

EMPIRE

1975 Guide to Sound Design



© beim Hersteller
Archiv Michael Otto
HiFi-Classic.de

Stereo Cartridges
Speaker Systems
Turntable Systems



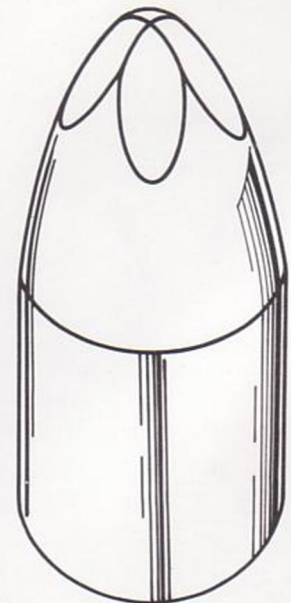
The Empire Wide Response Cartridge

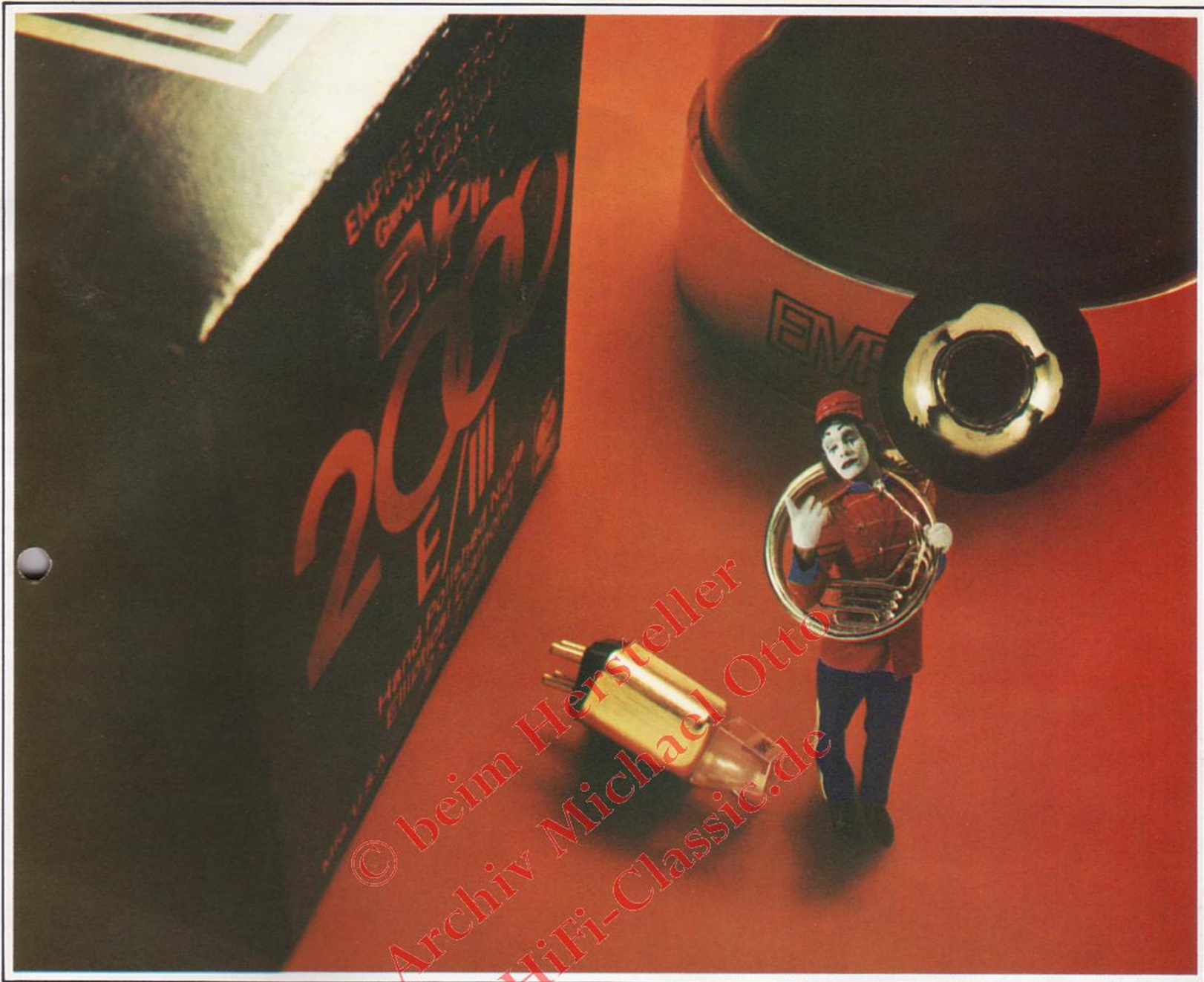
Whether you're into Stereo or Quad, wide response means better sound. Music reproduction depends upon frequencies well beyond the range of human hearing (20-20,000 Hz). For example: a true musical note may require a harmonic span of 10 times the fundamental frequencies recorded. That's why listening to an Empire Wide Response cartridge is truly a unique experience. If you close your eyes, you'll swear the sound is live. When you open your eyes, you'll never be satisfied with anything else.

