

# Triangle

## Esprit Comete Ex

LOUDSPEAKER

Art Dudley

stereophile



Triangle Esprit Comete Ex loudspeaker

**DESCRIPTION** Two-way, reflex-loaded loudspeaker for use with stands 20-30" H (not included). Drive-units: 1" titanium-dome tweeter in molded horn enclosure, 6.3" coated pulp-cone woofer. Crossover frequency: 2.5kHz. Frequency response: 50Hz-20kHz,  $\pm 3$ dB. Impedance: 8 ohms nominal, 4.4 ohms minimum. Sensitivity: 90dB/W/m.

**DIMENSIONS** 16.5" (420mm) H by 7.9" (200mm) W by 13.2" (335mm) D. Shipping weight: 41 lbs (18.7kg). **FINISHES** Cognac.

**SERIAL NUMBERS OF UNITS**

**REVIEWED** 07TEB14 0463, 07TEB14 0464.

**PRICE** \$1295/pair. Approximate number of dealers: 28.

**MANUFACTURER** Triangle Electro-acoustique, Avenue Flandres Dunkerque, Z.I. les Etomelles, 02200 Villeneuve Saint Germain (!), France. Tel: (33) 23 75 38 20. Web: [www.triangle-fr.com](http://www.triangle-fr.com). US distributor: VMAX Services, P.O. Box 570, Chazy, NY 12921. Tel: (800) 771-8279. Web: [www.vmax-services.com](http://www.vmax-services.com).

**T**he first reference I saw to the Count of Saint Germain was in *Foucault's Pendulum*, Umberto Eco's dense novel about a man whose paranoid delusions become so overpoweringly real that, by the end of the book, the reader is left wondering whether the protagonist's enemies actually exist. That their number should include Saint Germain was a nice touch: Part cabalist, part confidence man, the real-life Count was thought by some to be immortal (in *Pendulum* he's pushing 300), and while Casanova wrote vividly of meeting Saint Germain at a dinner party in 1757, so did the English writer and pederast C.W. Leadbetter—in 1926. Like Aleister Crowley, the Count of Saint Germain can be seen peering over the shoulders of countless parlor (but not *parleur*, or even *haut-parleur*) occultists: He keeps popping up all over the place.

Still, imagine my shock at receiving from John Atkinson—editor, mentor, friend—a carton whose original return address read "Villeneuve Saint Germain, France."

Holy blue! If the carton's arrival signaled a curse of some sort—retaliation, perhaps, for the time I programmed vulgar phrases into the Simaudio Moon i-7's digital readout—it was too late to turn back: I had already accepted delivery (think: Jacques Tourneur's 1957 film *Night of the Demon*). I had no choice but to soldier on. So I did.

**Description**

Life is full of thoughtless generalities, and here's another: Triangle Electroacoustique is France's version of Mission Audio. Both have been around for a few decades, both have enjoyed commercial and critical success, and both gained fame as makers of domestic loudspeakers that are moderately affordable and often remarkably good. The similarities continue, from the general to the specific: the slim profiles, the proprietary drivers, the generous investments in computer-driven measurement and construction technologies...

Here's at least one distinction, which I'm told has become a Triangle calling card: The Esprit Comete Ex (\$1295/pair) has a horn-loaded tweeter, which flares from the 1" titanium dome at its throat to a mouth that measures some 2.5" in diameter. A longish phase plug, evidently made of brass and held in place with two radial strips, obscures much of the dark-gray dome. The tweeter's housing is molded from a smooth and apparently sturdy plastic; I at first took it to be sealed, but then noticed a tiny opening at the apex of its rear surface: a resistive load intended to

increase output, perhaps, or a vent to equalize the pressure on the thin titanium diaphragm.

The 6.3" bass driver has a pulp cone with a smooth outer surface, and is shaped in a mild flare, as opposed to being straight-sided; its own phase plug is proportionately short, and made of hard rubber. Rubber of a much more pliant sort is used for the half-roll surround. The basket is a light cast alloy, with an integral frame for the textile spider.

