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HEART STRINGS

First test of Serblin's Accordo Essence speakers



Mark Levinson N°5105
Precision turntable solution

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Vintage refurbbs
Top tips for restoring classic kit

Audio Research REF 6SE
Classic tube preamp gets a revamp



NEW SERIES

Studio Tour
Behind the scenes at Rockfield Studios

PS Audio M1200
Top of the class Class D monoblocks



• **OPINION** 12 pages of letters & commentary • **VINYL RE-RELEASE** Donovan's *What's Bin Did...* on 180g
• **LITERARY FEATURE** Portraits in Jazz • **CLASSICAL COMPANION** Sir Charles Mackerras, conductor
• **VINTAGE REVIEW** Technics SB-7000 loudspeaker • **READERS' CLASSIFIEDS** Hi-Fi bargains galore

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£2,700

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Stellar Phono Preamplifier

The new Stellar Phono Preamp has both fixed and variable loading for moving coil cartridges, fully adjustable from the remote control. The unit's ultra-low noise allows the use of MC cartridges with output as low as 0.15 mV. Two different tonearms can be selected via the remote, with either single-ended or balanced outputs. A massive, heavily-regulated power supply and full DC coupling allow the unit to provide up to 20V rms output for powerful bass and unrestricted headroom and dynamics. PS Audio's first product way back in 1974 was a phono preamplifier that outperformed and replaced far more expensive units. Since then, we've offered a number of excellent phono preamps, but the new Stellar Phono Preamplifier is the best we've ever made.



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"I recommend a listen to the Stellar to anyone in the market for a new phono preamp, regardless of price. I don't think I've ever written that before." Michael Fremer - Stereophile, Jan 2020

Stellar Power Plant P3

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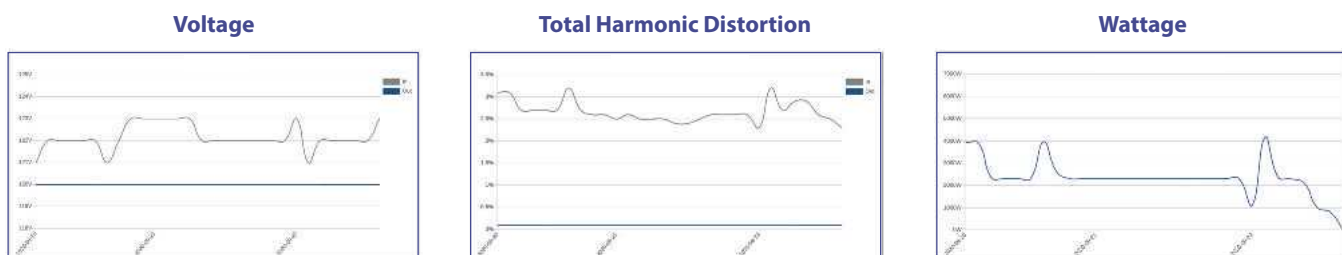
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Note in the first two graphs, Voltage and then Total Harmonic Distortion, how the wiggly top line represents the incoming AC wall voltage while the lower straight line shows you how the Power Plant Regenerator corrects what's wrong. You will be able to see the history of your home's incoming power quality and how the Power Plant straightens everything out.



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P15 Normal price ~~£7,875~~
PowerPlay Promotion £6,400



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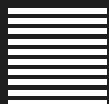
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ULTRADECK+M

“ Here the UltraDeck+M again belied its price / heft category, like a boxer knocking out a contender in the next weight class... ”

HiFi News, July 2019



ULTRAPHONO

“ The MoFi UltraPhono redefines what you get for £500, even if you don't factor in what is a mighty fine headphone section. ”

HiFi News, March 2020

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ABOVE: Released in collaboration with and in tribute to the late Ken Ishiwata, Rotel's 'tweaked' CD11/A11 are pure Budget Esoterica (p72)



ABOVE: Is Matrix Audio's Element X the Tardis of DAC/headphone amps? Compact on the outside, it's packed with inner features (p52)



MUSIC: Simple Minds' *New Gold Dream* is celebrated on p82, while Steve Sutherland marks the 55th anniversary of Donovan's teenage debut, *What's Bin Did...* re-released on 180g LP (p80)

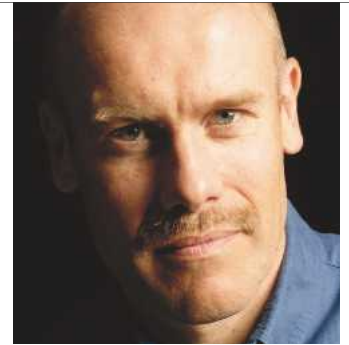
RIGHT: *Hi-Fi News & RR* is the UK's representative of EISA's Hi-Fi Expert Group. Editor Paul Miller took over as EISA's President in June 2016



Depending on when you pick up this latest copy of your favourite hi-fi magazine you'll either be 'celebrating' the festive season or ringing in the New Year with a glass of whatever takes your fancy. All with due caution I hasten to add, though I am loath to turn my Welcome page into a public health announcement... Instead I will say this, and from us all at *Hi-Fi News*, we wish every reader a healthy, happy, Covid-free and music-filled 2021!

So, as the hours of daylight slowly increase and the nights get shorter, and with the promise of a vaccine to guide our way, audiophiles across the land will be settling down for an evening's music-making with their cherished LP collection or hi-res downloads via NAS or HD streaming service. And while you are surrounded by stereo what better than a copy of *Hi-Fi News* at your side?

We have more than the usual quota of 'Outstanding' products this month and, no, I've not been hitting the sherry too early. Instead we've some real stunners all turned up at once, from Mark Levinson's precision deck [p44] to Franco Serblin's new floorstander [p40], the 'SE' version of our fave ARC tube pre [p60], to the slim DAC/headphone preamp fresh from Matrix Audio [p52].



Meanwhile, and with apologies to overseas readers, our UK audience will have discovered a special Awards supplement bundled with their Jan 21 issue. Also published on our websites, the *AVTech Awards 2020-2021* reflect the combined resource and experience of our three UK

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technology titles – *Home Cinema Choice*, *Hi-Fi Choice* and, naturally, *Hi-Fi News & Record Review*.

Our unique strength in depth, with hundreds of editorial pages published every month, ensures we can select from the very best loudspeakers and headphones, 4K/8K TVs and projectors to USB/network DACs, turntables, integrated and pre/power amps and big AV receivers. These Awards are as comprehensive as they are authoritative. Enjoy!

PAUL MILLER GROUP EDITOR

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An avid collector of audio treasures, and life-long hi-fi addict, DP lends his ears and experience from analogue to digital



KEN KESSLER
is a long-serving contributor, luxury goods writer and champion for the renaissance in valves and 'vintage hi-fi'



MARK CRAVEN
Editor of our sister title *Home Cinema Choice*, Mark's passion for music extends from stereo to multichannel and Dolby Atmos



STEVE HARRIS
Former Editor of this very title from 1986 through to 2005. A lifetime in audio and a love of jazz makes Steve a goldmine



ANDREW EVERARD
has reviewed hi-fi for over 30 years and is still effortlessly enthusiastic about new technology, kit and discovering new music



STEVE SUTHERLAND
Editor of *Hi-Fi Choice*, Steve was at the helm of *NME* through the Britpop years. Steve brings a unique slant to our music features

Cambridge clout

UK BRAND ANNOUNCES MONOBLOCK EDGE M POWER AMPS

Although launched in 2018 as part of its 50th anniversary celebrations [*HFN* Nov '18], Cambridge Audio continues to expand its Edge series. The latest addition to the flagship range (named in honour of company founder Prof. Gordon Edge) is a monoblock power amp claiming double the output of the Edge W stereo model. Priced £4000 each, the Edge M is rated at 200W/8ohm (350W/4ohm) and again utilises the company's 'Class XA' technology – designed to offset the crossover point between NPN and PNP output transistors by applying a negative bias current. Also, twin toroidal PSU transformers are deployed in opposing symmetry to suppress EM interference. Both single-ended RCA and balanced XLR inputs are offered. Aesthetically similar to existing Edge components – including the versatile Edge NQ network streamer/preamp – the M features a curved aluminium front panel, 'floating' top plate and full-size 460x150x405mm (whd) chassis in a silver finish. The Edge M is available now. **Cambridge Audio Ltd, London, 0203 514 1521; www.cambridgeaudio.com**



Rare Sonus faber

IL CREMONESE EX3ME – 50 PAIRS ONLY



Sonus faber's Il Cremonese ex3eme (£48,500) builds upon the design of its 2015 Reference collection Il Cremonese floorstander with technology from the company's ex3ma concept model. Carried forward are the 180mm midrange and 'Stealth Reflex' bass drivers, now joined by a beryllium DLC (Diamond Like Carbon) tweeter and upgraded side-firing 'infra-woofers' – both informed by the ex3ma project – while the mid/high crossover network has been redesigned. Limited to just 50 pairs, the speaker's five-sided cabinet is topped and tailed by aluminium 'Dampshelves', and sees Sonus faber bring back its premium Red Violin finish. **Sonus faber SpA (Fine Sounds Group), Italy, 01592 744710; www.sonusfaber.com; <https://finesounds.uk>**

HI-FI NEWS' NUGGETS

OPHIDIAN MKII

British brand Ophidian has launched its 2nd generation M-series speakers, a trio of compact models that includes the £900 Minimo 2 and £1200 Mojo 2 standmounts together with the £2000 Mambo 2 floorstander. Cabinet sizes have increased only marginally and the SEAS 27mm fabric dome tweeter is retained, although the coated paper cone mid/bass driver is increased from 90mm to 115mm and now features a 25mm, 4-layer voice coil. www.ophidian.co.uk

ELECTROCOMPANIET

Courtesy of distributors Elite Audio, the Norwegian hi-fi brand Electrocompaniet is now re-available in the UK. Two main product strands are offered, including the 'Classic Line' of integrated, pre and power amps plus a CD player and streamer/DAC. This is joined by the 'EC Living Line' comprising a series of very smart-looking wireless multiroom speakers and streamers. www.electrocompaniet.com



Ferrum Hypsos

SWITCHABLE OUTBOARD PSU UPGRADE

The first product from Ferrum – a new hi-fi brand from Polish OEM outfit HEM Audio – is the €995 Hypsos. Described as a low-noise, high-efficiency 'hybrid' linear/switching power system, it offers an adjustable 5-30V DC output up to 6A current, and is supplied with a cable terminated to order to fit 'the most commonly used DC inputs'. Operation is software-controlled via a front-panel LCD display showing voltage, current and power output – parameters can be set manually or users can select pre-configured settings for a list of supported devices. Additional features include 'Sweet Spot Tuning' – fine voltage adjustment to achieve 'the best sound' – and '4T Sensing Design' which maintains very tight voltage regulation regardless of load. The Hypsos' steel/anodised aluminium enclosure measures a compact 217x50x206mm (whd). **Ferrum/HEM, Pruszków, Poland, +48 22 823 72 38; www.ferrum.audio**



Made for the black stuff

LEHMANNAUDIO'S BLACK CUBE II MM/MC PHONO STAGE

'A classic redefined' is how German marque Lehmannaudio describes its compact Black Cube II (£600), an update on its entry-level Black Cube phono stage that launched the brand in 1995. Intended for use with both MM and MCs it boasts an outboard PSU and precision active gain/passive RIAA filter network. Four gain settings are on offer (+36dB and +46dB for MM; +56dB and +66dB for MC), plus a 16-step LF filter that's 'tunable' from 7Hz-90Hz.

Standard 47kohm, 1kohm and 100ohm input loads are included with custom loads also accommodated.

The Black Cube II's functional but robust alloy enclosure (in chrome, silver or black variants) is damped to combat vibrations while an upgrade path is offered via Lehmannaudio's superior £350 regulated PWX PSU.

Lehmannaudio Vertriebs GmbH, 01235 511166; www.lehmannaudio.com

SVS on the SoundPath

INTERCONNECT AND SPEAKER CABLES TAKE ON THE HIGH-END

US speaker specialist SVS's new SoundPath accessories line is now being distributed in the UK via Karma-AV. The SoundPath RCA interconnect, which uses pure copper conductors and a five-layer dielectric insulation, is available in 1m-15m lengths, priced from £28 to £66. The partnering SoundPath Ultra speaker cable is available in linear, Imperial lengths from 4ft-50ft (£49-£105), and can be terminated in gold-plated

spades, banana plugs or a mix of both. The range also includes elastomer feet to decouple subwoofers, and, says SVS, offers 'engineering excellence and exceptional performance at welcoming prices'.

SVS, USA, 01423 358846; www.svsound.com; www.karma-av.co.uk



Luxury Alluxity

NEXT-GEN AMPLIFICATION FROM SON OF VITUS AUDIO



Alluxity, the Denmark-based brand established by Alexander Vitus Mogensen, son of Vitus Audio's Hans-Ole Vitus, has started shipping its Power Two, a 200W/8ohm (400W/4ohm) stereo power amplifier. An aesthetic and size match for its Pre One streaming preamp – even down to including an LCD touchscreen control panel – its milled aluminium casework is available in silver, black, white and titanium orange finishes, with the option of custom colours. The Power Two uses an in-house designed differential

input stage that's entirely discrete in execution, and fed via both balanced XLR and single-ended RCA connections.

Furthermore, there's a twin-transformer linear PSU and 'robust' output stage based on that found in the company's Integrated One amplifier. Priced £6500, it slots into Alluxity's range below the larger Power One amplifier model, but 'can easily drive reasonable loudspeakers to realistic levels'. **AVM-TEC, Denmark, 024 7722 0650; www.alluxity.dk; www.kogaudio.com**



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BELOW: English jazz musician, writer and broadcaster Humphrey Lyttelton



Portraits in jazz

Barry Fox on the music books that bring insights into audio

BELOW: Norman Granz in 1947, Tad Hershorn's biography *The Man Who Used Jazz For Justice* (middle) and Ken Burns's 2001 TV documentary *Jazz* (right), that Granz ignored



Polymath Humphrey Lyttelton not only played as he pleased, he wrote as he pleased in many excellent books on music, once appealingly disparaging sound engineers he suffered on tour as 'Marconis'. The reason? They couldn't stop fiddling with the controls, so destroying the natural balance of his live band and adding electronic distortion.

But all too often – especially in 'autobiographies' largely ghosted by a hired hack – books about musicians are as sycophantic as a pop fanzine. So here I have had a go at naming some of the

best books about music, with the filter that they offer useful insights into audio. Because I found so many good reads, I've narrowed the field for this feature to jazz.

It's not hard to see why many music biographies have been bland. Take jazz entrepreneur Norman Granz, for example. He produced countless studio recordings – including the seminal set of Great American Songbooks sung by Ella Fitzgerald

– and recorded his live concert promotions with simple mic set-ups, notably the Jazz at the Philharmonic extravaganzas.

He also exploited the then-new LP vinyl format to let musicians stretch out past the three-minute barrier.

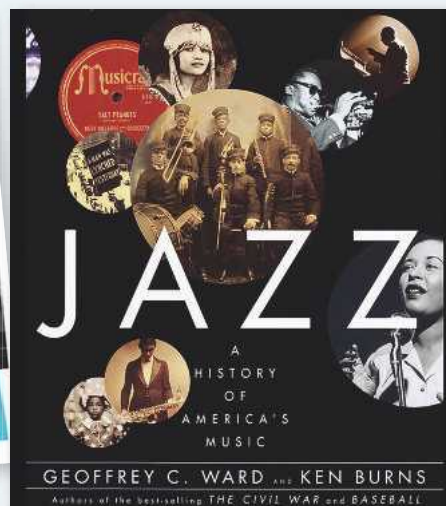
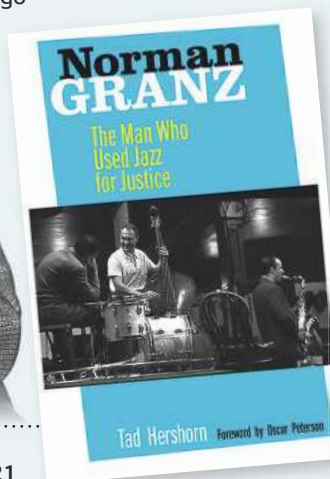
Granz didn't want his life

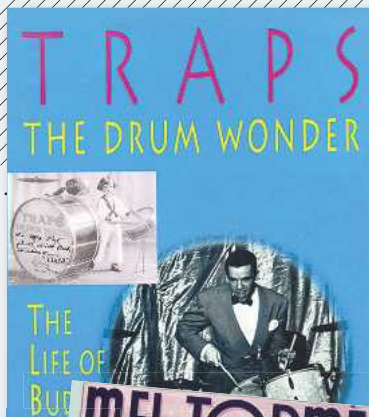
documented, often 'professing a hostility to history' as author Tad Hershorn put it after having to wait until after Granz died to

piece together his excellent biography *The Man Who Used Jazz For Justice*.

He tells how Granz 'ignored Ken Burns's TV documentary *Jazz*, airing in January 2001, despite repeated interview requests [saying] "I will be dead by the

"Columbia's mastering staff did not detect the mistake"





time the programme is broadcast, and I don't care what people think of me after that". Hershorn then recounts what happened when Stuart Nicholson wrote his biography of Ella Fitzgerald, who was managed by Granz.

'Nicholson found himself at the receiving end of a threatened lawsuit by Granz... Granz knew British libel laws well enough to know that he would have a far easier time making a case there.

'Granz itemised his complaints to Nicholson in what must have been an excruciating phone call lasting some four hours. Nicholson gave in: a comparison of the 1993 edition with the American edition reveals passages deleted or revised.'

FEVER PITCH

The edition of the Ella Fitzgerald book which I bought, dated 1996, is similarly sanitised. But it is still a wonderful book I'd recommend. For instance, Nicholson sums up why Ella sounds like Ella by explaining how she was gifted with relative pitch, which is 'different from perfect pitch – a term for the ability, on hearing a note, to identify it by name in that the possessor of relative pitch knows the precise relationship of every other note to the note sounded and can hit them perfectly in tune'.

Here Nicholson quotes the equally fine singer Mel Tormé: 'I am still trying to find an Ella Fitzgerald record where she sings one single note out of tune, and I'm failing. I can find plenty of my own'.

Mel Tormé, by the way, has written two fine books. There's his autobiography *It Wasn't All Velvet* and *Traps The Drum Wonder*, a biography of drummer Buddy Rich.

ABOVE: A young Ella Fitzgerald poses for the camera in 1940 and (below) the 1996 edition of Stuart Nicholson's biography of the singer

ABOVE RIGHT: Mel Tormé's autobiography *It Wasn't All Velvet* and *Traps The Drum Wonder*, his biography of drummer extraordinaire Buddy Rich

RIGHT: Ad for a Jazz at the Philharmonic concert held in 1955, label for a recording of a concert on the Mercury label and (far right) compilation album released on Norman Granz's own Clef Records in 1955

Nicholson also goes on to very helpfully describe the origins of Jazz at the Philharmonic recording: 'In 1944, Granz took the ambitious step of arranging a promotion at Los Angeles' Philharmonic Auditorium to raise funds to provide a defence for Mexican youths arrested in the so-called zoot-suit riots in the city. He had to borrow money to stage the show, which turned out to be a sellout, and the "Jazz at the Philharmonic" concept was born.

'Significantly, he had reached an agreement with the Armed Forces Radio Service to record the first concert to beam to American GIs. After the concert they presented him with 16in acetates of the proceedings, which, after some difficulty, he

managed to get released by Moe Asch on his Asch label. At the time, the concept of live recordings for commercial distribution was resisted by recording company executives who thought crowd noises intrusive.... Norman Granz had seen a hole in the marketplace and exploited it. By 1952 he was grossing a million dollars a year.'

Musicians who make tender music are often the least tender of people – as you will learn if you read the books written on music's very own Prince of Darkness, Miles Davis.

BASEMENT TAPES

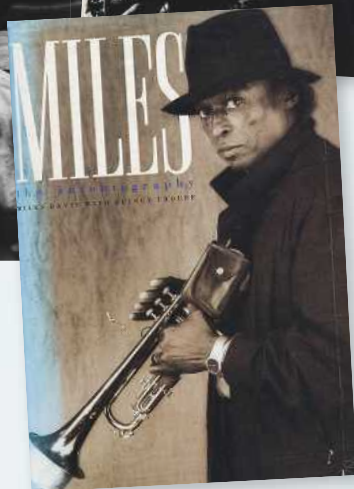
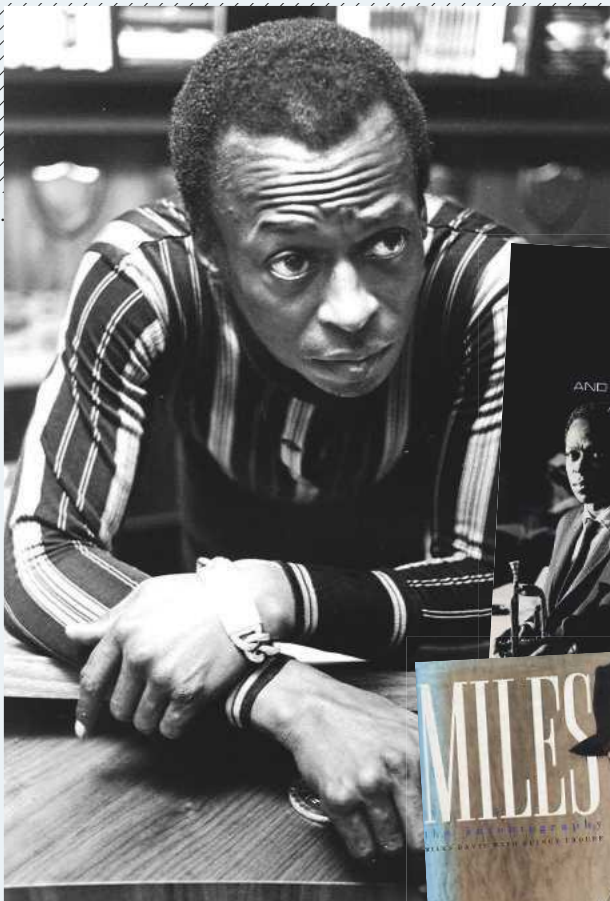
In *Miles*, the official autobiography Davis wrote with Quincy Troupe, Miles admits that 'a lot of what went on in the studio I just forgot'.

Fortunately Ashley Kahn later devoted an entire book to just one recording, *Kind Of Blue*. Writes Kahn: 'A total of seven microphones were used, mixed through the control-room board down to the then state-of-the-art three tracks. In 1959 with stereo only beginning to establish itself among music consumers, the three-track master would then be used for both stereo and monaural versions of the album.

'In addition to 30th Street's (CBS studio) natural reverberation, a small amount of echo was added to the general mix... At 30th Street, a line was run from the mixing console down into a low-ceilinged, concrete basement room about 12 by 15ft in size, where we set up a speaker and a good omnidirectional microphone.

'The sound from the session was played through the speaker, which reverberated in the empty room and was recorded back on the master →





mix, in the centre track. When listening to the original three-track tapes, it is possible to drop out the left and right tracks during, say, a Coltrane solo, and hear a slight off-in-the-distance effect adding a subtle, resonant edge.'

PLAYING THE FIELD

'For the first session, instruments whose ranges would not collide were paired on the tracks: tenor saxophone and the piano shared the left track, trumpet and bass the centre, and alto saxophone and drums the right. As was customary with Miles's recordings from the late 1950s, he was granted the "star" position of centre track, almost always coupled with Chambers.

"Miles was granted 'star' position of centre track"

'Because complete isolation between tracks was impossible, each instrument's sound – especially during solos – can be heard on all

three tracks. As a result, the horns and piano are richly defined by three aural fields, adding a significant depth and completeness to their sound.

During trumpet solos one can make out Miles on the left and right tracks, as well as on the centre with added echo.'

In *Swing, Swing, Swing, The Life And Times Of Benny Goodman*, the book's author Ross Firestone pieces together the fascinating story of the famous January 1938 Carnegie Hall concert, and how it came to be recorded and then issued on LPs many years later.

Firestone explains: 'The idea for recording the Carnegie Hall concert had come from Albert Marx, a friend of Benny's then married to Helen Ward. Marx arranged for two sets of 12in 78 rpm acetates to be made, then presented one to Helen... and gave the other to Benny. ☺

LEFT: Miles Davis in the early '60s and Ashley Kahn's *Kind Of Blue: The Making Of The Miles Davis Masterpiece*, originally published in 2002

BELOW LEFT: *Miles*, the official autobiography that Davis wrote with Quincy Troupe, was published in 1989

BELOW RIGHT: *Kind Of Blue* was recorded on March the 2nd and April the 22, 1959, at Columbia's 30th Street Studio. Players included John Coltrane, Julian Adderley, Bill Evans, Paul Chambers and Jimmy Cobb

OUT OF THE BLUE

In the early days of recording, disc cutters were mechanically powered, and the nominal speed of 78rpm was often not exactly correct. So the pitch of recordings varied from studio to studio. This has sometimes also happened with tape decks, as was the case with *Kind Of Blue*.

In the words of Ashley Kahn: 'The engineers had no way of knowing it, but a motor problem on the master machine caused the tape to be recorded slightly slower than 15ips. The resulting deviation was extremely subtle: the performances played back at a slightly sharper pitch. The mistake went undetected by Columbia's mastering staff, who used the master, not the unaffected safety (a copy recorded at the same time as the master) to generate the LP.

'Over three decades and hundreds of thousands of pressings, no musicians or music fans – and certainly not Miles or his sidemen – reported hearing the higher pitch. Then, in 1992, the astute ears of engineer Mark Wilder caught the problem.

'The reissues had always been done with the master reel, so I said, "Let's use the safety reels since they've been played less"... And the safety reels sounded different. I called in a trumpet player I knew to listen to Miles's solos and he confirmed what I heard – there was about a quarter tone difference.

'All subsequent reissues of *Kind Of Blue* have relied on the safety reels to correctly reproduce the album's first three tracks.'



LEFT: Davis pictured in 1957 at Columbia's 30th Street Studio while recording *'Round About Midnight*, his first album for the label

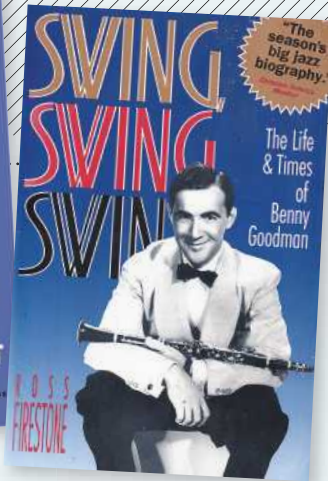


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INVESTIGATION FURTHER READING

SIX OF THE BEST...

There are many fine books on jazz that I simply have not had the space to mention, but for those interested in exploring the field further, here are six titles to get you started...

Last Chorus by Humphrey Lyttelton: A very readable mixed bag of essays and diary pages, that was published after Humph's death in 2008, with delightfully acerbic thoughts on unnecessary and/or the bad amplification of live music.

Straight Life by Art Pepper with Laurie Pepper: A tough but rewarding read, chronicling the life of a self-destructive musical genius, with insights into the US penal system.

Lush Life by David Hajdu: Deep but readable dive into the life of Billy Strayhorn, long-time collaborator with bandleader Duke Ellington.

Owning-Up by George Melly: Arguably the first book about music that truly owned up to the reality of life on the road.

Miles Davis, The Last Miles by AV journalist George Cole: Looks into Davis' 'electric period', with first-hand accounts of his fascination with drum machines, synthesisers, overdubbing and sampling, not just for the sound but opportunity to cut costs. Also his failure to RTFM (Read the Friggin' Manual).

The Long Shadow Of The Little Giant by Simon Spillett: Detailed but readable look at the life of Tubby Hayes, by a good writer who is also fine sax player.

LEFT: The Famous 1938 Carnegie Hall Jazz Concert by Benny Goodman, recorded in 1938 and first issued in 1950 and (right) Ross Firestone's *Swing, Swing, Swing, The Life And Times Of Benny Goodman* from 1993

'Benny recalled with a smile: "I kept them as a sort of heirloom, but I never knew where they were... Then about 12 years later I moved out of a place where we lived in New York, and my sister-in-law Mrs Rachel Speiden, who was going to take the apartment over after I left, called me and again told me that these records were at her apartment and unless I came to take 'em, her son Dougie would get ahold of them and that would be the end of them".'

HANDS ON DECKS

Engineer Bill Savory recalled: 'The concert had been recorded in parallel in two places – Harry Smith's Artists Recording Studio on West Forty-sixth Street and Universal Recording Studios, run by Raymond Scott. Albert Marx presumably ordered two sets from Harry Smith, which meant that Harry would have needed four turntables, two for each set. You can't just record a selection to the end of the record, then lift the cutting head, turn it over and start recording again. You'd miss too much, so you have to switch over to a second turntable. To record two sets at once, you'd have to be pretty agile turning over the records on four turntables in sequence. It would be like flipping flapjacks.'

'So Harry farmed the second set out to Scott's outfit and that was the one given to Benny. The recording was probably done in the following manner. There was one 44-BX mic, the famous RCA diamond-shaped thing, that was hung up above where the conductor's podium would normally be. Benny believed almost to the day he died that that was the only microphone there, but there were at least three others.'

'All of them were connected to a mixing console backstage used for recording set-ups and broadcasts

from Carnegie Hall, which was connected by Class A broadcast-quality telephone lines via some nearby central exchange to CBS master control. Master control then picked up the incoming feed from Carnegie and patched it in to Harry Smith and Raymond Scott. So they were able to get a very fine noise-free, distortion-free connection.'

'But no one seems to have been running the console backstage the night of Benny's concert. The CBS guy or the designated Carnegie Hall grip may have been asked to turn it on but not fool with the knobs. That involved another union...

'Only one record in that whole complete set of 78s ended with applause at the end of the selection.'