Tracking and Tracing

The complex phono discs produced today need to be played with very low forces for tracking (ability to stay in the groove) if they are to achieve long life and clean sound. Yet the radius of contact of the stylus must be as low as .1 mil to properly trace (follow the wiggles) all the way out to a very wide response of 50,000 Hz. To accomplish this, our nude diamond stylus are hand polished to precise bi-radial dimensions for stereo and the even more exacting™ "4 DIMENSIONAL" shape for discrete 4 channel.

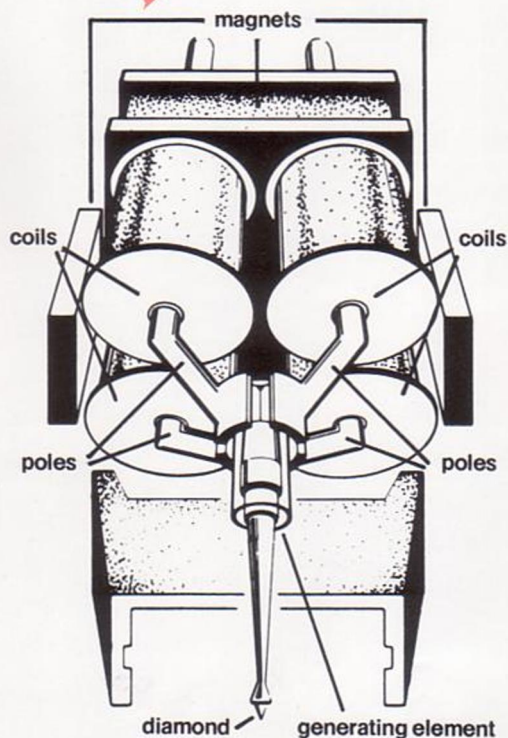
Empire's exclusive™ "4 Dimensional" diamond stylus.





Why Empire Cartridges Sound Better

Every Empire long playing cartridge is fully shielded. With four poles, four coils and three magnets (more than any other brand), they produce better balance and hum rejection. In Empire's system, the stylus lever floats free of its magnets imposing much less weight on the record surface than in ordinary magnetic cartridges. This means less record wear and lower distortion. Hi Fi Sound Magazine summed it up very well by calling the Empire Cartridge "a real hi fi masterpiece ... A remarkable cartridge unlikely to wear out discs any more rapidly than a feather held lightly against the groove." Covered by one or more of the following U.S. patent nos. 2875282, 3441688. Other patents pending.



Choose the Cartridge Designed

Technical Specifications

Plays 4 Channel Discrete (CD4)
and Super Stereo

Plays All 4 Channel Matrix

4000
D/III

4000
D/II

4000
D/I

Model	4000 D/III	4000 D/II	4000 D/I
Frequency Response in Hz.:	5-50,000	5-45,000	10-40,000
Output Voltage per Channel at 3.54 cm/sec. groove velocity:	3.0	3.0	3.0
Channel Separation:	more than 35dB	more than 35dB	35dB
Tracking Force in Grams:	¼ to 1¼	½ to 1½	¾ to 1½
Stylus Tip:	miniature nude diamond with .1 mil tracing radius ™ 4 Dimensional	miniature nude diamond with .1 mil tracing radius ™ 4 Dimensional	miniature nude diamond with .1 mil tracing radius ™ 4 Dimensional
For Use In:	turntable only	turntable only	turntable or changer



