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SINCE 1983

특집 **키트의 매력, 키트의 즐거움**

클로즈업 PATHOS INCONTROL

PAD CABLE 8기종의 시청

VIENNA ACOUSTICS의 스피커 3기종 집중 시청

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DG 100주년을 빛낸 아티스트 (2)성악가 편

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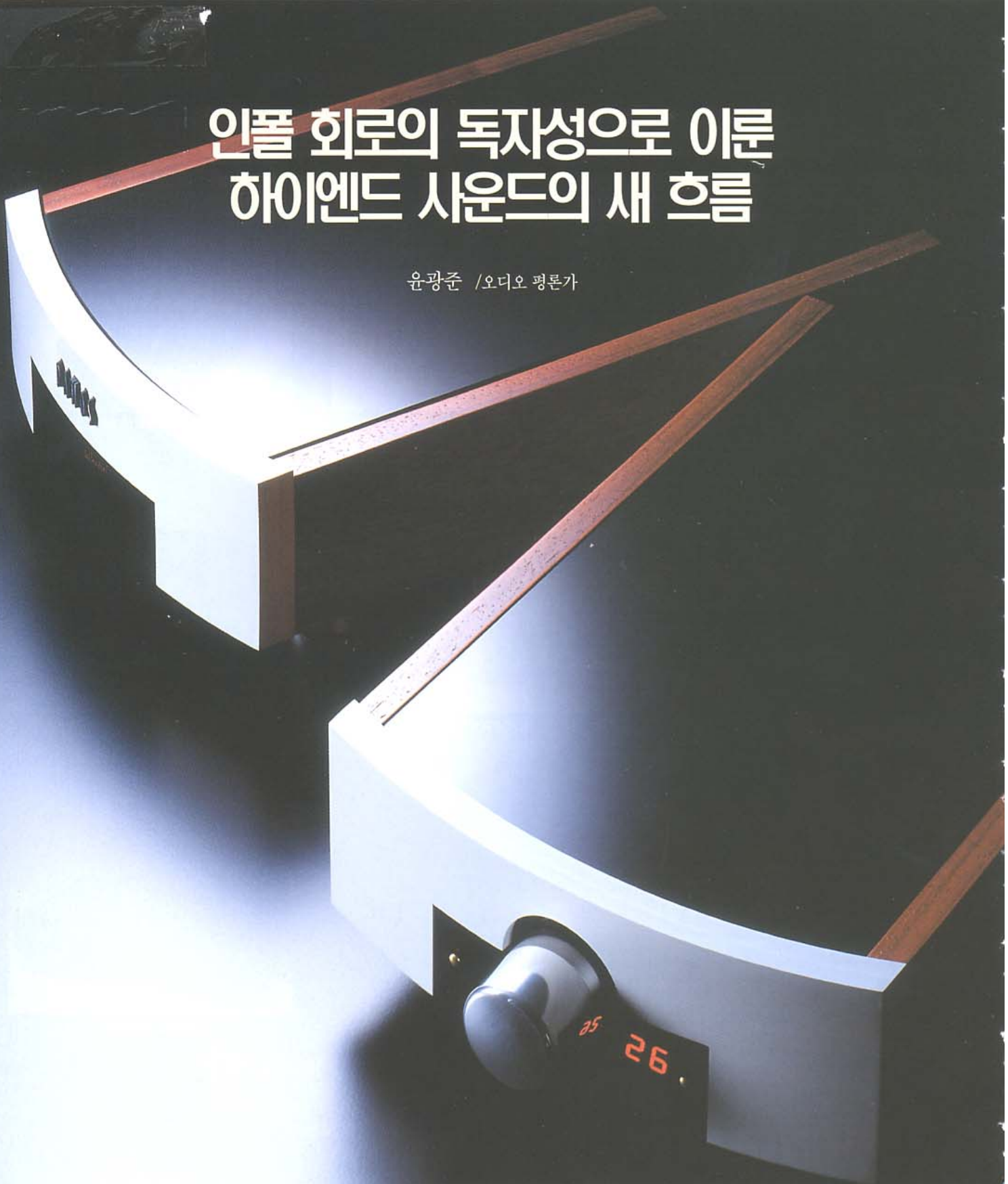


클로즈업

PATHOS INCONTROL

인폴 회로의 독자성으로 이룬 하이엔드 사운드의 새 흐름

윤광준 / 오디오 평론가



INPOWER의 대응 프리앰프 동사의 제작 이념 분명해져

1994년 북이탈리아 비첸차에서 창립된 패토스 어쿠스틱 사는 첫 모델인 트윈 타워즈 인티그레이티드 앰프로 화려하게 세계 시장에 등장했다. 이 제품은 이탈리아 제품답게 한눈에 확연히 들어오는 멋진 디자인으로 앰프라는 기계임을 잊게 만들 만큼 매력적인 포름과 분위기를 갖는다. 아름다운 디자인에 결합된 'INPOL 회로'의 기술적인 메리트와 독특한 외형에 걸맞는 사운드 퀄리티는 이 신에 브랜드의 신뢰성을 높여주고 있는 것 같다.

첫 모델의 성공에 이어 패토스 사에서는 분리형 앰프를 기획했고, 그 첫 제품이 우리 나라에 상륙했다. 아시아 시장에서 최초로 수입되었다고 하는데 그 멋진 자태와 위용은 역시 이탈리아제다운 분위기와 강렬한 개성으로 마감되어 있다.

이번에 리뷰되는 것은 인컨트롤(INCONTROL) 프리앰프로 전원부 분리의 두 블록으로 나뉘어진 라인 입력 전용이다. 자료가 도착하지 않아 자세한 내용은 확인되지 않았지만 먼저 수입된 인파워(INPOWER) 모노 블록 파워 앰프와 짝이 되는 것을 염두에 둔 것 같다. 유럽제 고급 포도주 박스 같은 나무 케이스에 담겨져 배달된 이 앰프는 사용자가 직접 나사를 풀어 내용물을 꺼내게 되어 있다. 뚜껑을 열자 드러나는 이국적인 자태는 내용을 몰라도 “역시 이탈리아제!” 하는 감탄이 들 만큼 개성적인 모습이다. 둥글게 곡면 처리한 15mm 두께의 알루미늄 블럭, 윗면은 검정 유리, 옆면은 붉은 색 목재의 이질적 소재를 교묘하게 결합시켜 아주 포스트 모던한 분위기를 풍기고 있다. 게다가 더욱 감탄

한 것은 리모트 컨트롤로 플래쉬 라이트 같은 가름한 형태의 원목으로 만들어졌다는 점이다.

“아니! 리모트 컨트롤러도 나무로 만들다니”라는 나의 반응은 상식의 허를 찔린 것 같은 신선한 충격이었다. 조작부는 오로지 네 개의 금색 버튼으로 아무런 표시가 없다. 지금까지 나온 오디오용 리모트 컨트롤러로는 가장 단순한 레이아웃일 것이다. 이리저리 만져보다 보면 저절로 조작 방법을 터득하게 되는데 기존 리모트 컨트롤러의 기능성 강조와는 반대쪽에 있는 듯한 물건으로 조작의 느낌까지를 즐기게 해주는 만능새다. 목재의 질감이 손 안으로 전달되는 감촉까지 앰프의 분위기와 연결시키고 있다. 어쨌든 간에 사용자의 감성 충족을 위한 세심한 배려와 시각적 쾌감은 매우 좋은 인상을 준다.

전원부와 본체는 같은 크기로 되어

있는데 전원부의 전면에 패토스의 CIP 문자가 돌출되어 있고, 밑의 디스플레이 패널 면에는 붉은 색 일루미네이션으로 앰프의 모델명이 떠오른다.