Those drivers, which are both beautifully made, are held to the machined

**MEASUREMENTS**

The Triangle Esprit Comete Ex is significantly more sensitive than the norm, my estimate of its voltage sensitivity coming in at 91dB(B)/2.83V/m. While its impedance magnitude drops below 5 ohms in the lower midrange and mid-treble (fig.1, solid trace), and the electrical phase angle is occasionally extreme, overall the speaker will be fairly easy to drive.

There are two sharp discontinuities in the impedance traces, one at 620Hz, the other between 800 and 900Hz. Investigating the cabinet's vibrational behavior with a plastic-tape accelerometer, I found some strong resonances. Fig.2, for example, shows a cumulative spectral-decay plot calculated from the output of the accelerometer when fastened to the center of one of the sidewalls. There is a strong mode at 355Hz, along with some higher in frequency. This mode, which I detected on all surfaces, is high enough in level and low enough in frequency that I would be surprised if it didn't affect the speaker's sound quality, yet in his auditioning Art Dudley noted nothing untoward in this region. I did find a strong mode at 900Hz on the top panel; this could correlate with the discontinuity in the impedance traces at the same frequency. But I was surprised that the mode at 355Hz didn't affect the impedance measurement.

The impedance glitch at 620Hz correlates with a very strong resonance at that frequency in the port's output

(fig.3, blue trace). There is also a suspicious-looking peak in the woofer's output close to the same frequency (fig.3, black), though this graph lacks the resolution to indicate if this peak occurs at exactly the same frequency as the port resonance. The saddle centered on 62Hz in the impedance-magnitude trace indicates that that is the tuning frequency of the port. There is, indeed, a minimum-motion notch in the woofer's nearfield output at that frequency,

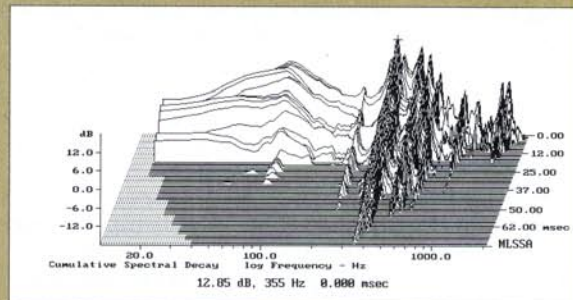


Fig.2 Triangle Esprit Comete Ex, cumulative spectral-decay plot calculated from the output of an accelerometer fastened to the center of the sidewall (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

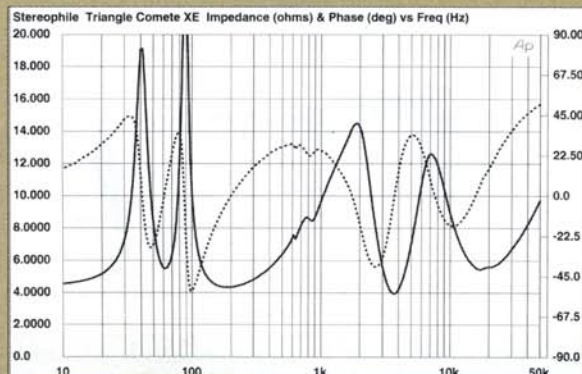


Fig.1 Triangle Esprit Comete Ex, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

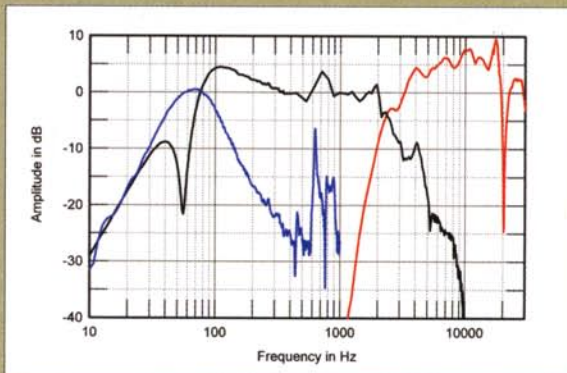


Fig.3 Triangle Esprit Comete Ex, acoustic crossover on tweeter axis, corrected for microphone response, with farfield responses of tweeter (red) and woofer (black), with the summed nearfield responses of the port (blue) and woofer (black) plotted in the ratio of their radiating diameters.

