

NOT EVERYONE
SEES THINGS
YOUR WAY.
OR HEARS LIKE
YOU DO.

Mirage

90 SERIES



BUT WHO SAID THERE WERE ANY RULES?

Music has many rules, but musical taste is boundless. There are as many styles and ranges of emotion as there are people on the earth. It is emotion that makes the memories of your musical experiences so precious. The music system in your home must make those musical memories live. Before our new Mirage 90 Series became a full-fledged obsession, it began as an innocent question.

Good taste should never be sacrificed ...even if space is tight. The new Mirage 90 Series delivers unforgettable sonic accuracy in an elegant, easy-to-position design.



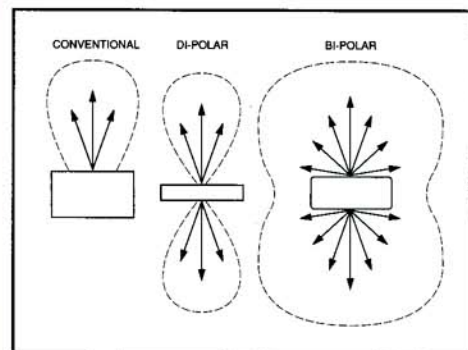
AN INNOCENT QUESTION.

Could we distill the essence of our world-acclaimed M-1 Bipolar™ loudspeaker into less than a square foot of floor space?

A quick explanation. In a concert hall, much of the sound you ultimately hear is first reflected off the walls, ceiling and floor before reaching your ears. It is these reflected sounds which give a live performance its emotional power, depth and ambience. Most loudspeakers, however, only radiate sound waves forward in a directional teardrop pattern, while others distribute sound forward and backward in a "dipolar" or figure-8 pattern. Both have inherent limitations.

The Mirage 90 Series owes its spacious sound to good breeding. Mirage first introduced the uniquely three-dimensional sound of Bipolar™ technology in our flagship M-1 loudspeaker. Now, with the debut of the new streamlined M-990 and M-790, even speakers of modest dimensions immerse you in a 360-degree soundfield, re-creating a lifelike soundstage and imaging far superior to conventional speaker designs.

The floor standing M-990 and M-790 loudspeakers feature the by now legendary Bipolar™



Mirage introduced Bipolar™ driver technology, which radiates sound in-phase a full 360 degrees around the speaker. Conventional front-radiating and dipolar systems with restricted dispersion reduce the depth and width of the soundstage.

technology, which provides ultra-realistic soundstaging and imaging by dispersing sound in a virtually omnidirectional pattern.

Now rear-radiating full-range Mirage Soundstage Enhancement MSE™ transducers produce the omnidirectional Bipolar effect by delivering sound in-phase with direct output from the front. The MSE™ is a direct descendant of the M-1 mid-range driver with an injection-molded carbon/polypropylene compound producing extended high frequency response and uniformity throughout its operating range. Sound reproduced from the rear augments direct radiation, restoring the missing third dimension of sound and maintaining a realistic balance throughout the listening area that no ordinary speaker can match.

The compact M-490, M-290 and M-190 loudspeakers and center channel speaker complete the 90 Series by delivering audiophile quality performance with amazing sonic accuracy.

Like their bigger brothers, the M-490, M-290 and M-190 compact loudspeakers prove once again you shouldn't judge a speaker by its size. All are designed to maximize dispersion and minimize distortion in a handsome design which superbly integrates form and function.

The new M-190 is an audiophile's delight at a modest price. Its attractive bookshelf design features a 3/4-inch vapor-deposited titanium dome tweeter with ferrofluid cooling and a polypropylene woofer with a high compliance suspension and high temperature voice coil. Seamless transition from woofer to tweeter results in outstanding performance for critical

Whether it's music or model airplanes, every detail is critically important.

