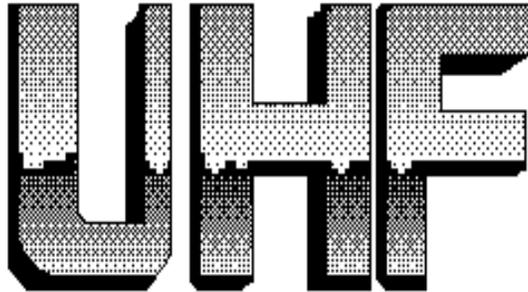


Issue No.3 of



ULTRA HIGH FIDELITY

M A G A Z I N E

For your ears only

Welcome to this third issue of *Ultra High Fidelity Magazine*...On-Line version. *Ultra High Fidelity Magazine* (the paper one you can hold in your hand) is published six times a year by:

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A New Name!!!

Yes, as of now, Hi-Fi Sound Magazine has a new identity. It is now called (you guessed it) Ultra High Fidelity Magazine.

Why change the name when the old one has become so famous? Why buy trouble?

Let me explain.

A few weeks ago the national sales manager of a large audio company was commenting to me that the magazine was looking pretty spiffy these days. And he added that “your French edition is looking quite nice too.”

Our French edition?

Well...no mystery really. He was confusing Hi-Fi Sound with Son Hi-Fi Vidéo. But there's more.

In the Montreal newspaper La Presse, audio stores have been running ads for the Energy Reference 22 speaker, along with the following review excerpt: “On perçoit extraordinairement bien la clarté et la profondeur...les résultats de l'essai de l'onde carrée sont étonnants...” It's attributed to Son Hi-Fi. But I had little difficulty in recognizing the quote, a translation of a review that appeared in—you guessed it—Hi-Fi Sound.

Want more? Since then our former printer called to say he had just seen our latest issue. Really? It wasn't out yet! He was, of course, confusing Hi-Fi Sound Magazine and Son Hi-Fi/Vidéo. The two magazines have been unconnected since 1984, but time stands still for people who aren't paying attention, and the similarity of names and logos seem to matter more than any other evidence.

Add to that the fact that we sometimes get Son Hi-Fi's mail, and you can see the problem. The confusion has always been a bad thing, but it is now worse. Our one-time sister magazine has changed its orientation, and in the meantime we too have evolved. The two magazines are now so radically different that it is far from being advantageous to have anyone think we run the other one. We need our own identity. And the transition to the new name: UHF—Ultra High Fidelity Magazine, will provide it. By summer it will be the only name on our cover.

But let me reassure you that the same people remain in charge, and that, if you liked Hi-Fi Sound, you are likely to remain happy with UHF. We will all continue to do what (I think, I hope) we do best. Our commitment to genuine high fidelity, regardless of price range, remains unchanged.

Other minor changes accompany the name change, and yet others will appear over the next year. But the determination remains to do our job better, not to take our magazine in some other direction. I can promise you that we will go on saying clearly exactly what we think.

Only from now on, no one will be confused about who thinks it.

The Martin-Logan Sequel

A Marriage of Two Technologies

For a long time we have been looking forward to finding a speaker built exactly like this one: dynamic for the bottom end, electrostatic for everything else. All comes to they who wait...

May we make a confession? For many years we have been unabashed fans of electrostatic technology. Electrostatic loudspeakers do so many things so much better than conventional speakers that we find ourselves wishing they would take over the world. At the same time, we have never been crazy about individual electrostatics. Perhaps this means it is a technology waiting for someone who loves it and believes in it to perfect it.

But let's back up. Not everyone is aware of electrostatics, or indeed of any speaker that doesn't come in a rectangular box. Let us say right off that this is not some sort of refinement of conventional technology. It is a new technology. Or it was when it was invented, which was, alas, a long time ago.

Conventional speakers are electric motors: you put a current through a coil that cuts through a magnetic field, and the coil or the magnet (whichever is not nailed down) will move. In the case of a speaker it's the cone, which is glued to the voice coil. Electrostatics are totally different. Two metal plates are mounted close together, and a charge of a few thousand volts is put between them. In between is a thin plastic diaphragm, not unlike Saran Wrap, with a metal film on it which carries the audio signal. As the charge on the plastic changes, it moves closer to one metal plate or the other...and its movement produces sound.