MDF baffle with hex-head wood screws, the ones for the tweeter being hidden behind a trim ring of hard rubber. The baffle is also home to a pair of molded reflex ports 1.5" in diameter and 2.75" long, mildly flared. Internal wiring is Triangle's own stranded copper cable, fastened with slip-on connectors. The crossover board, whose capacitors also carry Triangle's trademark, is fastened to the rear surface of the MDF cabinet, which is also home to a relatively thin cover of acoustic foam. The cabinet looks unremarkable except for a series of small braces that apparently serve the same purpose as the ribbon lining inside a stringed instrument: to provide additional gluing surfaces for the front and back.

### Installation and setup

The Esprit Comete Ex is intended to

be mounted on a stand, and because the center of its tweeter is just over 13" above its bottom surface, a stand 20–28" tall would suit the average seated listener. Triangle makes and sells an appropriate stand for the Comete Ex, but that wasn't supplied for the review; instead, I relied on an old pair of open-frame supports from Chicago Speaker Stand that measure a little over 22" tall. An hour or so of fiddling proved, to my satisfaction, that the Comete sounded best when coupled to the stand with tiny bits of Blu-Tak, and that the best (*ie*, least fussy-sounding) results were to be had when the stand's spiked feet were replaced with self-adhesive felt pads—green ones, in case you believe that makes a difference.

A modest amount of bottom-end reinforcement could be had by placing the Cometes very close to the wall

behind them. However, given that spatial depth and detail were among the speakers' greatest strengths, I took advantage of those qualities by bringing the Cometes well out into the room, farther from the walls and closer to the listening seat than is usual for me. Measured from a central point on the front baffle, each Comete ended up being 71" from the wall behind it and 27" from its respective sidewall.

With my Audio Control SA3050 spectrum analyzer set at 4dB per step, and with its microphone set at ear height, the graphic readout was similar to what you'd see if you used a ruler and a red marker to draw a line between 63Hz and 12.5kHz: Apart from a small peak at 100Hz, the response was very flat, with usable response at 50Hz but nothing below, and a more gentle rolloff in that quaint

### measurements, continued

though the port's output broadly peaks a little higher in frequency. The woofer rolls off quite sharply above 2kHz, though what would otherwise be a well-controlled rolloff is disturbed by a small peak at 4kHz. The tweeter (fig.3, red) is rolled off very steeply below 2kHz. While its output is relatively uniform in its passband, it appears to be balanced about 5dB too high in level.

Fig.4 shows how these individual measurements sum on the tweeter axis in the farfield. While the woofer and tweeter outputs integrate nicely, the Comete Ex's response rises through the mid- and high treble. The peak around 700Hz is still evident, and the speaker's output in the upper bass peaks up by 7dB. Some of this boost will be due to the nearfield measurement technique, which assumes a 2pi acoustic environment for the low-frequency radiators, but the speaker does have a somewhat underdamped low-frequency alignment. Subjectively, this

will tend to balance the hot top octaves, but as AD noted, it does add "a bit more drumminess on some notes than the recording would seem to call for."

The Esprit Comete Ex's lateral dispersion on the tweeter axis is well-controlled and even (fig.5), which correlates with the excellent stereo imaging noted in the review. There is only the slightest hint of off-axis flare at the bottom of the tweeter's passband. The horn loading for the tweeter may increase the unit's sensitivity, but it appears that the primary benefit is to match the unit's dispersion to that of the woofer in the crossover region. The tradeoff is that the speaker becomes more directional in the top two audio octaves, but, as AD found, that does enable the listener to adjust the toe-in angle to obtain a more neutrally balanced treble. In the vertical plane (fig.6), a deep suckout develops immediately above and more than 10° below the tweeter axis. The stands should be chosen to place the listener's ears close to the tweeter axis, if the Comete Ex is not to sound a little hollow.