The rest had to be spliced together, which created quite a problem because one of the recording turntables ran faster than the other and the pitch varied noticeably

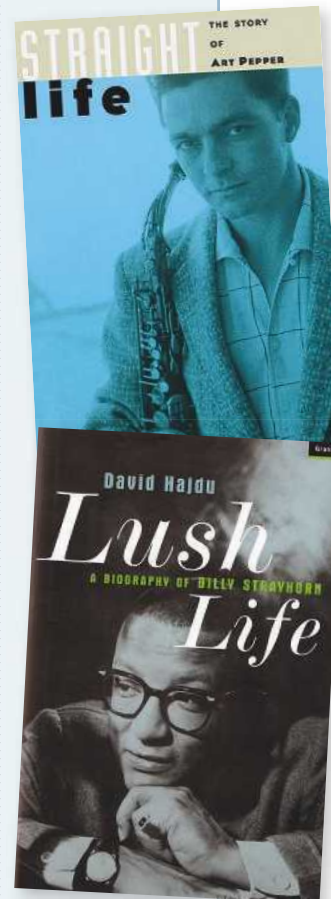
when I picked up the second part of the tune... I also had to fool around equalizers. It took about six weeks of steady work to straighten it all out and get [the recording] to the point where Benny said, "Okay, let's go".'

RECORD SUCCESS

'The Famous 1938 Carnegie Hall Jazz Concert, as it was called, was released on November 13th, 1950... Earlier in the year the 33.3rpm long-playing microgroove record, which Columbia introduced in 1948, was now established in the marketplace as the standard record album format. Had Benny Goodman retrieved the recordings from his sister-in-law's closet a few years earlier, before the LP existed, it is doubtful if they would have made their way out of his music room.'

As with so many things in life, timing is everything. ☺

“To record two sets would be like flipping flapjacks”



ABOVE: Straight Life by Art Pepper with Laurie Pepper, published in 1979 and (below) *Lush Life* by David Hajdu, the story of Billy Strayhorn – Duke Ellington's 'right hand' – from 1996

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RIGHT: A typical home electronics workshop, with multimeters, screwdrivers, wirecutters and soldering iron, plus a circuit diagram of the Arcam Alpha 3 amplifier under repair. The amp's transistors have been removed for checking and can be seen laid out on paper on the left of the bench



J. C. BARROS

Repairing vintage hi-fi

Tim Jarman on the tools and techniques you'll need to restore classic kit

BELOW: Once jealousy guarded, service manuals and circuit diagrams are now readily available online, and can often be downloaded for free

In the early days of hi-fi it was common to make one's own equipment, either as an economy measure or as a matter of pride. Today's equivalent may be repairing and restoring vintage hi-fi units at home, a potentially rewarding endeavour which can make the subsequent listening even more satisfying.

The ability to repair hi-fi kit to the highest standard is one of

those 10,000 hour skills that takes commitment to master, but it is surprising what can be done with just a little patience and study.

AVOIDING MISTAKES

A basic grounding in electronics will be required, such as the ability to read a circuit diagram and an appreciation of what the various types of component do. You'll also need a full understanding of the potential dangers of mains-powered equipment and how to use your tools safely

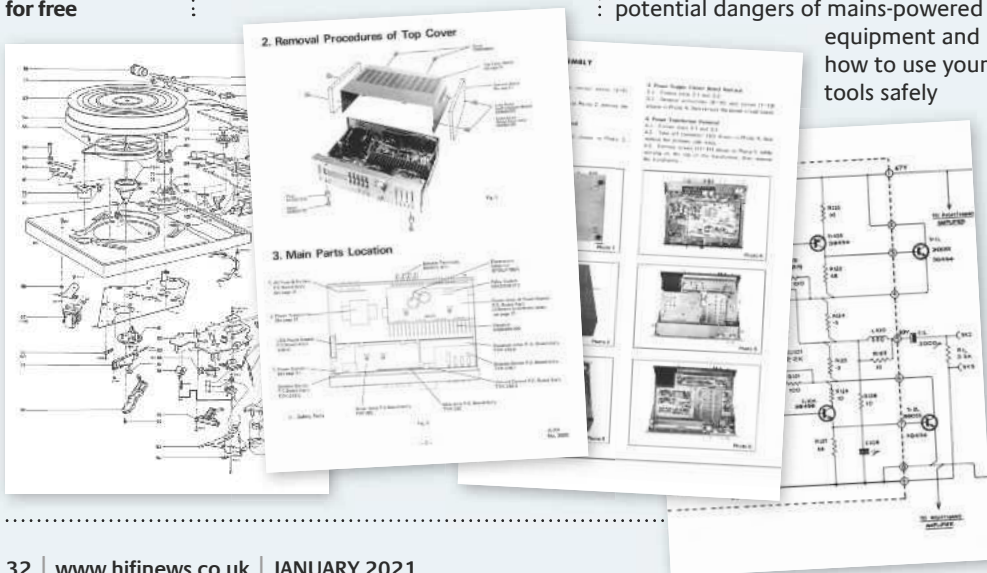
and effectively. There are simply no shortcuts in this preparation and you will get nowhere without it.

The next step is to choose what you are going to practice on. Don't make your first mistakes on equipment that is valuable, either in sentimental or financial terms. The world is full of broken hi-fi kit and there's plenty to hone your skills on.

In choosing what to buy (or allow yourself to be given, because a lot of this stuff is free) I would recommend starting with Japanese and Continental components from the mid '70s to the mid '80s. It is ubiquitous, generally safe and solid, free of designed-in faults and quirks and normally has comprehensive service data available for it.

A library of service sheets used to be jealously guarded by any workshop that had the resources to amass it, but now full manuals can be downloaded from a number of sources, usually free of charge.

Condition is another factor to consider. Mint examples would be an extravagance at this stage, but it is worth seeking out pieces that are



at least complete and not obviously the result of someone else's failed repair or upgrade attempts.

An advantage of equipment of this era is that as a rule it does not require the blanket replacement of components to restore original performance. This approach is sometimes necessary in older models but it makes every repair tedious, expensive and one learns nothing from it. There is currently a fad for replacing every electrolytic capacitor in sight, regardless of the fault. This rarely solves the problem and can introduce many more if the replacements are the wrong type or fitted incorrectly.

That being said, you will soon learn to identify which components are often defective, and be able to make a bee-line for them once they are spotted.

AMPLIFIER FAULTS

The key components in any amplifier are the output transistors, be they discrete or in a chip. Blown fuses almost always mean output transistor trouble so check them for shorts before replacing the fuses or applying power. With transistor amplifiers, never connect the loudspeakers until you are sure the output stage is sound, *eg*, there isn't a substantial DC voltage present at the loudspeaker terminals.

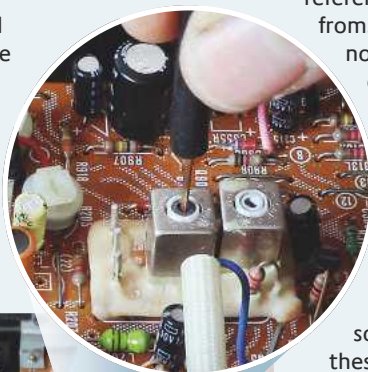
Most amplifiers have a 'mid point' connection between the two output transistors from where the output signal is taken. This should be at roughly half the supply voltage in designs with a single power rail and at zero volts for those which run from split supplies. If

RIGHT: RCA 2N3055 output transistors [centre of image] inside Leak's Stereo 30 Plus amplifier [HFN Sep '20]

BELOW: Early MOSFETS are used in the output stage of Hitachi's HA-7700 power amp [HFN Feb '18]



BELOW: Using an insulated tool to adjust the core of the discriminator coil inside an Hitachi FT-8000 stereo FM tuner to achieve best reception



this is not the case find out why before continuing. Usually a defective transistor or leaky diode is the root cause but other components may have been damaged as a result. If only one channel seems to be affected use the other to take reference readings from, but be careful not to blow that one up as well!

Source or monitor switches that are noisy, dirty protection relay contacts and missing pre/power amp links cause many amplifier malfunctions, so check the simple things like these, first. Many amplifiers have pre-set controls for output stage bias and offset balance. These are fine adjustments that will tend to drift with age and so it is always worth checking that they are correct.

In the absence of the maker's data the following procedure can be used. With the speakers disconnected, connect a voltmeter across one of the emitter resistors of the output transistors. Adjust the bias control for 10mV, then re-check (and reset if necessary) after ten

minutes. After this, adjust the offset for zero volts (or half the rail voltage for single-supply designs) at the midpoint and repeat the process for the other channel. This will be close enough to the maker's specification for most models to obtain good performance along with reliable operation.

FM TUNERS

These are the most reliable of vintage hi-fi components and most faults tend to be trivial: blown bulbs, broken drive cords, noisy switches and the like. A more complex but common problem is an inability of the tuner to 'lock' onto

a broadcast, usually with the result that the sound is muted when stereo reception is selected, the stereo decoder doesn't work or the digital frequency display is incorrect by a small amount, say 0.5MHz. This is often due to the discriminator coil, which forms part of the detector circuit, being in need of adjustment.

First rule: don't touch anything until you have confirmed which part is the discriminator coil as random twiddling will ruin any tuner. Note the position of anything you touch so that it can be returned to its original setting if the desired results are not obtained. Once identified, buy or make a non-metallic tool with which to adjust the coil's core. ↻



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while if it's too tight the deck's tracking servo won't work properly.

CASSETTE DECKS

Most cassette deck repairs involve belts so try to get a set on hand before starting work. Often the belts will have dissolved into a sticky goo which is time-consuming and messy to remove, but methylated spirits or isopropyl alcohol on a rag will help.

The most common electronic problem is that one or other channel overloads on playback with a loud hum through the speakers, often after a recording is attempted. This is normally due to dirty contacts in the record/replay switch and a dose of contact cleaner often cures it. Some decks have a relay to switch the head connections between record and playback and a similar thing can happen if this is faulty.

To give good performance and interchangeability a cassette deck has to be in a good state of adjustment. The principle is to set up the playback conditions first, then the recording side of things. Adjustments are always made with any noise reduction systems switched off. Use a speed adjustment tape (normally 315Hz, 333Hz or 1kHz) and a frequency counter to set the speed correctly, then an azimuth reference tape to set the head at an exact right angle to the tape edge.

Most decks have a Dolby symbol on their VU meters somewhere (normally just inside the red section). Play a Dolby level test tape and adjust the deck's playback level controls so that the meters point exactly to this mark. Assuming that



may be required. Never touch the 'separation' adjustment as an FM stereo signal generator is required to set that up that correctly.

TURNTABLE TROUBLES

From an electrical point of view, the majority of turntables are simply a motor in a box, faults usually being of a mechanical nature and obvious. Faults in automatic mechanisms are almost always due to hardened lubricants and corrosion, especially where dissimilar metals are in contact. For example, a die-cast alloy lever running on a steel spindle is a typical trouble spot. Indeed, anything that doesn't move without resistance is suspect.

Direct-drive turntables contain electronic servo systems which can cause problems. If the motor lacks power, won't start

unaided or sometimes runs in the wrong direction then it is likely that one of the sets of coils in the motor isn't being driven (there are normally two or three, depending on the design).

The driver transistors for the coils and the hall sensors in the motor are the most likely suspects when this happens. The approach here is to compare measurements taken with the working part of the motor because this should quickly reveal what is amiss.

Linear tracking adds another level of complexity to a turntable, but on the whole these systems have proved reliable over time. The most troublesome component is the little belt which links the motor to the rest of the mechanism. Its tension is critical. If it's too loose it will slip,

ABOVE: The linear-tracking Sony PS-FL7 [HFN Mar '20] turntable. The belt that drives the tonearm carriage can stretch with age

LEFT: A typical motor from a direct-drive turntable with its sets of coils revealed

BELOW: A sticky belt inside an Aiwa AD-R450 cassette deck. Replacement belts are readily available online

For tuners with digital displays, tune to a strong local station whose frequency is known to you then set the tuning so the display is correct (even if the sound is then distorted or absent). If possible with the model in hand, next select mono reception and adjust the discriminator coil gently and carefully for the best reception. Half a turn in one direction or the other is normally all that is required. Try some other stations and confirm that they appear at the correct frequency.

When it comes to mechanically tuned models the process is different. Tune to a local station again and turn on the set's AFC (automatic frequency control) function. Adjust the discriminator for the best sound quality as above, or if the tuner has a balance meter adjust to centre the needle. That is normally all that is required.

If the stereo decoder still doesn't work and it's a PLL (Phase Locked Loop) type, the 19kHz oscillator may be out of adjustment. This is normally a preset resistor near the chip (PLL types are invariably IC based) and slight adjustment

'CD players bring the risk of permanent sight damage'



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the mechanics and the head aren't dirty or worn the deck will now play a 'standard' recording correctly.

Next, record alternately a 1kHz and a 10kHz tone at around -20VU on the meters onto a quality tape. Using either an oscilloscope or an AC RMS voltmeter connected to the deck's outputs, adjust the recording bias so that both these tones are at the same level on playback – it may take a few attempts to get this right. Less bias will yield a treble lift but will also increase distortion. If the left and right settings end up being radically different, it is probable that the machine's head is worn out.

Once that is done, record a 1kHz tone at 0VU on the meters and play it back. Adjust the record current controls until the recording plays back at 0VU. Although not as exact a calibration as might be achieved at the factory, this procedure will give results which will be more than good enough for domestic use if the rest of the machine is in good condition.

COMPACT DISC

In general, CD players are too complex for the beginner and bring the risk of permanent sight damage due to laser exposure. However, lazy tray action due to worn loading belts can be an easy fix, depending on how accessible the belt is. With some players it just drops in on the top, though for others virtually the whole machine needs to come apart.

Loss of the track display can be due to something as simple as the bulb behind an LCD panel failing. For more complex faults, a check on the various switches around the deck and on the presence of the correct voltage on the various supply lines often bears fruit. Not all CD player faults involve unobtainable lasers and intricate digital electronics. ☺

ABOVE: Interior view of Philips CD960 CD player [HFN Jul '20]. The tray mechanism, which uses belts and motors can give trouble, but replacement kits are available

TOP RIGHT: Antex TCS soldering iron and Fluke 179 multimeter

RIGHT: Siglent's SDG1032X is an affordable signal generator



ABOVE: The author's own workshop with a Bang & Olufsen Beocord 5000 tape deck from 1984 on the bench. To the right is a Philips PM 6456 FM signal generator and PM 5129 waveform generator

SETTING UP A WORKSHOP

A good workshop evolves over time, so assembling one from scratch is a question of setting priorities. Basic hand tools are a must, but don't waste money on cheap ones. Rather, always buy the best you can afford.

Hi-fi equipment is often assembled with a mixture of Phillips and Pozidrive crosshead screws. They look much the same, but the shape of the cross is slightly different. Use of the correct tool ensures that the screw heads don't get damaged.

As well as screwdrivers (flat, Phillips, Pozidrive, hex and Torx) you will need some fine pliers, cutters and a set of spanners (combination and box) covering approximately 4mm to 13mm (including 5.5mm, which is a very common size in hi-fi).

Soldering is another important part of repairing electronics. Start by practicing on old scrap boards, not your treasured equipment. Don't pick an iron which has a tip that is too small because it won't carry enough heat to the work. A temperature-controlled iron is

desirable, the Antex TCS model being a good choice for audio work. This model also has a wide range of tips available for it.

As for test equipment, most novices need just three things: a multimeter, an oscilloscope and a signal or function generator. The most important of these is the meter, modern digital ones combining the functions of what once required a number of separate instruments.



For audio work you will need true RMS (root mean square) reading of AC voltages at least up to 1kHz, resistance measurement up to 10Mohm and the ability to check semiconductor junctions. Useful extras are a capacitance measuring function (1µF to 2000µF) and a frequency counter covering the audio band. The Fluke 179 'True-RMS' multimeter, although not cheap, is ideal.

Of the more exotic test instruments, an audio oscillator (a signal or function generator) is useful when it comes to checking amplifiers and tape recorders. They are expensive if bought new, but can represent good value if acquired secondhand. Here, 10Hz to 100kHz is a basic frequency coverage requirement. If your meter has the ability to measure frequency you can verify the calibration against that.

Higher frequency generators for tuner alignment are needed less often, now that the majority of tuners use ceramic IF filters. An oscilloscope is unlikely to be used much, other than for repairing CD players and tape recorders. A DC-20MHz+ model will cover all the simpler tasks, but for Compact Disc work in particular, 50 or even 100MHz coverage may be required.

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Franco Serblin Accordo Essence

Accordo standmount gains a dedicated woofer and larger, floorstanding cabinet. Hey presto: the Essence
 Review: **Ken Kessler** Lab: **Paul Miller**

No kidding: when I first fired up the Franco Serblin Accordo Essence, I figured it sold for around £20,000, somehow forgetting that the loudspeaker above it – the flagship Ktêma [*HFN* Sep '20] – cost £25k. Surely they wouldn't price two models so closely? Equally, I failed to recall that the standmount Accordo [*HFN* Jan '18] from which it is derived sells for only £7500. The pricing, however, illustrates how Massimiliano Favella [see boxout, p41] is sticking to a plan where each model fills a sonic and fiscal gap: the Accordo Essence will set you back £12,998 per pair.

That had to sink in, that such a gorgeous, sublimely-finished construct could sell for so relatively little given today's high-end price lists. Available only in the luxurious solid walnut cabinetry with aluminium and chrome fittings seen here, the Essence iteration of the Accordo adds another drive unit, a 180mm woofer with 'microspheres' cone and aluminium dust cap, to complement the 29mm silk-dome tweeter designed by Ragnar Lian, founder of Scan-Speak, and the 150mm microsphere-coned mid-woofer. The immediate gain is bass extension, not that the Accordo was too shy for its size in the lower registers.

PUMP UP THE VOLUME

As important to this up-scaling of the original Accordo design is the much larger, aluminium-and-magnesium-braced, floorstanding cabinet measuring 1100x230x430mm (hwd) compared to the Accordo's 360x190x360mm (hwd). As you can see, the cross-section, too, has increased, so the Accordo Essence isn't solely gaining in height. The much larger volume suggests greater bass performance, while the crossover has also been addressed.

As with the standmount Accordo, the Accordo Essence is an asymmetrical design, so the speakers are provided in left- and right-hand pairs. Amusingly, the Accordo Essence, like the regular Accordo, is a reversal of the Ktêma, which has an extremely narrow baffle, widening at the rear – by contrast both Accordos have wide baffles and narrow back sections. Like the Ktêma, however, there are rear ports which demand free space around the speakers, the company recommending a minimum of 1m from all walls, but I reckon 0.5m will suffice. Positioning, however, is critical.

One starts with placement that's close to an equilateral triangle. The speakers are then toed inwards so the baffle faces the listener with no view of the sides, while the 'violin strings' that form the grilles allow perfect visibility of the drive units. Thanks to the adjustable spiking system fitted to the Accordo Essence, there is also freedom to apply a small amount of tilt should you wish to fine-tune arrival times, *à la* Wilsons.

COMMAND 'N' CONTROL

Single-wired, via superior, multi-way terminals, the Accordo Essence has one other requirement revealed in editor PM's Lab Report [p43]. Ignore the recommended minimum amplifier power of 20W for these are hungry speakers, and they will return the favour of vast amounts of power with an increasingly commanding performance, independent of the playback levels.

I am no head-banger, so none of my tube or solid-state amplifiers was

RIGHT: Behind a tensioned 'elastic band' grille lies an example of the iconic 29mm Ragnar Lian silk-dome tweeter together with a 150mm 'microspheres' mid/woofer and, lower in the cabinet, a reflex-loaded 180mm bass driver with alloy dust cap





DEFENDING THE LEGACY

It is, alas, not unknown for sons to destroy the companies founded by their fathers, though exceptions exist: VPI's Mat Weisfeld and Daryl Wilson of Wilson Audio are perfect examples that prove it's not inevitable. Massimiliano Favella, owner of Laboratorium (manufacturer of Franco Serblin loudspeakers, Yter cables and Flexum acoustic panels) and Franco Serblin's son-in-law, too, appreciates the legacy with which he has been entrusted, so he has chosen a rigid, respectful path.

While Favella first made his mark with Yter cables, he was groomed by Serblin to take over his life's work, Franco having sold his Sonus faber loudspeaker brand in 2006. Sadly, Serblin passed away in 2013, by which time Favella had learned enough to take over the designs completed before Franco's death. It is to Favella's credit that he has taken his time in refining and readying for production each of the four models (so far) that he inherited. As none of us are privy to the cache of projects left by Serblin, we cannot predict what may follow. But Favella did let slip that the next model might fit in between the *Accordo* and *Accordo Essence*.

straining, but there was no ignoring gains in two specific areas as the power increased. The first was in absolute bass control, using Kodo drums and other speaker busters. The second was in the sense of impact. Was I hearing my two ~75W amps 'running out of steam'? Was it an impedance issue? I know not, beyond none of the amps being especially troubled by ornery loads. Every one of them drove the *Accordo Essences* but, as in Orwell's world, some were more equal than others.

ZING WENT THE STRINGS

Aside from the *Lignea*, which is the outsider in the Franco Serblin range, I have now lived with each model and am as impressed by the clarity of thought put into the ascending nature of the range as I am with each model's behaviour in isolation. More relevant is that each serves its own sector properly in price and performance, and the gains are logical, eg, if you crave more bass, you go to the next model up.

But that's all secondary if, like me, you followed the artistry of Franco Serblin from the beginning, 35 years ago. The *Accordo Essence* adheres to each and every one of the values which Franco, and now his son-in-law, declared to be the mission statement for the brand. It was evident from the very first seconds of 'Sultans Of Swing' from Dire Straits' eponymous debut [Mobile Fidelity MFSL2-466; 45rpm LPs] that the two primary concerns had been addressed, beyond the physical beauty and construction of the speakers: soundstage recreation and finesse.

It's immediate – you experience without any doubt the recreation of a physical

soundstage (even when the recording is studio-formed and thus not representing a real space) with vivid three-dimensionality, precision, specific image placement and 'air' or atmosphere. Every sound had its own domain, and yet at no time did they seem disembodied or artificially placed. Those who remember first-generation Sonus faber speakers, and the Guarneri in particular, will recall a silkiness over the entire proceeding. This was present, and yet had no effect on either the clarity or fluidity of Mark Knofler's guitar playing.

It's simply part of a whole, which is where the finesse enters. These were Serblin's *causes célèbres*, which I learned he placed above other values because – like the equally soundstage-conscious Arnie Nudell of Infinity – he argued that if the soundstage and imaging are correct, so should be everything else. As for the finesse *per se*, he craved ultimate refinement, which I am prepared to

presume is also part of the argument about 'everything else' being correct. More to the point, Serblin argued that music should be heard from the ultimate vantage point, his beloved 'proscenium', so this speaker, as with every design he drew for his previous company, Sonus faber, is hot-seat-biased.

IN CONCERT

Turning to a live classic, the *Allman Brothers Band At Fillmore East* [Classic/ Capricorn SD2-802 LPs], the notion that one was in a concert hall was unmistakable, a perfect example of hi-fi fooling you into thinking that you have been transported. What surprised me, irrespective of the increased driver count ☞

'Here was proof that Franco knew how to rock'



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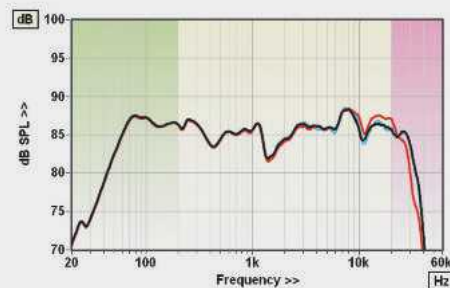
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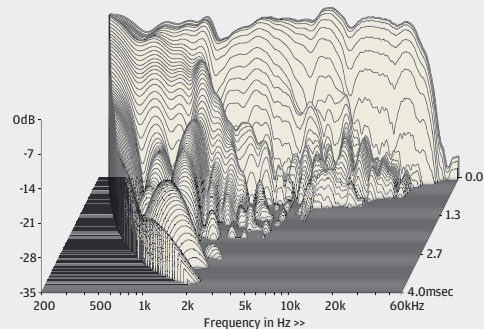
F. SERBLIN ACCORDO ESSENCE

Expanding the cabinet volume to accommodate a 180mm woofer brings the following top-line changes over the original Accordo standmount [HFN Jan '18]: bass extension is boosted from 62Hz down to a weighty 45Hz (-6dB re. 200Hz), THD is reduced from ~1.5% through bass and mid to just <0.5% here (re. 90dB SPL) but sensitivity is not improved over the original 86dB (1kHz/2.83V/1m) just as the amplifier loading is now that bit tougher. In practice the bass unit has a -6dB bandpass of 52Hz-270Hz [green shaded area, Graph 1], its output free of obvious spurious, and is supported by the lower port which offers a useful 13Hz-75Hz (-6dB), albeit with a mode at 750Hz. The latter was also detected from the upper port, though this vent for the 150mm mid unit offers no significant LF reinforcement.

The dip in impedance also occurs at LF in the Essence, the 'easy' 4.1ohm/192Hz minimum of the standmount Accordo traded here for a more testing 2.76ohm/160Hz (<3ohm from 106Hz-250Hz). The biggest swing in impedance phase is also more aggressive at -72°/64Hz/7.7ohm. This result, and change in forward response [Graph 1], reflects the necessary recalculation of crossover points from two- to three-way in the Essence. Measured on-axis between the tweeter/mid units, the speaker shows an essentially flat response trend, albeit with notches at 520Hz/1.2kHz and a peak at 6-7kHz that account for the ±3.5dB response variations. The 1.2kHz dip is also resolved as a resonant mode in the CSD waterfall [Graph 2]. Otherwise, pair-matching is exceptional at <1dB (200Hz-10kHz) and the impact of the 'rubber band' grille minimal [cyan trace, Graph 1]. PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: Resonances are quickly suppressed, albeit with a (woofer) mode remaining at 1.2kHz [see Graph 1]

LEFT: Front woofer is reflex-loaded via the lower of two oval ports at the rear of the arc-shaped cabinet. With the baffles toed-in towards the listener, the ports are almost directly rear-wall facing. A single pair of 4mm terminals serve the three-way crossover

'Whipping Post'. Blues *in excelsis*, proof that Franco knew how to rock.

Vocals are what rule my heart, Allman's being powerful and energetic, but I could not think of any trial more worthy than Sophie Madeleine's 'Stars' from *The Rhythm You Started* [Xtra Mile XMR045CD]. This is a voice of such delicacy and clarity that she makes Dolly Parton sound like Louis Armstrong. I had heard this CD so many times that I was worrying about seeming obsessive, but the Accordo Essence unveiled more fine details, not least my belief that Ms Madeleine should come out of retirement. I cry too often, and this had me reaching for the Kleenex. It was exquisite.

So the Accordo Essence couples refinement with realism, delivers convincing recreation of the sound-space, and wraps it in craftsmanship of the highest order in the cabinetry itself. Franco Serblin was always motivated by the great violin makers of Cremona, and he taught Favella well. He'd be pleased to know that you don't need to be Jascha Heifetz to hear it (or see it) in this speaker. It is magnificent. ♪

HI-FI NEWS VERDICT

The Accordo Essence honours Franco Serblin's legacy by adhering dutifully to his credo. If you desire a speaker that's physically gorgeous in the manner of the finest furniture, with sound that puts spatial concerns and refinement at the top of its abilities, this elegant floorstander must be on your shortlist. Critical in set-up and of ancillaries, it is worth the effort, for it is truly a *tour de force*.

Sound Quality: 89%



and cabinet size, was the bass. It was not the dominant characteristic, and both the Ktêma and Wilson's Sasha DAW [HFN Mar '19] reach down deeper, but it was equally satisfying, if more for quality over quantity. This is not a demerit, I hasten to add, because I would posit that it's exactly like Goldilocks' preferred porridge: just right.

SECRETS OF THE STARS

Nobody would ever suggest that it's possible to hear too much of Berry Oakley's bass, but neither could anyone find fault with the precise, rich and robust manner in which the Accordo Essence communicates it. That, however, was not what had me wishing I owned these: it was hearing the ache and the passion in Gregg Allman's vocals throughout

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	85.7dB / 85.4dB / 83.4dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	2.75ohm @ 160Hz 16.8ohm @ 51Hz
Impedance phase: minimum & maximum (20Hz-20kHz)	-72° @ 64Hz +34° @ 515Hz
Pair matching/Resp. error (200Hz-20kHz)	1.5dB / ±3.2dB/±3.5dB
LF/HF extension (-6dB ref 200Hz/10kHz)	45Hz / 35kHz/30kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.3% / 0.2% / 0.3%
Dimensions (HWD) / Weight (each)	1100x230x430mm / 30kg

Mark Levinson N°5105

Mark Levinson's second turntable, the N°5105, has been designed to be a painless, all-in-one, 'turnkey' affair – but does it still tick all the high-end boxes?

Review: **Ken Kessler** Lab: **Paul Miller**

Like that 'difficult second album', any sequel to the Mark Levinson N°515 [*HFN* Oct '17] has to live up to a heady precedent. At £5799 less cartridge, or £6499 with Ortofon's Quintet Black S MC pick-up installed, the N°5105 sells for just over half the price of the N°515. While the inclusion of the cartridge does not save any money – certainly not always the case when buying a package – it does remove any set-up worries by being factory-fitted.

That just happens to be the primary goal of the N°5105: no-fuss ownership. Just as the N°515 is part of the company's cost-no-object range, this is part of the 5000 series, the brand's 'entry-level' lineup. Amusingly, despite its undeniable, in-your-face luxuriousness, everything about it reeks of the simplicity associated with 'starter' decks of the sub-£300 variety, the type where you're up-and-running within 20 minutes. And that's a Good Thing.

Indeed, if purchased with cartridge *in situ*, this deck is so simple to set up that those who equate complexity with quality will be baffled. Only two elements are 'fiddly': the hanging-thread anti-skating weight (always a pain, regardless of make of tonearm) and the square cross-section belt. The latter requires looping first around the 14lb platter, then into the groove in the pulley, while keeping an eye on the edges. Ultimately, it untwists itself after a few rotations, but it is worth checking.