아름다운 디자인 감각에 내부 회로도 간결한 구성

내부는 트로이달 트랜스와 한 장의 PCB 기판에 배치된 전원회로부로 구성된 단순한 모습이다. 미국제 하이엔드 기기 같은 물량공세는 아니지만 내부 레이아웃 역시 외부 디자인과 자연스럽게 어울리는 미적 요소를 갖는다. 기판의 색깔과 여유있게 배치된 부품 레이아웃이 주는 조화는 예전의 쿼드 앰프가 주는 느낌과 일맥상통하고 있어 만든이의 성의와 정성이 깃들어 있다. 눈에 보이지 않는 부분까지 놓치지 않는 제작자의 의도는 후발 메이커로서의 조심스러움과 음악적 울림의 지향 사이를 절묘하게 균형 맞추는 인

인컨트롤은 1 계통의 밸런스 입력 4 계통의 언밸런스 입력을 갖추고 있다. 출력은 밸런스 1 계통, 언밸런스 2 계통.



상이다.

본체는 전원부와 같은 크기이고 전면에는 낫쇠 덩어리를 절삭 가공하여 크롬 도금한 대형 노브가 중심에 배치되고, 좌우 대칭으로 글래스 패넬면에 작은 금속 버튼 2개만 배치된 심플한 디자인이다. 노브의 조작감은 인스턴트한 느낌이 들지 않는 묵직한 조작감을 주지만 기존 볼륨이나 어태뉴에이터와는 다른 감촉을 갖는 것이 특징. 회로에 대한 자료가 전혀 준비되지 않아 전모를 파악하는 것은 불가능하지만 패토스의 주재자인 지안니 보리나토(Gianni Borinato) 씨의 인폴 회로를 바탕으로 한 독창적인 회로구성으로 되어 있는 것 같다. 인폴 회로는 하이브리드 구성에 있어서 이중 소자

의 결합에서 발생하는 왜곡을 감쇄시키기 위한 회로로 알려져 있는데 기존 하이브리드 방식에 대한 개선 회로 정도로 파악하는 것이 정확할 것이다. 결국 하이브리드 설계의 지향점이라 할 진공관과 솔리드 스테이트 소자의 장점의 결합이 생각보다 쉽지 않다는 점에 착안, 양 소자간의 장점을 이끌어 내려는 설계의도를 주목하면 좋을 듯 싶다.

내부를 보면 가장 먼저 눈에 띄는 것이 대형 디지털 어태뉴에이터이다. 필자의 짧은 식견 탓으로 처음 보는 부품이다. 기존 어태뉴에이터와는 전혀 다른 구성으로 총 3층의 기판으로 중첩되어 있다. 위의 2단은 멀티플렉스 IC와 레지스터 어레이가 촘촘히 배열

되어 있고, 맨 아래의 기판은 광학 센서가 달린 로터리 엔코더로 노브의 회전에 따른 각 신호를 IC로 제어, 릴레이를 구동시키는 방식인 듯싶다. 노브를 손으로 돌리면 한 단계씩 가변되고 릴레이에 의한 단속음이 들린다. 예전 제프 롤랜드의 프리앰프에도 채택되었던 것으로 기억하는데 기존 접촉식 어태뉴에이터와는 조작감이나 동작 커브가 전혀 다르다. 리모트 컨트롤로 조작하면 노브는 움직이지 않고 내부 회로에서 바로 동작된다. 입력부는 라인 입력 전용으로 밸런스 1 계통을 포함 총 5 계통의 입력단을 갖는다.

내부 배선은 구리로 실드된 순은선을 사용했다고 하는데 각 배선은 질서 정연하게 배열되어 각을 잡아 연결하



는 등 매우 신경을 쓴 흔적이 역력하다. 사용 진공관은 중국 골든 드래곤 제 12AU7 이 채널당 1 개를 사용하는 심플한 구성으로 물론 동사 독자의 인폴 회로를 채택한 하이브리드 구성임은 두말할 나위가 없다. 회로는 풀 밸런스 구성이며, 밸런스 아웃 단자를 갖추고 있다.

취미성의 요소가 많은 개성적인 프리앰프

몇 시간의 예열을 거쳐 조심스럽게 음을 내본다. CD 플레이어는 태광 TCD-1, 파워 앰프에는 최근 입수된 미국제 Arye 의 V3, 스피커는 디스 오디오의 EVO 이다. 전체적인 가격 구성으로 볼 때 균형이 무너진 조합이긴 하지만 평소에 익숙하게 각 기기의 특성을 파악하고 있다는 측면에선 나름대로의 객관치를 갖고 있다고 해야겠다.

첫번째 곡은 '트레이시 채프만'의 '패스트 카' 이다. 소형 스피커인 EVO 를 극한의 상태로 몰아붙이고 있다는 느낌이 우선 강하게 전달된다. 파워 앰프의 재동력으로 인해 스피커의 불필요한 예비 동작이 없는 긴장의 순간이다. 트레이시 채프만의 거슬거슬한 목소리가 정확히 중앙에 정위하고 드럼의 브러쉬 워크와 웨이커의 금속음이 예리한 선명함으로 반짝거리듯이 부각된다. 드럼의 저역은 충분히 바닥까지 닿아 있는 묵직한 중량감으로 방사되는 에너지가 충분히 전달된다. 흑인 특유의 목소리 절감이 손에 잡힐 듯이 뚜렷하게 부각되는 것이다. 뚜렷하다고는 하지만 그것은 경질의 차가움이 아니다. 이 프리앰프는 감미롭고 편안한 액체의 느낌과 같이 감싸드는 분위기를 담고 있다. 두 번째 곡은 '헬렌 메릴'의 1954년 뉴욕

프리앰프 본체(위)와 전원부(아래)의 내부 모습.

에서 녹음된 'Don't Explain' 을 듣는다. 헬렌 메릴의 허스키하고 퇴폐적인 관능미가 유연하고 촉촉하게 공기중으로 방사되는 느낌으로 반주 악기의 위치가 충분한 거리감이 있는 공간감을 만들어준다. 클리포드 브라운의 트럼펫은 금속성이 좀더 공격적인 것이 되었으면 하는 아쉬움이 있다. 내가 바라던 관능적인 묘사는 충분하다 못해 느낄거리는 듯한 농후함으로 넘치고 있어서 스쳐 지나가지 않고 고여 있는 듯한 묘한 분위기가 된다. 베이스의 현을 튕기는 텐션이 미국제 하이엔드 기기와 같은 엄격함에서 약간 빗겨나 있는 듯한 유연한 표현이다. 이른바 컨트롤의 느낌이 분명하게 느껴

지는 유연함으로 변하는 것이다.

첼로와 같은 찰현 악기의 울림은 더욱 아름답게 만들어준다. 좋은 녹음의 그윽하고 풍부한 울림을 손상시키지 않고 악기적인 속성을 강조하는 부드럽고 아름다운 음이 되는 것이다.

인컨트롤 프리앰프는 자신의 존재감을 적극적으로 반영하는 공격적 성향의 앰프는 아닌 것 같다. 안정된 전체적 밸런스를 중요시하는 튜닝의 묘미가 잘 반영된 인상이다.

이탈리아의 디자인과 연계되는 특유의 감각적인 소노리티가 배어 있다는 의미가 될텐데 우리 식의 표현을 하자면 취미성의 요소가 많은 개성적인 프리앰프가 아닌가 한다. **A&R**

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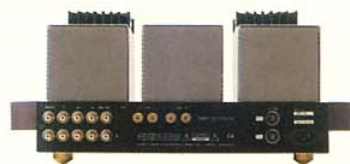
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*True innovation
from Italy: Pathos has
come up with a unique
valve/MOSFET hybrid*

by KEN KESSLER

Twin Towers



During the worst — no, make that ‘during the most obsessive’ period of my love affair with Italy* — a pompous British wag railed at me that the country’s entire industry suffered from a lack of imagination and a fetish for retro. He argued that, gorgeous styling aside, the Italians contributed nothing whatsoever to our passion and that I was guilty of glorifying a ‘packaging job’. Suffice to say, he was a manufacturer of boring two-way loudspeakers.

Although I cited Unison Research’s *stable and affordable* single-ended triode amps, GRAAF’s success in making OTL amplifiers which work in the real world, Sonus Faber’s patented crossover in the Extrema and its prescient sub/sat system of over a decade ago, Audio Analogue’s under-priced electronics and more, he was unmoved. Now that the dispute is long-forgotten by my detractor, I find proof-positive that the Italians *do* innovate.