As we've said before, any technology that is new and different offers tradeoffs—seductive advantages, nearly always coupled with disadvantages. The advantages of the electrostatic are seductive enough: extremely “fast” midrange, with distortion that can be an order of magnitude better than that of conventional speakers. But the disadvantages should warn off the uncautious: poor high frequencies, because they come from so large a surface (it's like using a hundred ordinary tweeters), and poor dispersion—the highs shine forward like a spotlight. Then there's the non-existent bottom end, unless you make the speaker huge...in which case your problem at the top end gets worse. Oh yes, and let's not forget another minor problem: the tendency for the speaker to arc and self-destruct.

There are several electrostatics on the market, and frankly most have succeeded in reminding us of the down side of our favorite technology. The Acoustats are a case in point, and the huger the Acoustat the more we feel that way. The Quad ESL (the one developed in the 1950's) had always disappointed us too: its lightning fast reflexes couldn't make up for its chopped top end, its thin bottom, and its anemic volume. Ultimately our favorite electrostatic became the Quad ESL-63, a much underrated speaker (because few people have ever heard one), which sounds thrilling on many recordings. The ESL-63 even has pretty good bass... unless you want to play it loud, in which case it's game over. We have long vowed that we would match a subwoofer to the Quads, and come up with the world's finest loudspeaker.

Well, you might well conclude that Martin-Logan has beaten us to it. This little company, located in Lawrence, Kansas, the town we all saw nuked in the film *The Day After*, has a whole line of electrostatics out, and they're quite novel in design too. We've heard them before, and we like them quite a lot, but that bottom end problem continued to bother us. There's just not enough bass to reproduce some of our favorite music the way we'd like..

Enter the Sequel, which is designed to get around some of our unfavorable features. The diaphragm is protected from destructive electrical arcing by thick Teflon insulation, which also means no front grille is needed. What looks like the grille is actually the front stator (without the Teflon, putting your hand on it would void your life insurance). The unusual construction allows the diaphragm to be curved, so that the highs get dispersed around the room horizontally. And finally, the very bottom end from 125 Hz on is handed over to a driver better suited to the job: a conventional 30 cm woofer in a bass reflex enclosure.

Now we are all too aware of how tough it is to marry electrostats and dynamics, which is why we haven't yet done it for ourselves. Nearly two years ago we heard the prototype of the Sequel, and we were not impressed. When we heard the final version last summer we changed our minds.

These speakers are tall enough to play basketball, but they take up little actual floor space, and they are made about as attractive as tall, flat speakers with cubes on the bottom can be. One panelist commented that it would be nice if the woofer were less visible behind its grille, and another thought it would look best with a vine climbing up its grille (you're on your own with that suggestion), but the styling was warmly received by everyone.

The considerable height (about 180 cm) was a problem in our strangely-shaped room, but then we were aware that the Sequels would prefer a larger room anyway. Can't be helped. We know we are reaching the limits when it comes to speakers this size. We positioned them as best we could, some distance from the nearest wall (planar speakers are bidirectional and don't like nearby walls) and proceeded.

"It's clear," said one panelist, "just flawless." And that was it for a while, as we proceeded to listen. And listen.

Tiden Bara Går was rather good, with a plausible illusion that Thérèse Juel was standing between the two speakers. The instruments with fast transients—the guitars and the plucked bass—were especially excellent, thanks to the light and fast-moving membranes of the electrostatics. The highest frequencies were very slightly muted, but with great clarity, with little hint that we were hearing an electronic device. There was a considerable foreshortening of the recording's tremendous depth, however. That, alas, is also characteristic of electrostatics.

The Telemann concerto transcribed for four guitars (Opus 3 79-15) was superb, as we expected, each string having the proper "snap" to it, as it has in real life, but with no exaggeration. The soft high end tended to filter out extraneous sounds, like those of fingernails slipping on strings, but strangely letting through all the interesting musical detail anyway. However the two giant pan pipes on Zamponas were much less interesting than with our reference speakers, their depth greatly foreshortened by the Martin-Logans.

Growing Up in Hollywood Town—rather short on depth anyway, being a multi-microphone job—was very good, with Amanda McBroom's voice exceptionally articulate and natural. The orchestra was a touch less impressive than with our reference speakers, because of the flattening of the sound field. The very different voices on the Laudate! choral album were clear, especially the higher ones, but a trifle confused.