In the time domain, the Triangle's step response (fig.7)

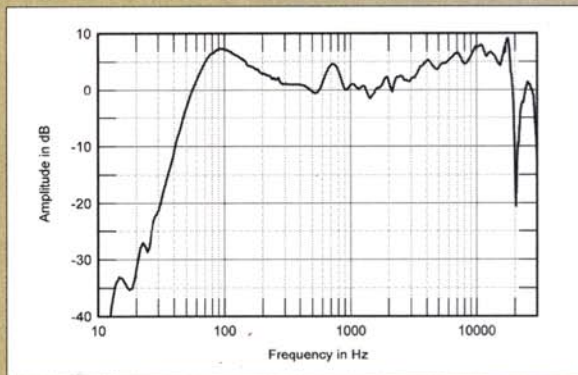


Fig.4 Triangle Esprit Comete Ex, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the complex sum of the nearfield responses plotted below 300Hz.

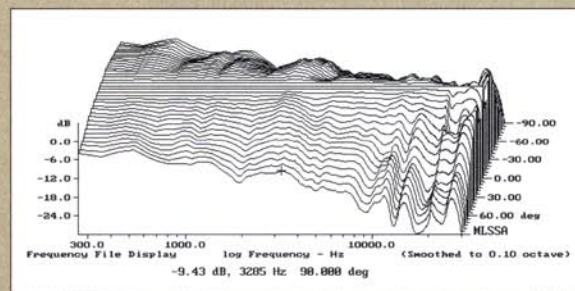


Fig.5 Triangle Esprit Comete Ex, lateral response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

European neighborhood, The Trebles.

Speaking of which, I preferred listening to the Triangle Cometes with their enclosures aimed straight ahead—under which circumstances the central listening area was off axis with respect to the Cometes' horn tweeters. Listening on the axis, with the enclosures toed-in, the treble range was exaggerated; vocal sibilants and plosives became fatiguing after an hour or so of listening. That may seem counterintuitive, given Triangle's use of a phase plug *directly* in front of the tweeter diaphragm, but it was nonetheless true.

Two pairs of gold-plated connectors on the rear of the cabinet allow biwiring, if desired, using spade connectors or 4mm banana plugs. I relied on the latter, and kept the Cometes' gold-plated metal links in place for use with my single-wire speaker cables.

**Listening**

The speakers' best places chosen and their positions all tweaked, I began auditioning the Esprit Comete Exes with Nick Drake's *Pink Moon*, from the newly re-issued *Fruit Tree* boxed set (LP, Universal Island 006025 1745703 4). Notwithstanding its small size, the Comete didn't lose one bit of the richness in Drake's baritone: I was relieved to hear the sound of his voice reproduced with all the body I'd expected, the art of his singing with all its nuance.

And *scale*: The Cometes sounded big and easy, not tiny and fussy in the manner of other small boxes. Likewise, Drake's steel-string guitar had realistic body and scale, and just as much beautiful richness of tone as I could have hoped for. The sound of the guitar appears to have been equalized during the making of the original recording, to

give more prominence to its lower strings—an untrue sound, maybe, but one that was reproduced truly by the Cometes.

This wasn't a curse at all!

Then I listened to Mendelssohn's Symphony 3, with Peter Maag and the London Symphony Orchestra (LP, Decca/Speakers Corner SXL 2246), and was pleased to hear not only the same timbral richness as in the Nick Drake, but a literally satisfying—not overwhelming, but perfectly satisfying—degree of bass weight in the lowest brasses and strings. The quality of the bass was a bit less dry than that of the Audio Note AN-E/Spe HE, with a bit more *drumminess* on some notes than the recording would seem to call for—yet without stooping to the sort of one-note bass of other reflex designs. The bass rolloff was fairly drastic,

reveals that both drive-units are connected with the same positive acoustic polarity and that the tweeter step smoothly hands over to the woofer step. The tail of the latter's step, however, is overlaid with some gentle undulations with a period equivalent to a frequency of 710Hz, the same as the small peak in the on-axis frequency response. A ridge of delayed energy can therefore be seen in the speaker's cumulative spectral-decay plot (fig.8), though the initial decay of the speaker's sound is otherwise impressively clean. The tweeter's dome resonance occurs just below 20kHz, which is a bit close to the audible band for comfort for younger listeners.