(White)



(Yellow)



(Black)

© best Hersteller
Archiv Michael Otto
HiFi-Classics.de

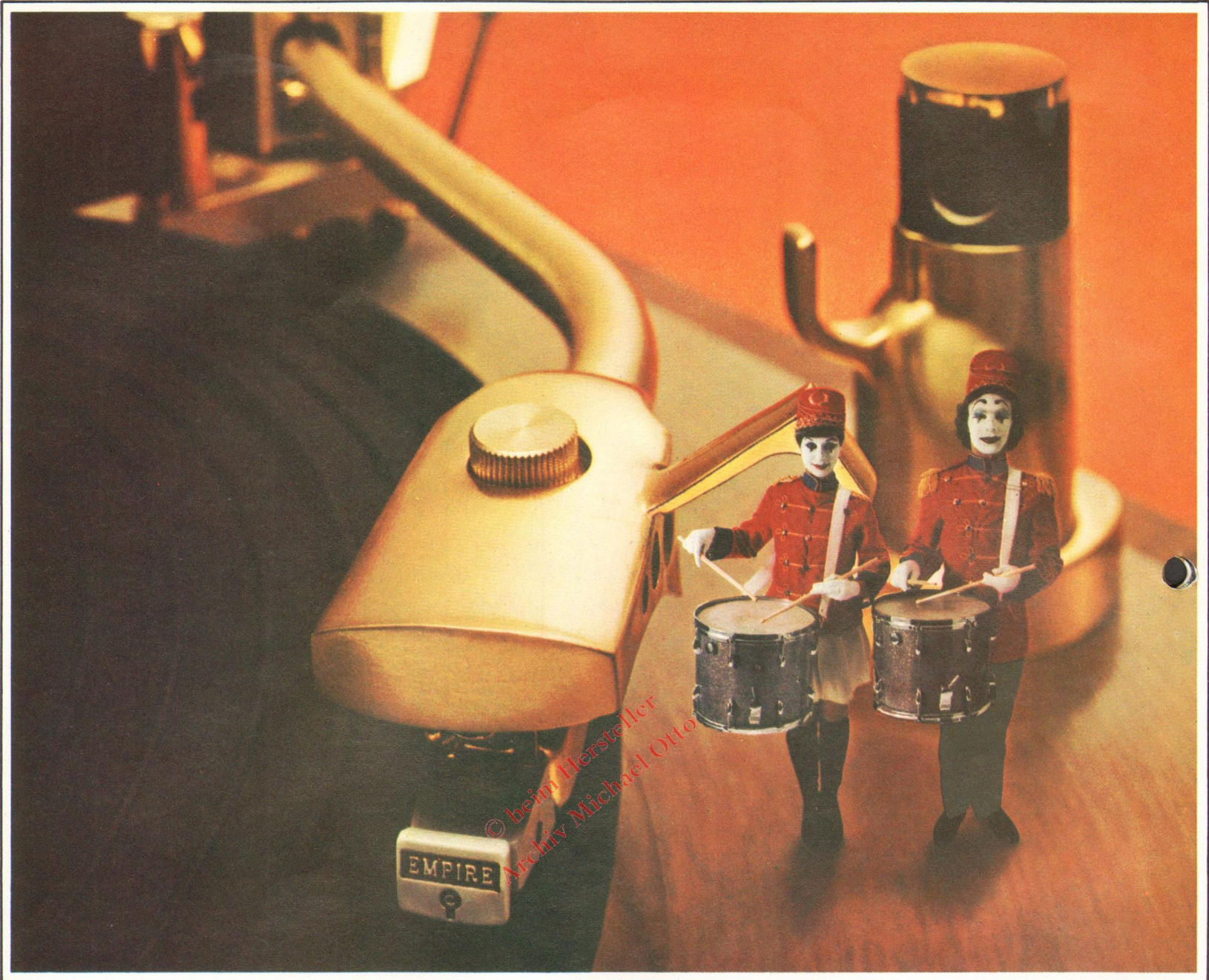
to Play Best in Your System

Plays 2 Channel Stereo

Systems (SQ, QS, RM)