We've already alluded to the difficulty of matching a dynamic woofer to a very "fast" electrostatic panel without having the "seam" show, and Martin-Logan has done an admirable job of pulling it off. One panelist thought the bottom end was a trifle tubby for a \$4500 speaker, but no one else objected. The marriage seems to be a happy one.

The woofer did not get through the technical tests with high honors, however. Though its response is a mere 6 dB down at 40 Hz in our tightly-damped room (an exceptional achievement), its response went through a lot of ups and downs for an octave and a half above that. Worse, the sound was far from clean, accompanied by a nasty buzz that did not subside until we had gone up to 150 Hz. Going up from there, only a peak centred around 500 Hz marred an otherwise admirable curve, which in fact was closer to a straight line than a true curve. Response had dropped by only 4 dB at 14 kHz. And then...

Oh yes! We forgot to mention one other unfortunate side to electrostatics. To an amplifier, a typical electrostatic looks like a resistor with a capacitor placed across it. Because so few speakers are capacitive, not many designers bother trying their amplifiers with capacitive loads. Our Robertson 4010 seemed safe: it had done a beautiful job driving a pair of Quad ESL-63's (issue No.10). But with the Martin-Logans, the moment we went above 14 kHz the protection fuse blew in our amp. Note that we listened to music at high levels without any problems, however.

Because the electrostatic panel is large, there are interference patterns among the vibrations emitted by its different part. For that reason the square wave changed rather a lot as we moved our microphone around. However we had little trouble getting a satisfactory wave, and as you'd see from the photograph (if you had bought the magazine) it is one of the best in the entire test series: very square, and free of the tall spikes than can be seen in the waveforms from some other speakers. That corresponds to the outstanding "quickness" in the midrange.

After the test in our excellent (but small) listening room was completed, we tried the Sequels again in a much larger living room. Sure enough they were much happier there, yielding a much more convincing illusion that the musicians were really present. On some recordings the illusion was downright eerie. The more reverberant acoustics made the foreshortened depth less evident, and the tonal balance was much improved. The stereo image (left-to-right, not front-to-back) was outstanding.

Well, we'll remind you again that new technologies have both advantages and problems, and this hybrid technology is no exception. But if you accept the inevitable down side, the Martin-Logan Sequel can let you rediscover your record collection. If the price and the size don't scare you off, you'd be making a mistake if you didn't give them a long listen.

Martin Logan Sequels

Price: \$4500

Most liked: Wide smooth response, great transients.

Least liked: Shallow sound depth.

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Wouldn't you rather be reading the real *Ultra High Fidelity Magazine*? These are excerpts from issue No.19. See "How to subscribe" at the end of this document.

The Spica Angelus

This small US company was quite successful with a small wedge-shaped speaker that seemed to break all the rules. And if there are any rules left, the larger Spica breaks those too.

The original Spica speaker, the TC-50, has been around for years, and for the last two years Spica has been widely distributed in Canada. The TC-50 was tested in issue No.14, and you may recall both the shape and our judgement. The shape: a cube, sawn in half diagonally to make two wedges. Our judgement: limited output at top and bottom, but absolutely the finest stereo image we had heard from loudspeakers.

Enter the Spica Angelus. A glance will tell you the same people thought them up. The bottom part looks like the pedestal from a modern art gallery, and the top looks like something you might put on a pedestal in a modern art gallery. Would you give them houseroom? Of course that depends on how they sound.

The shape is not utterly whimsical, of course. Designer John Bau believes (as we do) that a good loudspeaker should have its drivers in correct phase, no matter how difficult that may be to accomplish. He achieves correct phase (keeping the woofer and tweeter in step with each other) in two ways. For one thing he has used an unusual configuration in his crossover network: a simple first-order filter for one driver, a fourth-order Bissell filter on the other. Second, he uses a tilted front to compensate for what time distortion is left—it puts the tweeter farther from the listener than the woofer. There's a drawback to this: the tweeter is facing up, and the highs are not as good for a listener in normal position. John Bau concedes that. He argues, however, that off axis the highs may roll off at a lower frequency, but they roll off more gradually. He says he's trading quantity for quality. This applies to the TC-50, because—as we shall see—quantity is not a problem on the Angelus.