Why it took this long for me to get around to reviewing a Pathos† product is down to distribution. But now that Pathos is handled here by Italy’s virtual British-based embassy — UKD — I need wait in torment no longer. Did I say torment? Sure did: the Pathos goodies are among the sexiest, sleekest, most beautifully-assembled gems I’ve seen this decade; admiring them at shows for years but having to decline the offer of a review

has been torture indeed.

On the surface, the Pathos Twin Towers could be described as a tube/solid-state hybrid, and our friend above could argue, ‘So what’s new in that?’. But Pathos developed a topology to make it behave quite unlike most of the hybrids I’ve heard. With rare exceptions like the Radford TT100 (solid-state front-end but tube output), most hybrids use tube drivers to add a frisson of valve-like warmth. It’s worked so well that companies like Luxman have been tempted to use it in near-mass-market applications. And while some have come close to that ideal of ‘tube sound with solid-state convenience/size/cost/cool running’, most have sounded like what they are: mongrels. (I don’t mean that in a pejorative sense — any dog-lover will tell you that mutts are far more intelligent, friendly and loyal than prissy pure-breeds. What I mean is that a keen listener can identify the DNA strands.)

Pathos’ INPOL circuitry is the latest in a history of audio cross-pollination, but this one has earned a world-wide patent, and it seems designed to confront purist prejudices [see box]. MOSFETs or not, its demeanor is that of a tube amplifier, however minuscule its glass complement of two small tubes. As Italians understand the worth of visual impact, Pathos wisely positioned them at the front of the chassis in their own

With rare exceptions like the Radford TT100 (solid-state front-end but tube output), most hybrids use tube drivers to add a frisson of valve-like warmth...

**I’ve now settled into acceptance that I can never be Italian...*

†Twin Towers is seemingly named after an American architectural achievement. The company name is invalid in this context if you look up the meaning: to elicit pity.

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cages, serving as crafty sirens to distract anally-retentive valve purists. Behind the valves are four massive capacitors flanked by enormous black heatsinks, followed by the mains and output transformers, all superbly finished and resting on top of a chromed top plate. The Twin Towers’ edges are solid rosewood.

At the back, a row of beautifully appointed, gilded sockets accepts four line sources plus tape-out (a phono stage is in the planning), alongside an earthing tag, hefty multi-way binding posts, two user-changeable fuses and an IEC mains input. Beneath? Massive cones at each corner. All straightforward, but ask your dealer to unload the thing. Packed in a reassuring solid wooden crate, the Twin Towers is not something to be installed on one’s own. Its overall dimensions are a manageable 482x300x450mm (whd), but they hide a backbreaking 32kg weight.

A curved front plate contains but two rotary controls; recessed below are an on/off toggle switch and a red power-on LED indicator. At the right are the input selector and the rotary volume control, sited on either side of a small display. Here’s where the palms grow moist and where even rivals are driven to utter an involuntary ‘Cool!’. The Twin Towers comes with the slickest volume-only remote I’ve ever seen, a wand made from rosewood and gold-plated metal, bearing only up and down buttons in the form of tiny gold dots. The window in-between provides a numerical read-out of the level setting in bright red.

It’s here that I must bring up the price tag because the model I’m describing is the top of three versions of the Twin Towers. But, as the price difference between the non-remote, 24-step entry model, the same-plus-remote and this, the remote control-with-64-step-resistor volume control, is only £325, or 10% of the £3250 total, the lesser models are not being imported. The volume control is made in-house by Pathos, using 1% metal layer precision resistors, driven by a bank of vacuum reed relays with thorium contacts. Internal wiring is silver. The

THE SECRET OF INPOL

NO SARCASM, please, for the lack of a circuit diagram: INPOL is a trade secret, so the company does not offer diagrams to reprint. In the most dry-roasted of nutshells, INPOL is a pure Class A, single-ended, zero-negative-feedback output stage using power MOSFETs ‘current sourced’ by a large inductor and loaded in parallel with a capacitor.

As you’d expect, the latter, while acting as a ‘passive’ current regulator, prevents DC from reaching the outputs. A pair of E83CCs/12AX7s serve as the drivers, and they mate with INPOL in such a way as to determine pretty much its entire sonic signature; given the near-ubiquity of the ECC83 and its variants, the sound can almost be described as all things to all tube crazies — both modern and vintage, all at once. A mix of both strengths and weakness, INPOL’s downside is relative inefficiency and hot-to-the-touch running (if not quite as poor in these areas as traditional Class A transistor amps), the requirement of a massive power supply and the need to face an impedance of a nominal 8 ohms; Pathos recommends 5-6 ohms and above, and you will hear it cry if you connect it to anything dipping below that. INPOL also means that the Twin Towers bears no protection circuitry, so please, be nice to it.



act of level setting has its own by-product: audible clicking which at first seems out of place with such a refined device. But you soon find yourself running up and down the volume scale just to hear those clicks, reminiscent of the finest mechanical cameras running on long exposures. Yummy...

Pathos rates the Twin Towers at 30W/ch into 8 ohms, with frequency response stated as 1-100kHz, +/-0.5dB, and signal-to-noise 90dB. In keeping with the company's direct and implied recommendations, I stuck with non-difficult speakers (LS3/5As, the old Quad ESLs and Tannoy R1), and used silver or silver-hybrid wiring. And I'll be damned if it didn't 'synergise' better with silver than copper.

And, oh! will you hear nuance and detail — naked enough to help you to assess wire. This amplifier is so quiet, so delicate, so transparent and so refined that I had to check and make sure I wasn't listening to some ultra-precious, non-300B SET. Note that I said 'non-300B'; I make that distinction because the Pathos does *not* pee on its part of the valve tree by dialling in excessive warmth in the mid-band. In this respect, it sounds so

explicitly like a modern tube amp of the Audio Research/C-J variety that anachrophiles might take it as an affront. But then, in keeping with the benefits of being a crossbreed, upstairs it demonstrates a vintage tubey-ness through the kind of silky, sweet, shimmering trebles you rarely hear this side of a Quad II or a Leak TL12. Call it judicious use of retro if you must. It's so luscious that a part of you wants to go into deep, irrecoverable denial, the kind of psychological state which puts a Porsche in every shrink's garage: you just will not believe that the guts of this baby are solid-state.

Then the bass kicks in and you just *know* that no tube amplifier — unless penned by, say, the iconoclastic Tim de Paravicini — could provide the sort of damping, slam and bass extension that oozes from Twin Towers. It's not that the sound is particularly transistory; it's more a case of us never expecting a tube amp to deliver such chunky, authoritative lower registers. And the all-tube amplifiers which *can* match or better the big solid-state amps tend to be rare, expensive or huge. Think Audio Research Reference 600, the classic EARs with 509 tubes or

The Pathos goodies are among the sexiest, sleekest, most beautifully-assembled gems I've seen this decade; admiring them at shows for the past few years but having to decline the offer of a review has been torture indeed

semi-pro units bearing a bushel of 6550s.

But, please, keep in mind that this is in the context of easy-to-drive speakers with sensible impedance and relative efficiency; I didn't dare try the WATT/Puppy system 5.1 or the little ALR Entry 2s. So, in a curious way, you have to treat the Pathos as you would an SET: fit mainly for sensitive, kindly speakers. If words like 'kind' and 'sensitive' suggest New Male warmth-and-fuzziness, please, spare me: we're talking about Italianate behaviour here, not Californian.

Tracks like Dino's 'Sott'er Cela de Roma' or Willy DeVille's 'Assassin of Love' showcase its rich vocals, correct dynamic contrasts, speed to cope with non-sequitur transients, and a soundstage so deep and wide that you'd expect pigeons to drop down for a feeding. Try sparser works — solo piano courtesy of Otis Spann, for example — and you learn all about the intimacy denied us by systems which overwhelm.