 E/III	 E/II	 E/I	 E	
5-35,000	6-33,000	8-32,000	10-30,000	10-28,000
5.0	5.0	5.0	5.0	5.0
35dB	35dB	35dB	30dB	30dB
1/2 to 1 1/2	1/2 to 1 1/2	3/4 to 1 1/2	1 to 3	1 to 3
nude elliptical diamond .2 x .7 mil	nude elliptical diamond .2 x .7 mil	nude elliptical diamond .2 x .7 mil	elliptical diamond .3 x .7 mil	spherical diamond .7 mil
turntable or changer	turntable or changer	turntable or changer	changer only	changer only
				
(Clear)	(Blue)	(Green)	(Red)	(Smoke)

© beim Hersteller
Archiv Michael Otto
HiFi-Classics.de



The Best Turntable in the World

The Troubador Model 598III, created by concentrating our total effort on a single superb model.

The only turntable system designed exclusively for premium low tracking force cartridges that won't wear out your records. Exceeds every broadcast specification for professional playback equipment. The Troubador 598III turntable must truly be considered the classic. It is a harmony of proven engineering principles and precision production techniques. The selection of superior raw materials for the Troubador 598III attests to Empire's commitment to produce the finest in electronic playback equipment.

The extraordinary Troubador system features the world's most perfectly designed playback arm. It can track the world's finest cartridges as low as 0.1 gram, yet arm friction measures a hundred times less than that. With the lowest fundamental resonant frequency of any arm, an inaudible 6 Hz, acoustic feedback is unheard of even with gain and bass turned all the way up.

The coordinated anti-skating adjustment provides the necessary force for the horizontal plane. It is micrometer calibrated to eliminate channel imbalance or unnecessary record wear.

Stylus force is dialed with a calibrated clock mainspring more accurate than any commercially available stylus pressure gauge.

Empire's exclusive Dyna-Lift automatically raises the arm off the record after the last band of music.

A true-vertical cueing control floats the tone arm up or down from a record surface bathed in light. Choose the exact selection you want—even in a darkened room.

The cartridge mounting system allows instant cartridge demount and interchange. Empire's spectacular new wide response 4 channel/super stereo 4000/DIII cartridge is a standard feature on the Troubador 598III. With the ability to track effectively at stylus forces as low as 0.1 gram (in laboratory environments), the 4000D/III never subjects the disc, whether vinyl pressing or master lacquer, to any visible wear or groove deformation.



Empire's damped suspension system cradles the arm and platter. You can dance, jump or rock without bouncing the stylus off the record.

Outstanding design and performance—a 12-inch platter and 3-inch thick balance drive flywheel (the most massive used in a home system) contribute to the lowest rumble ever tested: -90dB RRLL. Wow and flutter are an almost immeasurable .01%.

The finest motor available, a hysteresis synchronous type of exceptional design, self cooling with an inside out rotor, drives the massive platter.