PURE LUXURY

Other than that, this deck is a gift to those nervous about set-up, yet it allows plenty of scope for those who *do* like to tweak. The designers have delivered perfect universality, balancing ease-of-use with upgrade potential. The only 'fixed' element is the non-removable arm, but that seems increasingly more common. To ensure

RIGHT: The '5105 is precision-engineered from its bead-blasted alloy/brass LP weight, machined alloy platter with steel/brass bearing, alloy chassis, custom 10in gloss black carbon fibre tonearm, right down to its three adjustable feet

performance, post-'LP revival' turntable makers are reverting to the era of the AR Universal, the Empire 598 and others which could not be altered by arm changes.

Unlike the N°515, which has its roots in VPI decks, and was manufactured for Mark Levinson by VPI, the N°5105 is a clean-sheet design, using nothing off-the-shelf. Although fully conceived in-house, this turntable has been produced in its entirety – including tonearm – by a firm in Germany, which UK spokesperson James Todd said was 'the best to be found'.

You sense this engineering prowess the instant you make contact with the deck – the black finish and ruler-straight edges are as good as any I have experienced [see PM's boxout, p45]. This is pure luxury, which is as it should be with *any* piece of high-end audio gear. Every component attached to the slab of

a plinth – the platter, the hefty puck, the adjustable feet – sends a signal that says 'upscale' to those who appreciate quality.

TOTAL FREEDOM

It starts at the front, the red-lit speed-selection and power on/off buttons nestling in a machined insert. The rest of the deck

is as deliciously uncluttered as a basic Pro-Ject or Rega, with only the absolutely necessary elements present: pulley, platter, tonearm. One little luxury – which ought to be found on every turntable – is a built-in spirit level. At the back,

meanwhile, there's an IEC mains input and RCA tonearm outputs rather than a captive lead [see p47]. Here ML places one element in the hands of the user, and that's the choice of cable, as no interconnect is supplied. As James explained, 'Our dealers

'The piano enjoyed a sparkle (or is that a tinkle?)'





are all seasoned retailers, with their own preferred brands. If we were to supply leads, some would like it, some wouldn't, so this becomes a user preference'.

As for the cartridge, there is no Mark Levinson-branded offering, which is ironic when one considers that a half-century ago, the original Levinson company single-handedly launched the concept of cartridges with indefensible, astronomical prices. However, the successful pairing of the earlier N°5 15 with an Ortofon MC made it a go-to supplier, and the Quintet Black S is a honey of an MC. As every ML preamp and all but one of the integrated amps now feature fine phono stages, matching is easy, as is the potential to suit any other cartridge one might prefer.

As for the tonearm, it, too, is a gem, especially if you use low compliance MCs, of which I tried two – one costing more than the deck itself. The supplied set-up tools for overhang, VTA, etc, are some of the very best I have seen, and the manual

– supplied with the mat in a gatefold LP sleeve – walks you through the procedure. Also, please permit one last observation regarding this deck's flexibility, despite it ostensibly being a 'closed system'.

In addition to total freedom over choice of interconnects and cartridges, the N°5 105 also responds to changes in mats with nearly the audible changes when applied to lighter, lesser platters. The one supplied is a thin, almost papery type, so I also tried conventional felt mat and rubber mats. Each time the sound changed just enough to encourage experimentation. For the review, I used the supplied item.

NONE MORE BLACK

As if to match the plinth's gorgeous finish, the initial impression was made by the ultra-quiet background. While no LP playback can ever match digital silences unless using a DS Audio optical cartridge, this came pretty close. The sound of Charles Mingus' *Ah Um* [Mobile Fidelity


ABOVE: Fitted here with an upmarket Ortofon Quintet Black S MC, and with its 25mm bead-blasted alloy front panels segueing into a glass and clear-alloy frontispiece, the N°5 105 is the super-slick, 21st-century LP spinner given form

UD1S 2-010, One-Step], in addition to providing an opportunity for me to try 45rpm, possessed an airiness and space that almost approached the same via the much dearer TechDAS Air Force III Premium [HFN Jun '19]. In terms of soundstage recreation, we are talking mere inches.

For reproducing a live feel, the atmosphere of a club or simply the spontaneity of any small jazz ensemble, this background silence is a peerless boon. The images and sounds were suspended in total freedom from the speakers, delivering that sought-after disappearing trick we all desire from our systems. As for the timbre of the instruments, the piano in particular enjoyed a sparkle (or is that tinkle?) which yielded a level of authenticity that rendered the listening all the more vivid. In other words, this deck extracted all that a One-Step LP provides.

PARTY TRICK

With vocals my prime concern, however, I slipped Carly Simon's *No Secrets* [Speakers Corner ELEKTRA75049] onto the platter, 'The Carter Family' being my guaranteed tear-jerker. Detail obsessives will delight in the way this analogue front-end handles nuances, especially breathiness and realistic, rather than irritating sibilance. As for the myriad sounds on 'You're So Vain', there's an undeniable delight in hearing Mick Jagger's unmistakable, rather nasal contribution in the background.

If this deck has a party trick, beyond the openness and the mesmerising absence of vinyl whoosh, it has to be the lower octaves. James confirmed that, the issues 

A REFERENCE DESIGN

Weighing in at a substantial 34kg, Mark Levinson's N°5 105 is still a remarkably compact turntable, free of outriggers, suspension posts and pockets of fresh air. The main chassis hosts the AC-DC power supply and speed control for the integrated motor while machined, bead-blasted and anodised alloy structures feature throughout the dense jigsaw of the N°5 105's mechanical design. This includes the two black, 25mm-thick front panels and naturally-anodised (clear) bezel at the centre of its frontispiece, the latter also hosting a solid glass – not acrylic – setting for the alloy speed and standby buttons.

The 6.5kg platter is also fashioned from the same alloy with a very substantial hardened steel spindle bearing that runs within sintered brass bushings. Even the LP record weight, the shape inspired by Mark Levinson's hourglass motif seen in the arm's gimbal housing and knob design of its preamp/integrated amps [HFN Jun '18 & Aug '19] is fashioned from bead-blasted alloy, its overall density further increased with a solid brass insert. The precision of every facet of the N°5 105's build – from chassis, bearing, platter and LP weight through to the trio of adjustable feet and exquisite tonearm – is world-class and an object lesson in what can be achieved by 21st century industrial hi-fi design. PM

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TURNTABLE



ABOVE: Tonearm bias weight is readily adjustable as is tonearm height (VTA). The AC-DC PSU is built into the chassis, as is the electronic speed selection, but there is no fine speed control. Tonearm wiring exits in RCA's with a ground post in between

created by using a heavy platter apart, a three-point suspended subchassis was ruled out not least because it complicates set-up without necessarily delivering any sonic rewards. And that's absolutely the case if you are able to site the N°5105 on a substantial stand, away from airborne interference.

As an experiment, though, I located the deck between and slightly to the front of the speakers, and still it remained free from microphony. The substantial platter, plinth and complex feet, allied to perfect levelling, all but guarantee that this is a silent runner. As heretical as this sounds to Ye of the Flat Earth Persuasion, I was reminded – favourably – of the sheer competence in that area of massive direct-drive decks of yore, like the larger Denons and Trio/Kenwoods.

KEY PLAYER

With the Whitesnake compilation, *Love Songs* [Rhino R1 1643449], the challenge was to convey not just wall-of-sound guitar pyrotechnics, but stadium rock/power ballad grandiosity. Just as the N°5105 was adept at intimacy with the Charles Mingus session, so did it fill the room from the opening notes of 'Love Will Set You Free'. What this says to the listener with catholic tastes, while also satisfying the needs of single-genre monomaniacs, is that the N°5105 is neither a rock nor a jazz nor a pop nor a classical deck, but one of equal opportunism.

Of course, you're thinking, this applies mainly to the package with the Ortofon MC, but it remained consistent with the other MC cartridges I tried: a Koetsu and a Denon, neither of which resemble the Quintet Black S in basic attitude. What remained consistent was the neutrality of the presentation

throughout the midband, which I also challenged with the title track of Jackie Wilson's *Whispers* [Demon DEMREC685], his voice spanning multiple octaves like an opera diva.

Just as it caressed the warm tones of Carly Simon's voice, so did the N°5105 deal with the power and the dynamic contrasts of Wilson's pipes, which veer from the actual whippers of the ballads he sings, to soaring upper-register cries that stun the listener. Regardless of the cartridge, this deck holds it all together, and because of this, it emerges as a key player in the current revolution.

Along with VPI's 40th Anniversary turntable [HFN Apr '19], EAT's dearer models, all-in-ones from Clearaudio and numerous others, there is a discernible movement inspired, I've no doubt, by the vinyl revival. These companies are doing at the high-end what Pro-Ject and others undertake at the lowest price points, in effect, trying to make LP usage as simple as CD – in many cases, for those who've never touched an LP before. Of course, the true agenda for ML is to complete its 5000 series. And believe me, it has done it in style. ☺

HI-FI NEWS VERDICT

For all the wrong reasons – looks, build quality, ease-of-use – I adore the N°5105. Enough for the purists among you to castigate me, perhaps, but my admiration for it would only be meaningless if the sound didn't match the form. This is a sublime device which does everything you'd want of a deck at its price, while delivering pride of ownership usually restricted to luxury pens and watches. I'm dazzled.

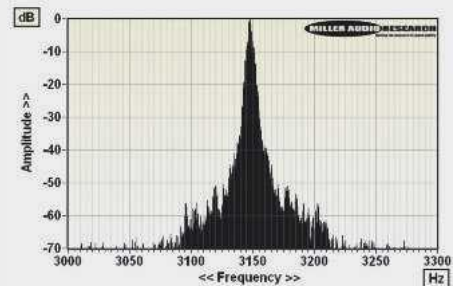
Sound Quality: 88%



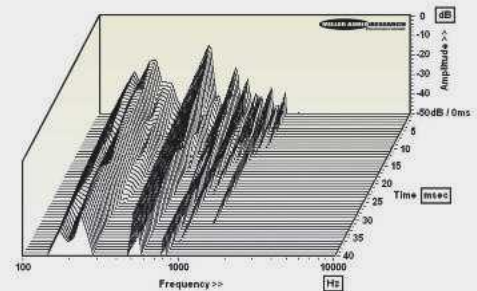
MARK LEVINSON N°5105

Measured directly through the N°5105's hardened steel bearing (a pre-loaded affair with captive ball, sintered brass bushings and minimum of oil lubrication) – rumble turns in at an impressively low -70.6dB (DIN-B wtd, re. 1kHz/5cm/sec). Through-groove rumble is lower still at -71.3dB, and -72.3dB with the aluminium/brass record weight in place, courtesy of the 6.5kg alloy platter and relatively stiff fibre mat providing an ideal mix of damping and isolation. The platter is driven via a precision-ground 1.2mm² square-section belt from a DC motor solution, again, offering sufficient torque to bring the LP up to speed within 7 seconds but not so torquely as to introduce noise into the playback chain. Absolute speed was running imperceptibly slow at -0.09% in our sample but the very low-rate speed drift commonly seen with DC motors was absent here [see sharp peak in Graph 1, below]. Peak wow and flutter was also suitably 'under control' at 0.08%.

The custom 10in high-gloss black carbon fibre tonearm tube includes a bonded solid aluminum headshell with integrated finger lift, a combination that contributes to a medium/high 16g effective mass that suits the low compliance Ortofon Quintet MC. The arm's main bending/twisting modes are deferred to an impressively high 170Hz, 226Hz and 290Hz [see waterfall, Graph 2] but amplitude and duration, especially of the high Q break at 525Hz (possibly linked to a flexure of the headshell) is also moderately 'energetic'. The cluster of modes and harmonics from 700Hz-1.6kHz are associated with the arm rest, lift and fine wire bias outriggers. Otherwise the massive bearing assembly shows minimal friction (<10mg) and zero play – all beautifully engineered but might benefit from some additional damping. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division)



ABOVE: Cumulative tonearm resonant decay spectrum, illustrating various bearing, pillar and 'tube' vibration modes spanning 100Hz-10kHz over 40msec

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.30rpm (-0.089%)
Time to audible stabilisation	6-7sec
Peak Wow/Flutter (Peak wtd)	0.03% / 0.05%
Rumble (silent groove, DIN B wtd)	-71.3dB (-72.3dB with clamp)
Rumble (through bearing, DIN B wtd)	-70.6dB
Hum & Noise (unwtd, rel. to 5cm/sec)	-59.5dB
Power Consumption	4W (1W standby)
Dimensions (WHD) / Weight	438x154x395mm / 34kg

Marantz SACD 30n/Model 30

Trickledown engineering wins hands down as the core technology behind Marantz's 12 series is buffed to a new polish, gaining network compatibility at an even lower price
Review: **Andrew Everard** Lab: **Paul Miller**

The expression 'hot on the heels' is one thing, but to launch two sets of products seemingly offering similar features at much the same price might be seen as inviting customer confusion. Yes, that's just what Marantz has done, with the SA-12SE/PM-12SE SACD player and amplifier [HFN Nov '20] followed within weeks by the arrival of the 30 Series models – yes, an SACD player and amplifier. Add in the fact that both ranges draw heavily on previous models – to put it charitably – and one might well wonder what exactly is going on.

Well, it's not quite as simple, or baffling, as it may look. For a start, the 30 Series models have a whole new look, albeit one the company says is influenced by classic designs of the past [see boxout, p49]. And the pricing, at £2700 apiece for the Model 30 amplifier and SACD 30n player, undercuts the '12SE pairing by a healthy 10%. More strikingly, the player is not just an SACD spinner, but also a fully-loaded network streaming device – that 'n' suffix giving the game away.

CROSS PLATFORM

That arguably makes the SACD 30n a more tempting prospect than the SA-12SE in the modern multi-platform era, where music is just as likely to come from a network file or online streaming service as it is from a silver disc. Also, I rather suspect the lower price will provide the icing on what is already a very toothsome cake.

Having lived with the 30 Series for a while now, and with recent memory of using the '12SE pairing, I have to say that – while the new models do look very different – the player and amplifier we have here (in silver or black) are still very distinctly 'Marantz'. Operation is clear and logical, and best of all the 'Marantz sound' hasn't been 'messed with' in the transition.

RIGHT: Marantz's MMP phono stage and HDAM-SA3 preamp section occupies a full third of the amplifier [right]. Linear PSU [centre] feeds DAC/preamp with switchmode PSU [top left] for the nCore power amp modules [top centre]

A major contribution to that ease of use is made by the integration into the SACD 30n player of parent company Sound United's HEOS multiroom platform. This brings slick streaming, from network storage via UPnP and online services including Amazon Music HD, Spotify and Tidal, and also Bluetooth and Apple AirPlay 2 wireless connectivity, not to mention voice control – if you desire.

The player will also handle music that's stored on CD-ROM and DVD-ROM media, using the same dedicated drive designed for SACD/CD playback, can be fed from a computer via its USB-B input, and also allows USB storage to be connected to its USB-A port for playback. File formats up to 384kHz/32-bit PCM and DSD256 are supported via USB, and 192kHz/24-bit and

DSD128 on the network connections, and legacy digital inputs are also provided on optical and coaxial connections.

CUSTOM PROCESSING

The SACD 30n uses the Marantz Musical Mastering 'no DAC' digital signal path, in which all incoming signals are upconverted via user-selectable digital filters, converted to DSD128 and then output from the player via a simple low-pass filter. It's a system that was first seen in the company's SA-10 flagship disc player, and which has now trickled down to the SACD 30n via the SA-KI Ruby [HFN Jan '19] and SA-12SE.

The analogue output is available in both fixed-and variable-level forms (on RCAs), the latter allowing the player to be used

'It's a glorious mash-up of country, soul, R&B and more'





straight into a power amplifier or – as we'll see later on – into the Model 30's direct power amplifier input.

If the SACD 30n player looks rather like a cross between the SA-12SE and the company's earlier ND8006 [*HFN* Sep '18], described at the time of its launch as 'the complete digital music source player', then the partnering Model 30 amplifier will be even more familiar to those who follow the more elevated Marantz ranges.

CORE VALUES

Rated at 100W/8ohm, it's based around the company's favoured Hypex Ncore NC500 power amp modules [see PM's Lab Report, p51]. Feeding that power amp section is a preamp design in many ways

similar to that found in the PM-12SE. It's analogue-input-only, with five line-ins (plus that power amp in already mentioned) and a MM/MC phono stage. This uses the Marantz Musical Premium Phono EQ circuit, a two-stage affair with a low-noise J-FET input combined with the latest example of its, by now, very familiar HDAM (Hyper-Dynamic Amplifier Module) op-amps.

The line preamp section has its own power supply, fed from a double-shielded toroidal transformer to reduce interference, while the design also makes liberal use of Marantz's proprietary HDAMs, as is the company's longstanding preference. Outputs extend to one set of speaker terminals, plus line and preamp outputs, plus a headphone socket,

ABOVE: The 30 Series does something different while retaining classic Marantz cues, such as the amp's 'porthole' display. Note the front panel phono selector and conventional tone controls

although the Model 30 lacks the PM-12SE's 'biamp' and Floating Control Bus System modes, which allows up to four SA-12SEs to be daisy-chained. Another significant difference is seen in the tone controls here, which are on physical controls on the front panel rather than hidden away in the menu system as with the PM-12SE.

WINNING WAY

I mentioned before that one of the most attractive elements of the 30 Series products was that the well-established Marantz presentation hadn't been lost along the restyling path, and that's exceptionally clear as soon as one starts using these components. What's more, you don't have to resort to audiophile jazz or 'girl with guitar' recordings to hear just what this duo is capable of.

With the *Live At The Roundhouse* set from Nick Mason's *Saucerful Of Secrets* [Legacy/Sony 19075982722; 96kHz/24-bit] streaming via the system into suitably weighty loudspeakers, it's easy to realise what a remarkable recording this is. It's undeniably live, but it's also weighty and crisp with no shortage of detail and punch to go with the superb musicianship.

The same goes for the rather more intimate opening of Eric Johanson's recent *Below Sea Level* album [Nola Blue, n/a cat no; 44.1kHz/24-bit], the Marantz pairing ↪

REINVENTING MARANTZ

The Series 30 look isn't just a styling tweak, but a whole new design language for Marantz, and with it a new marketing line: 'Modern Musical Luxury'. Inspired by revisiting Marantz models of the past, including the vintage (1955) Audio Console and the original Model 30 amplifier, how the new styling will play out in the market is still to be seen. It may come as a bit of shock to the Marantz faithful, used to all the company's mainstream hi-fi products sharing a common industrial design. Until now, an integrated such as the PM-12SE [*HFN* Nov '20] looked just like a big PM6007 or predecessor PM6006 [*HFN* Sep '16], but now there's a new look and one the company says will trickle down the range.

Joel Sietsema, SVP of Brand at Marantz parent company Sound United, says that, 'Our main goal in updating Marantz was to effectively capture the timelessness, musicality and passion the brand has brought to the world for nearly 70 years. The result is a familiar, yet entirely new Marantz ID and an exciting listening experience that delivers on the Marantz promise of the most musical sound'. Judging by the host of European audio mags featuring this new 30 series on their covers, we'd say Marantz was off to a rip-roaring start.

THE CLASSIC EVO

Pro-Ject
AUDIO SYSTEMS



April 2020



January 2020

Available in:



THE EVOLUTION OF A CLASSIC

The Classic Evo utilises a simple and elegant “frame” design, which bears a notable resemblance to some of the most famous turntables of the 1950’s, 60’s and 70’s. But the design is more than just aesthetically pleasing, it also combines proven hi-fi technologies with the ‘simple to set-up and own’ principles associated with Pro-Ject turntables, so you can just focus on enjoying your music.

The improved two-plinth design utilises Thermo Plastic Elastomers (TPE) to isolate the metal-finished inner-chassis, rather than the traditional method of a spring-loaded sub-chassis, but this construction effectively decouples the motor from the main bearing and the tone-arm, reducing unwanted interference between the components.



Diamond cut sub-platter



Electronic speed change



Carbon fibre 9” the classic tone-arm



Ortofon Quintet Red moving coil cartridge

LAB REPORT

MARANTZ SACD 30N/MODEL 30



ABOVE: SACD/network player/DAC [top] has wired Ethernet, BT, coax/two optical and USB-B/USB-A digital inputs plus optical/coax digital outs and fixed/variable analogue outs on RCAs. Amp [below] has MM/MC phono plus four line ins, a tape loop, pre out/power amp in and 4mm speaker binding posts

having a winning way with both the close-up sound of the more downbeat tracks and the driving slam of the bluesier rock-outs. The focus is completely on the music, and not the 'hi-fi-ness', which can only be a good thing.

Even really bustling mixes don't throw this combo off its stride, as is clear even from the opening moments of Keith Urban's *The Speed Of Now, Vol. 1* [Capitol Nashville/Keith Urban LP11; 44.1kHz/24-bit].

COMPLETE BLAST

This album is a glorious mash-up of country, soul and R&B and more, with a pretty stellar supporting cast, and the SACD 30n/Model 30 open up the often busy mixes to bring out the performances, for example in the Urban/Pink duet with bar-room backing vocals on 'One Too Many'.

That, however, is the beauty of this Marantz pairing – whatever you play, be it via disc, streaming or even

LP through that excellent on-board phono stage, these components make it a complete blast. Frankly, if you're not enjoying it, it's because you don't like the music, not as a result of any failure of the system. What's more, chances are you're going to find all kinds of music you

LEFT: System remote governs both Model 30 products, providing access to option menu for network set-up, digital filters, tone controls, etc



may have dismissed delivered in a manner that's involving and sonically satisfying... At one point I even found myself enjoying the vocal qualities of Toni Braxton and Babyface from the *Home All Alone* album [UMG stream; n/a cat no.] – not at all the kind of music I'd usually be listening to from choice, but it sounded rich, detailed and hugely attractive.

When you do play 'audiophile' – or at least exceptionally well-recorded – jazz, the Marantz player and amp really shine. The Espen Eriksen Trio's latest set, *End Of Summer* [Rune Grammofon RCD2216; 96kHz/24-bit] has that almost tangible sense of soundstaging and focus I've noted with the band's previous recordings, and the Marantz pairing, here driving Neat Iota Xplorer speakers [HFN Jul '18], casts a superbly three-dimensional image, with all the dynamics and speed you could want.

This is a group I've seen live several times in small, close-up venues, and here the free-flowing playing, yet with quartz-locked precision, is absolutely nailed. ⚡

HI-FI NEWS VERDICT

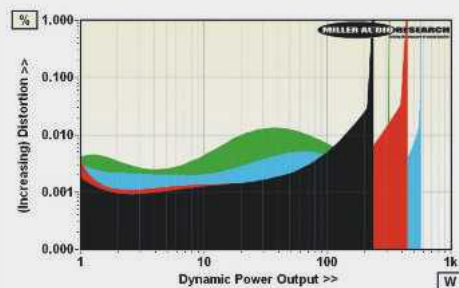
It's a bold step, taking the familiar Marantz look and re-defining it completely, but where it matters – under the skin – the new Series 30 products have got what it takes to succeed. The SACD 30n, in particular, is a much more compelling buy than the SA-12SE, thanks to its onboard networking and multiroom capability, while the Model 30 amplifier has an attractive blend of flexibility, performance and – yes, style.

Sound Quality: 86%

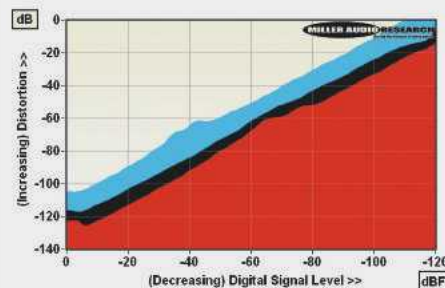


Employing the same Ncore NC500 Class D amp module as the PM-KI Ruby [HFN Jan '19] and PM-12SE [HFN Nov '20], the performance of the restyled Model 30 is necessarily very similar. Once again, the modest 100/200W 8/4ohm rating is exceeded to the tune of 200W/330W, with 240W, 445W, 577W and 315W achieved under dynamic conditions into 8, 4, 2 and 1ohm loads [see Graph 1, below]. And, again, the Class D module's reactive filter network causes both an increase in output impedance and distortion at very high frequencies (to 0.035%/20kHz/10W) but the response remains unaffected by loading, reaching out to -0.6dB/20kHz and -5.7dB/100kHz. The 81.3dB A-wtd S/N ratio is perhaps 1dB better than measured via the PM-12SE but still 4-5dB below that of the 'average' integrated.

Marantz's partnering SACD 30n disc/network player mirrors the SA-12SE, offering a maximum 2.0V output (2.5V with SACD) coupled with a healthy 108dB A-wtd S/N ratio and distortion that's just 0.0001-0.0006% (20Hz-20kHz), falling to a minimum of 0.00006% over the top 10dB of its dynamic range [see Graph 2, below]. The response (and stopband rejection) depends on your choice of digital filter: 'Filter 1' is a linear phase, slow roll-off type that trades minimal pre/post ringing against a mere 4.0dB image rejection and a roll-off of -4.9dB/20kHz (CD), -7.3dB/45kHz (96kHz files) and -14.1dB/90kHz (192kHz files). 'Filter 2', a corrected minimum-phase 'fast' type has a flatter response trend reaching out to -1.45dB/20kHz, -4.9dB/45kHz and -20.5dB/90kHz. SACD/DSD64 media stretch out to -0.7dB/20kHz, -3.0dB/50kHz and -13dB/100kHz. Jitter is low with 24-bit LPCM inputs and SACD/DSD64 alike at 55psec. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 17.7A



ABOVE: THD vs. digital signal level at 1kHz (USB, red; CD, black) and 20kHz (CD, blue). Note extended Y scale

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	199W / 329W
Dynamic power (<1% THD, 8/4/2/1ohm)	240W / 445W / 577W / 315W
Amp freq. resp. (20Hz-20kHz/100kHz)	+0.0 to -0.60dB/-5.7dB
CD freq. resp. (20Hz-20kHz, Filter 1/2)	+0.0 to -4.85dB/-1.45dB
Digital jitter (CD / USB / SACD)	130psec / 55psec / 55psec
A-wtd S/N ratio (Player/Amp)	108.1dB (0dBFS) / 81.3dB (0dBW)
Distortion (20Hz-20kHz; Player/Amp)	0.0001-0.0006%/0.0009-0.011%
Power consumption (Player/Amp)	27W / 260W (40W idle)
Dimensions (WHD, Player/Amp)	440x123x419/453mm

Matrix Audio Element X

This unit may be compact, but it's a highly comprehensive DAC/headphone amp/preamp, with full network audio capability encompassing a huge range of formats
 Review: **Andrew Everard** Lab: **Paul Miller**

Based in Xi'an, the ancient city in northwest China that's home to the famous Terracotta Warriors, Matrix Audio has a classic hi-fi backstory: it was founded by three audio/music enthusiast schoolmates who regrouped some years later to launch a company to develop and produce hi-fi separates. The DA-100plus DAC was its inaugural product in 2006 since which time the company has evolved its lineup to encompass a range of digital and streaming products that covers just about all the bases, from the X-Sabre Pro DAC [*HFN* Nov '17] to the new £2795 Element X.

The latter, a compact box – just 350mm wide and standing 60mm tall – is not only capable of driving a wide range of headphones, it can also be used as a source to feed conventional amplification or as a DAC/preamp, with variable output and the option of a 10dB boost if required. Multiple digital inputs are provided, and it supports everything from network streaming to MQA, Roon, 768kHz PCM and DSD1024 via an ESS ES9038Pro DAC. To put it mildly, it's pretty much future-proofed.

WALK THIS WAY

It's possible to use this unit straight out of the box, whether as a DAC to feed your system, a streamer or a headphone amp. A large part in that is played by the company's MA Remote app, available free for both Android and iOS. While some manufacturers may follow the path of suggesting buyers use their products with readily-available third party apps, the Matrix Audio approach really shows the benefit of creating something bespoke.

Plug in the Element X and fire up the app on your phone or tablet, and it will walk you through network connection and set-up. After that you just need to point it to your network store – if that's what

you'll be streaming from – using the app's 'Library' tab, or to a USB device (or even a tiny MicroSD card, if that's where you have your music), and then to any streaming services to which you wish to connect.

There is an even easier way to control stored music and streaming services: use the Element X as a Roon endpoint. Yes, you'll need a computer running Roon Core, and a Roon subscription, which at the time of writing runs at \$6.99 a month, or \$699.99 for the lifetime plan. But you could always try the 14-day offer, which will allow you to see how you get on with it.

The Element X's front panel controls are no more than a power button, what looks like just a volume knob and a pair of further buttons, but this is an exceptionally flexible device, with all manner of user options selectable via a menu accessed by those two buttons and pushes and twist of the main control. For a start you can select inputs and outputs, the Element X

DAC having two coaxial, two optical and an LVDS/I²S digital input, as well as a USB-B for computer connection and two USB-A host ports for storage devices.

SEVEN FILTERS

As well as a choice of headphone outputs – two XLR/6.35mm combination sockets, and a further 4-pin balanced XLR output – you can also output analogue audio via either XLRs or RCA phons, the amplification using four discrete channels to deliver true balanced working when required. All these options can be selected or disabled

in the menu system, delving deeper into which reveals such niceties as seven digital filters [see PM's Lab Report, p55], a choice of DSD low-pass settings, dither, 'jitter elimination', DPLL bandwidth for tackling shaky digital feeds, and headphone gain.

There's a lot in there, so it's handy that one of the two front-panel buttons, marked 'O', can be preset for quick access

'The Element X makes it big, rich and full of vitality'



RIGHT: A substantial linear PSU [lower left] has separate regulation for the quad-core ARM CPU [top left], XMOS and Xilinx processors (USB/MQA) [centre], ESS Sabre 9038Pro DAC [lower right] and headphone amp [top right]



to a given set of functions: input or output selection, digital filters, or information shown on the display about the unit's hardware and software status. There's also a slimline remote to access basic functions including volume and input selection.