Twin Towers is one of the finest amps I've ever heard, regardless of price. Had I not just sunk my life savings into my listening room, I'd be buying one right now. The Twin Towers is almost too good, too innovative, too classy to be true. ✦



1999. DECEMBER VI. ÉVFOLYAM 8. SZÁM ÁRA: 596 FT

sztereo

házimoz

33

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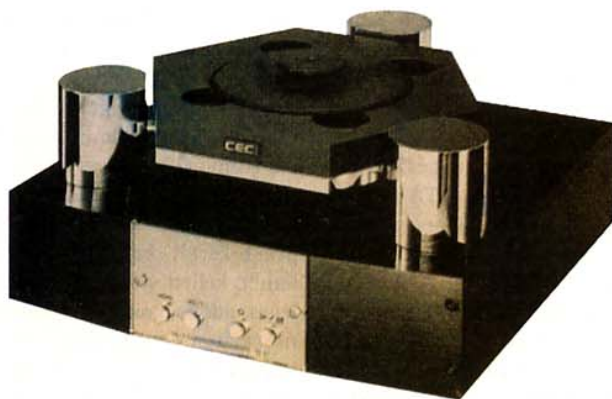
Magic Sound a Gellért Szállóban

Immár hagyományosan, ez év őszén is megrendezte a Magic Sound háromnapos kiállítását a budapesti Gellért Szálló egyik hangulatos termében. A zenehallgatás céljából ideális méretekkel rendelkező teremben viszonylag kis számú készüléket láthatott a nagyjérdemű, ám a felsorakoztatott, túlnyomórészt a tengerentúlról érkezett berendezés, és persze az általuk prezentált muzsika igazán nem hagyott kívánnivalót maga után – nem véletlen, hogy a Magic Sound az egyik legjelentősebb audiofil lemezforgalmazó. A kiállítás egyik újdonsága volt a C.E.C szíjhajtású CD-játszója, amely-

nek specifikációjából elég csak egyetlen adatot említeni, a jel/zaj viszony 108 dB. Ha már CD és Magic Sound, akkor természetesen Wadia, már kapható a legújabb Wadia, a 830i. A cég által forgalmazott high end gyártók – Wadia, Jeff Rowland, Manley, Sonic Frontiers, Wanderstein, Audioquest – készülékei mellett a kiállítás másik fő attrakciója a Magic Sound által kínált hatalmas számú, audiophil CD és LP kiadvány, amelyek meghallgathatók és természetesen megvásárolhatók is voltak.

Világ László

MAGIC SOUND,
8200 VESZPRÉM

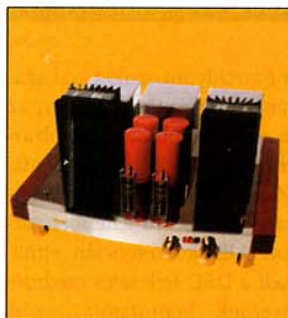


A Magic Sound megkezdte a japán high-end gyártó, a C.E.C. szíjhajtású CD-játszóinak, transzportjainak és lemezjátszó futóműveinek a forgalmazását

Pathos Twin Towers Itáliából

A Pathos valósággal berobbant a hifi világába: röviddel a debütálása után, a Twin Towers szilárd pozíciót ért el a high-end világában. A szaklapok a Pathos első termékét címdalra köszöntötték, lelkes kommentárokkal és tekintélyes díjakkal jutalmazták.

A Twin Tower erősítőn keresztül a hallgató valódi különbséget tapasztalhat muzikalitás, áttetszőség tekint-



Pathos erősítő

tetében. Mindezt mindennek előtt a gondosan válogatott alkatrészek, a színezüst kábelezés és az Inpol szabadalmaztatott A osztályú, visszacsatolás-mentes kapcsolásnak köszönhető, amelyet sok szaklap a legjelentősebb újításának kiáltott ki.

A 14 fokozatú hangerőszabályzó mellé a Pathos két elegáns távvezérlő verziót is ajánl: az egyik egy csúcsminőségű chipen keresztül működik, a másik egy precíziós relay sor segítségével, 1%-os fémréteg ellenálásokkal, 1 dB-es lépésekben szabályozza a hangerőt.

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特別増刊デュアルアワーズ

DUAL 1 1999 AWARDS JANUARY

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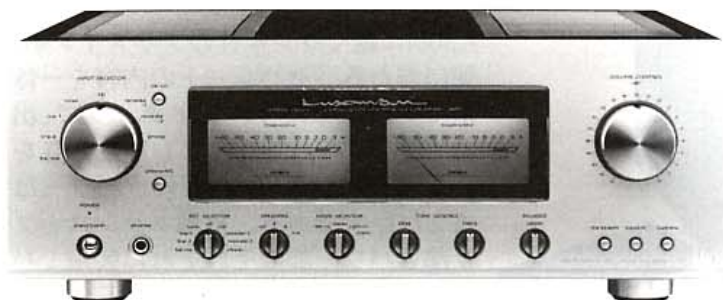
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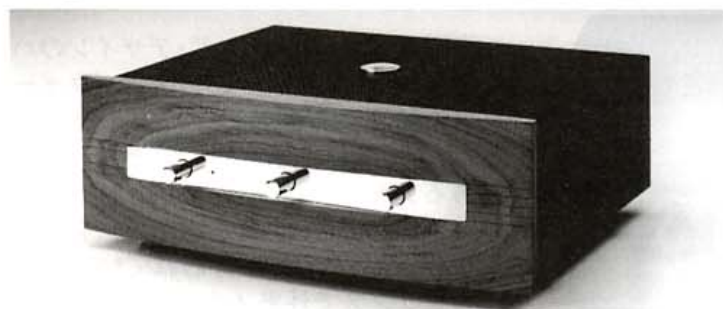
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長らく欠番となっていたシリーズ最高峰モデル。セパレートアンプの開発で培われた技術をフルに投入し、ハイスピードで現代的な再現力の実現を図っている。広帯域でハイスルーレートのCSSC回路、NFBによる音色の不統一を避けたODβ回路、大型トランスとカスタムメイド・コンデンサーによる強力電源など、随所に最新の技術を採用。カスタムパーツの使用もセパレートと同様だ。高精度なフォノイコライザーも装備。



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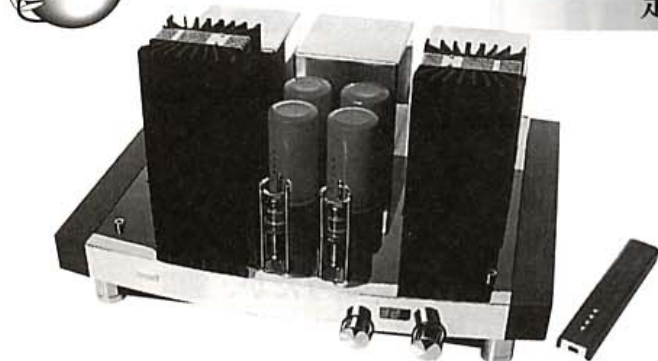
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いかにもイタリア製らしい美しいデザインと、独創的なINPOL回路によって高い評価を得たツインタワーズのマークIIバージョン。リモコンが加わっていっそう使いやすさを増している。フォトカプラーで回転方向と量を検知し、コンピューターで減衰量の定数を決定するアッテネーター式ボリュームを採用。60ステップのきめ細かな音量調節が可能になっている。またフロントパネルに音量位置を示すインジケータも装備された。

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PETERSEN





This month's column is devoted to the Pathos Acoustics Twin Towers integrated amplifier.

Good grief, what a name!

To Italians, "pathos" apparently suggests emotion. According to one dictionary on hand, the original Greek means "suffering"—something audiophiles are fond of.

My *Collins English Dictionary* defines it as "the quality or power, especially in literature or speech, of arousing feelings of pity, sorrow, etc."

I don't know about the sorrow and the pity, but the Pathos Twin Towers integrated amplifier may be just the thing to end your hi-fi misery!