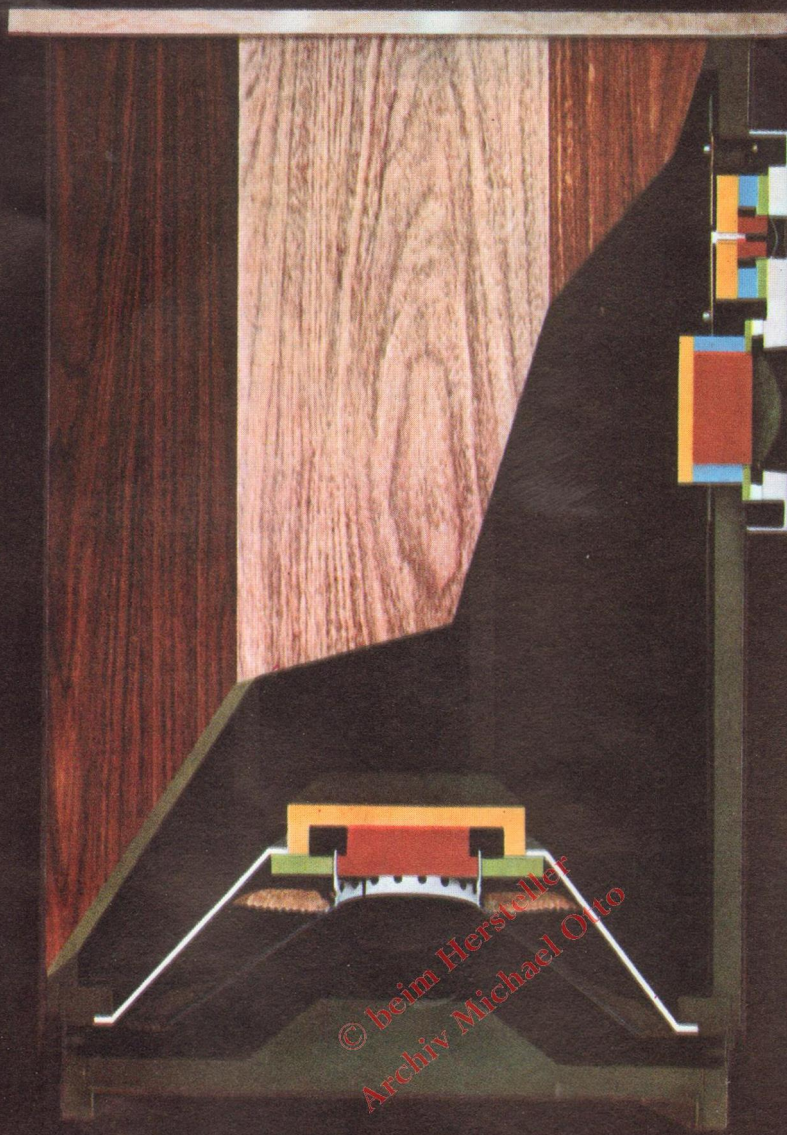
The motor reaches full speed in less than one third of a revolution and locks in on AC line frequency to maintain speed accuracy with essentially

zero error. For the perfectionist—a built-in strobe disc and pitch adjustment for precision speed control.

The flexible drive belt isolates motor from platter and is ground to \pm .0001 of an inch accuracy. A 5 wire circuit eliminates ground loops.

Troubador 598III Technical Specifications:

- Speeds, 33-1/3 and 45 rpm
- Built-in 45 rpm spindle
- Push button power control
- Satin gold finish
- Overall dimensions (with base and dust cover): 17-1/2" width; 15-1/8" depth; 8" height
- Includes Empire's 4000D/III wide response cartridge, satin walnut base, and plexiglas dust cover



Inside the Empire Super Speaker System

Our exclusive sonic column is a totally dampened and rigid speaker enclosure, more rigid than any "box." There are no cabinet vibrations to color the sound.

The woofer faces downward, close to the reflecting floor surface, feeding through a front loaded horn with a full circle aperture throat. This construction provides 360 degree radiation for full dispersion of sound. It puts the lows on the bottom where they belong and spreads them across the room like a carpet of sound.

Only perfect 3-way systems with massive woofer, mid-range and tweeter drivers are used in Empire

speakers. These speakers are probably the most powerful home speakers in use today. Each can handle vast amounts of power without burnout or overload—more than enough to fill a large auditorium. No musical crescendo will ever distort or muddy the great Empire sound.

A low mass voice coil in our ultrasonic tweeter extends the frequency response beyond audibility while a compression type mid-range direct radiator creates spectacular presence and realism. The Empire wide angle sound dispersion system is unsurpassed by ordinary speakers.

Empire's unique design means that you can use your speakers anywhere. They need not be placed in corners or against walls. The Empire

speaker system affords complete stereophonic or quadraphonic flexibility and fidelity. Empire's concert hall effect allows you to sit or move anywhere in the room, no fixed position to hamper your listening pleasure. Volume and tone quality remain constant virtually everywhere in this total Empire environment of sound.



Why Buy an Empire Super Speaker?

No one factor in your home music system is more crucial to sound reproduction than the quality of your speakers. The speaker system receives the complex mechanical waveforms of your records, translates them into electronic impulses, and amplifies and converts them into the sound you hear. The sound of your system is only as good as your speaker reproduction.

Heavy magnet assemblies are the key to Empire's superlative sound reproduction. The larger the speaker magnet, the more driving force it exerts on the voice coil and the more perfectly it reproduces every nuance of music. Every Empire driver is constructed around the largest magnetic structure

to be found in any speaker of comparable price.