THRILL OF IT ALL

After set-up and the inevitable over-the-air firmware update, the Element X was used with a variety of headphones – both balanced and single-ended – including the B&W P9 Signature [HFN Mar '17], Focal Spirit Pro [HFN Dec '15], the Oppo PM-1 [HFN Jul '14] and Philips Fidelio X3. I also used it into both integrated and power amplifiers, including the excellent Denon PMA-A110 [HFN Dec '20] which allowed me to make use of both fixed and variable outputs on the Element X, thanks to the integrated's power amp direct input.

Operationally it proved impossible to trip up, being based on a solid platform including a powerful quad-core ARM

processor, running in-house Linux-based software, and – apart from keeping track of all the options selected – the Element X is smooth and simple to use.

However, there's nothing smooth or simple about the sound here: instead it's direct, superbly scaled and never short of entirely thrilling, whether listening with headphones or as a source/preamp. Of course, you can while away the hours playing with the digital filters, but I found no consistent reason to stray from the default 'MOD1 filter', which is a fast roll-off, minimum phase setting. With this in use the Element X sounds fast, tight and punchy when required, yet with excellent bass warmth and detail retrieval.

There's more than enough power here, and superb grip, to drive and control even the most demanding headphones, and without resorting to any tricks of processing the sound is both open and airy with no sense of claustrophobia, even when using closed-back designs like the

ABOVE: With a push, a twist and a click or two, you can access a comprehensive menu system, while sockets accommodate both balanced XLR headphone outs and a standard 6.35mm feed

B&W P9. In fact, if there's any disadvantage here, it's that you'll play the music too loud through your 'phones of choice, so cleanly will the Element X drive to very high levels.

For obvious reasons, excessive in-ear SPLs should be avoided but it's hard not to like the way a piece such as Widor's *Tocatta*, played by Olivier Latry on the Notre Dame de Paris organ [from BNL 112617], sounds when played loud through good headphones. Mind you, with a fine amplifier and speakers on the end of the Element X, it's even more thrilling when those pedals start the listener's whole body shaking!

JUST MAGNIFICENT

This combination also serves well the tripping, pounding beats of Dub Pistols' *Addict* [Sunday Best SBESTCD89], which allows the weight, slam and speed here to combine to excellent effect, while also giving an ultra-clear view of everything going on in the mix above. This isn't just toe-tapping stuff; it's everything-tapping, and sounds just magnificent, with every lyric crystal clear, right from the opening title track.

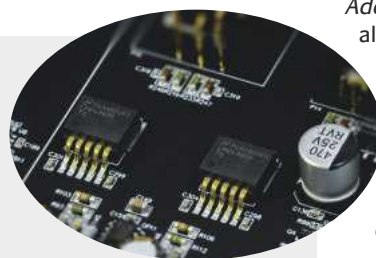
That ability to deliver a full-scale sound, rammed with information and its drama intact is also much in evidence with the recreation of the 1985 Live Aid set on Queen and Adam Lambert's *Live Around The World* [EMI 00602507394066], which is full of almost all of the swagger of the original and treated to a spectacular live mix. The Element X makes it big, rich and full of vitality, just as it should be, proving that this DAC/amp isn't just an exercise in technical excellence and 'hi-fi-ness' but also very much built by people who love music.

Change pace entirely to the classic 1965 EMI Abbey Road recording of Martha Argerich, then only in her mid-20s, playing Chopin [EMI Japan TOGE-11072; DSD64], and that freshness and detail is to the ☞

SQUEAKY CLEAN CANS

For its headphone preamp, Matrix Audio uses a pair of TI's high specification LME49600 buffers per channel, each rated at 500mW/32ohm at vanishingly low levels of distortion. And, indeed, the Element X's can-driving performance is state-of-the-art. Tested here in 'High' gain mode – which adds another +10.5dB but has no impact on the maximum power – its unbalanced headphone output registers 9.26V at '+14.0dB' volume at just 0.00003% THD and with a massive 119dB A-wtd S/N ratio. THD increases to 0.006% at the '+14.5dB' volume setting before clipping at 1% THD for 10.2V at '+15dB' (all re. 0dBfs digital input). Adjusted for a 600ohm load this represents an output of 160mW while the amplifier retains sufficient current to support 1250mW/32ohm and an impressive 620mW/8ohm at <1% THD, the latter impedance representative of the very toughest earphones. In general, distortion is very low indeed at typically ~0.0002% through bass and midrange and 0.001%/20kHz at the reference level of 10mW/32ohm.

The response of the headphone output is determined by your choice of digital filter [see Lab Report, p55] but its low 700-1000mohm source impedance means the Element X will manage the varying load of low impedance 'phones without significantly modifying any existing peaks and dips in *their* acoustic response(s). Channel separation is >95dB (20Hz-20kHz) and noise, too, is very low, ensuring an equally cavernous 116dB A-wtd S/N ratio. So the Element X will drive the most sensitive of headphones without adding background hiss or hum. **PM**



LUMIN

STREAMING DONE RIGHT



“ If you want the impression of real live musicians plonked in the room in front of you, the D2 delivers... Outstanding ”

LUMIN D2 - Hi Fi News, June 2020

“ I am blown away by its performance...It puts it in direct competition with products that cost several times as much ”

LUMIN X1 - Hi Fi Plus, 169 Editor's choice 2020

“ Not only is the X1 a first-class component, but the support behind the Lumin is also as stellar as the unit itself ”

LUMIN X1 - The Absolute Sound, Editor's Choice 2020

“ One of the best sounding streamers at its price then and is also easy to use, stable in operation and superbly built ”

LUMIN T2 - StereoNET, March 2020



THE AUDIOPHILE NETWORK MUSIC FAMILY - LUMINMUSIC.COM

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NETWORK-ATTACHED DAC



ABOVE: Digital ins include wired/wireless Ethernet and I²S on an HDMI socket (up to 768kHz PCM, DSD256 as DoP and DSD1024 natively), USB-B (also 768kHz PCM and DSD256 as DoP), 2x optical/coax S/PDIF and external files via MicroSD and USB-A. Analogue outs (fixed or variable) are offered on RCAs and balanced XLRs

fore, along with a lovely sense of the studio acoustic wrapped around the glorious performances. The passion, dexterity and lightness of touch in the C-sharp minor *Scherzo* is nothing short of breathtaking when the Element X is driving revealing headphones, such as the Philips Fidelio X3 – it's tempting to hit the repeat button just to experience it all over again! The warmth and spirit of the sessions comes through marvelously, and the sheer levels of detail on offer will amaze those who think that great sound began when we all went 'hi-res' a few years back.

POWER TRIP

Talking of being amazed, lightness of touch doesn't even come into it with Stokowski's wonderfully lush and overblown *Rhapsodies* set for RCA 'Living Stereo' from the very early 1960s [RCA Red Seal LSC-2471; DSD64]. Subtle it ain't, with the orchestra – RCA's in-house 'Symphony Of The Air' – seemingly on as much of a power trip as the conductor with its great swathes of Hollywood musical strings, and no turn left unstoned.

The Element X brings out all the gloriously over-the-top dynamics of this still-staggering recording – what must it have sounded like to listeners at the time? It's a riot, if

LEFT: In addition to the MA Remote app (for iPhone, iPad and Android), the standard IR remote offers input selection, volume, mute and access to the seven digital filters (LPCM only)



not always for the right reasons. So if you ever need something get you up and ready to invade a neighbouring state, Stokowski and his merry men storming up 'The Moldau' – via the Element X, a gutsy amp like the Denon and a pair of big speakers – should do very nicely indeed.

That's the great strength of Matrix Audio's Element X: it gets you to heart of a recording, whether you're playing it from a computer or USB storage, summoning it up from a NAS drive or streaming it. Of course, that could also be its undoing if the music you play is a bit on the rough side, but some judicious juggling with the digital filters can soften things down a little.

However, pick a good recording such as Billie Eilish's 'No Time To Die' [Darkroom/Interscope; n/a cat no] – about as close as any of us are going to get to 'Bond 25' this side of next Easter – and the Element X delivers a beautifully intimate view of the vocal in throttled-back mode. Then it opens up all the cylinders as Hans Zimmer's great orchestra soars into action around about the point where the movie titles will be telling us he did the music. It's suitably dark, and decidedly glorious. ☺

HI-FI NEWS VERDICT

If you're thinking 'Matrix who?', you're in danger of missing out on one of the more conspicuous hi-fi bargains of the moment. In a world rapidly becoming overpopulated with big-ticket DAC/headphone amps, this modestly-proportioned contender has the wherewithal to soar to the top, thanks to its flexibility, ease of use – either with the MA app or Room – and performance that's never short of thrilling.

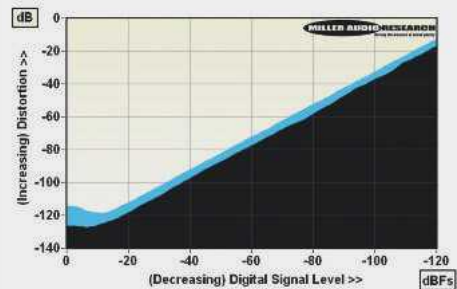
Sound Quality: 88%



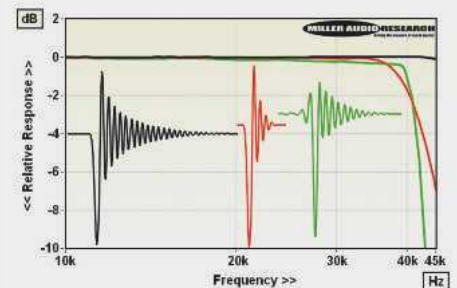
MATRIX AUDIO ELEMENT X

Since our review of Matrix Audio's X-Sabre Pro [HFN Nov '17] the company has improved its ES9038 Pro/32-bit Sabre DAC-based platform still further [see boxout, p53, for the headphone amp test results]. Most notably the 'untidy' 200psec jitter revealed in my lab report for the X-Sabre Pro has now been fully resolved – the Element X incurs just 5psec/48kHz and 55psec/96kHz, the latter a very low-rate ±6Hz pattern. Distortion is spectacularly low at 0.00003-0.0002% at the maximum 4.3V balanced output (20Hz-20kHz), holding to a mere 0.00015-0.00027% over the top 30dB of its dynamic range [Graph 1, below], while the A-wtd S/N is a class-leading 116dB via all digital inputs and resolution true to ±0.05dB over 100dB and ±0.2dB over a 110dB range.

The frequency response(s) depend on which digital filter is chosen [see Graph 2, below] while the negative-going time/impulse responses show the Element X is phase inverting. Filters 1 (Minimum Phase/Fast), 3 (Linear Phase/Fast), 5 (Brickwall), 6 (Hybrid) and 7 (Apodising) all have sharp roll-offs, with Filters 2 (Minimum Phase/Slow) and 4 (Linear Phase/Slow) offering gentler treble roll-offs, reduced 'ringing' but poorer stopband rejection. Otherwise, Filters 1, 3, 5-7 offer a similar 73-83dB rejection of digital aliasing images with 48kHz media, but just 18dB/14dB with Filters 2 and 4 which are better suited to higher sample rates. With CD/48kHz files the responses reach out to -0.1dB, -5.0dB, -0.1dB, -3.5dB, -4.0dB, -12.3dB and -0.8dB/20kHz (Filters 1-7, respectively). With 96kHz media, the 45kHz response limits are -0.09dB, -7.0dB, -0.4dB, -4.9dB, -14dB, -23dB and -7.5dB while, with 192kHz files, the 90kHz response limits are +0.2dB, -6.9dB, -0.3dB, -4.8dB, -14dB, -23dB and -7.3dB. PM



ABOVE: THD vs. 24-bit digital level over 120dB range (1kHz, black; 20kHz, blue). Note extended Y scale



ABOVE: Time (Minimum phase/Fast Filter 1, black; Minimum phase/Slow Filter 2, red; Hybrid Filter 6, green) and HF magnitude responses at 96kHz

HI-FI NEWS SPECIFICATIONS

Max. output (<1% THD, DAC/Pre)	4.34Vrms at 97ohm (Balanced)
Max. output (<1% THD, headphone)	10.2V/600ohm / 1250mW/32ohm
Headphone output impedance	700-1000mohm (20Hz-20kHz)
A-wtd S/N (S/PDIF / USB / headph.)	116.2dB / 116.1dB / 115.9dB
Dist. (20Hz-20kHz, DAC/headph.)	0.00003-0.0002%/0.0005-0.0048%
Freq. resp. (20kHz/45kHz/90kHz)	+0.0dB to -0.02dB/ -0.1dB / +0.1dB
Digital jitter (48kHz/96kHz)	5psec / 55psec
Power consumption	13W
Dimensions (WHD) / Weight	340x60x281mm / 4.2kg

Scansonic MB6 B

Bucking the trend – Scansonic goes for the slender, multi-driver approach for its flagship design, to impressive effect
 Review: **Andrew Everard** Lab: **Paul Miller**

The MB series is the high-end range from Scansonic, and the MB6 B the flagship of the latest iteration of this lineup. Yet in an arena where bulky, room-dominating speakers prevail, this design takes a different approach. Yes, it's tall, at just over 1.4m, but the company has kept it slender – at under 18cm, the front baffle is narrower than that of many a much smaller design. For example, even the little B&W 606 standmount speaker is a centimetre wider than this floorstanding tower.

It's all made possible by the drivers chosen for the MB 6B, which sells for £8999 in a simple choice of white or black silk finishes. Rather than adopting the 'big drivers shift more air' principle to deliver the bass, the designers at Danish company Dantax – parent of both Raidho and Scansonic – have gone for multiple smaller units. This is not a unique approach – such an arrangement is found elsewhere, and even in some innovative speaker cabinets designed for use by bass guitarists – but it has definite advantages.

Not only does it allow the slimline design we see here, but smaller drivers are notionally much easier to start, stop and generally control than the bigger and heavier cones more conventionally associated with powerful bass. Big drivers with 300mm cones may look impressive but, to put it bluntly, they do tend to flap about a bit if not tightly controlled. Various strategies have been employed to gain this kind of control, an extreme example being the complex and expensive electromagnet system used in Focal's massive Grande Utopia EM Evo speaker [*HFN* Dec '18], with its huge 40cm bass unit.

STRAIGHT SIX

The drivers in the MB6 B speakers are little over a quarter the size of those Focal units, at just under 11.5cm, but the Scansonic engineers have used six of them, complete with carbon-fibre cones, in what they call a 'power sharing line array', claiming time alignment of all drivers at the listening position. This is a classic d'Appolito

arrangement, with the treble driver – in this case the now-familiar Raidho/Scansonic ribbon-esque/planar tweeter – at its centre, and the midrange and bass drivers arranged above and below it. The way the drivers 'radiate' outward is an effort to enhance the 'point source' effect by starting with the most directional drivers at the centre, moving out to the less directional units.

Thus, in the MB6 B, two of the 11.5cm drivers are used, one above and one below the tweeter, to cover the midrange, between the 250Hz and 2.6kHz crossover points, while above and below this arrangement are further pairs of the drivers configured as bass units.

MASS MOVEMENT

Scansonic says its arrangement has a larger radiating area than that of a conventional 30cm bass unit, while retaining both the speed and agility of the smaller drivers, which combine a woven carbon cone with ridges for stiffness, no dustcap for greater integrity and an overhung motor designed for long excursion.

The low mass tweeter, meanwhile, uses a Kapton/aluminium sandwich diaphragm just 20µm thick – we're talking human hair here – that weighs only 0.03g. In treble drivers, where lightness is paramount for the high frequency movement required, that's an advantage – Scansonic describes the mass as being '50 times less than any conventional textile, ceramic, beryllium or diamond dome', which comfortably covers most of the competition's technologies!

All the speakers in the revised MB-B range, which made its debut at the beginning of 2019, share these drivers in various combinations. The lineup kicks off with the £1899 MB1 B standmounts, then moves up through three more conventional-looking slimline floorstanders ranging from the £2899

RIGHT: The 115mm carbon-fibre mid units and two pairs of 115mm bass drivers look identical to those in the MB6 but now feature new suspension systems. The rear ports [see p59], ribbon/planar tweeter and stabilising alloy outriggers are retained

'The backing vocals soar up with a rush of exuberance'





A BETTER B

New for the 'B' iteration of the Scansonic MB6 is a redesigned crossover, while the internal construction of the curved, heavily braced cabinet has been reworked with minimal damping. A 'looser', low-loss spider has been adopted for the rear suspension of the mid/bass diaphragms, Scansonic reporting improved dynamics and LF response after a much-reduced 'break-in period' of some 100 hours' use.

Three sculpted ports to the rear tune the bass, and the 36.5kg speaker sits on substantial, easily-adjustable feet. A single pair of input terminals is provided, so no need to faff around wondering about bi-wiring or bi-amplification, and the minimum power requirement is relatively modest at 50W. However, as PM points out in his Lab Report [p59], these are speakers benefiting from the use of fairly substantial amps, not least in tackling the relatively low impedance, especially in the bass, but also in overcoming a 'real-world' sensitivity that's lower than the manufacturer suggests. Similarly, while Scansonic says the switch to a more conventional ported cabinet design for the 'B' series gives 'a more coherent, dynamic and detailed low-end reproduction, while at the same time making in-room placement of the speaker much easier and more versatile', some boundary reinforcement was advantageous.

MB2.5 B to the £6249 MB5 B before arriving at this range-topper. The MB2.5 B uses a conventional 'tweeter above mid above bass' arrangement, while the MB3.5 B and the MB5 B [HFN Jun '20] both use a d'Appolito treble/mid layout, with bass drivers below.

SLIMLINE TONIC

Having reviewed the MB5 B speakers relatively recently, I was expecting this flagship model to be 'more of the same, but more so', especially as the redesigned bass drivers and cabinets claim to make the most of the bass here. And with the proviso in PM's Lab Report [see p59] regarding the positioning of the cabinets – that's just what the MB6 B delivered, at least when some boundary reinforcement was provided.

Underpinning the junior model's combination of detail, focus and imaging is notably greater bass extension, yet without sacrificing any of the low-down speed and control that has so far been a hallmark of the latest versions of the MB speaker range.

With these loudspeakers on the end of high-quality amplification – I tried the Bricasti M20/M25 combination [HFN Nov '20] and, at a more affordable level, the Michi P5 preamplifier [HFN May '20] and M8 monoblocks [HFN Oct '20] – it was clear that the increased low-end punch available here didn't stop the MB6 B from delivering a thrilling sense of air and space in the sound.

If you're a sucker for that brief glimpse of recorded ambience in the moment before the music starts, or the way the sound decays away into a well-captured acoustic, you'll find much to like here. That was certainly the case with Elton John's 'Border Song', from his self-titled 1969 album [Mercury Japan UIGY-9612]. The sense of performance and of the lone performer at his piano in a credible acoustic was striking,


before the backing vocals soar up with a rush of exuberance, and the drums punch through the mix with real impact.

Similarly with Christophe Beck and Frode Fjellheim's 'Vuelie' (the theme from *Frozen*), by Norwegian choir Cantus on Spes [2L 2L-110-SABD], the MB6 B speakers deliver a precise, ultra-clear view of a typically wide-open recording. Every voice in the choir ranged before the listener is readily apparent, as is the acoustic space, and again the drums have both weight and fine attack.

That speed, allied to the explicit yet sweet treble from the ribbon tweeter, is heard to good effect with Angelo Verploegen and Jasper van Hulten's *The Duke Book* [Just Listen Records JL019], a wonderfully simple tribute to Duke Ellington played on no more than flugelhorn and drums. The recording, made live with no edits or overdubs, displays fabulous speed and drive. The drum kit sounds particularly snappy and punchy, and there's a glorious sense of the two musicians occupying the same acoustic space, their playing bouncing off each other.

HALL EFFECT

On a different scale, Britten's *Serenade For Tenor, Horn And Strings*, recorded in the composer's own concert hall at Snape Maltings [Linn CKD 478D] shows the speakers fully able to let the notes hang in, and decay into, the hall's ambience. The strings and the two soloists are delivered with entirely realistic proportions, with the diction of tenor Allan Clayton made explicit by the apparently seamless integration between the speaker's drivers – and again, that sense of experiencing a performance, not just listening to a recording, is a strength here.

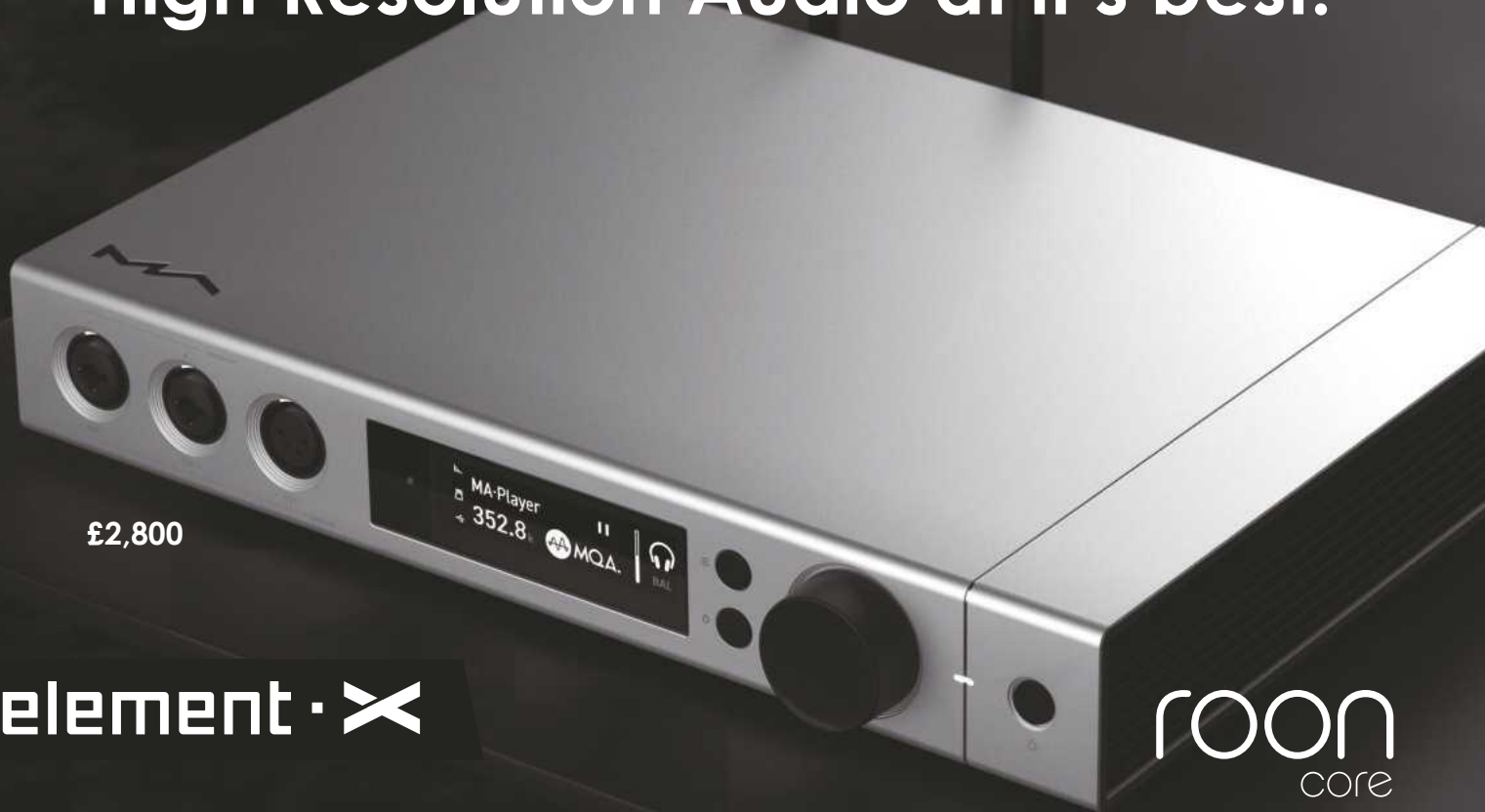
More obviously live sets also benefit from the broad, deep focus and airy top end of the MB6 B speakers, with the 2019 Vienna 

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SCANSONIC MB6 B



LEFT: The narrow, tapered cabinet profile dictates the use of multiple reflex ports while the reworked crossover still only offers one pair of 4mm cable terminals and no bi-amping/wiring

Philharmonic New Year's Concert, conducted by Christian Thielemann [Sony Classical 19075902822] having a lovely rich, warm sense of the well-heeled audience gathered in the big room of the Muzikverein.

One can't help but be reminded of John Lennon's line, 'Would the people in the cheaper seats clap your hands? And the rest of you, if you'll just rattle your jewellery', but it's hard to argue with the feeling of occasion, and of the audience playing as big a part in the event as the orchestra. The band's on form, the audience is having a (very polite) ball, and the weight and balance of the loudspeakers convey all the atmosphere of the concert.

SHEER DRIVE

So yes, you certainly need to take a bit of care when it comes to positioning these loudspeakers to get the best of that bass, but do that and the MB6 Bs aren't afraid to rock out, whether with the pomp of 'Thunder Child' from that famous *War Of The Worlds* recording [Columbia DPCD960000] or the sheer drive and slam of The Who's 'You Better You Bet' [Face Dances; Geffen 96kHz/24-bit download].

The clarity here is a major factor, but the speakers never stray into 'too much information' territory. Instead, they deliver a sound that's both satisfying in hi-fi terms and musically compelling, too. 🎧

HI-FI NEWS VERDICT

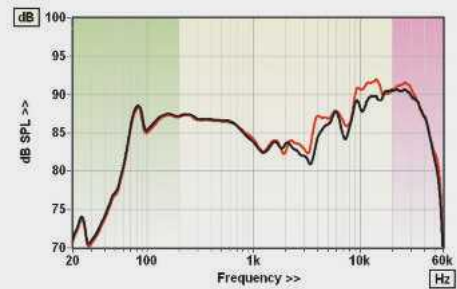
You'll need to shove them closer into the corners than common sense would suggest, and make sure your amplification is up to snuff, but these tall, slender speakers don't just look fabulous: they also deliver the music – any music – with real vitality and impact. They're detailed, refined and classy, but hit them with something rougher and harder and they'll rise to the occasion in admirable style.

Sound Quality: 86%

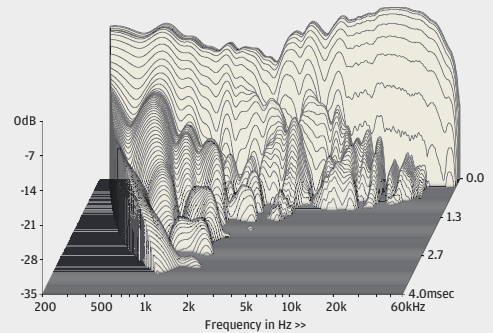


Scanasonic continues to specify a high sensitivity for its reworked 'B' series but the depressed midband and shelved-up presence/treble of the MB6 B suggests a standard 1kHz figure of just 84.1dB (re. 2.83V/1m) improving to 84.9dB (500Hz-8kHz) and 86.3dB (200Hz-20kHz). As we saw with the MB5 B, narrowband variations in the output of the planar treble driver above the 2.6kHz crossover contribute to response errors of ± 4.9 dB with a hefty pair-matching error of 3.6dB. On the other hand, HF distortion is lower in this model at 0.6%/10kHz/90dB SPL and break-up behaviour better controlled [see Graph 2, below].

Working with a 'line array' of small woofers brings both benefits and challenges – the low frequency alignment here is decidedly 'peaky' with all four reflex-loaded 115mm bass units tuned to 79Hz and a steep roll-off thereafter [green shaded area, Graph 1]. While the diffraction-corrected bass extension of 54Hz (-6dB re. 200Hz) may seem slightly parsimonious, in practice we found the MB6 B certainly benefited from some near rear-wall reinforcement, these slim floorstanders delivering their smoothest, deepest subjective bass in this location. So the MB6 Bs are certainly room-friendly, but the amplifier loading – particularly below 150Hz – is a little tougher than Scanasonic's '>4ohm' specification might suggest. Even though swings in phase angle are limited to +47°/-29° through this region, the impedance minima of 3.1ohm/89Hz and 2.98ohm/25Hz are best handled by heavyweight solid-state amps, particularly when the reduced sensitivity is also taken into account. Then again, a £9000 flagship is unlikely to be partnered with anything less! PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left speaker, black; right, red



ABOVE: Low-level modes visible from the four bass units at 500-1.5kHz but planar treble is well damped

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	84.1dB / 84.9dB / 86.3dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	3.0ohm @ 25Hz 13ohm @ 69Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-29° @ 78Hz and 2.9kHz +47° @ 56Hz
Pair matching/Resp. error (200Hz–20kHz)	3.6dB / ± 4.9 dB/ ± 4.9 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	55Hz / 47.7kHz/44.7kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.35% / 0.28% / 0.56%
Dimensions (HWD) / Weight (each)	1410x178x410mm / 37kg

Audio Research REF 6SE

The REF 6 replaced Audio Research's long-serving REF 5 tube preamp back in 2015 but five years of running production updates have now culminated in this 'SE' refresh
 Review: **David Price** Lab: **Paul Miller**

The Audio Research Corporation is a company with provenance, a truth that's instantly apparent when first setting eyes upon its new £16,998 REF 6SE line-stage preamplifier. Indeed, its history shouts out at you, from the iconic styling with shades of its 1970s SP-series preamps, to the industrial-quality construction which underlines that it's built to last. Rather like its manufacturer, in fact.

This is the latest in a long line of premium-priced tube preamps [see PM's boxout, p61] and one of several products, including the REF 750SE power amp and REF CD9SE CD player/DAC [HFN Aug '19], to benefit from ARC's 'SE upgrade package' as part of the company's 50th anniversary celebrations. Importantly, current REF 6 owners aren't forgotten about, because their preamps can be upgraded to REF 6SE status for the princely sum of £4000.

UP CLOSE

The REF 6SE is from the less-is-more school of preamplifiers, being a fully balanced, single-stage Class A design with zero overall feedback claimed, and no phono stage or internal DAC with USB connectivity. Oh, and you can whistle for a built-in streamer. Indeed, its bluff simplicity – superficially at least – is a big part of its appeal.