Three guys from Vicenza

Pathos Acoustics was founded in 1994 by three guys from Vicenza—Gianni Borinato, Paolo Andriolo, and Gaetano Zanini. The Pathos Twin Towers (\$4950 in its basic version, reviewed here) was their first product. Other products in the line include the Classic One integrated amp (\$1950), and a battery-powered phono stage called In the Groove (\$1150).

The importer, Richard Kohlruss, of Hi-Fi Forum, is on a roll these days, what with Triangle loudspeakers from France, Audio Analogue electronics from Italy, and Final electrostatic loudspeakers from the Netherlands.

"You may like it after a while," Richard said when he delivered the Pathos.

"You mean not at first?"

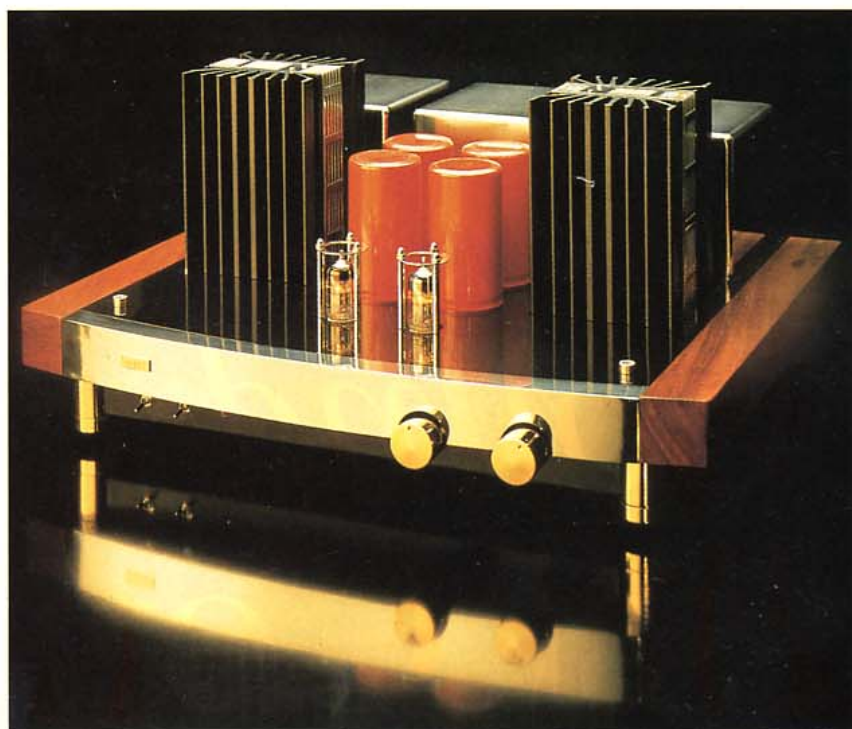
"It seems to take some getting used to."

He doesn't mean the amp has to break in. He means *you* do. (Actually, Richard cooked the amplifier for me in advance.)

Emotionally, the Pathos is the complete opposite of the Audio Analogue Puccini that I wrote about in December, which tries (successfully) to ingratiate with a sweet tube sound, even though it isn't tubed. The Pathos is more Northern Italian than Southern. But if it sounds somewhat cool, I've warmed up to it—in a big way.

Palladio's home turf

Vicenza is the city where the renowned renaissance architect Andrea Palladio started out as a stonemason. (He was born in nearby Padua.) I've never visited



Pathos Acoustics Twin Towers integrated amplifier

Vicenza, but Palladio designed many buildings in and around town—palaces, villas, churches, and the city's town hall, known as the Basilica. If you tour Venice, as Marina and I recently did, you might want to visit the churches of San Giorgio Maggiore and Il Redentore—two of Palladio's masterpieces.

Palladio aimed to capture the splendor and simplicity of antiquity. His designs have a cool, classic logic that exerted a strong influence on architects ranging from Inigo Jones to Thomas Jefferson.

There's more than a little of Palladio in the Pathos Twin Towers. As you can see from the photo, this is a work of art—a sculpture. Both Gianni Borinato, the chief engineer, and Paolo Andriolo, who created the looks, are to be congratulated. Palladio would be proud.

Like the great renaissance architect, Gianni and Paolo aim for simplicity—a purity of sound and visual design. And just as Palladio tried to rethink the rules of architecture instead of copying what he saw around him, so Gianni and Paolo have

rewritten the rules of amplifier design. The Pathos Twin Towers is an original.

"Don't listen with your eyes!"

That was John Atkinson's reaction when I started to enthuse over the Pathos Twin Towers.

Ha! An Englishman talking!

Bene, Giovanni—what's wrong with listening with your eyes? What do you think—that hi-fi equipment should be so ugly you want to listen with the lights out? So masculine, military, and intimidating that your wife won't have the slightest desire to turn it on?

Actually, I think JA would be impressed if he saw and heard this amp. And weighed it! We're *not* talking about flashy design with flimsy build quality here. There's substance along with style. Just lift the damned thing. But be careful—you might drop it. Eighty-eight lbs. This heavyweight champ ships in a wooden crate.

Amps by the pound

I don't know about you, but I wouldn't mind paying a premium for the exquisite look of this Italian integrated. Or for

the equally exquisite look of the Graaf GM-20 OTL tube amp from Modena, Italy (review coming up!). But it doesn't appear that you're paying a premium. Consider: At \$4950 for the standard edition, the Pathos amplifier weighs in at a very reasonable \$56.25/lb.

For comparison, the Bryston B-60 (\$1495) is considerably more expensive at \$74.75/lb. The Creek 4330R (\$595) looks like a bargain, but tops the scales at \$59.50/lb (still a bargain, though). And the Conrad-Johnson CAV-50 (\$2495) comes in at \$63.38/lb.

All that weight comes from several things.

First, the massive twin heatsinks—the Twin Towers—which are necessary to dissipate the considerable heat from the Twin's pure class-A operation. The Pathos Twin Towers is rated at 35Wpc into 8 ohms, by the way. The amp draws 240W from the wall at all times, and, like all class-A amps, will run even hotter at idle than it will playing music at any volume.

Look at what appear to be three large transformers in the back—that's a good part of the weight. Actually, two of those "transformers" are inductors/coils. That's part of the unique circuit story, which I'll get to presently.

Palladian cages

Paolo Andriolo must have soaked up all that Palladian architecture from childhood. The twin tube rotundas—cages, if you will—out in front are, well... Palladian. Inside reside two 12AX7 input tubes. On the sides, slightly in back, the twin heatsinks soar from the chassis like cathedral towers.

Mamma mia!

Marina watched as Richard and I uncrated the amp. "Oooh," she cried. "*Ochen panraviloi!* (I like it very much!)" Richard could have sold it to her on the spot. Russians love things Italian; especially Russians from Marina's native city of St. Petersburg. Peter the Great hired Italian architects—chiefly Rastelli and Rossi—to design the core of the city. The Palladian influence is very much in view along the banks of the Neva River.

Taking their cue from our pal, Palladio, the three guys from Vicenza have done everything possible to eliminate clutter and to simplify. This goes for the circuitry, too—starting with the fact that this is a "passive integrated." There is no line stage. And—what a blessed relief after struggling to use my new DVD player—there are only two knobs: volume (controlling a stepped attenuator on the standard version) and selector, without any markings.

The RCA inputs on the back are labeled. There are four line-level inputs, plus a tape output. The on/off switch is recessed under the left front corner of the chassis—easy to get at once you know where it is, hard to find if you don't.

The sound of the Pathos Twin Towers is as bracing as a Vivaldi concerto played in a Venetian church.

There is no balance control. No headphone jack. No preamp-out jacks. And only one set of speaker binding posts—but good ones—so biwires will have to double up. You want remote? The standard version with stepped attenuator is remoteless. But two remote versions are available. I'll tell you about those later.

Solid-state punch

I tried the Pathos Twin Towers with a number of speakers, including the B&W CDM1 SE, Triangle Zephyr II, Verity Audio Fidelio, and Audio Physic Step SE. As a source, I used mainly a Micromega Stage 6 CD player.

