of low-frequency extension when using the XVR1, but this was probably a result of substituting the Sunfire amp for the VTLs for bass reproduction. On the other hand, the sound through the factory crossover and the VTLs run full-range was slightly more full-bodied and warm than the bi-amp setup, which is nothing to sneeze at. Overall, I would give a slight nod to the active crossover, especially insofar as it allows you to use separate, and possibly less powerful, amplifiers in a bi-amp setup.

Yet the performance of the Maggies with the stock crossover is always satisfying, and once the cost of the Pass is factored in (as well as the need for an extra set or two of interconnects), the stock setup is by far the most economical way of experiencing the 20.1 magic.

DS

The most addictive qualities of the 20.1 are its even top-to-bottom tonal balance and realistic portrayal of the soundfield in which the recording was made.

All of the qualities of the 20.1 are highlighted by recordings such as Mahler's *Das Knaben Wunderhorn* [EMI LP], a sensational Christopher Parker recording. The stage is open, lush, and airy, and the walls of your room will effectively disappear (sonically speaking, of course). Fischer-Dieskau's powerful baritone is to the left and somewhat back, while Schwarzkopf's voice floats ethereally from right center stage. The bass drums are shockingly powerful and roll through the room, just as you would experience them live.

Reproduction of strings, large-scale and small, is one of the great strengths

of all Magnepan loudspeakers, which beautifully capture the instruments' tone, body, and rosin bite. In the Shostakovich's Quartet No. 8 [Decca LP], the brooding and ominous strings of the Borodin Quartet completely escape the confines of the speaker. In the Beethoven Cello Sonata No. 1 [EMI CD], Jacqueline du Pré's cello is lyrical and resonant, while Janos Starker's driving performance of Brahms' Cello Sonata No. 1 [Mercury LP] is so alive it's hard to sit still in your chair, and Gyorgy Sebok's piano accompaniment is warmly resonant and natural. Likewise, wood-

winds and horns are convincingly life-like through the 20.1s.

And when you're ready to rock, the Maggie's won't disappoint. My wife's old Jethro Tull and Janis Joplin CDs had her dancing all night. Even an all-out electronic assault like Massive Attack's *Mezzanine* [Virgin CD], so long as not played at ear shattering-levels, delivers (almost) subterranean bass and a strong pulsating beat. Richard Thompson's voice and guitar on *The Old Kit Bag* [Diverse Records, LP] are so palpable and alive that if you close your eyes you might think he and his guitar were in the room.

There's not much that's missing, but as good overall as the 20.1s are they are not perfect. As noted, they will play very loud but won't blow down the walls without unduly stressing the drivers. While the bass is fast, full, and well-defined without boxy colorations, it is

SPECIFICATIONS

Type: Three-way planar-magnetic speaker
 Driver complement: Ribbon tweeter, quasi-ribbon midrange, planar-magnetic bass
 Frequency Response: 25Hz–40kHz
 Sensitivity: 85dB
 Impedance: 4 ohms
 Recommended power: 100–300 watts
 Dimensions: 29" x 79" x 2.06"
 Weight: 90 lbs.


ASSOCIATED EQUIPMENT

Basis Gold Debut Turntable; Immedia RPM-2 tonearm; Keotsu Rosewood Platinum Signature and Onyx cartridges; Aesthetix Io Signature phonostage; Aesthetix Callisto Signature linestage; Meitner CDS transport and DCC2 DAC/preamp; VTL 450 power amps; Sunfire Signature power amp; Transparent Opus, Reference MM, and Reference interconnects and speaker cables; Purist Audio Dominus interconnects and speaker cables; Walker Audio Valid Points and High Definition Links

not the equal of the largest dynamic driver systems in terms of midbass slam or subterranean extension. Instruments and voices have great body but I have heard some cone-and-dome speaker systems that infuse the instruments with a slightly greater sense of reach-out-and-touch-it palpability. Similarly, while the 20.1s are wonderfully transparent and pure, they may be edged out in these regards by the best electrostatic models.

Likewise, imaging is far more than satisfactory (and more precise than what I actually hear live), but may not completely satisfy the needle-in-a-haystack crowd. Finally, percussive sounds like sharply struck piano, rim shots, and woodblocks are ever-so-slightly softer than the real thing.

But picking nits would miss the point of the 20.1. Simply stated, its overall balance of musical virtues is almost

peerless. Factor in a relatively affordable price, which is far less than the competition (such as the largest offerings from Wilson, DALI, Rockport, Dynaudio, and Avantgarde), and it must be considered one of audio's great bargains. 

MANUFACTURER INFORMATION**MAGNEPAN INCORPORATED**

1645 Ninth Street
 White Bear Lake, Minnesota 55110
 (651) 426-1645
 magnepan.com
 Price: \$12,000

PASS LABS

PO Box 219
 Foresthill, California 95631
 (530) 367-3690
 passlabs.com
 Price: \$5000