The chunky fascia sports two large knobs to handle source selection and volume. Between these is a row of decent sized buttons below, offering switching for power, mono, menu, enter, phase invert and mute. Above, there's a large alphanumeric display showing the input selected, and volume on a scale of 0 to 103 – the latter in large, pixelated numbers. The crudeness of the display may well look like a raised finger to manufacturers offering fancy fine-pitch OLED panels, but its physical size reminds

RIGHT: Under a clear, perforated top plate the tube audio stage employs six 6H30 triodes [three per channel – top] with another 6H30 and larger 6550WE beam tetrode [bottom] for high voltage PSU regulation [far left]. The low voltage power supply is entirely separate [far right]

us that ARC's customers may enjoy large listening rooms that require the display to be seen from a distance.

It's a sight for sore eyes, inside. The translucent top cover means you can see how precisely this preamp is laid out with every inch of 'real estate' occupied [see pic, below]. To the right of the power supply's array of smoothing capacitors, the vacuum tubes take pride of place, with a 6H30 triode and 6550WE tetrode sitting front and centre. The other six 6H30s, the beating heart of the audio circuit, reside further back towards the rear of the board, which is neatly laid out with full-sized components and tidy wiring.

It's likely that your dealer will fit the tubes; they've already been burned in, tested and electrically matched but the unit isn't transported with them in situ, so the top needs to come off. The company

claims a life of approximately 4000 hours for all but the 6550WE, which is half that. Round the back of the preamp [see p63] are eight pairs of input connectors; four on balanced XLRs and four single-ended on RCAs. Outputs include two pairs of XLRs and RCAs, plus a fixed Record Out.

MODEL MODS

The settings menu offers a choice of auto shutdown time, processor mode (pass through), tube hours display, display brightness, volume reset (input level setting) and input naming. Some of these features – like display brightness – can be controlled directly via the remote.

ARC says the modifications to this new model stem from the development of its Reference 160-series amplifiers [HFN Aug '18 & Feb '20], and the latest Reference 750SEL. The company is coy





about the exact details of the tweaks involved, but MD David Gordon says that 17 capacitor changes and 12 revisions to the internal wiring have been incorporated – the superior geometries, precision and dielectrics all chosen to ‘reduce signal smearing’. While ARC is evidently keeping the full details of these tweaks very close to its corporate chest, Gordon did venture ‘there are no measurable differences between the 6 and the 6SE on the bench, but the sonic differences are startling’. However, that, as editor PM was keen to point out, rather depends on what you are measuring.

Sure enough, the basics – including overall gain, S/N ratio, headroom, frequency response – are broadly unchanged, but the trend of distortion versus frequency is not. While both

‘It’s a gripping rendition of this rap/rock crossover classic’

channels are well within ARC’s conservative specification, PM measured a higher THD on the right versus the left channel in this 6SE chassis [see Lab Report, p63].

He was tempted to put this down to errant tube matching until we spotted exactly the same results in partner magazine *Stereophile’s* report on a different sample of the REF 6SE, tested by John Atkinson [see www.stereophile.com/content/audio-research-reference-6se-line-preamplifier-measurements]. So this is more likely a design/tweak issue, rather than poor tube matching.

QUIET LIFE

This is one very subtle-sounding tube preamp. Auditioned between a dCS Vivaldi One disc player/DAC [HFN Feb ’18],

ABOVE: Familiar aesthetics and handles – the REF 6SE has rotary controls for input select and volume, placed either side of a bold fluorescent display, with six function buttons below

Constellation Inspiration Mono power amps [HFN Oct ’19] and B&W 800 D3 loudspeakers [HFN Oct ’16], it proved highly self-effacing. Give it a late ’70s pop/rock track such as ‘Kiss On My List’ by Daryl Hall and John Oates [Looking Back; BMG PD 90388], and one can clearly hear its bone-dry production. There’s little tonal warmth, and percussion is taut and well damped. Yet there’s a subtle gentility to the sound, a slight sweetening of this bitter pill of a recording that’s wholly welcome.

The track’s soaring vocals as the singers rip into the chorus can sometimes grate on forensically-inclined high-end equipment, yet it was more palatable here. The result was a sound that took the spotlight off the production’s imperfections, and let the listener cast their gaze upon the music.

However, this almost imperceptible gentrification doesn’t impact on its sense of speed. The opening drum machine ride cymbal on Run DMC’s ‘Walk This Way’ [It’s Like This; Polydor POC-1088] was lightning-fast, slicing through the air in PM’s listening room like a knife. The bass drum was tight, lithe and propulsive as the beatbox set up a fat groove onto which that classic Aerosmith guitar riff sample was cut-and-pasted. The REF 6SE caught the edge and grit of this, to give a gripping rendition of this rap/rock crossover classic.

MOVE CLOSER

Despite taking the focus off the middling quality of this recording, the REF 6SE is not for obfuscation. More typically it’s very revealing of subtle musical detail so it’s not necessarily the right choice for enthusiasts looking to ‘dial in’ some tube preamp softness. The presentation is unforced but highly insightful, easy on the ear while still dripping with filigree detail. By this I don’t

THE GENERATION GAME

Careful evolution best describes the path of ARC’s single-chassis Reference preamps, which started with the REF 1 in 1995, notable for its resemblance to ‘classic’ ARC preamps with its row of knobs above toggles, between handles. Its gain was all-tube, with eight inputs, but with full microprocessor control of volume, balance, record and input selection. It also featured fully regulated power supplies, dedicated analogue and logic transformers and audiophile-grade components throughout. The REF 2 from 1998 looked the same and allowed ’1s to be upgraded to ’2s. A unity gain stage was added, as was tube regulation. The REF 3 of 2004 was a full re-design, now featuring a fluorescent display and menu that replaced many controls.

With the REF 5 of 2009 – the blueprint of today’s REF 6SE – the circuit design was revised again, now fully balanced and operating in pure Class-A triode mode, but the basic look remained the same. Its valve complement comprised four 6H30s in the audio stage, with a 6550 and a 6H30 in the power supply. For the REF 6, ARC introduced an additional 6H30 stage per side, maintaining the same overall gain and low noise but significantly reducing distortion [see Lab Report, p63]. The REF 5 and 6 also ushered in the latest volume circuit – offering a useful 66dB range over 102 steps (from 0-103, with ‘0’ putting the preamp into mute). The volume increments average out at $\pm 0.3\text{dB}$ over the top 60dB of the REF 6SE’s dynamic range (103 down to 43), $\pm 0.9\text{dB}$ over the following 30dB (43 to 13) and $\pm 1.5\text{dB}$ right down to ‘1’ on the volume scale. **PM**

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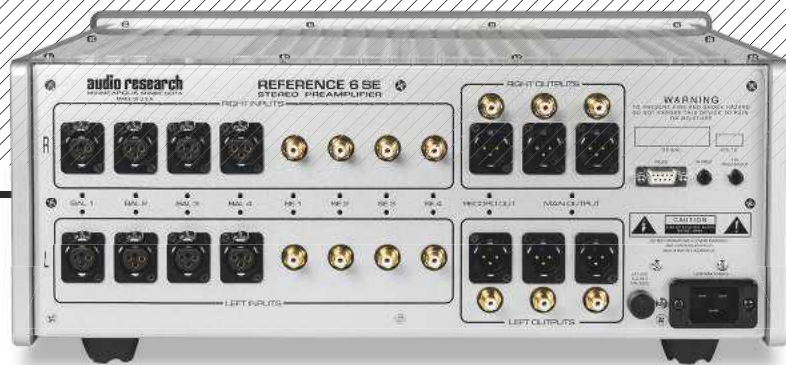
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AUDIO RESEARCH REF 6SE



ABOVE: A full eight separate line inputs are offered (four balanced on XLRs and four single-ended on RCAs) with duplicate XLR/RCA record outputs and two sets of XLR/RCA preamp outputs. The latter are variable or fixed in 'processor' mode

mean it fetishises small production effects in a recording – it reveals these very well too, by the way – but rather it tells you all about the timbral qualities of the instruments and vocals that it's reproducing. The result is a really authentic and tangible sound, and one that's impossible not to like.

PEEL SESSIONS

For example, Electronic's 'Getting Away With It' [*Electronic*; Warner Bros WPCP-4348] was quite a surprise. I love the tune but had always thought it be a dreadful, compressed recording – one likely to have been mastered on DAT, given its mid '80s vintage. The REF 6SE effortlessly peeled away the track's many layers, letting me get right to the centre of the mix.

Indeed I was surprised by the ease with which it all unravelled, this preamplifier resolving Bernard Sumner's vocals with great skill. I've never been a wholehearted fan of his voice, but suddenly there was a tenderness and vulnerability to his performance that had been airbrushed away by lesser preamps.

I also found myself being more impressed by the B&W 800 D3 speakers than I'd expected. I often find these slightly on the clinical side of accurate, yet with this preamp, and system, they seemed to open up and reveal a more human side. So the recording took a climb in my estimation, for while it'll never be a great audiophile reference,



LEFT: Partnering remote caters for input selection, mono, mute, volume, balance, phase invert, and access to limited menu functions

neither was it as fizzy, crowded or compressed as I had once imagined.

The REF 6SE doesn't do the 'magic wide stereo' thing – some tube preamps seem to have a subjective 'scale expander' that pushes the recorded acoustic implausibly far beyond the speakers. Instead, the REF 6SE's projection of the musical soundstage seems scrupulously accurate, building an immersive soundfield with great breadth and depth where appropriate, but never when not.

For example, The Style Council's lilting track 'Long Hot Summer' [*Collection*; POCP-1606] was vast in size – with percussion (maracas, sampled handclaps and snares) far left and right, while Paul Weller's vocals were steadfastly locked between the two speakers and recessed back slightly. This gave a panoramic vista to this early '80s recording, adding a grand sense scale to the proceedings.

Yet cue up The Byrds' cover of Bob Dylan's 'My Back Pages' [*The Byrds*; Columbia CK 46773] from the late '60s, and this preamp reels in the soundstage, tightening its focus and delivering a recorded acoustic that's far smaller in scale – just as it should be. Major or minor, the result is never less than compelling. ☺

HI-FI NEWS VERDICT

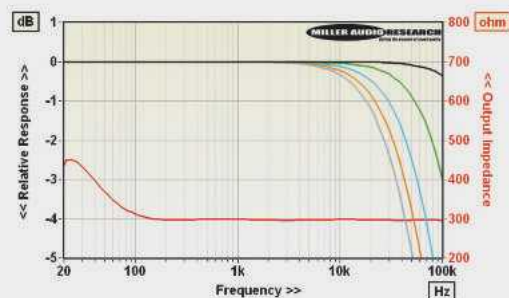
The essence of this ARC REF 6SE preamp is its ability to neither add nor subtract anything of significance – and audibly what little it does bring is for the good, making less perfect recordings more enjoyable. The result is a preamplifier that reminds us of the importance of the breed; a great one such as this finishes off the sound, allowing a superb system to sing in a carefree and untrammelled way.

Sound Quality: 90%

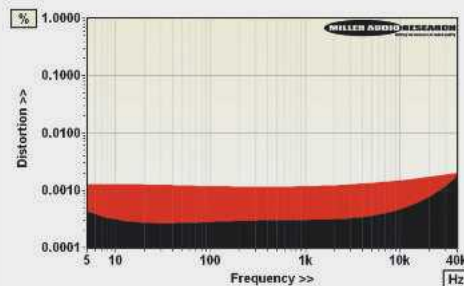


Why a tube preamp? The answer lies in one word – 'headroom'. The balanced outputs are capable of delivering over 60Vrms from a 300ohm source impedance (increasing to 450ohm/20Hz) while the input overload is in excess of 15V. So, just like the REF 6 [*HFV* May '16], the REF 6SE can be driven by any modern source and drive any modern power amp – having a standard 20kohm+ input impedance – with impunity. Sharing the same trio of Sovtech 6H30P double triodes per side as the REF 6, the overall gain (balanced in/out) of the REF 6SE is unchanged at +12.3dB as is the wide 96.4dB A-wtd S/N ratio (re. 0dBV). Distortion stays well within ARC's broad 0.01% specification but is uniformly higher (though not especially 'high') on the right channel above 330mV output – for example, just 0.0002-0.0007% (left) vs. 0.0012-0.0016% (right) from 20Hz-20kHz at 0dBV [see Graph 2].

Like the REF 5 and REF 6, the REF 6SE's response also varies with volume setting [see Graph 1, below] suggesting ARC's inter-stage buffering has not changed. The REF 6SE achieves its flattest response of -0.01dB/20kHz and -0.35dB/100kHz at full +12dB gain (103 on the display) but shows its most aggressive treble roll-off of -1.2dB/20kHz and -9.7dB/100kHz at +7dB gain (89). As the gain – not output level – is reduced still further the treble slowly picks up to achieve -0.9dB/20kHz and -8.4dB/100kHz at +6dB gain (86), -0.6dB/20kHz and -6.6dB/100kHz at 0dB gain (62) before reaching -0.14dB/20kHz and -3.0dB/100kHz at -6dB gain (41 on the display). Finally, reduced capacitive coupling within the REF 6SE has improved stereo separation to >100dB (20Hz-20kHz) in the REF 6SE versus >80dB for the REF 6. PM



ABOVE: Output impedance versus frequency (red) and extended frequency response (+12dB vol, black; +7dB, grey; +6dB/orange; 0dB, cyan; -6dB, green)



ABOVE: Distortion versus extended frequency at 0dBV, balanced line input/output (left, black; right, red)

HI-FI NEWS SPECIFICATIONS

Maximum output/input (<1% THD)	>60V (balanced)
Output imp. (20Hz-20kHz/100kHz)	450-298ohm / 296ohm
Frequency resp. (20Hz-20kHz/100kHz)	+0.00 to -0.01dB / -0.35dB
Input sensitivity (re. 0dBV)	245mV
Input overload	>14V (balanced)
A-wtd S/N ratio (re. 0dBV)	96.6dB
Distortion (20Hz-20kHz, 0dBV)	0.0002-0.0007% (Left channel)
Power consumption	133W (3W standby)
Dimensions (WHD) / Weight	480x198x419mm / 17kg

PS Audio Stellar M1200

This flagship monoblock is not only more powerful but features significant design enhancements over other Class D amplifiers in the Stellar range, including a tube input...
 Review: **Mark Craven** Lab: **Paul Miller**

The best of both worlds' is an oft-used rallying cry in the hi-fi industry, rolled out to extol the virtues of everything from compact loudspeakers with big bass output to digital network players with phono stage inputs. It's also the self-proclaimed *raison d'être* of PS Audio's Stellar M1200 monoblock amp. Sold in pairs for £6000, this recent addition to the Stellar range combines a high-power Class D output stage with Class A vacuum tube input, in pursuit of both efficient speaker-driving muscle and spine-tingling musicality.

It certainly appears up to the challenge of providing sufficient grunt. The claim here is of a 'minimum' 600W/8ohm and 1200W/4ohm – figures not typically found at the price [see PM's lab report, p67]. This is more juice than you're ever likely to need, but the Colorado-based brand claims it is fundamental to the amplifier's appeal: 'The over-the-top high power output of the M1200 exists not to match a small handful of power-hungry speakers, but, rather, to act as the perfect uncompressed power source for even the smallest, most efficient of speakers on the market'.

GETTING INTO STELLAR

The Stellar series is PS Audio's entry-level, launched in 2017 with the £1350 S300 stereo power amplifier, £1550 Gain Cell DAC/preamp and £2700 per pair M700 monoblocks [HFN Apr '20] followed more recently by the £3000 Stella Strata integrated, £2500 Stellar Phono Preamp [HFN Feb '20] and the M1200 here.

What differentiates the M1200 from its more affordable monoblock stablemate is not just the promise of additional power – the M700 is rated at a 'mere' 350W/8ohm – but its hybrid design. So, while the M700 features the brand's 'Analog Cell' technology, which it describes as a 'Class A

MOSFET input stage [that] closely mirrors the sonic characteristics of a vacuum tube', here you have the real thing – a 12AU7 triode fed by its own power supply.

A hybrid amplifier architecture also features within PS Audio's flagship BHK series of mono and stereo models [HFN Jul '16] though these are a mix of tubes and power MOSFETS. The tube/Class D blend of the M1200 is distinctive and described as a 'dream project' by lead designer Darren Myers. The chosen Class D power module is an upgrade over the M700, using ICEpower's latest 'Edge' circuit design to enable a more predictable response/distortion behaviour regardless of loudspeaker load [see PM's boxout 'Living on the Edge', p65].

Otherwise, the M1200's styling follows the trend set by other components in the Stellar range. Indeed, the amplifier looks almost identical to the M700. The chassis is the same width (432mm), and while a

shade taller it's slender enough to make placement simple, the two easily stacked and placed on a shelf or in a cabinet.

PLAYING IT COOL

The Class D design informs its form factor: there are no razor-sharp heatsinks to be careful of here, just vents on the top and sides for passive cooling. It also allows the amplifier to be lightweight (12kg) and energy efficient, having an idle power consumption – confirmed by Editor PM – of 29W.

The steel casing (available in black or silver) is reasonably pretty, but some might want a little more overt style from their system powerhouse – there's nothing to blemish the front fascia beyond a button with company logo. When pressed, this flashes blue as the amp's tube stage gets into gear and stays a solid blue until pressed again to put the M1200 into 'Output Disable Mode' – preserving the

'Hip-hop, dance, to live jazz – the M1200s had a whale of a time'



RIGHT: The M1200 combines a 12AU7 triode tube-based line input [top left], fed from a linear PSU, with an ICEpower ICEEdge 1200AS1 mono Class D amplifier module [bottom], incorporating its own switchmode PSU



lifetime of the triode when the amp is in standby. This logo also flashes blue if the amp's protection circuit is tripped.

The rear panel is uncluttered [see p67]. On the left are an IEC socket and power switch, while on the right is a screw-in panel granting access to the M1200's tube. Between are two sets of speaker binding posts, enabling bi-wiring, plus a ground terminal and balanced XLR and single-ended RCA line inputs. There are also 12V trigger sockets for system integration.

I made use of the M1200s' cool demeanour by installing them stacked and laced to Bowers & Wilkins 705 S2 standmounts and then to some three-way

tower speakers. PS Audio's BHK Signature Preamplifier was used to feed sources including a Bluesound Vault 2i music server and Oppo UDP-203 universal disc player.

STEEL 'N' SILK

This slender monoblock amp is not solely devoted to room-shaking power. It has that capability, but appreciation of its punch comes with an appreciation of its grace. The sound is a confluence of steel and silk – fast, rhythmic and able to respond astutely to the shifting

ABOVE: PS Audio's Stellar range plays it slender and simple, its substantial casework split into upper and lower half shells. Class D modules run cool so there's no need for external heatsinking

dynamics of music. A smooth treble lifts it high above the realms of the rough-and-ready, and there's an energetic delivery of the midband. But the star attraction – the one that gets your blood pumping right away – is its exceptional bass handling.

To check my Bluesound Vault 2i was behaving itself, I fired up, at random, Chris Rea's 'Daytona' [*The Road To Hell*; Tidal Master]. After no more than a second I had stopped worrying about my network

connection and started focusing on the music. This gentle, mid-tempo homage to a Ferrari race car (complete with tyres squealing over the outro...) arrived with a slippery, fluid and authentic bass sound that I wasn't prepared for, the kind that has you wondering why you haven't always done your listening through 600W monoblock amplifiers.

POUND FOR POUND

The B&W speakers are no slouch when it comes to low frequencies, but with the Stellar M1200s behind them they acquired a new identity. It wasn't just a case of 'making standmounts sound bigger', but making them sound more assured. Nor did this bass sound too dry or rich. I felt like Goldilocks on her third bowl of porridge...

This fulsome bass is the foundation for the M1200's other charms. Rea's composition is relatively sparse, giving focus to the piano, vocal and isolated flourishes of percussion. On the surface there's perhaps not much going on, but ↪



LIVING ON THE EDGE

In our review of PS Audio's Stellar M700 monoblocks [*HFN* Apr '20] I showed how its choice of ICEpower (now autonomous from its B&O parent) module brings with it some familiar foibles of 'traditional' Class D amplifiers. Specifically, the module's inductive output filter – an inescapable reality of Class D operation – causes a rise in output impedance at ultrasonic frequencies that impacts on both distortion and response that varies with *loudspeaker* load.

These are issues long-since dealt with by the competing Hypex UcD, Ncore and Eigentakt Class D modules developed over many years by designer Bruno Putzeys [see *HFN* Jun '17, Jan '19 and Aug '20, respectively, for examples]. Key to the Hypex modules' insensitivity to speaker load impedance is their 'wrapping' of this self same filter network within the amplifier's feedback loop.

However, tucked away under the long list of innovations claimed for ICEpower's latest 'Edge' version of its technology [stereo card pictured above, and now scalable over an impressive 50W to 7kW range] is the following revelation: 'all important feedback nodes in the audio path are routed to external pins of the controller creating a flexible and future-proof design... enabling our partners to implement their own proprietary modulator and feedback loops using ICEedge'. This is exactly what PS Audio engineer Darren Myers has achieved, ensuring the M1200 is not only more powerful than the M700 but also significantly more consistent and predictable in its performance with different partnering loudspeakers. PM

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PS AUDIO STELLAR M1200



ABOVE: The M1200 offers balanced (XLR)/single-ended (RCA) ins alongside parallel sets of 4mm speaker outlets (these are ‘floating’ so must never be connected to gnd., such as an active sub). Note removable panel for access to the triode tube [far right]

the Stellar duo seemed to cherish each aspect, bringing a pristine feel to woodblock hits and a sublime delivery of the timbral characteristics of the piano.

‘Daytona’ is music for a lazy Sunday afternoon, so next up was some music for a lively Friday night. AC/DC’s ‘Thunderstruck’ [*The Razor’s Edge*; EPC 510771 2] and the title track from Trivium’s *What The Dead Men Say* [Tidal Master] gave these amps reason to let their high-power hair down. The former scatters pounded floor toms throughout its lengthy intro, and they sounded as big as I had hoped, gently decaying to leave just air in their wake.

BOXING CLEVER

The latter track positively erupted, the amplifiers creating a searing midband with Matt Heafy’s sinewy guitar tone brought to the fore, and drums again hitting with the speed and aggression of a champion boxer. The smoothness of the M1200’s upper ranges helped here, taking some of the edge off the avalanche of distorted guitar and making this track more than palatable.

The resolution and nuance on offer comes with the usual caveat. Lower-quality sources sound like, well, lower-quality sources. Soundstaging and production differences are illuminated by the M1200’s transparency, rather than buried under its own character.

That said, I found it pleasingly genre agnostic – there wasn’t anything the M1200 didn’t have a whale of a time with, from hip hop and dance music to live jazz and orchestral pieces. Across them all, the same qualities came to the surface: weighty but uncoloured bass, impressive agility, and a real grasp of tonal subtleties.

From the off, Billy Joel’s ‘Travelin’ Prayer’ [*Piano Man*; Mobile Fidelity Sound Lab, 88.2kHz/24-bit FLAC]

sounded up-tempo and deliciously pointy, without smearing the staccato bassline or rat-a-tat percussion. The tongue-twisting lyrics tumbled out, followed by the frantic plucked banjo of Eric Weissberg, and as the track varied in instrumentation, the M1200’s mastery of it didn’t. Honky-tonk piano, mouth harp and violin were interwoven into what proved to be a foot-tapping musical medley.

Similarly impressive was the PS Audio amplifier’s evocative rendition of Howard Shore’s ‘The Breaking Of The Fellowship’ [*The Lord Of The Rings: Original Motion Picture Soundtrack*; Tidal Master], a more sedate track with string and brass layers, and breathy choral motifs, that served to emphasise the M1200’s calmer side.

Here the London Philharmonic spread out, with a generous space and depth to the soundstage that enabled me to visualise the throng of players. Conversely, the pulsating electronic beats and synth stabs of ‘Fuego’ by KOAN Sound [Tidal; 44.1kHz/16-bit] appeared to flit in and out of my vision, split-second bursts of energy benefiting from the Stellars’ transient power. ☺

HI-FI NEWS VERDICT

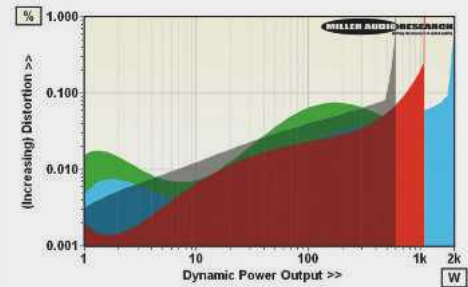
With its tube input and uprated ICEpower output stage, the M1200 is something of an outlier in the entry-level Stellar series, yet PS Audio’s ‘thinking-outside-the-box’ design pays dividends. From a package small enough to easily share shelf space with the rest of your system comes a performance that’s big and bold – yet also impressively emotive and refined. The best of both worlds? I think it just might be.

Sound Quality: 86%

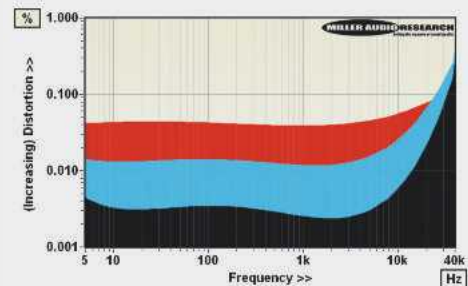


Although this latest M1200 monoblock offers exactly the same +30.6dB gain as PS Audio’s M700 [*HFN* Apr ’20] its performance differs in several important respects. Power output is necessarily increased courtesy of the 1200-series ICEpower module, from 365W/8ohm and 715W/4ohm for the M700 to 628W/8ohm and 1246W/4ohm here. As expected, the Class D architecture yields no advantage under dynamic conditions, in fact the ‘TCCCL’ (Temperature-Compensated Cycle-by-Cycle Current Limit) regime actually caps the output at 597W, 1080W and 1985W into 8, 4 and 2ohm, ‘falling’ to 1311W/1ohm, or 36A [see Graph 1, below]. Either way, the M1200 will not run short of breath...

As we saw with the M700, the M1200 shows a trend of gently rising distortion with increasing output – the triode tube input only adding some slight ‘colour’ here – the 0.0029%/1W to 0.012%/10W, 0.038%/100W and 0.14% at the rated 600W/8ohm. The 1200AS1 Class D module is optimised for best performance/lowest THD into 4ohm [again, see Graph 1] but distortion is otherwise maintained at an impressively consistent level vs. frequency from 20Hz-4kHz, increasing thereafter to 0.065%/20kHz/10W [see Graph 2]. This new module is quieter than that used in the M700, the 83.9dB A-wtd S/N ratio besting the latter’s 76.1dB by some margin. I discuss the M1200’s much reduced sensitivity to speaker loading in my boxout, p65, but the practical result is a flat ~0.026ohm output impedance from 5Hz-5kHz, rising only gently thereafter to a maximum 0.83ohm/95kHz (10x lower than with the M700). The frequency response now extends from 2Hz-25kHz (-1dB) and to -0.65dB/20kHz and -7.05dB/100kHz largely independent of loading. PM



ABOVE: Dynamic power output versus distortion into 8ohm (shaded trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 36.2A



ABOVE: Distortion vs. extended freq. at 1W/8ohm (black), 10W/8ohm (blue) and 100W/8ohm (red)

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	628W / 1246W
Dynamic power (<1% THD, 8/4/2/1ohm)	597W / 1080W / 1985W / 1311W
Output imp. (20Hz-20kHz/100kHz)	0.024-0.055ohm / 0.83ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.65dB/-7.05dB
Input sensitivity (for 0dBW/600W)	83mV / 2093mV
A-wtd S/N ratio (re. 0dBW/600W)	83.9dB / 111.7dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.0115-0.065%
Power consumption (Idle/Rated o/p)	29W / 707W
Dimensions (WHD) / Weight	432x95x330mm / 12kg (each)

B&W 603 S2 Anniversary Edition

The flagship of B&W's Anniversary Edition takes the range to a new price level, and promises performance to match
 Review: **Andrew Everard** Lab: **Paul Miller**

The special editions have been coming thick and fast this year, and this is the second recent 'tuned' range from Worthing-based Bowers & Wilkins, following hot on the heels of the 700 Series Signature models. We've reviewed the 702 Signature floorstander [*HFN* Sep '20], and the formula for the 600 Series Anniversary lineup is a familiar one: new finishes, and some mild performance tuning.

Launched to celebrate 25 years since the debut of the original 600 Series models, this Anniversary Edition represents one of the company's shortest model cycles. After all, the last revamp of the 600 Series was just two years ago [*HFN* Dec '18]. Here 'trickle down technology' saw the Continuum Cone first used in the current 800 Series Diamond models finding its way into the company's entry-level range via its use in the 'middle range' 700 Series, replacing the familiar yellow Kevlar cones.

At that point the company took the opportunity to rationalise the offering to just two standmounts and a floorstander, plus a centre speaker for multichannel use. It also reverted to the 600 model-naming after dallying with 680 designations in its previous generation.

FAMILIAL PATTERN

The 600 Anniversary Edition follows the same pattern: the £1499 603 S2 Anniversary model we have here is the sole floorstander, while below it are the 606 and 607 variants, at £599 and £449, respectively, plus the Anniversary version of the HTM6 centre speaker, at £449. There's also a multichannel package, the 600 Anniversary Series Theatre, combining 603, 607 and HTM6 speakers with the ASW610 subwoofer and selling for £2916.

So what sets the Anniversary Edition apart? Well, the most obvious things will be new finishes, with the existing matt black and white options being joined by a white/light oak two-tone (or in some markets red cherry), and a new anniversary logo etched into the tweeter surround in either light or dark finishes to suit the speaker colouring.

NEW HEIGHTS

Within, the changes encompass the same upgrades found in the 700 Signature speakers, with updated crossover components including specially treated

bypass capacitors from Mundorf, and improvements to the main high-frequency and midband capacitors.