The Comete Ex's measurements are not at all bad considering its price, and suggest that the speaker's owner can experiment with toe-in and placement to get the optimal balance between the high- and low-frequency regions. Its high sensitivity will also allow it to work well with low-powered amplifiers. But I am suspicious of the fact that the port resonance, the cabinet panel resonance,

and the slight peak in the farfield response coincide within a quite narrow region of 620-900Hz. —John Atkinson

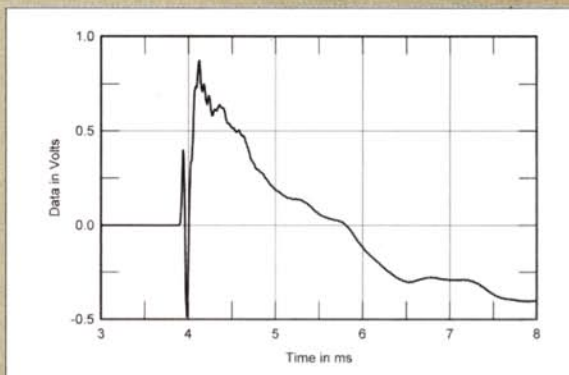


Fig.7 Triangle Esprit Comete Ex, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

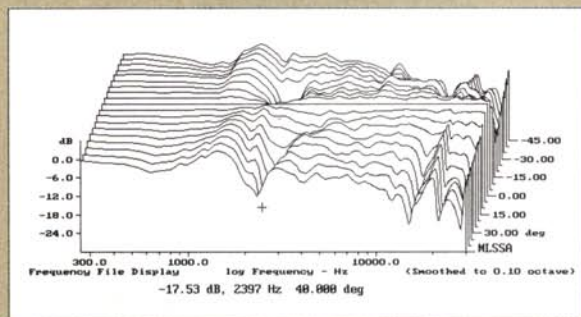


Fig.6 Triangle Esprit Comete Ex, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.

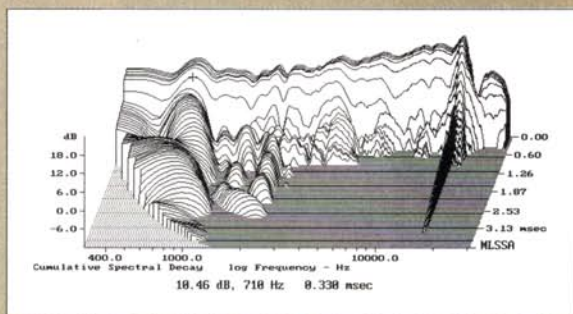


Fig.8 Triangle Esprit Comete Ex, cumulative spectral-decay plot at 50° (0.15ms risetime).

though, with some kettledrum notes in George Szell and the Vienna Philharmonic Orchestra's recording of Beethoven's *Egmont* overture (LP, London CS 6675) missing entirely, while others in the same line rang out nicely.

As with intimate pop recordings, the Comete's sense of scale with orchestral selections was appropriate to the material—in addition to which, its spatial qualities added significantly to my enjoyment. Listening to the Cometes from 7' away or so, I heard a really surprising, impressive degree of stage depth. Yet this goodly sized soundfield wasn't of the airy, phasey, fussy sort: The string sections on both sides of the stage had real substance. It isn't very often that stereo imaging and "sound-staging" impress me all that much; this was a happy exception.

Yet for all that, the Esprit Comete Ex did a satisfying job of reproducing old mono recordings: Other speakers deliver more substance and scale, but the Cometes sounded bigger and less fussy than I expected.

Back to stereo: Ravel's Piano Concerto in G (LP, RCA/Classic LSC-2271), with pianist Nicole Henriot-Schweitzer, Charles Munch, and the Boston Symphony, gave cause for more admiration. From the startling first bars, the Comete followed the music with sharp, right-sounding pitches and rhythms, as well as engagingly open and clear yet perfectly rich sound. But here, finally, was the first evidence that the Comete's bass was not as generous as that of other speakers: the piano didn't sound quite as big, heavy, or powerful as it should, nor did the orchestral bass drum toward the end of the first movement. The sense of touch on the piano was good, but not as good or convincing as that of the guitar in the Nick Drake track.