With the B&W CDM1 SE, the three guys from Vicenza scored decisively over Santo and Fred from Pisa. Okay, Santo and Fred's little gem, the Audio Analogue Puccini SE, costs a mere \$1195—a pittance compared to the price of the Pathos. The Puccini SE is a great buy—you can have it for a song. Or an aria. The Pathos Twin Towers is in a different league, though. At more than four times the price, the Pathos sounds more open, airy, delicate.

And the bass?

This is a tube/transistor hybrid design. The bass is definitely solid-state: tight, taut, with astonishing speed and control.

But the transparency took my breath away.

Not right away, mind you. At first, I found this amplifier a little cool. If Palladio had designed audio products instead of buildings, this is the kind of sound he probably would have aimed for: harmonically pure and, yes, harmonically rich—but not overripe. The ears adjust over time. Mine did, anyway.

My moment of truth with the Pathos came when I switched from the Audio Analogue Puccini SE to the Pathos, using the B&W CDM1 SE speakers.

The detail and the musicality were extraordinary—and so was the bass. Gee—you really ought to try the Pathos Twin Towers on your Silver Siggies, JA.

On second thought, nah. A amp that looks this good can't possibly *sound* this good, can it? We wouldn't want to be listening with our *eyes*, now. We wouldn't want to treat ourselves to too much *pleasure*. (I'm sure that Laura Jean LoVecchio Atkinson would flip for the Pathos, though.)

The sound of the Pathos is as bracing as a Vivaldi concerto played in a Venetian church. I can say that, having recently heard Vivaldi's music played in a Venetian church. It's crisp, clean, fast. Few amplifiers, tube or solid-state, are as fleet of foot as the Pathos Twin Towers.

The amp also has spatial resolution in spades. More so with analog, but the sound is open and airy with a well-recorded CD as well. You can hear the sound of the hall. You can hear the musicians breathe.

Some single-ended tube amps impart more richness to the sound. More sweetness, too. But the Pathos Twin Towers is probably more neutral than most of the SET breed—and, over time, neutrality wears very well.

Massed strings are handled particularly well—en masse but individually, too, with no glomming up. Give the Pathos a good recording from a decent source—yeah, preferably analog—and there's a sense, just like you get in a concert hall, of individual instruments playing together.

There is no artificial sweetening effect; you'll need single-ended triode for that. Yet the string sound can be ravishing—when it ought to be. And there is nary the slightest hint of stridency or grain.

The INPOL circuit

I said INPOL. *Not* Interpol. This has nothing to do with European police.

According to the poop sheet, translated from the Italian, Pathos Acoustics "was founded to develop and propagate a new amplification circuit called INPOL (Inseguitore a Pompa Lineare = Linear Pump Tracker)..." The INPOL circuit is patented.

Gianni Borinato, the chief engineer, says he chose tubes for the input stage not to be fashionable or nostalgic, but because tubes still rule when it comes to amplifying high maximum voltage swings with very low distortion. According to Sr. Borinato, while each tube is capable of very great voltage swings, only a small range of that swing actual-

ly comes into play, and this keeps the distortion very low. Like the entire amp, this is a zero-feedback stage.

Current, of course, is another matter. That's where tubes — we're talking output tubes now — typically poop out.

You do have to remember, though, that the power rating of the Pathos is 35Wpc into 8 ohms. Avoid very insensitive speakers and crazy low-impedance loads, listen at reasonable volume levels, and you may find that the Twin Towers can shake you out of your seat — or at least out of your complacency.

I hadn't realized that the B&W CDM1 SE or the Triangle Zephyr II could go so low. I easily got an extra half-octave of surprise bass extension from both speakers — compared, say, with the Audio Analogue Puccini SE or the various single-ended tube amps I had on hand.

Single-ended

A new amplifier circuit design. Big deal.

I hear your skepticism. After 15 years of writing about hi-fi, I, too, have become yaded — as my Swedish friend Lars likes to say — about new miracle circuits.

But something special is going on with the INPOL circuit. And when I looked into what's actually going on, I thought: No wonder!

For starters, the INPOL circuit is single-ended, not push-pull. Only the input stage is tubed — those two 12AX7s. The output stage is solid-state. There are three — that's right, three — MOSFET transistors per channel, running class-A, single-ended. (For push-pull, you'd need transistor pairs.)

Sr. Borinato uses only NPN (negative-positive-negative) transistors. According to Gianni, NPN transistors sound better than PNP transistors. And when you pair NPN transistors with PNP transistors (as is usually done in push-pull solid-state amps), you *must*

reconcile the difference with negative feedback. Says Gianni:

"Despite the fact that properly created feedback can provide considerable advantages, it nevertheless remains an artifice which cannot but have implications on the sonic result in terms of loss of naturalness and 'sharpness.'"

**I hadn't realized
that the B&W CDM1 SE
or the Triangle Zephyr II
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With the Twin Towers,
I easily got an extra
half-octave of
surprise bass extension
from both speakers.**

So how does Sr. Borinato get 35Wpc from three MOSFET transistors per side while running them in single-ended class-A?

He gooses the juice with inductors.

Remember those three "transformers" at the back of the amp, two of which are not? The middle one actually is a transformer — the power-supply transformer. The other two blocks, to the sides, each conceal one massive coil.

The tubed input stage of each channel feeds into a transistor, which in turn controls a large inductor. Each inductor acts as a current generator — goosing the juice in concert with the three paralleled output transistors per side.

According to Gianni, the inductors double the voltage swing, and this doubles the efficiency of the output transistors, making them "50% efficient instead of 25% efficient, as with most pure class-A amps."

The output impedance, by the way, is very low at a stated 0.07 ohm. Typically, an SET tube amp has a much higher output impedance (1.0 ohm or greater). This will affect the frequency response with certain loudspeakers — boosting the midrange, perhaps, and rolling off the highs. You should have no such problem with the Pathos Twin Towers.

For all its innovation, the circuit is very simple. "The less the signal is manipulated, the more the sound keeps all its values of naturalness and its original harmonic components," says Sr. Borinato, by way of translation from the

Italian. And parts quality is very high. For instance, all signal wiring is pure silver with copper shielding.

Any downside to the INPOL circuit?

You can go only so far, power-wise, with this approach before practicality and economics kick in. With class-A, if you want much more power than 35Wpc, you're talking about a great deal more heat — and heatsinking — to go along with it. At 88 lbs, the Pathos Twin Towers is already about as heavy as you'd want a stereo integrated amp to be!

For various reasons, the circuit doesn't work so well at higher output levels. You're asking for too much voltage swing from the input tubes, the inductors can goose the juice only so much, and so on. So 35Wpc is about it.¹

You'll note that the Pathos Twin Towers is not power-rated into 4 ohms. I wouldn't let that scare me — I had no difficulty driving such nominal 4 ohm speakers as the Audio Physic Step SE and the Triangle Zephyr II. Still, I'd avoid insensitive speakers, particularly those whose impedance drops much below 4 ohms.

A real sesame open-up

Lars visited last night and had a listen. He was impressed by the Pathos Twin Towers. He seemed to enjoy himself!

"Transparency like that is a real sesame open-up," he opined.

"A sesame open-up?"

"I said something wrong?"

"It's 'open sesame,' I believe."

"Not in Swedish."

For me, the Pathos amp represents an exciting alternative to single-ended triodes — a real sesame open-up! Did I say alternative? Perhaps the SET tube amps should be considered alternatives to the Pathos Twin Towers.

Why do SET amps, as a rule, sound so transparent, so live, so immediate?

For several reasons. SET amps operate in pure class-A. There is no "notch distortion" switching into class-A/B. There is no splitting of the waveform — that's what single-ended means. And with most SET designs, there is no overall negative feedback — or you can dial it out. These are the very same reasons the Pathos Twin Towers sounds the way it does!