It's hardly radical stuff, but the company claims it delivers 'greatly improved resolution

and transparency'. It further says that 'By using our unique, in-house-developed components and technology from higher ranges, we can raise the performance of our entry-level product to new heights and for a very modest premium'.

For all that, there's much that's familiar in these speakers, which are a relatively compact floorstanding design, standing just a metre tall, and with the supplied stabilising plinth (not shown here) taking that up to 105.5cm. It's relatively slender, too, with the main cabinet just 190mm wide – about as narrow as it could be while still fitting in its 165mm bass drivers – and 340mm deep, though the plinth increases that footprint to 320x370mm. That said, in

'They really get their growl on with the tight bass on offer'

RIGHT: The S2 Anniversary Edition of the 603 features B&W's 'Decoupled Double Dome' aluminium tweeter, a 150mm FST midrange driver with Continuum cone, plus two 165mm paper-coned bass drivers reinforced with Kevlar





BREAK UP BLUES

While B&W's ingenious 150mm Continuum Cone midrange is a common link across the 600, 700 and flagship 800 series loudspeakers, their respective treble units show marked differences. All employ diaphragms that are both light and stiff, pushing the dome's primary breakup to as high an ultrasonic frequency as possible. Nevertheless, the choice of materials impacts directly on the achievable performance. For example, the costly 'Diamond' dome employed in the 800 series pushes its resonance out to 75kHz, the peak suppressed to a level *below* the mean midband output of the speaker. The 'Carbon' treble dome used in the 700 series breaks up at a slightly lower (but still very high) 48kHz, albeit at an amplitude some +7dB above the speaker's mean output [see *HFN* Sep '20].

With less budget to play with in the 600 series, and aluminium alloy the default material of choice, B&W's engineers developed a novel solution to push the 25-30kHz resonance of a standard alloy dome out to higher frequency. Here, at the rear of its 25mm alloy dome, is yet another dome, a reinforcing 'twin' but with its centre removed. This laminate – the 'Decoupled Double Dome' – raises the first break-up frequency to 36-37kHz [see Graph 1, p71] even if the peak is very prominent at +15dB above the 603 S2 Ann. Edition's midrange level. For B&W, this is the art of compromise. PM



the absence of small children or animals likely to topple the speakers, you could easily use them without the plinth.

The drivers are a mix of in-house B&W units: the tweeter is a 25mm Decoupled Double Dome driver, in which the main aluminium diaphragm is reinforced by a ring of the same metal, adding stiffness [see PM's boxout, above], while the midrange driver is that woven Continuum Cone, 150mm in diameter and using the company's surroundless FST design. Below that sit a pair of 165mm bass drivers using reinforced paper cones, tuned via a rear-venting 'Flowport'.

Add in two sets of decent terminals, usefully mounted low-down on the rear to avoid hanging cables and connected using jumper bars for single-wire use, and that's about your lot. However, simple though the speaker may be, it's hard not to admire the quality of the finish. The white baffle/light oak cabinet of the review pair, in particular, looks very good indeed, and the finish further diminishes the apparent bulk – although, as said already, these are hardly huge speakers.

STREET SMART

While the nominal 8ohm impedance and 30W power requirement seem benign enough, as PM's lab report makes clear [see p71] these are speakers needing to be used with decent amplification. I wouldn't go as far as the hulking great Constellation Inspiration Mono power amps [*HFN* Oct '19] used in PM's listening

room, but they may not be an ideal choice for those just wanting 'something big' to put on the end of a budget amp. Stick to the likes of the Marantz PM7000N or Denon PMA-1600NE – all part of the same stable now – and you won't go far wrong.

If I describe these speakers as having a very 'commercial sound', that's not a criticism: they may not be the last word in definition and detail, but they're a very enjoyable listen, especially when you wind the level up a bit and let them shift some air. Indeed, if you have to use them close to boundaries you may find their bass 'drives the room' a bit too much, in which case the usual two-part foam bung supplied for the Flowport will rein things in a bit and tighten the low end. The manual suggests you need no more than 50cm from the rear wall, and at least that much from the sides, but as usual 'your mileage may vary'.

They're polite and yet informative with the Academy of Ancient Music/Rachel Podger Bach Violin Concertos [Harmonia Mundi HMU 907155]. Perhaps there's just a little too much soundbox and not enough strings in the sound of soloists, and a slight thickening, but for the money the sound is more than respectable. And the same holds true with 'Southbound Again' from the self-titled Dire Straits debut album [Vertigo UICY-9032]. Here there's a slight tendency for the lead vocal to drop back behind the guitar unless the level is cranked, and the drums can seem to thump rather than punch, but Mark Knopfler's soloing is rendered well, and things move smartly. ☺



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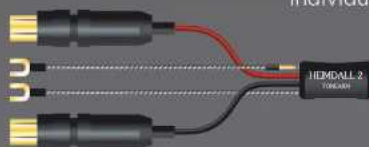
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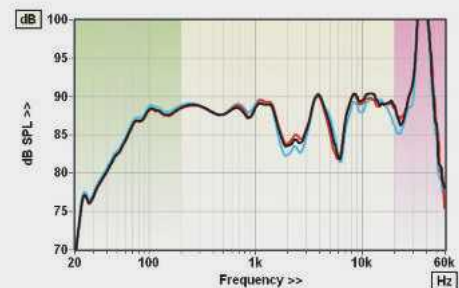
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B&W 603 S2 ANNIVERSARY EDITION

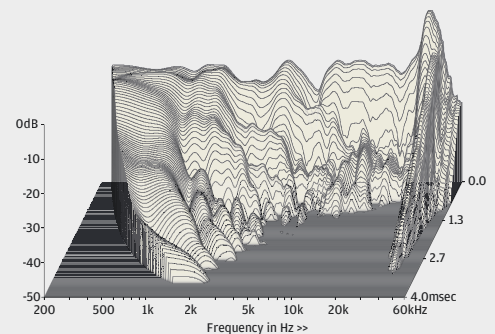
While the Anniversary ticket brings with it a stunning standard of finish, it's the 603's 'S2' acoustical revisions that are of greatest interest here. In practice, the forward response remains uneven [see Graph 1, below] although the 'shape' with its trough from 1.5kHz-3.5kHz and notch at 6kHz – also reflected in mild resonances seen on the CSD waterfall [see Graph 2] – now almost precisely mirrors that of the reference 800 D3 [HFN Oct '16], albeit at a slightly lower 88.6dB/1kHz sensitivity. This is still bang-on B&W's own 88.5dB specification although the undulations from 1.5kHz-8kHz not only create some latitude in this measurement (86.9dB/500Hz-8kHz and 87.7dB/200Hz-20kHz) but are also responsible for a ± 4.3 dB response variation.

Pair matching is excellent, however, at 1.3dB (200Hz-20kHz) while the grille presents little adverse impact [cyan trace, Graph 1]. I discuss the +15dB/36kHz treble dome resonance [pink shaded area, Graph 1] in our boxout [p69] but at the other end of the spectrum B&W has engineered a fine 42Hz bass extension (-6dB/re. 200Hz) – its two 165mm bass drivers working across 57-470Hz (-6dB) while the rear-facing port has a clean but 'peakier' output at 24Hz [green shaded area, Graph 1].

Distortion is very low through mid and treble (typ. <0.1% re. 90dB SPL) courtesy of the upgraded passives and CC midrange and DDD treble units, but the loading will not be a walk in the park for all amplifiers. Specifically, there's a broad sub-4ohm trench from 87Hz-700Hz and a tough minimum of 2.85ohm/124Hz coupled with relatively large swings in impedance phase from -72°/66Hz (9.1ohm) to +51°/1.26kHz (7.5ohm). PM



ABOVE: Response inc. nearfield summed driver/port [green], freefield corrected to 1m at 2.83V [yellow], ultrasonic [pink]. Left, black; right, red; w. grille, blue



ABOVE: Y scale is increased here to reveal 36kHz treble dome resonance. In-band modes are well-controlled

LEFT: The external moulding for the low turbulence 'Flowport' reflex port continues down to the dual 4mm cable terminals. These are split to facilitate bi-amping and/or bi-wiring

Going back a long way to 'Roundabout', from Yes's 1971 *Fragile* [Atlantic WPCR-17604; DSD64], the speakers really soar, the band's engine room working hard, the vocals singing out and the keyboards arpeggiating like a good 'un. They really get their growl on with the tight bass here, doing an impressively room-shaking job.

PLAY IT CLEAN

Though they may thicken up a bit with dense recordings, occasionally struggling to resolve much more than a wash of sound, these are speakers that revel in open, clean production jobs. For example with 'Jupiter' from the Elder/Hallé reading of Holst's *The Planets* [Hyperion SACDA67270] they can sound a bit on the thick side, while with the more open Bernstein/NYPO recording [Sony Classics SS 87981] there's an altogether more sprightly sound, the orchestra seeming to hit a little harder, and with all the percussion more clearly audible.

Yes, there's an element of 'don't shoot the messenger' here, but it illustrates that a little care must be exercised with choice of listening material. Play the loudspeakers at low levels, and you might be left wanting a bit more excitement. Stick to clear, crisp recordings, take care about positioning to keep that heavy bass under control, listen at decent levels, and you won't go far wrong. 📶

HI-FI NEWS VERDICT

There's much to like about these speakers: working hard, and with a powerful amp and clean recordings, they can deliver a rich, well-layered and involving sound. But you really do have to let them flex their muscles if they're to spring to life, as they can be just a little too polite when you don't urge them on. Although far from an ideal partner for low-powered budget amps, fed well they can thrive.

Sound Quality: 82%



HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V – 1kHz/Mean/IEC)	88.6dB / 86.9dB / 85.5dB
Impedance modulus: minimum & maximum (20Hz–20kHz)	2.85ohm @ 124Hz 27.3ohm @ 53Hz
Impedance phase: minimum & maximum (20Hz–20kHz)	-72° @ 66Hz 51° @ 1.26kHz
Pair matching/Resp. error (200Hz–20kHz)	1.3dB / ± 4.3 dB/ ± 4.2 dB
LF/HF extension (-6dB ref 200Hz/10kHz)	42Hz / 51.3kHz/52.8kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.45% / 0.05% / 0.1%
Dimensions (HWD) / Weight (each)	985x190x340mm / 24kg



With Gregory Porter's 'When Love Was King' from *Liquid Spirit* [Blue Note 0602537410538] the speakers are on more solid ground – but then this is a favourite B&W demo track. Porter's voice could be better focused, and can seem to occupy the entire space between the speakers, but the brushed drums and upright bass sound glorious, and the performance is powerful.

Rotel CD11/A11 Tribute

Without any sense of irony, the man most identified with rival brand Marantz for 40 years is posthumously recognised for his work in 'tweaking' Rotel's budget CD and amp
Review: **Andrew Everard** Lab: **Paul Miller**

Synchronicity is a strange thing: for whatever reason of scheduling, I found myself embarking on this review a year to the day since the passing of audio legend Ken Ishiwata [see boxout, p73]. The anniversary was marked by his daughter with a YouTube video of some joyously retro Latin music performed by an all-Japanese vocal group. 'Instead of making this a very sad day,' she wrote, 'we would like to share one of his favourite songs with you. He used to play this all the time, it brings back lovely memories and a smile upon our faces'.

This view of Ishiwata as a family man is one unfamiliar to those who knew him only for his work in the audio arena, but it was Ishiwata's son and daughter, Jun and Miki, who signed off on the completion of the products we have here, the fruits of the last project on which he was working at the time of his death. Out of leftfield, perhaps, but Rotel's £429 CD11 Tribute CD player and £599 A11 Tribute integrated amplifier are unmistakably the product of the thinking he applied over more than four decades of audio design and development in his previous 'home' at Marantz.

PURE SILVER

Ishiwata and Marantz went their separate ways back in early 2019, and given that Ken was never the 'retiring' type, many hi-fi pundits were keen to discover 'What will he do next?'. Now we know... Development of these two 'tuned' versions of Rotel's established '14 Series' actually began in the third quarter of 2019, Ishiwata working with Rotel's engineers to make improvements on what were already excellent components [HFN Oct '19].

At the time we commented on their 'even-handed and musically satisfying sound at a highly competitive price'. However, with Ishiwata's death, the task of completing the work fell to a team

RIGHT: Layout for the A11 Tribute is similar to the standard A11, but note replacement (bright green) Nichicon MUSE capacitors in the preamp [far right] and power amp [lower centre]

that included Ken's long-time friend and collaborator Karl-Heinz Fink, best-known for his company Fink Audio Consulting and FinkTeam loudspeakers.

Now launched, these latest editions are available in a choice of black or silver finishes, carrying a small 'Tribute' badge also bearing the Japanese character for 'Respect'. While the player and amplifier outwardly look just like the base models, badging aside, and indeed demand an informed eye to spot the internal changes, both the modifications and their effect on the sound are very much true to the Ishiwata way of doing things.

The CD11 Tribute conforms to the idea – relatively rare these days – that a CD player should do just what it says on the tin. So there are no digital inputs to hook external sources into the onboard DAC, in this case a 192kHz/24-bit device from Texas Instruments, while outputs are available on line-level RCAs and a coaxial digital socket only. No USB, no network connection and no SACD playback – just load up the silver CD and press 'Play'.

Standard track skip, track selection and program play are offered, of course!

As was the case with Ishiwata projects in the past, the changes here are both mechanical and electronic, with the application of damping materials helping to deaden vibrations in both the top cover and main chassis. The DAC stage sees the replacement of eight capacitors and one resistor with upgraded types, while all nine capacitors in the PSU have also been switched for preferred alternatives. Furthermore, the electrical ground paths within the player have been re-routed.

ALL ANALOGUE

The A11 Tribute amplifier, like the model on which it's based, is something of a curiosity – it's basically an all-analogue design, with MM phono and four line-ins, albeit also hosting a Bluetooth receiver on the rear panel, feeding another self-contained Texas Instruments 192kHz/24-bit DAC. However, that's all the DAC does, with this 50W-rated amplifier keeping the rest of its signal paths relatively simple.





That said, there is switching for two pairs of speakers, bypassable tone controls, plus preouts to feed an additional power amplifier or a subwoofer.

Oh, and with an eye to the populist market, which may prefer a spot of added 'excitement', the A11 Tribute also has the same 'Tone Rotel Boost' and 'Tone Rotel Max' facilities as the base model. The former claims 'boosted audio performance and a unique blend of tonal characteristics', while the latter delivers a low frequency lift, perhaps best suited to low-level listening.

To be honest, I found neither the tone controls nor the Boost/Max options to my taste and preferred the sound with everything off and bypassed. Meanwhile, the upgrades here are in line with those that have been applied to the CD player: all ten capacitors and two resistors in the power amp section have been changed, along with six capacitors in the preamp section and all six in the

volume control stage. The A11 also gets added damping material around its chassis.

As you might expect from the frill-free designs – the only extras here extend to some provision for custom installation, in the form of RS232 control sockets, a cabled Rotel Link connection for unified remote control and 12V trigger switching –

this Rotel duo is designed to do a basic job, and do it well. So, while there's no stump-pulling, 'drive any speakers' capability in the amplifier, pair these two components sensibly – the 603 S2 Anniversary Edition models from UK

partner B&W would be a slightly tough but interesting start [see p68] – and throw in a modest expenditure on interconnects and speaker cable, and you won't go far wrong.

CLEAR TO HEAR

The claim for the sonic gains here is 'an increase in resolution and detail while delivering a more musical presentation

'He's backed by a little band you may have heard of – the LSO'

ABOVE: Neat and uncluttered Rotel aesthetics are retained with only the 'Tribute' badge by way of identification. All primary CD/amp functions are offered, with more on the remotes

with improved rhythm and timing', and it's beyond a doubt that the changes have built on what was already a very musical pairing to deliver added musicality and involvement. Editor PM's Lab Report [p75] tells its own story of the differences (and similarities) between original and Tribute versions, but the immediate impression when listening to the duo with a variety of speakers is of a system that's all about conveying performances while bringing out the quality of recordings, and doing so without any suggestion of the electronic and mechanical processes involved.

The Rotel Tribute's combination of warmth, detail and precise soundstaging plays well with a set such as Tim Minchin's quirky *Apart Together* [BMG Australia 538621052], giving a wonderfully focused view of the singer and the accompanying instrumentation, which is not without its oddities in terms of electronic effects and sounds. Even with an up-tempo number such as 'Airport Piano', with its driving rhythms and processed lead vocals, the CD11/A11 Tributes keep the lyrics clear.

DEFT TOUCH

Meanwhile the thematically linked, but wistfully simple, 'If This Plane Goes Down' shows well the ability of this pairing to bring out the ambience and drama of nothing more than voice and piano, with minimal additional instrumentation.

Playing the richer textures of Parry's sprightly First Suite for String Orchestra, from *British Music For Strings, Vol 1* [CPO 555382-2] highlights this duo's deft touch with the gorgeous playing of these distinctly non-German musicians – the

THE TRIBUTE

After 40 years with Marantz, Ken Ishiwata's impressive track record – going right back to the company's original Special Edition models – was most recently celebrated with the KI Ruby SACD player and amplifier [HFN Jan '19]. In addition, in a role formalised in his latter years with the company as Brand Ambassador, Ishiwata played a major part in opening up then-emerging hi-fi markets – at one point he was surprised to find himself starring in a two-hour interview special on Chinese national TV! So how did he end up working on what would eventually become these Tribute products for rival brand Rotel?

As Rotel's CTO Darren Orth explained, 'I was in the same audiophile circles with Ken over the years, as was the Tachikawa family in Japan – founders and owners of Rotel. There was mutual respect of the talent and market position and a long desire to work together but the opportunity never arose. [It] did finally arrive in the late summer of last year when our initial discussions began, with the project becoming a reality in September 2019. All of the Rotel engineering team were delighted at finally having the chance to work with Ken'.

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ROTEL CD11/A11 TRIBUTE



ABOVE: Bluetooth, MM and four line ins join pre outs and two sets of (switched) 4mm speaker cable posts on the amp [top]. CD player [bottom] has no digital inputs – just analogue outs on RCAs and S/PDIF out on coax. Note trigger and RS232 control ports

Südwestdeutsches Kammerorchester Pforzheim, under Douglas Bostock. The speed and precision of the player and amplifier are much in evidence, and what little ultimate bass weight is absent is more than compensated for by the warmth and richness on offer, without impeding the flow of the music.

STORM SEEKER

That ability with instruments and voices is also much in evidence on Neil Diamond's surprisingly successful *Classic Diamonds* set [Capitol 00602435318059], where he's backed by a little band you may have heard of – the London Symphony Orchestra. This version of 'Holly Holy', complete with choir and Indian instruments, is gorgeously lush and exotic, the Rotel Tribute's delivering an expansive, but well-focused soundstage. Even when used with speakers way above their pay-grade – in this case Neat's Iota Xplorers [HFN Jul '18] – they succeed in maintaining a persuasive view of Diamond's voice, which is still in pretty good shape for a chap about to move into his ninth decade.

While the little Rotel amplifier might not be the clubber's choice,

for the reasons I have already mentioned, it's still capable of kicking up a storm with a punchy set such as Deacon Blue's *Live At The Glasgow Barrowlands* [Ear Music 0211866EMU], on which tracks such as 'Real Gone Kid' and 'Fergus Sings The Blues' bubble with the sense of an exuberant performance in front of an enthusiastic hometown crowd. Keep the levels just on the slightly sensible side of bonkers, and this Rotel duo will crash the music out in hugely enjoyable fashion while holding it all together and showing little signs of stress.

Even with vintage recordings the CD11/A11 Tributes deliver that combination of warmth and scale, plus a relentless focus, as was clear when wrapping up the listening with Julie London's 'Come On-A My House', from the richly bejewelled 3CD compilation *Ultimate Collection* [Not Now Music NOT3CD170].

With nothing more than bass and percussion behind London's voice, the track showcases the player and amplifier's vocal sympathy. Similarly so, I might add, with the more lushly orchestrated 'Desafinado', which opens the collection's second disc, putting the voice right up in front of the listener. Spine-tingling stuff... ☺



LEFT: Two very similar remotes are supplied – for the A11 [far left] including input select, vol, balance, mute and tone; for the CD11, fast search, repeat and program play among other features

HI-FI NEWS VERDICT

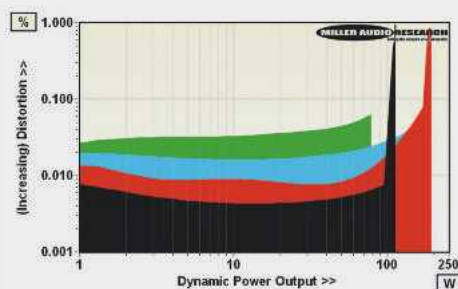
An impressive score at the very affordable end of the market, but then the CD11 and A11 Tribute models are very special. They build on already accomplished platforms with more warmth and definition, and above all that intangible quality: soul. Nevertheless, plaudits should be shared by both the original engineers and tuning team – for this duo is unmistakably created by people who love music.

Sound Quality: 86%

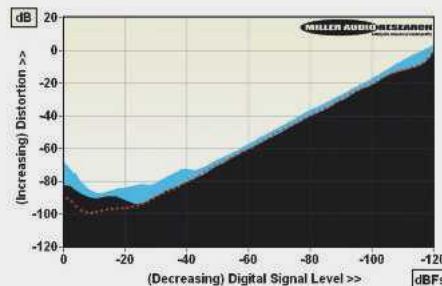


Our original CD11/A11 review carried an in-depth Lab Report [HFN Oct '19] so while the intervening period has necessarily seen some running production efficiencies at the Rotel factory it is still possible to *measure* and identify the 'fingerprint' of these new MUSE coupling capacitors. The slight reduction in output level from 2.1V to 2.07V, the 450ohm to 448ohm output impedance and improvement in A-wtd S/N from 108.1dB to 108.2dB (CD11 to CD11 Tribute) all fall within the compass of production variation while other parameters, including the 116psec jitter, 63.6dB stopband rejection and ± 0.04 dB response ripple, are 'fixtures' of the Burr-Brown/TI PCM5102A DAC. THD over the top 20dB of the CD11's dynamic range has increased slightly, however, from 0.004% to 0.008% (0dBfs) and 0.0012% to 0.003% (-10dBfs) through the midrange [dotted red trace vs. black infill, Graph 2]. While this increase in (mainly 3rd) harmonic may not be directly audible in itself, it is indicative of *change*.

The partnering A11 Tribute amp now has +0.5dB extra gain, the same 80.3dB A-wtd S/N ratio (re. 0dBW) and delivers a hint less power at 2x75W/8ohm and 2x105W/4ohm (vs. 78W/110W) albeit with a near-identical dynamic output of 113W, 194W, 187W and 78W (protected) into 8, 4, 2 and 1ohm loads [Graph 1]. Also, rather than being held to a tight 0.004-0.006% distortion (re. 1kHz) over its rated 50W range, THD increases in the A11 Tribute above 10W, reaching 0.014%/20W and 0.03%/50W – but only under continuous rather than dynamic conditions... Also, the HF resp. is now flatter, from -0.3dB/10kHz and -0.6dB/20kHz (A11) to -0.04dB/10kHz and -0.10dB/20kHz here. PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 9.7A



ABOVE: Distortion versus 16-bit CD digital signal level over a 120dB range at 1kHz (black vs. original Rotel CD11, red dashed) and 20kHz (blue)

HI-FI NEWS SPECIFICATIONS

Continuous power (<1% THD, 8/4ohm)	75W / 105W
Dynamic power (<1% THD, 8/4/2/1ohm)	113W / 194W / 187W / 78W
Output impedance (20Hz-20kHz)	0.039-0.051ohm (448ohm, CD)
Freq. resp. (20Hz-20kHz/100kHz)	+0.0 to -0.1dB/-0.62dB (Amp)
Distortion (20Hz-20kHz, 0dBfs/0dBW)	0.008-0.038% / 0.0033-0.012%
A-wtd S/N ratio (re. 0dBfs/0dBW)	108.2dB (CD) / 80.3dB (Amp)
Digital Jitter	116psec
Power consumption (idle/rated o/p)	19W / 213W (5W, CD)
Dimensions (WHD / Total weight)	430x93x345 (314)mm / 12.7kg

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BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Sir Charles Mackerras Conductor

Coming from Sydney to London with an ambition to conduct, his scholarship to study in Prague led to a passion for Czech music. **Christopher Breunig** has the story

Recently, I have been entertaining myself by watching the online reviews by the American critic David Hurwitz (he's executive editor of the subscription site *Classics Today* – where all the most interesting reviews are for 'insiders only'...).

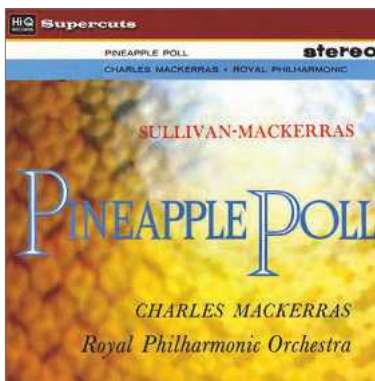
In a lengthy interview where he sets out his criteria for being a critic, he fails to offer a 'Desert Island' disc but opts instead for a conductor, choosing Sir Charles Mackerras.

This side of the pond, Mackerras was seen a something of a jack of all trades – and record companies: at least ten labels come to mind – but he was certainly not 'master of none', with the music of Janáček and other Czech composers a speciality.

When he was two, Charles and his Australian parents came back from New York to live in a suburb of Sydney. Five years later (1932) he started playing both violin and flute

➔ With luck, you might find this 1962 EMI *Pineapple Poll* recording as a Hi-Q recut

◀ Sir Charles enjoyed a long association with the SCO and they made several distinguished Mozart recordings together



and already showed an interest in composition, while at his second grammar school he was introduced to Gilbert & Sullivan. Unsuccessfully, his parents tried to discourage any musical ambitions but finally he was admitted to the New South Wales Conservatory, taking up piano, oboe and composition studies.

When he was 16 he was playing oboe professionally and in 1943 was appointed principal at the ABC Sydney Orchestra, then under Malcolm Sargent. Mackerras sailed for England in 1947,

joining the Sadlers Wells Orchestra but, keen to become a conductor, he won a scholarship to study under Václav Talich in Prague. So, by the time he was in his early

20s he'd become passionate about Czech music and (at a second spell at Sadlers Wells) that of Sullivan.

For me, the most delightful record he ever made was of his ballet score *Pineapple Poll* (based on G&S operatic music), with the Royal Philharmonic Orchestra. This followed a 1951 Columbia mono LP [33SX 1001] but, in demonstration sound quality, the RPO version from a decade later [CSD 1399] superseded that. A 1982

Philharmonia remake for Decca, albeit produced by James Mallinson at Kingsway Hall, didn't have the same magic. That middle version was remastered as part of the now vanished Hi-Q 180g vinyl series [HIQLP001] but is currently listed on an Alto CD [ALC1320].

FIREWORKS NIGHT

Another LP production for which Sir Charles was hugely acclaimed was a 1959 Pye LP [CML33005], engineered throughout the night in a Cricklewood church, with 64 wind instrumentalists and nine percussion players, assembled to record Handel's *Music For The Royal Fireworks*. This production mirrored the forces used for the Green Park London premiere of 1749 [see Essential Recordings boxout].

By contrast, in 1966 Sir Charles made a Kingsway Hall recording of *Messiah* with chamber orchestra, lively tempos and ample added vocal decoration in an effort to get away from the bloated performing tradition then current [Warner

Classics 2435694495; Presto download].

Authenticity was always a watchword with Sir Charles (he was knighted in 1979). For Telarc he recorded the four Brahms Symphonies,

including an alternative version of 1 (ii), with the Scottish Chamber Orchestra, and with tempi he thought reflected the performances the composer would have heard with the Meiningen Court Orchestra.

For Sony he did all the Chopin works for piano and orchestra with the OAE and Emanuel Ax as soloist. And his first complete cycle of the Mozart Symphonies, with the Prague Chamber Orchestra [Telarc CD80729], included harpsichord



PHOTO: MATTHIAS CREUTZIGER/LINN RECORDS

'His Prague Mozart had a harpsichord continuo'

DVOŘÁK SYMPHONIC POEMS

CZECH PHILHARMONIC ORCHESTRA
SIR CHARLES MACKERRAS



continuo – not to mention extremely fast *Menuetti* and (to me) a quite shocking skeletal rattle through the slow introduction to No 39.

The SCO remakes for Linn, some of which you can still find on SACDs (though Linn no longer issues these), dropped the continuo. This later 'Jupiter' Symphony is my go-to version, in its award-winning high-res download with Nos 38-40 [CKD 308]. The *Sunday Times* reviewer also wrote that 'I don't know a more enthralling account'.

When Alfred Brendel recorded a first series of Mozart Piano Concertos for Philips with Sir Neville Marriner, he described working with him as 'like an extension of my right arm'. But for the Millennium he began to redo some of them with the SCO and Mackerras – 'Charlie', as he called him. Nos 9 and 25, 12 and 17, 20 and 24, and 22 and 27, were done for Philips although not all of these seem to be currently available.

The rousing Janáček *Sinfonietta* with the Vienna Philharmonic was



PHOTO: DECCA RECORDS

an early digital LP recording [SXDL 7519; 1981] and, although admired in its day, it lacks the rousing impact of the Czech Philharmonic with Jiří Bělohlávek [Decca 4834080]. The Mackerras recording with *Taras Bulba* is with the operas listed in the boxout but also in a 2CD set with other artists [Decca 448 2552].

There's plenty of English music, too, in the Mackerras discography. When he was largely making records with the RLPO for the 'Eminence' label (symphonies, etc, by Beethoven Mahler, Rachmaninov), he did both Walton Symphonies (with equal success and not even Previn managed that!) – No 1 LPO; No 2 LSO [Warner Classics 0947082; 44.1kHz/16-bit download].