The speaker elements are not especially unusual: a 25 cm polypropylene woofer and a soft dome tweeter not unlike those of other makers. Bau says that the speakers should not be operated with the grilles in place, since the grille effect is calculated in. That's just as well, because under that grille is a thick felt pad so ugly it would spoil the decor in a warehouse. So the grilles stayed on in our tests.

And if they spoiled anything, they sure didn't spoil it much. The first selection we played, Thérèse Juel's *Tiden Bara Går*, convinced us that the Angelus has all of the virtues of the TC-50, and much, much more. But we should warn you that we didn't all quite reach the same conclusion, so read this review carefully.

For those of us who liked this speaker most (two out of four), three-dimensional sound doesn't get much better than this. If you want a more convincing stereo image than this you'll need headphones. And so strong is the illusion of perspective (with a properly recorded source needless to say) that you can hear it from nearly anywhere in the room.

But that isn't all. The top and bottom end, somewhat muted in the TC-50, are plentiful in the Angelus. The bass is discreet because the large box doesn't seem to vibrate much, but when there's something down there you hear it. And the top end positively sparkles. But it's in the midrange that the real goodies can be found. It is clearer than we recall hearing from any other conventional speaker. You'd swear that Amanda McBroom (we listened to nearly the whole album with these speakers!) had had some extra lessons in elocution—and she doesn't need them! The choir on *Laudate!* seemed to step outside the boundaries of the speakers. On *Secret of the Andes* each percussion instrument had its own timbre, as we expected, but we also heard new detail not noticeable on other speakers. No, not even on our reference speakers.

Perhaps because we are a little perverse we decided to ruin John Bau's day for him...by subjecting his creation to the full force of the Sheffield Drum Record at enough input power to send the average speaker cone into the next block. We failed. The Angelus took it all with aplomb, demonstrating once again its superior stereo imaging. It also showed that even playing at unreasonable levels won't persuade it to vibrate and color the tone.

For two of us at least, all that was left was to go well beyond the usual recordings we had selected for these speaker tests, if only because we didn't really want the test to end.

So why weren't we unanimous about the Spicas?

Well, we've already alluded to the sparkle at the top end. There's just too much of it. It's pleasant enough, and it's as revealing as a Klieg light, but two panelists found it objectionably bright. A third panelist thought the speaker was superb despite a rather tizzy high end, and the fourth thought it was superb...period.

The frequency response test indicated that the critics were right about the top end—there's far too much of it. The zone between 7 kHz and 11 kHz is very prominent. There is also a lesser peak in the critical part of the midrange, at 250 Hz. The bass began to drop below 125 Hz, but very gently. Our oscilloscope showed a very convincing sine wave down at 28 Hz, though by then it wasn't very loud. The square wave is a bit of a mess, with long spikes corresponding to the problem at the top end.

So if this were a test to see which speaker has the fewest technical flaws, the Spica would not be near the top. But that's not what this evaluation is about. The Spica's brightness was too much for some of us. On the other hand its remarkable depth of image was enough to seduce some of the rest of us. It is an idiosyncratic speaker.

The only thing we agreed on is the looks. No one wanted to give it a styling prize. Would the Spica Angelus fit into your decor? If you said no, the sound might make you think again. Turn the sound up and they'll vanish. Try it, and see what you think.

Spica Angelus

Price: \$2000

Most liked: Superb stereo image.

Least liked: Bright and tizzy top end.

Now Hear This!!!

You say you can't afford Martin-Logans or Spicas? Not to worry. Have we got a deal for you!

We first heard these diminutive and oddly-shaped speakers (the NHT Model Ones, from Now Hear This) at the CE-EX show in Toronto, and we knew right away we wanted a closer listen, away from the noise and the over-resonant hotel walls. In a world filled with grey-sounding entry-level speakers, these stood out, even with catastrophic acoustics.

They stand out visually too—and we're only sorry we can't show you the picture in this electronic edition. This little box has few right angles, which is a little surprising considering that NHT is putting this system together for a minimum price. Think about spending a weekend on a carpentry project. Would you rather be dealing with a rectangular box, or an object the shape of the NHT? So would we. But this new company isn't afraid of a little extra work...and doesn't overcharge for doing it.