Spoken-word recordings sounded real and right, with no egregious colorations. In Procol Harum's side-long "The Worm and the Tree," from *Something Magic* (LP, Chrysalis CHR 1130), Gary Brooker sounded present and very much himself: not chesty, nasal, hoity, shouty, pinched, strained, or sore. The superb depth and tonal roundness that the Comete conferred on Chris Copping's electric bass and drummer B.J. Wilson's floor tom were also welcome. And while I don't know what the late actor Klausjürgen Wussow sounded like in real life any more than I understand his German, his

recitations between and on top of the music selections on the Szell-VPO *Egmont* were convincing enough.

Best of all was that masterpiece of the choral repertoire, Vivaldi's oratorio *Gloria*, with the Academy of St. Martin-in-the-Fields and the evergreen Janet

and sense of touch often brought to the scene by other, more sensitive speakers. Surprisingly good though it was, the Comete didn't have as much bass as, say, the Audio Note AN-E/SpE, nor was it as sensitive—though, again, for a smaller, easier-to-place product that

**THE ESPRIT COMETE Ex IS A FINE THING: A MUCH BETTER AND MORE MUSICAL LOUDSPEAKER THAN ONE USUALLY FINDS AT THIS PRICE AND SIZE, OR FROM SUCH A MAINSTREAM COMPANY.**

Baker (LP, Argo ZRG 505). Especially with the Cometes well away from the sidewalls, their excellent lateral imaging made it easier than usual to enjoy the manner in which the recording (not to mention the composer) hands the lead line through the various sections of the chorus, as in *Et in terra pax*. Similarly, in *Domine Deus*, the perspective between Baker and the chorus behind her was clearly laid out. And, of course, Baker's rich, powerful mezzo-soprano was reproduced with beautiful clarity and warm, human realism.

Flaws? The Esprit Comete Ex was the sort of product that seemed to have only forgivable shortcomings, and few of those. It lacked the overall drama

costs one-sixth the price, it did awfully well. And it wasn't quite as easy to enjoy off axis as the Audio Notes, whose very-high-frequency dispersion seems more consistent over a wider range of positions: With the Cometes firing straight ahead, sitting off to one side often put me in line with the tweeters—which, as I've said, was a less listenable perspective.

### Conclusions

The Esprit Comete Ex is a fine thing: a much better and more musical loudspeaker than one usually finds at this price and size, or from such a mainstream company. It's a shame to think that some Cometes will end up in boring systems driven by boring amps playing boring CDs; having now heard the very sensitive Cometes driven by one of the finest amps on the planet and fed a reasonably steady diet of good recordings from a classic record player, I know what heights it can reach. By the end of a review period I'm often at least somewhat anxious to get rid of the product on loan, so I can go back to the things I know and love; the Cometes could have stayed here indefinitely, and I wouldn't have minded at all.

If you're looking to assemble a vinyl- or SACD-based system around a very-high-quality amplifier of 10-70Wpc, and especially if your living arrangement allows for nearfield listening to a loudspeaker placed well away from the room boundaries, the Triangle Esprit Comete Ex is a very strong recommendation. Unless something better for the price comes along, I could see the Comete Ex remaining in our "Recommended Components" list for an awfully long time, if not quite eternally. ■

### ASSOCIATED EQUIPMENT

**ANALOG SOURCES** Linn LP12 (with Linn Basik power supply), Thorens TD-124 Mk.II turntables; Naim Aro, Rega RB300 tonearms; EMT JSD 5, Denon DL-103 cartridges.

**DIGITAL SOURCE** Sony SCD-777ES SACD/CD player.

**PREAMPLIFICATION** Auditorium 23 Standard, K&K Audio step-up transformers; Shindo Masseto preamplifier.

**POWER AMPLIFIERS** Quad II monoblocks, Shindo Cortese.

**LOUDSPEAKERS** Audio Note AN-E/SpE HE.

**CABLES** Interconnect: Audio Note AN-Vx, Shindo silver. Speaker: Auditorium 23. AC: JPS Labs The Digital (Sony SACD/CD player).

**ACCESSORIES** Mana Reference Table, three Mana short tables (under turntables); big piece of wood under SACD/CD player.

—Art Dudley