Empire speakers are specially constructed to give you tone quality second only to a live performance. The magnetic structures in these speakers can reproduce frequencies as high as 20,000 Hz. Although few people can directly hear pure tones this high, these very high frequencies are necessary as harmonics to complement the lower audible frequencies required to reproduce the exact character of each instrument. With an Empire speaker system a bassoon always sounds like a real bassoon and a piano like a real piano.



The Grenadier 6000MIII Super Value "Music in the Round"

The Grenadier 6000MIII is the only omni-directional speaker system of its kind priced under \$150. Despite the price, the 6000MIII is a complete three-way system featuring Empire's exclusive total "stereo-in-the-round" design.

In the Grenadier tradition, Empire designers and engineers have created the handsome wide-angle sonic lens that adorns this elegant cabinet. It has a down-facing 12-inch woofer, a mid-range radiator and a wide-angle ultrasonic tweeter, all in an absolutely rigid, non-resonating cylindrical cabinet.

It's sensational power handling capacity can easily cope with the most powerful receivers available today.

Grenadier 6000MIII Technical Specifications:

- Frequency response: 30-20,000 Hz
- Continuous power ratings: 30-450 Hz... 50 watts RMS; 450-5000 Hz... 30 watts RMS; 5,000-20,000 Hz... 20 watts RMS; total power handling capacity 100 watts RMS.
- Dynamic reflex stop system: Bass and treble adjustable to suit individual room acoustics.
- Nominal impedance: 8 ohms
- Overall dimensions: 18" diameter, 24-3/8" height
- Satin walnut finish with choice of imported marble or walnut finish top.



The Grenadier 7500MII Super Design

A favorite of audio experts, the Grenadier 7500MII is a perfect synthesis of form and function... truly a super-speaker. Using Empire's high powered down-facing 15-inch woofer (for bass you can feel as well as hear) and our wide angle lens assembly (180 degree radiation) with its ultra-sonic domed tweeter and mid-range direct radiator, the Grenadier 7500MII can accommodate every fine amplifier or integrated receiver. These speakers spectacularly reproduce any program material—powerful rock to concert classics—all driven with equal force and clarity.

The 7500MII Grenadiers use Empire's automatically resetting circuit

breakers that prevent overload and burnout regardless of how loudly you play your music.

Grenadier 7500MII Technical Specifications:

- Frequency response: 25-20,000 Hz
- Components: 15-inch high compliance woofer, domed mid-range direct radiator, ultrasonic domed tweeter, coupled with Empire's wide-angle acoustic dispersion system.
- Controls: 3 position treble response switch
- Continuous power ratings 25-450 Hz... 70 watts RMS; 450-5,000 Hz... 35 watts RMS; 5,000-20,000 Hz... 20 watts RMS; Total power handling capacity... 125 watts RMS
- Impedance: 8 ohms
- Overall dimensions: 20" diameter; 26-3/4" height
- Satin walnut finish with choice of imported marble or walnut finish top.



Introducing the Jupiter 6500II — Super Idea Empire's Newest Addition to Modern Musical Living

The virtually indestructible, non-resonating enclosure for the new Jupiter 6500II speaker is made of a new space age acoustic material that can withstand wind, rain and sun. Its rugged surface is marproof and spillproof, making it perfect for today's casual living.

This ideal three-way system* uses Empire's heavy 12-inch down facing woofer for deep solid bass, a powerful mid-range for crisp, clear alto and voice tones, and a lightweight ultrasonic tweeter with wide angle dispersion. The power of the Jupiter 6500II speaker

is awesome either indoors or out. It can deliver an impressive performance without strain from any receiver or amplifier. Its all-around sound is simply phenomenal, radiating to all directions: front, rear, left or right.

*Jupiter speaker drivers are completely weatherproof for indoor or outdoor use.