The shape isn't all that's unusual. Tap one and you'll realize that this is more than the usual hollow cigar box—you'd swear it's a block of solid wood. Something else unusual: in this age of tuned loudspeakers (with a hole in the front or the back) this is a sealed enclosure. But then that's nearly the only way to get much bass from this small an enclosure. The rest is conventional: a little 16 cm treated paper woofer is matched to a plastic-dome tweeter. The crossover network contains just enough to keep the bass from frying the tweeter. The multi-way terminals are recessed and nicely angled to permit the speakers to be placed against a wall.

We're happy to say that the surprises don't stop at the unusual looks. The NHT's neither look nor sound like \$500 speakers. They don't have the "grey" sound we associate with speakers put together from parts catalogs. The sound is open and airy and beautiful. We began the listening session with the Laudate! choral album, which was reproduced with great plausibility. This is a genuine stereophonic recording (rarer than you'd suppose), and the stereo stage was perfect, with excellent separation of those superb voices. The guitars on the Opus 3 guitar quartet were surprising, though one panelist found them bright and a touch more metallic than they should be. Amanda McBroom's voice on Growing Up in Hollywood Town was lively and expressive, with only a touch of sibilance to remind us that this speaker doesn't cost like a good used car.

Of course the bottom end performance, though solid and respectable, isn't...well, earth-shaking, as you would have to expect from the speaker's diminutive size. But NHT is reserving one more surprise: a subwoofer.

A subwoofer with a \$500 speaker? Yes indeed...and it makes more sense than you might suppose. Start your system with the \$500 speakers (plus an extra \$200 if you buy the matching stands—which are made to complement the speaker's unusual looks). When you get an extra \$400, you add the SW1 subwoofer. The crossover is built in, by the way, so all you need to hook it together is a little more wire. Unfortunately the SW1, unlike the Model 1 itself, has cheap and cruddy "push and insert" terminals...to save money, says designer Ken Kantor. The damn things do not even provide a stable connection. It is an unexpected cheap touch...surprising in a company that actually finishes its speakers on all six sides.

We know you'll be wondering how much the subwoofer adds to what you hear. Not much frankly...but that is exactly how it should be; subwoofers that shout "hey look at me!" are on our dog list right alongside the Black Plague. The SW1 is one of the subtlest subwoofers we've heard yet. On some recordings you won't hear it at all. When you do notice it (as we did on the organ passage on Laudate!, and on the percussion of Secret of the Andes), you'll just feel as though you had changed the speakers for a slightly bigger model. At no time could we notice any sound coming from the SW1 itself. It doesn't muddy anything; it merely improves what is already good.

The sound is so good that we expected the NHT's to do better on the objective tests. In fact there's little clue that this is an exceptional speaker. The square wave is rather indistinguished, and the bass is more than sparse, actually starting to taper off seriously below a frequency of 250 Hz. It does not drop like a stone, however, and the speaker continues to put out some sound several octaves down. The output is clean, if not loud, from 48 Hz up, and does not buzz or do anything unpleasant even below that. The top end is quite good, but rolls off above 12 kHz.

The subwoofer does not much increase the depth of the bass, though it supplements the headroom—how loud it can play before running into trouble. However the subwoofer actually has an effect well into the midrange, and it's a good effect too, smoothing out the speaker's tapered response. Bass distortion is unchanged, and so is the square wave.

They key to these speakers is outstanding value. NHT is just giving you more for your money. Even without the subwoofer, these astonishing loudspeakers will keep you happy longer than a lot of speakers that cost much more. In fact you know how much we liked the NHT's? One of our panelists actually bought a pair! And there's every sign she won't be the only one.

The message is right there on the speaker grille: *Now Hear This!*

NHT Model 1 and SW1

Prices: Model 1: \$500, SW1: \$400, stands: \$200 anticipated.

Best liked: Lively, open sound, amazing value for money.

Least liked: limited bass without the subwoofer, poor connectors on the sub.

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Broadcast Canada

Box 316, Station A

LONGUEUIL, Québec J4H 3Z2

Tel. (514) 651-5720

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Publisher and editor: Gerard Rejskind

Assistant Editor: Odette L. Roy

Editorial: Steve Benjamin, Paul Bergman, Kay Campbell, Henry See, Khurram Z. Syed.

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