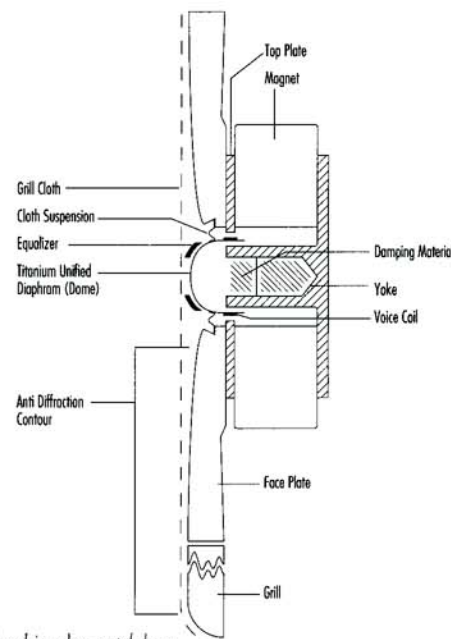
listeners at very affordable cost.

The other 90 Series models

incorporate many other innovations including our revolutionary new ultralight pure titanium hybrid PTH™ tweeter, which delivers the lowest levels of distortion we've ever measured - less than 0.3% difference tone distortion.

Tweeter design is critical because the human ear is so sensitive to distortion in the 2-5 kHz range. Mirage engineers therefore put years of research into building a tweeter that combines an ultra-light pure titanium dome with a cloth surround, virtually eliminating undesirable distortion.

This unique cloth suspension not only absorbs post-signal resonances, it also succeeds in lowering the dome's fundamental resonant frequency to less than 800 Hz. This allows us to move the crossover point from woofer to tweeter to a much lower frequency where woofer performance both on and off axis is optimal.

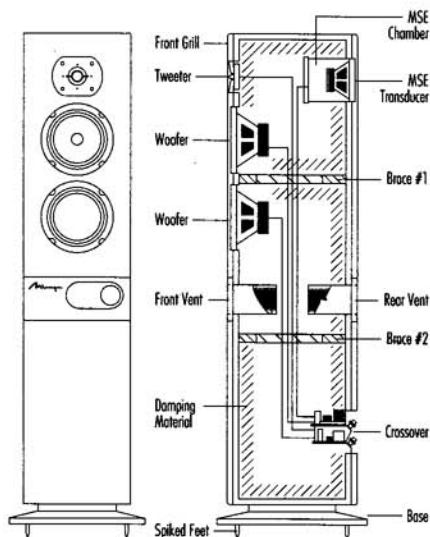


The PTH™ tweeter's cloth suspension prevents ringing found in other metal-dome designs. An equalizer assembly maximizes dispersion, while the integral contoured-baffle grille form a completely non-diffractive platform.

AN EYE FOR STYLE. AN EAR FOR PERFECTION.



Some people thrill to the silence of a high mountain plateau after a long climb, but their truly exhilarating moments come from their music.



Computer-designed internal bracing and damping materials eliminate unwanted cabinet resonances, which not only color sound but also compromise stereo imaging.

That's not all. In the new Mirage PTH™ tweeter, the dome and the voice coil assembly are formed from a single piece of pure titanium. This is unlike most dome tweeters, which incorporate a second material for the voice-coil assembly. By eliminating the juncture of two disparate materials, mechanical signals flow more freely, resulting in better heat dissipation, improved dynamic range, and superb transient performance.

And in a final technical achievement, Mirage

engineers fitted the 1-inch titanium dome tweeter with a time domain equalizer (TDE™) which allows it to maintain the superior dispersion pattern of a 3/4-inch design while maintaining the extended low frequency performance of a 1-inch dome.

Perfect integration of woofer, tweeter, crossover and cabinet ensures flawless 90 Series performance. Unlike the large woofers used by so many to reproduce low-frequencies, Mirage 90 Series speakers use carbon/polypropylene injection-molded woofer cone bodies with rubber surrounds for rigid control of mechanical and acoustic parameters. This guarantees accurate reproduction of extreme low frequencies and seamless transition to the higher frequencies.

The 90 Series unique crossover topology uses premium components to achieve the flattest amplitude response both on and off axis. And for maximum performance, the 90 Series speakers can be bi-amped or bi-wired via gold-plated, five-way speaker binding posts.