Jupiter 6500II Technical Specifications:

- Frequency response: 30-20,000 Hz
- Continuous power ratings: 30-450 Hz... 60 watts RMS; 450-5,000 Hz... 30 watts RMS; 5,000-20,000 Hz... 20 watts RMS; Total power handling capacity... 100 watts RMS.
- Impedance: 8 ohms
- Three way system: 12-inch woofer, mid-range radiator, ultrasonic tweeter
- Overall dimensions: 17-1/4" diameter; 25-1/2" height.
- Gloss white finish



Empire's Jupiter Speakers are also Available in Super Colors

- Sun Yellow
- Bittersweet
- Flemish Blue

Jupiter speakers feature a modern version of Empire's sonic column with its 360 degree sound radiation. Terminals are concealed underneath for symmetry of design.

An Empire Guide to Sound Performance

A recommended sampling of stereo and 4 channel recordings that provides a true test of full-frequency performance.

Classical and Operatic

Bach: Organ Favorites/E. Power Biggs	Columbia	MS-6261
Bizet: Carmen/Price, Corelli, Merrill, Freni; Vienna Philharmonic, Karajan	RCA Victor London	LDS-6164 STS-15005
Dukas: The Sorcerer's Apprentice/Israel Philharmonic, Solti	Angel	36420
Holst: The Planets/New Philharmonia Orchestra	RCA Victor	LSC-2642
Mahler: Symphony No. 1/Boston Sym., Leinsdorf	RCA Victor	LSC-2395
Prokofiev: Alexander Nevsky/Chicago Sym., Reiner	RCA Victor	LSC-2678
Rachmaninoff: Rhapsody on a Theme of Paganini/Op.43 Boston Pops	RCA Victor London	SPC 21026
Stravinsky: Firebird Suite /London Sym., Stokowski	Columbia	MS-6073
Tchaikovsky: 1812 Overture/Phil. Orch., Ormandy		

On the Lighter Side

Clockwork Orange/Soundtrack	Warner Bros.	2573
Hair/Original Broadway Cast	RCA Victor	LSO-1150
Oliver/Original Broadway Cast	RCA Victor	LSOD-2004
Pops Roundup/Boston Pops, Fiedler	RCA Victor	LSC-2595
West Side Story/Soundtrack	Columbia	OS-2070

Jazz, Popular, Vocal and Miscellaneous

The Forty Minute Raga/Ali Akbar Khan	Connoisseur Society	CS-2008
Great Songs of Love and Faith/Mahalia Jackson	Columbia	CS-8624
In the Wind/Peter, Paul, and Mary	Warner Bros.	(S) 1507
Johnny Puleo and His Harmonica Gang/Vol. 2	Audio Fidelity	5859
Non Stop Dancing/James Last Band	Polydor	S2371-269
South of the Border/Herb Alpert	A & M	(4) 108
Switched-On Bach	Columbia	MS-7194
Time Out/Dave Brubeck	Columbia	CS-8192

Contemporary

Abraxas/Santana	Columbia	KC-30130
Close to the Edge/Yes	Atlantic	SD-7244
Creedence Clearwater Revival	Pendulum-Fantasy	8410
Exile on Main Street/Rolling Stones	Rolling Stone Records	COC-8-2900
Give it Up/Bonnie Raitt	Warner Bros.	BS 2643
Gold/Neil Diamond	Universal	73084
Honkey Chateau/Elton John	Uni	93135
Hot Butter	MCR	3254
Joe Cocker	A & M	4224
John Barleycorn Must Die/Traffic	U.A.	5504
Let It Be/Beatles	Apple	34001
Lucky Man/Emerson, Lake & Palmer	Cotillion	SD-9040
Nilsson Schmilsson	RCA	APD1-0319
Parsley, Sage, Rosemary & Thyme/Simon & Garfunkel	Columbia	CS-9363
Pearl/Janis Joplin	Universal	73096
Sonny & Brownie	A & M	SP 4379
Summer Breeze/Seals & Crofts	Warner Bros.	BS-2629
Tarkio/Brewer & Shipley	Kama Sutra	KSBS-2024
Tea for the Tillerman/Cat Stevens	A & M	SP 4280
The Turning Point/John Mayall	Polydor	24404