And consider the advantages *vs* SET. There are no expensive (up to \$800 per matched pair) output tubes to replace. You're much less limited with regard to

Contacts

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Hi-Fi Forum, P.O. Box 570, Chazy, NY 12921; or P.O. Box 8, 1217 Greene Avenue, Montreal, QC H3Z 2T1, Canada. Tel: (800) 771-8729 (from US), (514) 932-7786. Fax: (514) 931-8891. Web: www.hi-fi-forum.com. — Sam Tellig

¹ The Pathos InPower mono power amplifier, rated at 80W into 8 ohms, achieves its higher power rating by doubling up on INPOL circuits and using them in a balanced push-pull configuration.

speakers than you are with 7-10Wpc, yet you have many of the SET advantages: Transparency. Harmonic purity. Spatial resolution. The freedom from listening fatigue.

Have you heard the *Sing We Christmas* CD (Teldec 94563-2) by the vocal ensemble Chanticleer? The sense of space on this recording is superb—as is the overall resolution. With the Pathos Twin Towers, every syllable was clearly and cleanly reproduced—almost as if live—and much in the manner of a great single-ended triode tube amp. This is *not* the rich, romantic SET sound, though. Even running single-ended with no negative feedback, solid-state output devices are not going to sound like a 300B or 2A3 output tube. The Pathos Twin Towers may be more neutral, though.

Marina and I just returned from a concert by the New York Wind Ensemble. The group's wonderful bassoonist, Frank Morelli, is featured on a number of recordings by the Orpheus Chamber Orchestra. I decided to compare Mr. Morelli live with Mr. Morelli on disc, via the Pathos Twin Towers. I can tell you that the sound is very close to what I just heard live. In fact, maybe this is as close as it can get.

Your options

Now, about your options...

The standard edition of the Pathos Twin Towers has a stepped attenuator with 23 steps in 2dB increments. Each of its 23 positions has only two resistances (1% metal layer) in the audio signal path.

**The Pathos Acoustics
Twin Towers amplifier
is an original,
a sonic and
visual masterpiece.**

A remote-control version is available for the same \$4950, but no one is pretending that its sound quality is quite up to that of the stepped attenuator. For that, you need the optical Reference Remote edition (\$5700).

An onboard phono stage used to be an option but no longer is, since most people who wanted phono opted for Pathos' In the Groove outboard phono stage (\$1195). I didn't have a chance to groove on it myself, but I did do some analog listening through Tim de

Paravicini's EAR 834P phono stage.

Rewriting the rules

Palladio rewrote the rules of architectural design. Gianni and Paolo rewrote the rules of amplifier design. They started with a clean sheet of paper. The Pathos Twin Towers appears to represent a completely fresh approach—something all too rare in hi-fi products.

It succeeds brilliantly—more so than any of the other single-ended solid-state amplifiers I've heard. Like any great piece of hi-fi gear, it succeeds on its own terms. It is very convincing. I can't point to any weaknesses—except, perhaps, the relative lack of liquidity when compared with certain single-ended triode amps. But, like I say, the Pathos may be more neutral.

If you're an SET fan, you still may prefer the romance and the richness of a 300B or a 2A3—or of a great push-pull tube amp like the Conrad-Johnson CAV-50, for that matter. But the Pathos Twin Towers is something you should hear...and see. It's an original, a sonic and visual masterpiece.

Marina and I are purchasing the Reference Remote version for use in our living room. ☒

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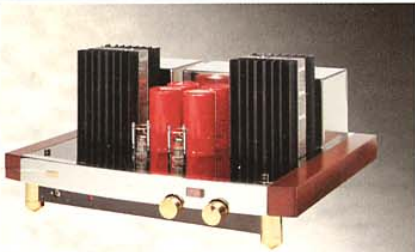
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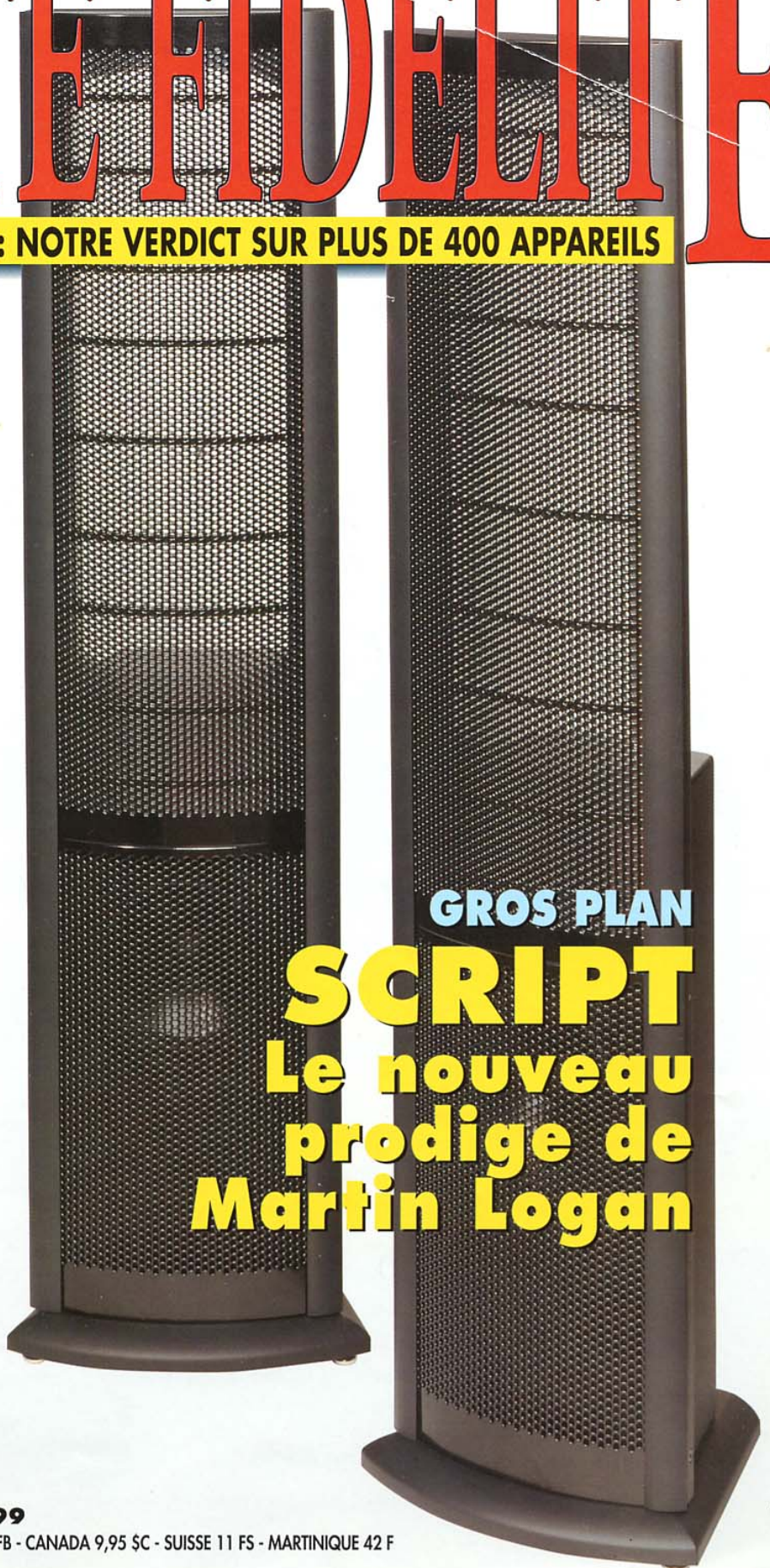
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PATHOS

TWIN TOWERS

ORIGINE : ITALIE

PRIX : 24 000 F (26 900 F AVEC LA TÉLÉCOMMANDE)

Pathos est un mot grec qui possède de nombreuses significations. Dans le domaine qui nous préoccupe nous avons retenu les définitions suivantes : «passion», «partie de la rhétorique qui traitait des moyens propres à émouvoir l'auditeur». Si nous ne devons en retenir qu'une, ce serait sans aucun doute celle de «passion». Car voilà un amplificateur intégré vraiment pas comme les autres et qui n'aurait certainement pas pu voir le jour sans justement la passion de ses concepteurs.