With various orchestras he made several Elgar recordings for the Argo label, including *The Wand Of Youth*

→ Four of Dvorák's five symphonic poems were among Sir Charles Mackerras's last recordings [Supraphon SU40122]

← Alfred Brendel re-recorded Mozart Piano Concertos with Sir Charles – or 'Charlie', as he called him

Suites, *Starlight Express* and *Dream Children* with the Welsh National Opera Orchestra [433 2142, a Presto reissue CD] – he was with the WNO from 1987 to 1992 and they recorded Delius too [Decca/Presto 4602902, two discs], with all the popular orchestral works.

MOORES MOZART

Sir Charles Mackerras died from cancer in July 2010, but he was working in those last months with a Prom appearance scheduled. A final recording, Josef Suk's *Asrael* Symphony, was made in 2007 but only issued posthumously [Supraphon SU40432].

Scheduled for a December 2020 reissue, there's an 11CD box

set of the five Mozart Da Ponte operas and *Die Zauberflöte* with the Scottish Chamber Orchestra [Telarc CR02008], while on 5DVD/Blu-ray sets you can see the 2008 ROH production of *Don Giovanni* conducted by Mackerras [Opus Arte]. And there's still in Chandos's 'Operas in English' series, a 2CD *Magic Flute* with the LPO, produced in Nov 2004 at Blackheath Halls and sponsored by the Peter Moores Foundation [CHAN3 121; 3CDs].

So although he had specialities and took a scholarly approach to what he did, he was a consummate 'all rounder'. There's a dedicated appreciation website, www.mackerraslegacy.com, with audio content and even a Twitter site. ☺

ESSENTIAL RECORDINGS

Handel: Music for the Royal Fireworks

Testament SBT1253

Testament licensed this 1959 Pye recording, described in the text above.

Janáček: Operas, etc

Decca 448 2552 (two discs)

The *Sinfonietta* with the VPO and *Taras Bulba*; five operas with Elisabeth Söderström, et al - *Jenufa*, *The Cunning Little Vixen*, *From the House of the Dead*, *The Makropulos Case* and *Káta Kabanová*.

Mozart Symphonies Nos 29, 31, 32, 35, 36

Linn CKD 350 (two SACDs/high res downloads)

The 'Paris' has both versions of the slow movt as successive tracks in this set.

Schubert: Symphony No 9

Signum SIGCD133

A live performance with the Philharmonia given at the QEH in June 2006, when Mackerras was its Principal Guest Conductor.

Dvorák: Rusalka

Decca 460 5682 (three discs)

Dvorák's opera with Renée Fleming and Ben Heppner, Mackerras conducting the Czech PO.

Beethoven: Symphonies 1-9

Hyperion CDS44301/5 (five CDs)

Live from the 2006 Edinburgh Festival: the Philharmonia in No 9, the SCO in Nos 1-8 - 'catalysed by Mackerras's apparently superhuman energy', said *The Guardian*.

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

Donovan *What's Bin Did...*

Steve Sutherland listens again to the debut LP that catapulted a teenage singer to stardom as over half a century later the album is re-released on 180g vinyl

Dylan digs Donovan! This was the headline on the front cover of British weekly *Melody Maker*, on the 8th of May 1965. It wasn't true of course – not remotely so.

Bob Dylan's on tour in the UK, an event immortalised by DA Pennebaker in *Don't Look Back* which finds the director and his film crew documenting the singer's every move around our sceptred isle. A recurrent theme is Dylan's irritated fascination with a young Scottish folk singer, Donovan Philips Leitch, touted by the press as the first in a long line of 'New Bob Dylans'.

WHO HE?

'Donovan! Who is this Donovan?' Dylan whines, the cameras capturing him opening a paper to be confronted by yet another article on the newcomer. He meets up with Alan Price, Geordie keyboard

player with The Animals, whose 'House Of The Rising Sun' has so impressed him. Price says 'he's a very good guitar player,' adding, 'better than you'.

Price continues: 'He's all right. I like him. He's not a fake'. Dylan points to the newspaper clipping and says, 'Well, I got him up on the wall'. And as the camera pulls away, we see a picture frame transformed into a collage. Beneath Donovan's article, written in bold is: 'Don't be fooled by a pretty face. Cos we're not'.

Later Dylan is being presented with an award for the most promising artist of the year and the best-selling folk record, *The Freewheelin'*. Dylan says to his manager, Albert Grossman, 'I just don't want it. Tell them to give it to Donovan!'.

Inside the ballroom where the award is to be presented, the cameras find Dylan reading another Donovan feature in a newspaper. Over the background music, the

STEVE SUTHERLAND

Steve edited NME from 1992-2000, the Britpop years, launching NME.com and reviving the NME Awards. Previously he was Assistant Editor on *Melody Maker*. Among his many adventures he has been physically threatened by Axl Rose, hung out awhile with Jerry Garcia and had a drink or two with Keith Richards...



documentary captures him shouting to a friend, 'Donovan! He's our target for tomorrow!'. Eventually, Dylan gets to meet Donovan in a hotel room.

There's a party going on and someone has thrown a glass out of the window. The hotel manager isn't happy and Dylan immediately blames a member of Donovan's entourage.

'Dylan is dead right to get the jitters over our Don'

'I'm not taking no f***ing responsibility for cats I don't know, man. I got enough responsibility with my friends and my own people.' Dylan then gives the man a shove and declares, 'Be groovy or

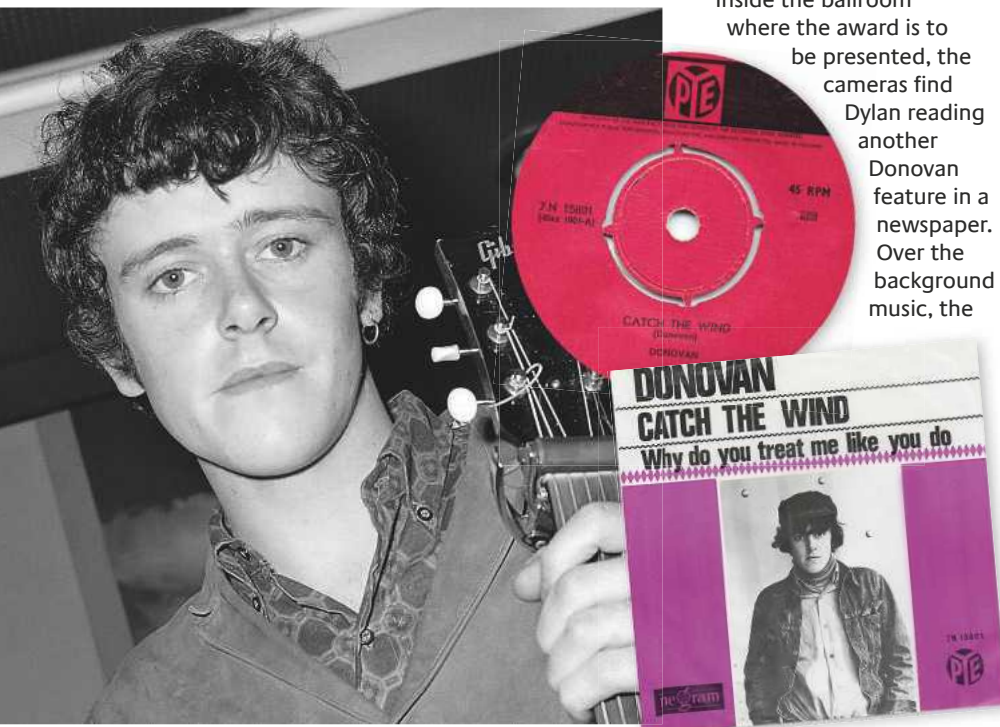
leave!'. They both decide groovy's the best option and the party continues.

Embarrassed, Donovan attempts to cool things down by playing a song. He starts to perform one of his own numbers, 'To Sing For You', and halfway through, Dylan half-shouts half-sneers, 'Hey, that's a good song, man!'. He then picks up his guitar and performs a combative version 'It's All Over Now Baby Blue' as if to put the upstart firmly in his place.

INSTANT HIT

As it turns out, Dylan is dead right to get the jitters over our Don. Over the course of 1965, Donovan is transformed from an unknown, unsigned musician to an international star. After busking around the continent, he'd been discovered by a failed musician turned pop group manager called Peter Eden who persuaded a talented songwriter pal Geoff Stevens to co-manage his new teenage find.

In Jan '65, parlaying their contacts in the industry, they hustle their singer onto Rediffusion TV's *Ready Steady Go!*. It's unheard of for an unsigned act to appear on the show, but Don passes the audition with flying colours and performs live for an unprecedented three consecutive weeks. His boyish good looks, peaked cap, tousled locks and the slogan on his axe, 'This guitar kills' – an abbreviation of his hero Woody



➔ Donovan caught on camera in Schiphol in the Netherlands in July 1965 (left) and label and picture sleeve of 'Catch The Wind' single released the same year



➔ Priced £23.99, the 180g reissue of Donovan's *What's Bin Did...* is available to order online at www.roughtrade.com

Guthrie's 'This guitar kills fascists' – make him an immediate hit with the audience.

Pye comes a-knocking and four days after his 19th birthday, on the 14th of May 1965, *What's Bin Did And What's Bin Hid* is released, produced at Peer Music in London's Denmark Street by his management team plus in-house studio guy Terry Kennedy.

ROOTSY REVISION

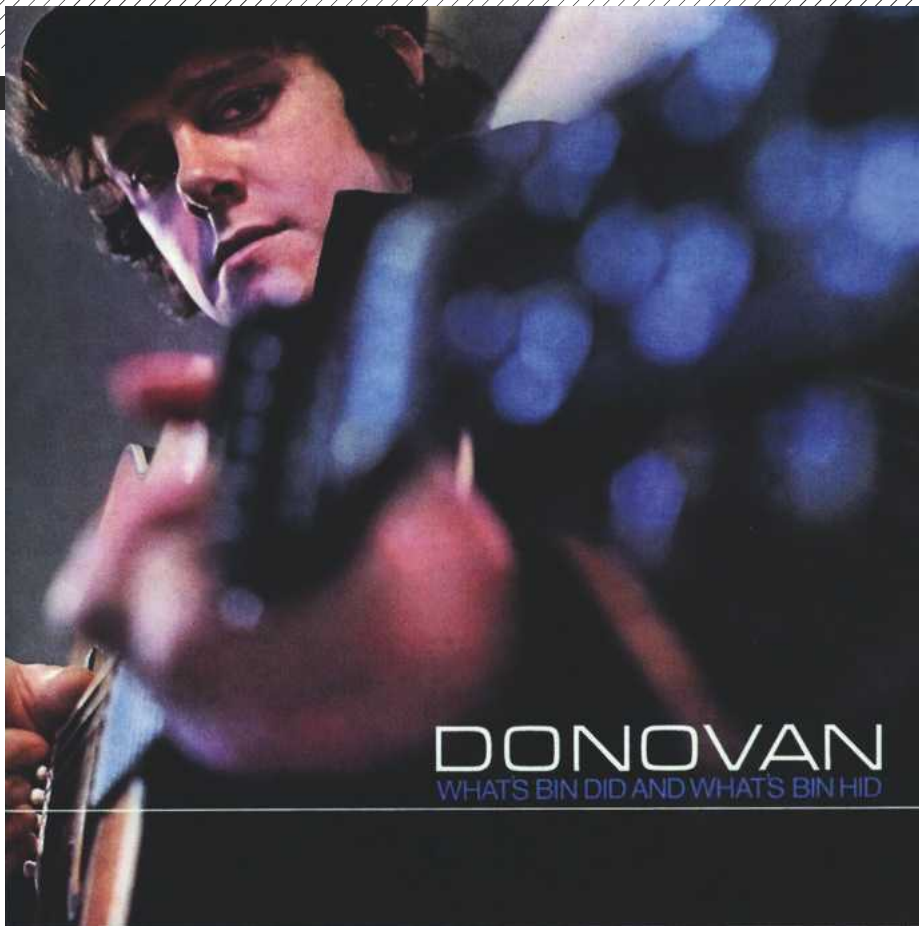
The most famous and popular track on the album turns out to be the wistfully romantic 'Catch The Wind', released as Don's debut single back in March of that year, and smothered in strings courtesy of the London Philharmonic Orchestra. It reached No 4 in the charts – five places higher than Dylan's UK chart debut, 'The Times They Are A Changin''.

What's Bin's version dispenses with the orchestration and the vocal echo, strips it back and adds Don on harmonica – a lot more rootsy and intimate and in keeping with the rest of the LP. Don claims it was written for Linda Lawrence, Rolling Stone Brian Jones's girlfriend at the time.

The LP is split fairly evenly between Don originals and covers, which, naturally, betray the influences he's in the process of



DIDI ZITIL



shucking. The covers include the obligatory Woody Guthrie number in the shape of 'Car Car', a daft, childish thing which presages Don's contribution to The Beatles' *Yellow Submarine* (he wrote the 'Sky of blue and sea of green' line for Paul McCartney).

There's also a bit of a shonky version of the old beatnik folk club standard 'Remember The Alamo', and a hefty drag through the grim old Jewish lament 'Donna Donna'. Much, much better is his take on fellow Brit folkie Mick Softley's non-conformist protest number 'Goldwatch Blues', a fledgling hippie dig at the deathly nine-to-five. Of his originals, 'To Sing For You' is sweet enough if a little too Dylanesque vocally, and 'Ramblin' Boy' is really just Kerouac-by-numbers.

Where *What's Bin* really comes alive is when Don removes the yoke of his predecessors and takes flight on his own wings. 'Josie' is beautifully maudlin, a torture-in-taffeta love song. 'Tangerine Puppet' is a fabulous finger-picked instrumental which backs up Alan Price's claim that Don could out-diddle Dylan up and down the frets any day, while the jazzier 'Cuttin' Out' and especially Don's adaption of the old blues number 'You're Gonna Need Somebody On Your Bond' hint

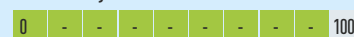
at 'Sunny Goodge Street' and all the groovy treasures to come.

In all honesty, *What's Bin Did And What's Bin Hid* isn't exactly what you'd call a masterpiece, but it's cute, cool, formative; and the spirit is there that leads to the ground-breaking psychedelic brilliance of Don's output over the coming decade. 'Wear Your Love Like Heaven', 'Season Of The Witch', 'Hurdy Gurdy Man', 'Mellow Yellow', 'Atlantis' and 'Barabajagal'... in this writer's opinion these are riches way more rewarding than all the gruff stuff Dylan is still churning out year after year. ☺

RE-RELEASE VERDICT

Fifty-five years after Donovan's 12-track debut album was released in the UK by Pye Records [NPL 18117], it's now reissued as a limited edition – just 750 numbered copies – Music On Vinyl LP on transparent blue 180g vinyl [MOVLP2074]. (In the US the album was retitled after Donovan's original hit single 'Catch The Wind', re-recorded for the 12in LP.) Singing and playing mouth harp and acoustic guitar, Donovan has a simple kazoo, drums and bass accompaniment. **HFN**

Sound Quality: 90%



➔ Donovan in the mid-'60s. Born in Glasgow in 1946, after dropping out of art school he hit the road as a musician



Simple Minds *New Gold...*

The group's fifth album was a turning point, paving the way for a career that would see them blossom from niche synth innovators to full-blown stadium rockers and in the process become the most commercially successful Scottish band of the 1980s

Words: **Mike Barnes**



Simple Minds formed in Glasgow in 1977. Their name, which derives from a lyric from David Bowie's 'Jean Genie' now feels something of an odd choice, given the complexity of their sound. But people get used to a name and Simple Minds soon got a foothold in the post-punk milieu with their 1979 debut album *Life In A Day*.

After the cultural convulsion of punk and its year zero attitudes, Simple Minds, like their peers Ultravox! and Magazine, looked back to the earlier part of the decade for inspiration. The group owed a debt to Roxy Music and David Bowie – even to the archness of Cockney Rebel – but, with an arty disposition and with keyboard player Mick MacNeil's thoroughly modern synthesisers to the fore, they were also looking towards the future.

ROBO DISCO

The album missed out on the Top 40 but the band began to pick up attention from the music papers. In his review in *New Musical Express* in April 1979, Tony Stewart described the contemporary situation succinctly when he said, 'And it's only now in the post-punk interlude of calm that "sophistication" and "professionalism" can once again play a part'.

Its successor *Real To Real Cacophony*, released later that year, was a stronger, more characterful set, but in places it also felt somewhat derivative. Yet in common with many of their peers,



as a semi-mythical place where faded imperial grandeur sat alongside the dystopian remnants of totalitarianism.

'I Travel' rides out on a motorik groove of sequencer pulses, with a treated

electronic snare, like a souped-up take on Kraftwerk's 'Autobahn', with Kerr sternly intoning 'In central Europe men are marching'.

LOSING MONEY

The combination was exciting, but could sound like a bunch of tourists who had become carried away and were trying too hard. When *NME*'s Paul Morley, an avowed fan, looked back on this era he noted that, to some, the group had earned a 'duff reputation as kids muddling in areas that were roughly outside their scope'.

The double album *Sons And Fascination/Sister Feelings Call* was a significant development, with word-salad titles such as 'In Trance

As Mission', 'Sweat In Bullet' and '70 Cities As Love Brings The Fall' reflecting the fragmentary, impressionistic nature of Kerr's lyrics. They were letting some space and light into their music, which illuminated the modernist monumentalism of the instrumental 'Theme For Great Cities'.

The only problem was that this was not working out commercially, and by 1981 Simple Minds were ↻

↑ Gold label for Side 1 of the 1982 Virgin LP

↗ Current lineup pictured in 2020 (top) with Kerr and Burchill (centre)

↗ Burchill and Kerr pose for promo shots in 1982

↓ Kerr live on stage in the early '80s

Simple Minds also tried to avoid rock cliché, so rather than playing the single 'Changeling' with a standard backbeat, drummer Brian McGee favoured a robotic faux-disco groove, which was overlaid with edgy synth and guitar lines.

COLD WAVE

From these brash beginnings Simple Minds began to get rather serious. The cover photo of *Empires And Dance* displayed a mysteriously lit stone bust of a military officer with a forbidding Schloss in the twilight background. It put the group on the edge of the so-called cold wave, whose practitioners at the turn of the decade – Gary Numan springs immediately to mind – purveyed an air of alienation and studied detachment at odds with the honest unpretentious t-shirted rockers of yore.

One might posit that David Bowie had started all this malarkey with the chilly instrumental 'Warszawa' on his 1977 album *Low*, and Simple Minds certainly encouraged romanticised notions of mainland Europe

'The band were in debt to the tune of £140,000'



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PRODUCTION NOTES

Recording sessions began at the Townhouse Studios in London in February 1982. Producer Peter Walsh recalls a positive atmosphere and Jim Kerr encouraging him with comments like, 'You're a legend – you are going to be huge!'.

The first song they recorded was 'Promised You A Miracle', which was played almost live and was completely finished in three days. Walsh helped to structure the song for radio, including making space for Charlie Burchill's guitar solo. The only other tracks that had been demoed up to this point were its B-side 'Theme For Great Cities' and the songs 'King Is White And In The Crowd' and 'Hunter And The Hunted'.



After the single was released, they all reconvened in a rehearsal room at The Old Mill, a former pig farm in Fife, for pre-production and to shape the rest of the songs. The demos were mostly instrumentals and Kerr would typically add his vocals later. They were captured on a cassette recorder with high compression, an effect that they attempted to replicate using state-of-the-art Studer tape machines at Townhouse Studios in May 1982.

Jazz/funk legend Herbie Hancock made a surprise contribution to the album, playing on 'Hunter And The Hunted'. He happened to be recording in an adjoining studio and the musicians met. Hancock praised Derek Forbes' playing, which thrilled the young bass guitarist.

A lot of effects were used when mixing the album. These include flanging on the bass, with some of Forbes' lines given extra heft by being doubled on a moog synthesiser, and plenty of echo and reverb on Jim Kerr's voice. But the net effect is subtle and contributes to the album's warm organic sound.



SHEILA ROCK

in debt to the tune of £140,000 to their label Arista. Yet when they toured Australia in 1981, where their single 'Love Song' had become a Top 10 hit, they found themselves playing to large audiences. And as Kerr told Nick Hasted of *Classic Rock*, the feeling in the camp began to change. 'Maybe we can be pop stars as well', said Kerr. 'All that positive backdrop led us to the early writing sessions for *New Gold Dream*.'

LOVE OF FUNK

In April 1982, having signed a new deal with Virgin, Simple Minds recorded the song 'Promised You A Miracle' inspired by new drummer Kenny Hyslop's love of funk. It was a deliberate attempt to write a hit single, which the group had recorded in tandem with 21-year-old Peter Walsh – his first main production job had been Heaven 17's hit album *Penthouse And Pavement*, on which he was assistant producer. Walsh had also worked with band guitarist Charlie Burchill on a remix of 'Sweat In Bullet'.

Trying to second-guess what people will buy is a high-risk strategy that can produce disastrous results and usually indicates that the group in question has lost their way. But in Simple Minds' case their desire to be part of the commercially successful and critically lauded movement dubbed 'New Pop', exemplified by The Associates and ABC, was a strategy that worked. 'Promised You A Miracle' went to No 13 in the UK charts and led to their first appearance on *Top Of The Pops*.

And it was doubly successful in that Simple Minds had also found their true voice. The intra-band empathy they had achieved on

Sons And Fascination... went up a notch on 'Promised You A Miracle'. Burchill's guitar and McNeill's keyboards interact imaginatively in the space surrounding Derek Forbes' bouyant, melodic bass playing, a combination that hallmarked the album. Kerr wrote the lyrics and melody almost off the cuff and sounds transported, singing the recurring line 'Everything is possible...' as if he really means it.

And whereas Burchill had tended to favour an edgier, more abrasive guitar sound in the past, he rethought his approach and used different amplifiers and effects.

ADDING DEPTH

'The guitars are very distinctive on the whole album and they're very different to how I'd played before – cleaner, more melodic, lighter', he told Hasted.

And as well as having produced a pop song you could dance to, on the bridge and fade-out sections Walsh's

layered production foregrounds thoughtfully picked guitar notes, while the string synths seem to stretch back hazily to a distant horizon giving depth to the sound.

Simple Minds were having their cake and eating it and the second single from the album, 'Glittering' ➔

'String synths stretch hazily to a distant horizon'

Simple Minds pictured in 1982 (l-r): Charlie Burchill, Mick MacNeil, Mel Gaynor, Derek Forbes and Jim Kerr

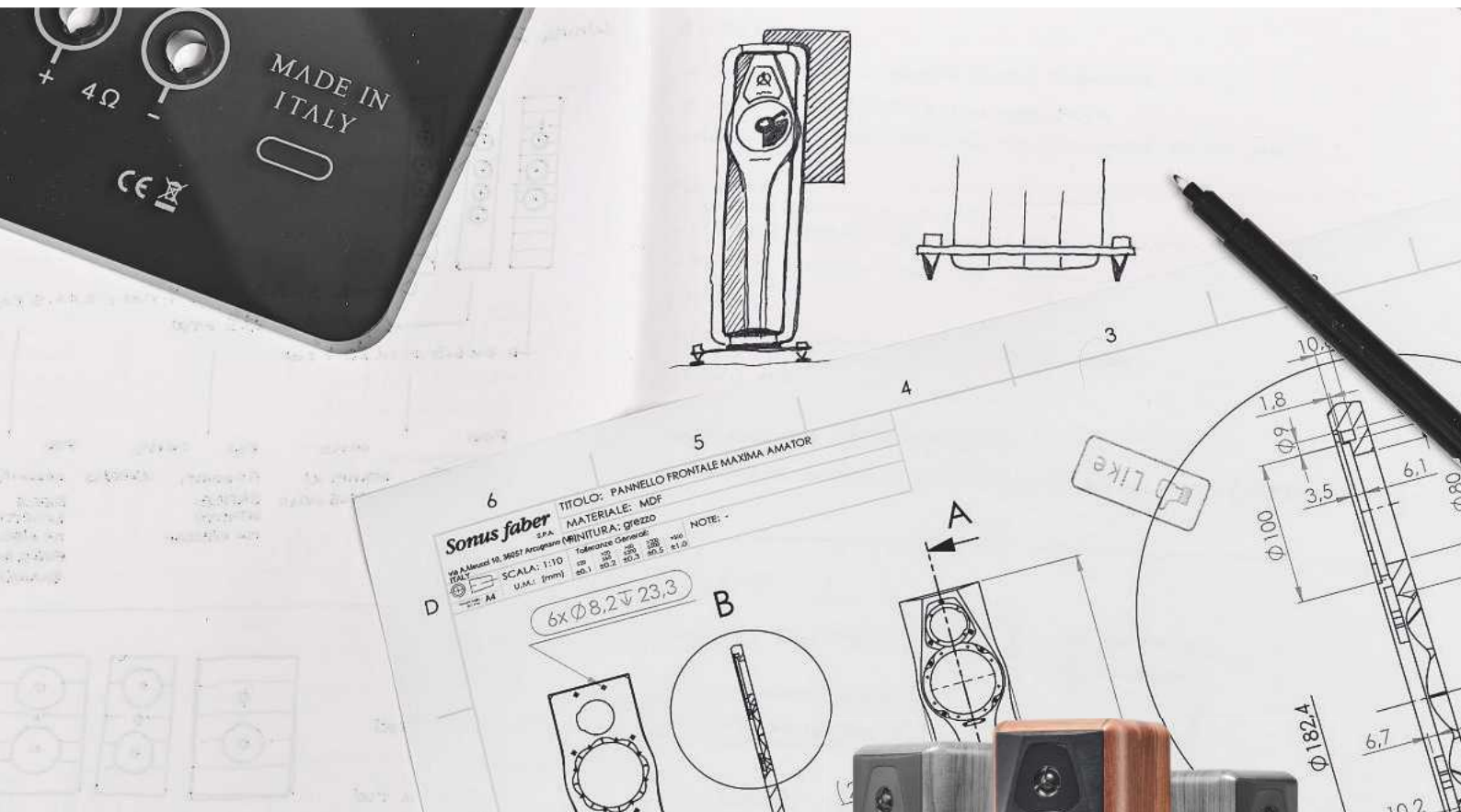
Jazz/funk legend Herbie Hancock who played a synthesiser solo on the track 'Hunter And The Hunted'

The band caught on camera in the early '80s (left) with Jim Kerr centre and (right) Kerr on stage in 1982



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Alternate Format Discography



Shot of Burchill and Kerr used to promote their 2018 tour

'Prize', reached No 16. The band's confidence is shown on 'Somebody Up There Likes You', which had been jammed out in rehearsals and had lyrics, but they decided to leave it as an instrumental. Its serene glide through a rarefied atmosphere gives us one of *New Gold Dream's* most sublime moments.

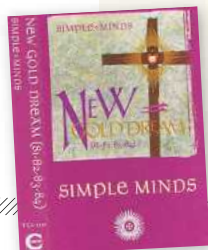
Drummer Mike Ogletree, who replaced Hyslop, is pictured on the album cover but he was effectively replaced halfway through the sessions by Mel Gaynor – who had been recommended by Walsh. But they both play drums on the title track, underpinning Forbes' speedy bass and McNeill's exultant synth flourishes. Kerr sounds swept away on the '81/82/82/84' chorus as if plotting their trajectory from the past to the future.

CHART SUCCESS

'*New Gold Dream* sums up the paths that we had gone on, on the first four records', Kerr told Hasted. 'Some with really dark moods, some intense, some claustrophobic. And the storm broke, and then the next day you have a beautiful morning. *New Gold Dream*, the title, the artwork, the language of a lot of the songs, resonates that to me.'

The album went to No 3 and stayed in the UK charts for over a year, paving the way for the success of *Sparkle In The Rain* in 1983, which shot to No 1 on release. With Steve Lillywhite [HFN Jan '17] as producer this time around, the music sounded bolder, more rock-orientated.

For Simple Minds, everything was indeed possible, including international stardom and the ability to fill stadiums, but many look upon *New Gold Dream* as their finest achievement. They never made such a beautifully balanced album again. ☺

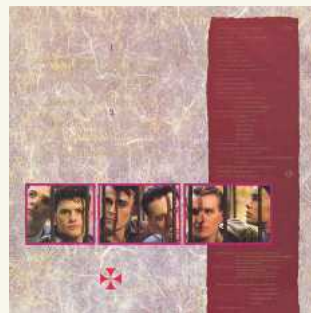


ORIGINAL VINYL

New Gold Dream was released in the UK on Virgin in Sept '82 with gold labels and a gold inner sleeve for the initial pressings and purple for the re-pressings [V 2230].

In the US the album came out on A&M with purple labels. The inner sleeve was purple on one side and gold on the other, and printed with the lyrics [SP-6-4928]. A limited edition US LP on gold vinyl also came out that year with the same catalogue number.

Malcolm Garrett's artwork incorporated a Celtic cross, which had also appeared on the cover of the single 'Promised You A Miracle'. This caused a certain amount of controversy and in the former Yugoslavia all religious imagery was removed from the



sleeve. For the album co-release by Jugoton and Virgin the typography was enlarged and the image of the group on the rear of the sleeve was also featured on the front [LSVIRG 11016, V 2230].

The first European LPs were released with the standard red and green Virgin record labels in 1982 [Virgin 204-965]. In Japan that year the LP came with an insert with a band biography and lyrics in Japanese, and a black, gold and white obi-strip [Virgin VII-6013].

CASSETTE TAPES

The first UK cassette was released on chrome tape also in 1982 with the LP cover artwork mounted on a purple background [TCV 2230]. Virgin had manufactured it in large enough quantities that it stayed in the label's catalogue until 1992 when it was reissued in a budget format [OVEDC 393]. In that year in the US, cassettes with Dolby noise reduction came with a similar insert.

The shell had black embossed lettering [A&M CS-6 4928], and bore the title 'New Gold Dreams'.

CD, DVD AND BLU-RAY

New Gold Dream was released on CD as early as 1983 in European territories and in the UK. The faux medieval typography and imagery was extended to the track listing on the 16pp insert, which featured portrait shots of Kerr, Burchill, Forbes and McNeill [Virgin CDV 2230].