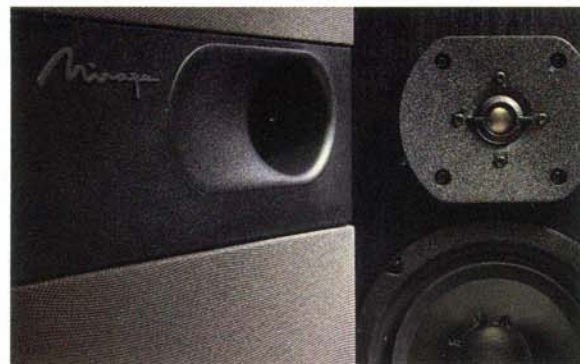
Cabinet construction plays a critical role in ensuring that the sounds you hear are unaffected by the speaker enclosures. Underneath the 90 Series slate grey grille and rich black ash finish is solid tongue-in-groove construction reinforced with computer-designed internal bracing and bi-component

damping materials to reduce undesired structural resonances. For improved bass performance, the floor-standing M-990 and M-790 feature spiked feet (for use on carpeted surfaces) to effectively decouple the speaker from the floor.

Mirage 90 Series speakers deliver full-size sound without squandering amplifier power - all models incorporate vented enclosures in quasi-third-order Butterworth alignment for superior accuracy in low frequency extension and improved operating efficiency.



Whether your memories are of Zydeco jamming in New Orleans or spiritual encounters in Nepal, it is emotion that makes the memories of your musical experience so precious.



Distinctive sculpted bass port eliminates even a whisper of wind noise distortion. This aerodynamic styling is the brainstorm of Mirage's Ian Paisley, one of Canada's renowned acoustical engineers.

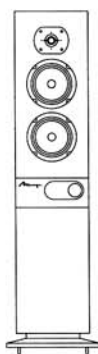
PASSION MAKES A SOUND OF ITS VERY OWN. IT'S CALLED MIRAGE.

You're looking at speakers designed to sound their absolute best with the grilles still in place. Some manufacturers simply round off cabinet edges to reduce front-baffle diffraction, forgetting that the grille frame itself is a major source of diffraction distortion. Mirage cleverly integrates the baffle and grille frame into a single, non-diffractive element.

We're not prepared to sacrifice standards and compromise performance by mixing and matching other manufacturers drivers. Which is why we engineer every speaker ourselves, from top to bottom. Throughout the design and manufacturing process, our components are continually subjected to exacting standards, extensive instrument testing

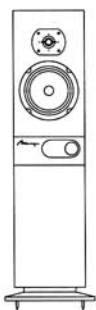
and stringent listening tests.

We truly believe the 90 Series sounds better than anything else out there. Now we'd like to invite you to experience Mirage sound for yourself. After all, the ultimate judge of superior sound is your ears.



M-990

Bipolar™ technology lends lifelike spectral balance over 360-degree listening area. Front and rear venting with two 6-1/2" woofers provide usable bass down to 32 Hz. Rear-radiating MSE™ transducers provide superb 90 Series performance in a space-efficient floorstanding design.



M-790

Bipolar™ technology radiates naturally spacious sound over 360-degree listening area. 90 Series performance in a floorstanding design with space-efficient footprint. Ported 8" woofer provides usable bass down to 35 Hz.



M-490

Audiophile-quality compact speaker. Spacious sound from a conventional design. New 90 Series hybrid pure titanium dome/cloth surround tweeter for ultra-low distortion and unmatched transient response. Ported 8" woofer provides usable bass down to 38 Hz. Optional spiked stand (Model SST-13) also available.



M-290

Compact monitor design. Hybrid pure titanium dome/cloth surround tweeter for superb transient response. Ported 6-1/2" woofer provides usable bass down to 42 Hz. Optional spiked stand (Model SST-21) also available.



M-190

High-performance, ultracompact bookshelf speaker. Titanium dome tweeter for outstanding transient response. Ported 5-1/4" woofer provides usable bass down to 50 Hz. Optional wall-mounting bracket (SWB-1) for use as a satellite speaker. Optional spiked stand (Model SST-25) also available.



M-990



M-790



M-490



M-290



M-190

THE CENTRAL IMAGE OF HOME THEATER

The essential ingredient in a home theater is the center channel dialog speaker. The new Mirage MCC dialog speaker promotes vertical dispersion and anchors the central sound image.

Actors' voices are delivered precisely where they should be, face-to-face with the listener. The MCC is essential for accurate re-creation of the movie theater experience.