4 Channel

The Captain and Me/Doobie Brothers	Warner/Reprise**	BS4-2694
Carolyn Hester	RCA**	APD1-0086
Come From The Shadows/Joan Baez	A & M*	8Z54339
Company/Original Cast	Columbia*	SQ30993
The Divine Miss M/Bette Midler	Atlantic**	QD 7238
The Fantastic Philadelphians. Vol. 1/Ormandy	RCA**	ARD1-0002
Fireworks	JVC**	4D-108
Future Sound Shock	Project 3**	CD 5077
Godfather/Hugo Montenegro	RCA**	APD1-0001
Mancini Salutes Sousa	RCA**	APD1-0013
No, No, Nanette/Original Cast	Columbia*	SQ30563
Touch/Morton Subotnick	Columbia*	MA31019

*Matrix 4 Channel; **Discrete 4 Channel

© beim Hersteller
Archiv Michael Otto

EMPIRE'S WORLD FAMOUS "LONG PLAYING" STEREO CARTRIDGES

FROM THE U.S.

"Separation was tops... square wave response outstanding. We tracked it as low as 1/4 gram."

AUDIO MAGAZINE

"Among the very best. The sound is superb. Frequency response was flat within $\pm 1\frac{1}{2}$ dB from 20-20,000 Hz. Compliance measured 35 x 10⁻⁶ cm/dyne."

HIGH FIDELITY

"The I.M. distortion at high velocities ranks among the lowest we have measured. A true non-fatiguing cartridge."

STEREO REVIEW

FROM GREAT BRITAIN

"A design that encourages the hi fi purist to clap his hands with joy."

RECORDS AND RECORDING MAGAZINE

FROM CANADA

"One of the world's greatest cartridges," Dealer's Choice, Scotty's Stereo.

SOUND MAGAZINE

FROM JAPAN

Grand Prize for cartridges in first all Japan Stereo Component competition.

RADIO GIJUTSU MAGAZINE

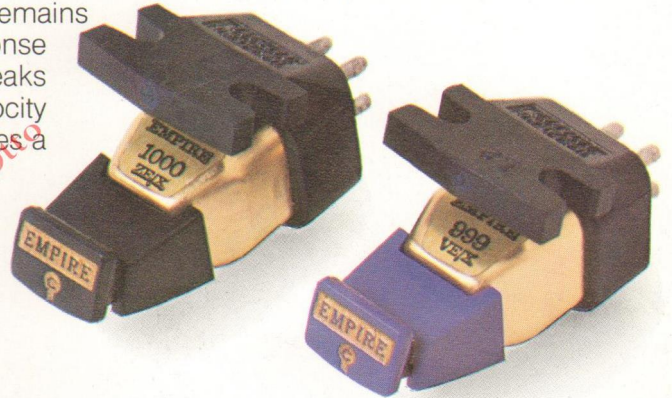
Here are two exciting stereo cartridges that barely touch your records yet track them like radar. Here are cartridges you can play on the most ear splitting orchestral crescendo you know. Send them "down the rapids" of the wildest record groove you can find at forces so low that your records will be good as new after years of use.*

1000 ZE/X "Measurement Standard" — Tracks as low as 0.1 gram when mounted in laboratory playback arms.

Each 100ZE/X and 999VE/X cartridge is individually adjusted to have a flat frequency response within ± 1 dB from 20-20,000 Hz. Stereo separation is better than 35 dB at 1 K Hz and remains 25 dB or better all the way out to 20,000 Hz. Overall frequency response a phenomenal 4-40,000 Hz. There are no electrical or mechanical peaks and total I.M. distortion at the standard 3.54 cm/sec groove velocity does not exceed .05% at any frequency within the full spectrum. Uses a .2 x .7 mil hand polished miniature diamond for exceptional low mass.

999 VE/X "Professional" — Recommended tracking force 1/4 to 1 1/4 grams

*Based on Empire's play tests (more than 50 times the normal life usage of a record).



EMPIRE

A man in a red military-style uniform with gold buttons and a black top hat, holding a trumpet, stands in front of the large 'EMPIRE' text. He is positioned between the 'P' and 'I' of the word.



© beim Hersteller
Archiv Michael Otto

Printed in U.S.A.
Form No. 907 B-177
EMPIRE SCIENTIFIC CORP., 1055 Stewart Avenue, Garden City, N.Y. 11530
CANADA: EMPIRE SCIENTIFIC CORP., LTD., 65 Martin Ross Ave., Downsview, Ontario
© 1974 Empire Scientific Corp.