Pathos est une petite société italienne, sise à Vicence et fondée en 1994 par trois amoureux de reproduction sonore. L'objectif de cette équipe était de concevoir un amplificateur intégré qui soit le plus musical possible, quitte à devoir pour cela expérimenter des circuits peu orthodoxes.

Selon ses géniteurs, vu la sévère concurrence qui règne sur le marché de l'audio haut de gamme, un nouveau venu n'aurait pas la moindre chance de se faire connaître s'il n'apportait son lot d'innovations. Toujours selon eux, ces innovations ne se conçoivent que dans le cas où elles apportent quelque chose sur le plan de la musicalité. Voilà un engagement pour le moins courageux à une époque où le mot progrès est hélas beaucoup plus souvent synonyme de marketing que d'amélioration musicale...

Voici donc l'intégré Twin Towers, premier produit de la marque, doté d'une structure pour le moins originale... Déjà sur le strict plan esthétique, cet amplificateur ne risquera certainement pas de se fondre dans la foule. Comme nombre de ses compatriotes et néanmoins concurrentes, la société Pathos a doté son amplificateur d'un design recherché et fait usage de bois précieux. Disons-le franchement, le dessin de ce Twin Towers est une réussite, mêlant élégance et originalité sans être

trop chargé. Il est vrai que sur ce point les produits italiens font souvent référence.

Une fois n'est pas coutume, nous commencerons notre descriptif par la télécommande. C'est décidé, cet article sera écrit sous le signe de l'enthousiasme car, là encore, il y a de quoi être admiratif devant la beauté de la chose. Point de plastique, d'acier ou même d'aluminium. Nous avons ici affaire à du bois massif, rien de moins ! Précisons que plusieurs essences sont disponibles et que ce boîtier est bien entendu assorti aux jous latérales, elles-mêmes massives.

Cette télécommande tout en longueur est creusée dans une pièce de bois de rose, du moins pour l'exemplaire qui nous a été fourni. Elle n'est ornée que de deux minuscules touches plaquées or destinées à la commande du volume. Le fond est constitué d'une épaisse plaque d'acier dorée à l'or fin. Vraiment très élégante, cette télécommande...

Le châssis de l'amplificateur est en revanche plus classique puisque constitué de métal. Pas de l'acier mais de l'aluminium. Si nous faisons cette petite précision c'est parce que bien que ce métal soit nettement plus léger que l'acier, l'amplificateur n'en accuse pas moins 44 kg sur la balance. Les raisons d'une telle «santé» ? Trois superbes transformateurs fixés sur la partie supérieure du châssis et qui affichent des dimensions que ne renierait pas un puissant ampli à lampes. Ils sont accompagnés de quatre énormes condensateurs électrochimiques.

Mais là où l'originalité technique commence, c'est qu'en guise de tubes on ne trouve que deux doubles triodes 12 AX7 Golden Dragon. Il s'agit des étages d'en-

trée. Les étages de puissance sont constitués de deux énormes dissipateurs thermiques qui expliquent le nom de «Twin Towers». Ces dissipateurs sont équipés de transistors de puissance, classant du même coup cet intégré dans la catégorie des hybrides.

Déjà vu, dites-vous ? Il est vrai que bien que peu répandue, la technologie hybride n'est pas totalement absente du marché. Cependant le schéma adopté dans le cas présent est une authentique nouveauté qui a fait l'objet d'un dépôt de brevet. Mais un peu de patience...

Les commandes du Twin Towers sont simplissimes. Un sélecteur rotatif à quatre positions pour les entrées (de niveau ligne exclusivement) et une commande de volume sans butée qui indique que nous n'avons pas affaire à un potentiomètre motorisé. Ces deux commandes entourent un afficheur numérique à led de type «sept segments» qui indique précisément le volume de sortie par pas de 1 dB.

Précisons que la version de base, sans télécommande, fait tout de même appel à un sélecteur à 24 points par voie qui commute des résistances de haute précision. C'est d'ailleurs le même type de résistances que l'on retrouve dans notre version mais avec un mode de commutation différent...

Rehaussée d'une épaisse plaque d'altuglas, la face arrière dispose d'une connectique de qualité, plaquée or. Les borniers de sortie sont de type banane et les prises d'entrée sont au format RCA, avec une paire supplémentaire pour la sortie enregistrement...

Ouvert, le Twin Towers témoigne d'une très bonne qualité de fabrication. Nous avons affaire à de l'artisanat de haut niveau, ce qui n'exclut pas des circuits imprimés de qualité industrielle. Cet intégré en possède quatre. Les deux pre-

Et l'oscar de la plus belle télécommande est attribué sans hésitation au Twin Towers !



AMPLI INTEGRE

miers sont placés en sandwich, juste derrière la face avant. Ils gèrent les fonctions de volume, de télécommande ainsi que l'afficheur. Placé au «rez-de-chaussée», celui-ci comporte de nombreux circuits logiques et autres microcontrôleurs. L'axe du bouton de volume est relié à un codeur optique qui transforme toute rotation, ainsi que toute impulsion émise par la télécommande, en un signal numérique. Ce signal pilote à la fois

puisque tous les fils véhiculant des signaux audio sont en monobrin d'argent massif, excusez du peu. Cette cornière sert également de dissipateur à un énorme pont de diodes carré, exclusivement réservé aux étages de puissance.

A ses côtés, un petit circuit imprimé est exclusivement destiné aux alimentations des étages d'entrée. Il comporte plusieurs ponts de diodes et de multiples condensateurs de filtrage dont deux de 200 μ F/400 V destinés au filtrage de la haute tension. Les concep-

amplificateur opérationnel. Rien à voir avec le traitement du signal, rassurez-vous. Il s'agit en fait d'un circuit de temporisation destiné à supprimer les tristement célèbres «clocks» qui peuvent se manifester à la mise en ou hors tension.

Passons maintenant au circuit principal qui comporte essentiellement les étages à tubes. Les entrées sont filtrées en continu par des condensateurs MKT de 6,8 μ F chacun. L'amplification en tension utilise une 12AX7 par canal configurée très simplement, en classe A.

Les composants annexes sont réduits au minimum



l'afficheur et le circuit imprimé supérieur. Ce dernier est composé de treize relais miniatures et de trente-huit résistances de précision. L'ensemble constitue un réseau logarithmique à deux pistes parfaitement appairées, et très précis.

Le sélecteur de sources est quant à lui beaucoup moins high-tech puisqu'il s'agit d'un modèle mécanique. Il est néanmoins de haute qualité et se retrouve fixé au plus près des prises d'entrée sur une épaisse cornière en aluminium qui traverse tout l'amplificateur. Notons que les concepteurs n'ont pas fait d'économies sur le câblage

teurs ne se sont pas contentés d'alimentations stabilisées qui ne pourraient qu'offrir un rapport signal sur bruit moyen, sachant que l'amplificateur fonctionne sans la moindre trace de contre-réaction. Pour prévenir tout risque de dysfonctionnement, les tensions de chauffage filaments et haute tension sont régulées par des circuits composés de diodes zener et de transistors.

Ce circuit imprimé comporte également un dispositif essentiellement composé d'un relais et d'un

avec quelques condensateurs et résistances de précision. Et ensuite, dites-vous, un étage déphaseur à transistors ? Que nenni ! Le Twin Towers ne comporte pas le moindre circuit déphaseur pour la simple et bonne raison qu'il ne fonctionne pas en mode push-pull. Oui, vous avez bien compris, cet intégré hybride fonctionne en classe A single-ended. Depuis le temps que nous attendions ce type d'électronique sans compromis ! Ce mode de fonctionnement est appelé «voie royale» à juste titre. Schématiquement, un amplificateur de type push-pull (classe AB ou classe A d'ailleurs, ce dernier mode de fonctionnement ne faisant que limiter les effets néfastes du push-pull) sépare le signal en

Une technologie très originale et un design qui ne l'est pas moins. Le Pathos Twin Towers va faire parler de lui... en bien !