Sized to fit with your television, it is suitable for placement either above or below the TV screen. It is also magnetically shielded so it will not disturb

the video picture.

The trapezoid-shaped enclosure houses a centrally positioned polycarbonate dome tweeter flanked by two 4-1/2 inch mid/base drivers and twin ports providing pinpoint central imaging and excellent bass extension.



SPECIFICATIONS	M-990	M-790	M-490	M-290	M-190	MCC CENTER CHANNEL
SYSTEM TYPE:	Vented - QB3, Bipolar	Vented - QB3, Bipolar	Vented - QB3	Vented - QB3	Vented - QB3	Dual Vented - B 4th
TWEETERS:	1-1" PTH™ pure titanium dome with cloth suspension	1-1" PTH™ pure titanium dome with cloth suspension	1-1" PTH™ pure titanium dome with cloth suspension	1-1" PTH™ pure titanium dome with cloth suspension	1-3/4" vapor deposited titanium polypropylene cone	1-1/2" dome Shielded for video use
FULL RANGE:	1 - 4 1/2" MSE™	1 - 4 1/2" MSE™				
WOOFERS:	2 - 6 1/2" injection-molded polypropylene cone with rubber surround	1 - 8" injection-molded polypropylene cone with rubber surround	1 - 8" injection-molded polypropylene cone with rubber surround	1 - 6 1/2" injection-molded polypropylene cone with rubber surround	1 - 5 1/4" polypropylene cone	2 - 4 1/2" Shielded for video use
FREQUENCY RESPONSE:						
On-Axis: ± 3 dB	35 - 22kHz	36 - 22kHz	40 - 22kHz	45 - 22kHz	55 - 20kHz	60 - 20kHz
Off-Axis: ± 3 dB @ 30°	35 - 18kHz	36 - 18kHz	40 - 18kHz	45 - 18kHz	55 - 15kHz	60 - 15kHz
USABLE BASS RESPONSE:	29Hz	31Hz	35Hz	40Hz	50 Hz	50 Hz
CROSSOVER POINTS:	450Hz, 2kHz	450Hz, 2kHz	2kHz	2kHz	2.2kHz	2.5kHz
SENSITIVITY:	87dB	87dB	86dB	86dB	85dB	86dB
IMPEDANCE:	6 ohm nominal 4 ohm minimum	6 ohm nominal 4 ohm minimum	6 ohm nominal 4 ohm minimum	6 ohm nominal 4 ohm minimum	6 ohm nominal 4 ohm minimum	12 ohm nominal 8 ohm minimum
REC. AMP POWER:	50 - 200 watts	50 - 150 watts	50 - 150 watts	50 - 100 watts	25 - 75 watts	15 - 90 watts
MAX POWER HANDLING:	200 watts	150 watts	150 watts	100 watts	75 watts	90 watts
DIMENSIONS (H x W x D):	43 1/2" x 9 5/8" x 11 1/4" (110.6 x 24.5 x 28.6 cm)	38 1/2" x 9 5/8" x 11 1/4" (97.9 x 24.5 x 28.6 cm)	19 1/4" x 9 5/8" x 10 3/4" (48.9 x 24.5 x 27.3 cm)	15 3/4" x 8 5/8" x 8 1/2" (40 x 21.9 x 21.6 cm)	12 1/4" x 7 3/8" x 7 3/4" (31.1 x 18.8 x 19.7 cm)	6" x 20" x 8" (15.3 x 50.9 x 20.3 cm)
WEIGHT (EACH):	70 lbs. (31.8 kg)	60 lbs. (27.2 kg)	28 lbs. (12.7 kg)	16 lbs. (7.3 kg)	10 lbs. (4.5 kg)	15 lbs. (6.8 kg)
FINISH:	Black ash	Black ash	Black ash	Black ash	Black ash	Black ash
GRILLE COLOR:	Slate gray	Slate gray	Slate gray	Slate gray	Slate gray	Slate gray

MSE™ Broad Spectrum Mirage Soundstage Enhancement Transducer
 PTH™ and TDE™ Pure Titanium Hybrid Dome Tweeter with Time Domain Equalizer
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 Descriptions and specifications subject to change without notice.

Mirage
 MIRAGE LOUDSPEAKERS
 SEE THE MUSIC.®

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