In 1990 a US CD version [A&M 75021 4928 2] arrived with an eight-page booklet with full colour album artwork and lyrics. It was also available in longbox format.

The CD was remastered on its 20th anniversary at Simon Heyworth's Super Audio Mastering and in the US and UK it was released in a card replica sleeve of the original LP [Virgin, SIMCDX5].

In 2003 this version was reissued in UK and Europe in standard jewel cases on Virgin [SIMCD5; 7243 813171 2 9] and in the US [72438-13171-2-9]. The same year an SACD hybrid was released in Europe with a gold insert that replicated the original LP inner sleeve [SACDV 2230].

A DVD version of *New Gold Dream* arrived in Europe and the US in 2005 [Virgin DVDAV 2230; 7243 813171 98]. The audio content comprised 5.1

remixes by Charlie Burchill and Ronald Prent, with the exception of 'Colours Fly And...' and 'Promised You A Miracle' as the original multi-tracks could not be found.

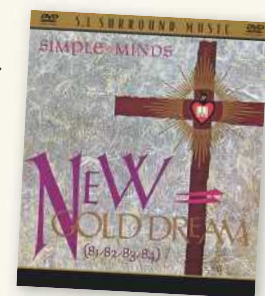
The DVD had videos for 'Promised You A Miracle' and 'Glittering Prize', but the major find was 'In Every Heaven', previously available in instrumental form as 'Soundtrack To Every Heaven'.

In 2016 we saw a number of Universal Music Catalogue releases. Most notable was a 5CD + DVD box set [pictured below] with the original album and 5.1 mixes, promo videos and TV appearances. The number of extras would test the enthusiasm of even the most devoted fan but the David Jensen and John Peel BBC radio sessions CD are highlights [4766622].

A Deluxe Edition double CD had a selection of extras in a rather more digestible form [4766615]. And a Blu-ray disc of the album with 'In Every Heaven' was issued in the UK and Europe [4773754].

AUDIOPHILE LPS

A limited edition vinyl version was released in the UK only, in 2016 [Virgin ARHSLP004]. Half-speed mastered at Abbey Road and with a certificate of authenticity, it came in the original gold inner sleeve design, as did the UK/Europe 180g LP from Universal [4733752] also released that year.



Inside the Studio

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW



BEN GAMBLE

Rockfield Studios

Steve Sutherland kicks off a new series with the story of a farmhouse that became the world's first residential recording studio, and a home to hitmakers for over 50 years

The TV was out the window, still plugged in... The double-bed was broken in half... It was just like a hand-grenade had gone off in the room... The whole studio got smashed to pieces, the living room, everything got blitzed... There were smashed windows... just devastation...

Welcome to Rockfield Studios one chilly morning in March 1995. Oasis are a week into recording their second LP, *(What's The Story) Morning Glory?*, when it all goes off, leading to what Noel Gallagher recalls as a 'Victorian fistfight' between himself and his brother Liam.

The sessions have started pretty well. Both 'Roll With It' and 'Hello' are in the bag. 'Wonderwall' is shaping up, Noel having decided to cede

➔ The Coach House Studio with its Neve 8128 console

➔ Oasis album *What's The Story... and the band in the mid '90s*

the vocal to Liam in exchange for singing 'Don't Look Back In Anger' himself. There's also been a bit of malarkey when Noel insists on recording the guitar part to 'Wonderwall' actually perched atop a ten-foot wall out in the yard but with 'Champagne Supernova' also in the bag, it's looking like plain sailing.

Then Liam decides to nip into town for a drink and bumps into some mates from Manchester.

PROPER WESTERN

They are working with a band called Cable at the neighbouring Monnow Valley Studios. Liam invites them all back for a booze-up, they play



KEY RECORDINGS TIMELINE



1970

Dave Edmunds scores the first big hit to be recorded at Rockfield with the single 'I Hear You Knockin'



1974

Queen record their third studio album *Sheer Heart Attack* with producer Roy Thomas Baker



1980

Adam & The Ants decamp to Rockfield Studios to make the No 1 album *Kings Of The Wild Frontier*

Subbuteo and listen to The Small Faces and all's tippety top until Liam plays them some of the new Oasis stuff and one of Cable, a bloke called Darius Hinks, says it sounds like a Beatles rip-off. Liam goes nuts, punches are thrown and Cable and co. are chased off the property.

Noel emerges from the studio to see one of his guitars covered in foam from a fire extinguisher. He blames Liam for bringing Cable back and it all goes off big time. 'I ended up having a proper fight with him', Noel recalls. 'I don't just mean a verbal fight, it was a proper f***ing Western... I remember smashing his head in with a cricket bat... and I remember jumping out of a window... and driving off with Whitey [new drummer Alan White]... and Liam appearing out of nowhere and throwing a dustbin at the car.'

'It was terrible,' Liam agrees. 'There was no need for the cricket bat round me f***kin' head!'

A local repair man arrives soon after. He takes a good look around at the mess and goes: 'This is nothing. You should have seen the damage when Ozzy Osbourne and Sabbath were recording here.'

A week later Oasis returned with their tails between their legs. 'We rang the record company [Creation] and they said, "We thought they'd been banned",' laughs studio owner Kingsley Ward. 'We didn't care less. They're lovely boys. They came back, paid for the damage, about £800 quid, apologised and went back in that studio and made one of the greatest records in the world!'

The story of how Amberley Court, a sheep and pig farm in the Wye Valley in the rural outback of Monmouthshire turned into one of the world's most famous recording studios begins around 1965 when two brothers who live on the farm, Kingsley and Charles Ward, get together a group called The Charles Kingsley Creation and travel to North London to record with the legendary producer Joe Meek [HFN Aug '16] at his home studio on the Holloway



↑ An early user of the studio was Dave Edmunds, pictured here in the 1980s

↗ English rock band Mott The Hoople in 1974. They made demos at Rockfield under the name Silence

↘ Queen's *A Night At The Opera* from 1975

↓ Robert Plant with Jimmy Page in 1977



Road. They cut a pretty cool single – 'Summer Without Sun/Still In Love With You' – for Columbia Records but, despite being laced with Meek's trademark futuristic spaciness, it does little or no business.

FUTURE SOUNDS

Undeterred, the brothers make another attempt at pop stardom but are rejected by The Beatles' producer George Martin at which point they hook up with local Welsh mover and shaker Dave Edmunds in an early manifestation of the band Love Sculpture while deciding, inspired by Meek, to create their own recording space.

They've already transformed the attic in their parents' house into a mono studio boasting a Ferrograph reel-to-reel, EMI ¼in

tape recorder, and an eight-channel audio mixer. Marketing themselves as Future Sounds Ltd, they start to attract other local bands to hire out the studio which is moved to an adjacent granary and they upgrade with an EMI TR-90 reel-to-reel, a Philips stereo tape recorder and a console built nearby in Swansea.

Love Sculpture are early clients, as are Amen Corner and a fledgling version of Mott The Hoople, and when New York band Elephant's Memory rock up with nowhere else to kip, Rockfield – now officially

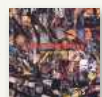
renamed after the local village – becomes the world's first residential recording studio, adding to its allure with the creation of a third space, The Coach House, constructed in a stable block and



featuring an 8-track facility and a Trident TSM mixing console.

Hawkwind, Arthur Brown's Kingdom Come, Brinsley Schwarz and Dr Feelgood are among those who avail themselves of the new facilities. As are Black Sabbath. 'We were very loud', says Ozzy Osbourne. 'And Rockfield allowed us the freedom because no-one would allow us to play as loud as that. The roof tiles were rattling!'

Dave Edmunds records his hit single version of 'I Hear You Knocking' in 1970 and Queen drop by in 1975 to record ☞



1994

The Stone Roses spend over a year at the Rockfield complex recording their second album *Second Coming*



2000

Coldplay begin work on their debut album *Parachutes*, which goes to No 1 in the UK charts on release



2006

Another UK No 1 album, this time for British band Kasabian with their big-budget second release, *Empire*

MUSICAL FIDELITY



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Introducing the M8xi, a high quality Musical Fidelity amplifier that combines a separate preamp with two monobloc power amps. Each Amplifier has its own heat sink and separate transformer. The preamp has its own dedicated power supply that is mounted close to the input sockets; consequently, PCB tracks are very short. This elegant idea ensures that both channels experience ultra low impedance the instant they enter the amplifier.

Finishes Available:



their *A Night At The Opera* album. Freddie Mercury is said to have written a chunk of their most famous song, 'Bohemian Rhapsody', on the piano in the corner of the food store, and as the '70s roll into the '80s, Adam & The Ants, Robert Plant, Echo & The Bunnymen and The Undertones follow suit.

In 1987 the world's first VR console is installed in the Coach house along with added drum rooms. Enter The Stone Roses, who come to Rockfield to remake the track 'Waterfall' and work on '(Song For My) Sugar Spun Sister', 'Made Of Stone', 'Shoot You Down' and 'I Am The Resurrection' with producer John Leckie [*HFN* Aug '17]. The band dig the vibe, so when the time comes to create the group's follow-up LP, *The Second Coming*, Rockfield is their choice.

ARTISTIC STATEMENT

Leckie rocks up on Sunday, January the 28th, 1990. There's no sign of the band, whose American label, Geffen, is apparently happy to spend whatever it takes. Unbeknown to Leckie, the lads are intent on avenging the unauthorised re-release of their 1987 single 'Sally Cinnamon' by a Midlands-based label called FM-Revolver. They break into the company's office and splatter it all over with blue and white paint – 'an artistic statement', according to bassist Mani.

'They were meant to turn up at Rockfield on the Sunday night', says John Leckie. 'On the Tuesday night, there was no word. All the gear had turned up... and no-one was returning the calls. And on Tuesday night, 48 hours late, the door opens and they all fall in, covered in blue and white paint. They just fell in the door, giggling, just flopped on the chair, paint over the carpet. And they told me what they'd done.'

'I got them to run through "One Love" and "Something's Burning", and we went to bed at four. And at about eight the next morning, the police came and took them away.'

“At 8am the police came and took them away”

'We were two nights in the cells', remembers Mani. 'They did our fingerprints. But the weird thing was, we told the coppers what papers to get the next morning. We said, "It'll be in the *NME*". And you know what was free with the *NME*? The poster of us covered in paint... We signed the poster for the coppers and wrote "Exhibit A" on it.'

The band return to Rockfield and then, for one reason or another, nothing happens for the next four years! Abortive sessions are booked in various studios until eventually they return to Wales. Leckie quits. Engineer Paul Schroeder takes over and quits, and the group then appoints Rockfield's in-house engineer Simon Dawson.

Some 14 months later the *Second Coming* is completed. Ironically, the band's lethargy saves the studio.

External view of the Coach House Studio, converted in 1968

Promo shot of Echo & The Bunnymen taken in the mid '80s

The Stone Roses in 1989 with Mani (far left)

John Leckie poses for a publicity photo in 2006

This is the era of Acid House and all that dancey stuff doesn't suit the studio. 'They booked in officially for a couple of weeks', says Lisa Ward, Kingsley's daughter and now office manager, 'but they stayed. It was 13 months in the end. That saved us. The Stone Roses saved Rockfield.'

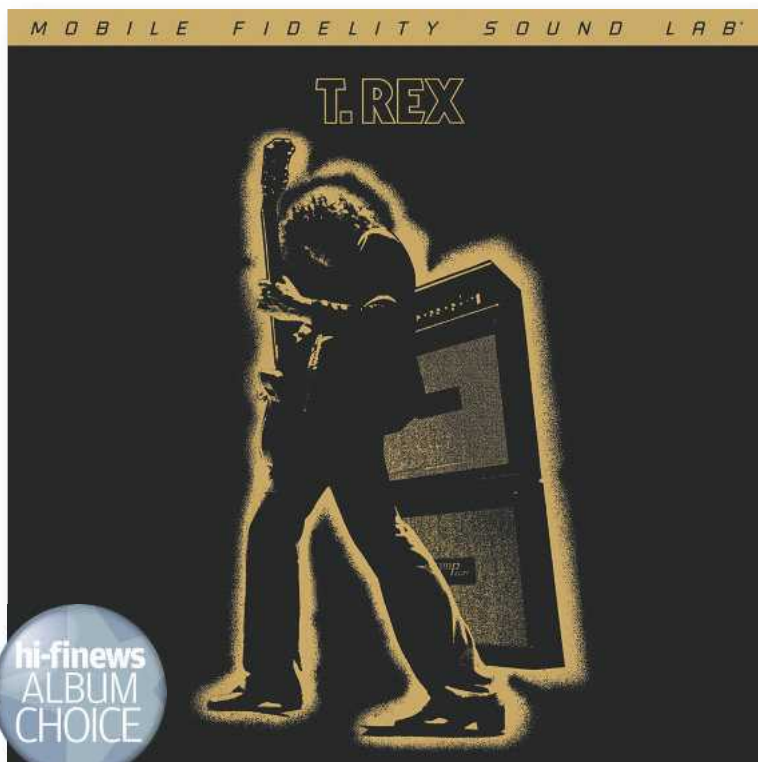
IN THE STARS

By now the Coach House and the Quadrangle have been updated with angled ceilings, extra booths, natural echo chambers and a MCI500 Series console. The studios pride themselves on their vintage equipment – the Rosser microphone amps, the API 550 equalisers and the Urei 1176 compressors. Visitors include The Pogues, Joe Strummer and The Manic Street Preachers and the studios are in full swing. In 1997, seven of the Top 10 albums in the UK chart are recorded at Rockfield.

Two years later, enter Coldplay, a fledgling band looking to record their debut album, *Parachutes*. 'We were recording "Shiver" and went outside for a breather', says singer Chris Martin. 'Our producer said, "Look up there, lads" and he literally said, "Look at the stars", which is the first line of "Yellow".'

'I went back in and sat behind the mixing desk and I played the chord. I got the title for the song from the *Yellow Pages*, which was lying around. The chorus came in the bathroom of the living room area. And that gave us our lives!' ☺



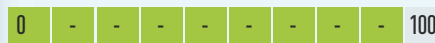


T REX Electric Warrior

Mobile Fidelity MFSL2-490 (two 45rpm LPs)

Someone with a long memory will tell me if this is the first time an album earned both *HFN*'s 'Digital Release of the Month' and 'LP of the Month', as I couldn't resist giving the SACD of this the top score in Sept '20. The same now goes for the vinyl version which is somehow even better across the board, but especially for treble snap, bass richness and a sense of space. To reiterate, this 1971 release is one of the glam legend's finest efforts, boasting two of his biggest hits – 'Jeepster' and 'Bang A Gong (Get It On)' – and I can assure you that you've never heard them sound this visceral nor as uncontrollably infectious. Gorgeous details, like Flo & Eddie's backing vocals, make forensic listening forgivable. *KK*

Sound Quality: 90%



FLEETWOOD MAC 1973-1974

Reprise R1 596007/603497851294 (four discs + 7in single)

It's easy to forget that the soft-rock, California-infused incarnation of what once was a blues band didn't begin with 1975's multi-platinum, eponymous release, which gave us Stevie Nicks and Lindsay Buckingham. This box set comprises *Penguin*, *Mystery To Me* and *Heroes Are Hard To Find*, plus a bonus live album and a 45rpm single, and it shows, retrospectively, that all the hit-making polish was there before that star-crossed pair joined the mix. The sound is exceptional, and (with hindsight) the lack of appreciation palpable. (The 8CD box, *1969-1974*, adds the earlier *Then Play On*, *Future Games* and *Bare Trees*, plus loads of bonus tracks.) *KK*

Sound Quality: 90%



ORIGINAL SOUNDTRACK Girl In Gold Boots

Modern Harmonic MH-8212 (mono; gold vinyl LP + DVD)

Sometimes I wonder if Modern Harmonic is testing punters to see just what they will swallow. This is its weirdest release so far, the soundtrack to a 1968 film which IMDB generously describes as 'A young woman leaves her job as a waitress and travels to Los Angeles, where she strives to become the top star in the glamorous world of go-go dancing'. The music is all over the place, from country pop to schmaltz, with a desperate air of trying to be psychedelic, and there's no sense of 'go-go dancing' whatsoever. Sound is glorious mono but the appeal is strictly for truly hard-core cineastes who prefer Corman to Kurosawa. I can't bring myself to watch the DVD. *KK*

Sound Quality: 75%



LEON THOMAS Spirits Known And Unknown

Flying Dutchman (via Pure Pleasure) FDS-115 (180g vinyl)

A pleasant surprise for those who knew Thomas chiefly as a blues singer, as this, his solo debut from 1969, is straight-ahead jazz. Eclectic in the extreme, this preceded the much-loved 1988 blues LP, followed his time with legendary saxophonist Pharaoh Sanders, and pre-dated work with Santana. It's hard to believe that this album was recorded over 50 years ago, despite the anti-Vietnam war lyrics, for its attitude perfectly suits the current political climate. Musicians on board include Sanders and Lonnie Liston Smith, so it still sounds 'avant-garde'. Thomas's odd yodel makes you jump the first time you hear it, but this fine-sounding LP is deliciously accessible. *KK*

Sound Quality: 85%



AUDIOPHILE: DIGITAL



COMPACT DISC



SUPRAAUDIO



DVD



BLU-RAY



VINYL



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VICTORIA ALEXANDRA WITH MIKE SKID WROE

The Best View In The World

STS Digital STS6111192

Released to mark STS's 40th anniversary, this CD – bereft of liner notes – is worth finding because the sound is exquisite. As is the jinx with all audiophile labels except those reissuing works by known artists, you'll consider this a punt, taking my word for it. So let me be blunt: I know nothing about Ms Alexandra beyond hearing a heart-breakingly sweet voice somewhere between Mary Hopkins and the late Minnie Riperton. This is as fragile a performance as I have ever heard, accompanied by gentle guitar and recorded with finesse. She wrote all the material. Maybe next time she'll get to write some liner notes. *KK*

Sound Quality: 90%



BUDDY MILES EXPRESS

Booger Bear/Carlos Santana & Buddy Miles! Live!

Vocalion 2CDSML8560 (two discs)

Hugely prolific, one of those musicians who played with just about everyone who mattered, drumming powerhouse Buddy Miles was a solo artist due for reassessment, rather than being remembered only as a member of Jimi Hendrix's Band Of Gypsys. This welcome 2CD set pairs a 1973 Buddy Miles Express release with a live-in-'72 collaboration with Carlos Santana, both in quadraphonic sound. As expected, the drums are prominent, but that's a good thing: these are show-off CDs bursting with virtuoso playing. You have to admire Miles' high-funk cover of The Kinks' 'You Really Got Me', while familiarity enriches the live disc, via 'Evil Ways' and 'Them Changes'. *KK*

Sound Quality: 90%



VANILLA FUDGE

Vanilla Fudge

Mobile Fidelity UDSACD 2210 (mono SACD)

Scholars acknowledge that some mono mixes differ enough from the stereo to warrant reissuing; most don't. This reissue, however, will delight fans dissatisfied with the overall sound of one of the most important albums of the mid-1960s because, according to legend, parts of the original 'stereo LP' were in mono, despite the then-novel ascent of stereo. Whatever, the remastering here is the best I've ever heard of this monumental, influential, early psychedelic classic. Slowed-down, inventive covers ranging from The Supremes' 'You Keep Me Hanging On' to The Zombies by way of The Beatles: it's a vivid taste of 1967 (also on two 45rpm LPs: MFSL2-491). *KK*

Sound Quality: 90%



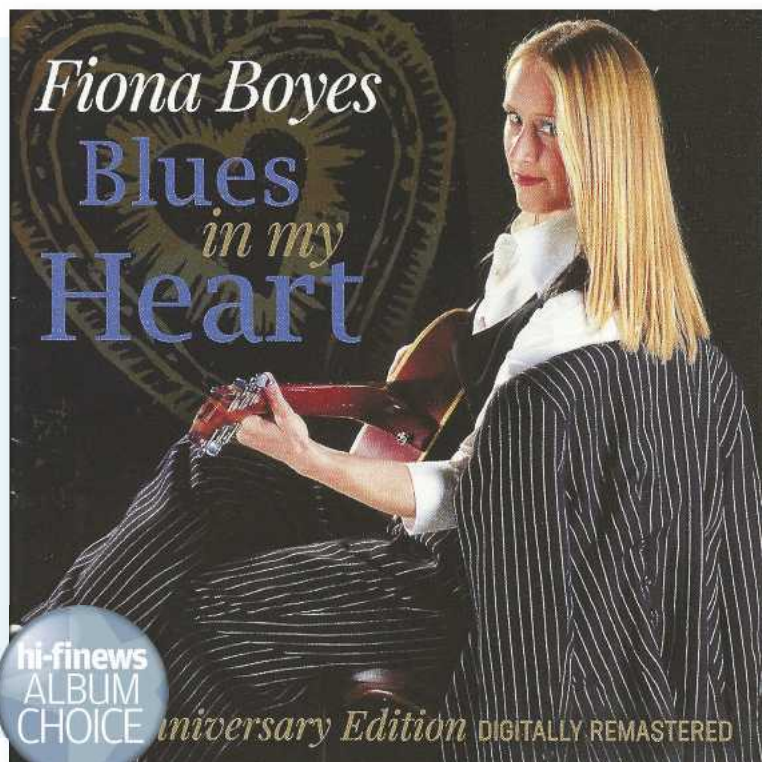
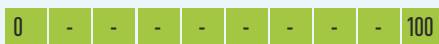
FIONA BOYES

Blues In My Heart

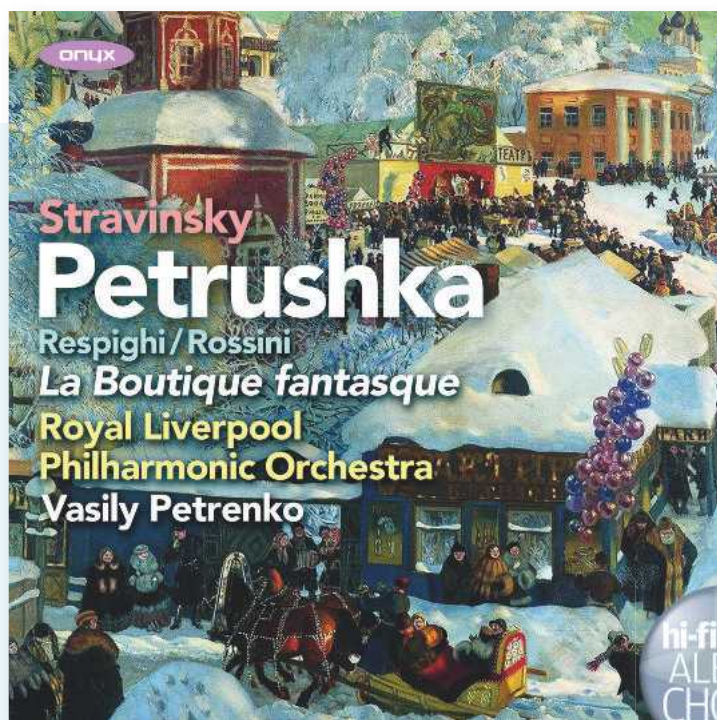
Reference Recordings FR-740

A 20th anniversary remastering of her live-to-analogue-tape release of 2000, this acoustic blues set is one of those rare 'audiophile' titles which defies the usual great-sound-shame-about-the-music curse. Though it reminded me at first of Rory Block (for whom I have a near-obsessive adoration), and a bit of early Bonnie Raitt, Boyes is less the fire-breathing purist that implies. Don't get me wrong: I revel in Block's and Raitt's pedantry, but Boyes's approach makes me imagine what a blues album recorded by Julie London night have been like. A mix of traditional numbers and originals, a liquid voice, sublime harmonica at the back of the room: this is both intimate and audiophilic, up there with the Eric Bibb CDs on Opus3. *KK*

Sound Quality: 95%



20th Anniversary Edition DIGITALLY REMASTERED



RLPO/VASILY PETRENKO

Rossini-Respighi: *La Boutique Fantasque* (Suite arr. Sargent); Stravinsky: *Petrushka* (1911 version) (96kHz/24-bit, FLAC)

www.hiresaudio.com; Onyx ONYX4192

Pair these two works together and the serious collector will immediately think 'Ernest Ansermet' – whose early 1950s Decca recordings set benchmarks rarely equalled. Petrenko too opts for the 1911 *Petrushka* scoring, and Onyx provides 14 tracks for this recording, done (like *The Fantastic Toyshop*) at the Philharmonic Hall back in late spring 2017. Producer Andrew Cornall, incidentally, recorded the complete

Toyshop ballet with Richard Bonyng in 1982! Superbly played and conducted, with a wide range of dynamics changing in an instant, *Petrushka* is so vivid that you can 'see' the whole ballet, from the sensitive flute solo of the ballerina to the grumbling wild bears and the bustle of the fairground. The contrast with the amiable *Toyshop*, with its can-can and sentimental waltz makes an ideal 'wind down' sequel. **CB**

Sound Quality: 95%



DON GRUSIN

Out of Thin Air (DSD64; 44.1-192kHz/24-bit, FLAC)

www.psaudio.com/products; Octave Records OCT 0001

The debut release from Octave Records, an offshoot of the PS Audio empire, this album comes in a variety of forms: a DSD/LPCM download bundle, vinyl LP, SACD/CD hybrid disc and DSD/PCM data disc. Recorded and mixed live in pianist Don Grusin's Moose Sound studio, the album comprises a set of relatively innocuous solo piano pieces, or what a friend described to me as 'an awful lot of noodling'. And that would be that, were it not for the fact that the recording is simply sensational, with perhaps the best piano sound I have heard: full of body and weight, sonority, space and air, and a very real sense of the instrument sitting before you with studio ambience intact. Which makes this something of a conundrum – not an album you'll be listening to repeatedly, as the music blurs into similarity as it rolls past the ears, it is a rather good way of assessing just what your system can do. **AE**

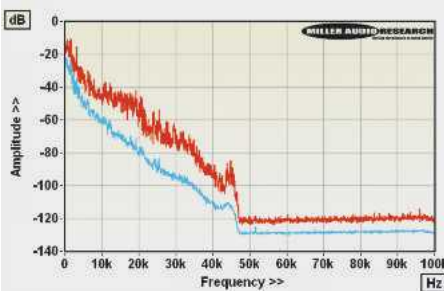
Sound Quality: 95%



OUR PROMISE

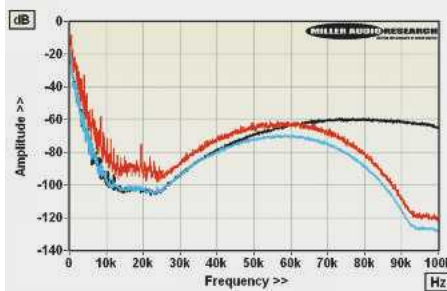
Following our Investigation feature [HFN, Jun '11] in which we examined the claimed quality of high-resolution downloads, *Hi-Fi News & Record Review* is now measuring the true sample rate and bit-depth of the HD music downloads reviewed on these pages. These unique reviews will be a regular source of information for those seeking new and re-mastered recordings offered at high sample rates and with the promise of delivering the very best sound quality. (Note: asterisk in headings denotes technical reservation explained below.) **PM**

LAB REPORT



Recorded a month apart these genuine 96kHz renderings of two works both show some minor post-production spurious at 38kHz but are otherwise very clean. Dynamic range is excellent with no peaks exceeding -0.3dBFS. **PM**

LAB REPORT



Reviewed last month as the SACD/DVD bundle and here as a native DSD64 file [black trace] and 192kHz conversion. Both have sufficient bandwidth for piano but the LPCM file peaks 4-5dB higher (beware A/B comparisons). **PM**



COMPACT DISC



SUPERAUDIO



DVD



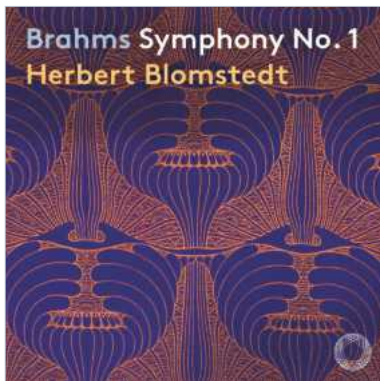
BLU-RAY



VINYL



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GEWANDHAUSORCHESTER LEIPZIG/ HERBERT BLOMSTEDT

Brahms: Symphony No 1; Tragic Overture
(96kHz/24-bit, FLAC)

www.hi-resaudio.com; Pentatone PTC5186850

Recorded live during autumn 2019 – with antiphonal violins and the first-movt repeat taken – this is the start of a new Leipzig Brahms Symphony cycle that promises a very different alternative to the revisionist Chailly/Decca set. At first I felt it rather fell between the two stools of classicism and romanticism – flexible phrasing in (i) and even hints of portamento in (ii), and none of Klemperer’s granitic severity. But with familiarity (and you need to focus on what Blomstedt is giving us, rather than mentally recalling comparisons while listening) you hear a really beautifully played performance, the following *Tragic Overture* too. The sound is rather ‘solid’, perhaps an (unheard) audience present changing the acoustic, but no detail is lost. There’s no applause included. *CB*

Sound Quality: 90%



PHILHOFER JAZZ QUARTET

Full Circle (DSD64/128/256)

www.nativesd.com; DMP CD-531

The story behind this 2001 set by German-born Herb Philhofer, who moved to the USA in the 1950s, is a simple one: having spent what he felt was far too long immersed in all the technology and trickery of the digital studio, he was itching to get back to basics and do what he did best – play his Bösendorfer piano. Hence this set, recorded by Tom Jung to DSD with a stripped-back band involving Philhofer’s son Michael on drums, Steve Yaeger on vibes and Gordy Johnson on bass. Using simple mic set-ups, valve preamps and a mixer from Manley, the session has a wonderfully live and unforced sound, aided by Bob Ludwig’s mastering. There’s nothing flashy or ‘over-produced’ here, but rather accomplished musicians playing together and taking in a mixture of standards and other material, not least a version of Satie’s delicate first *Gymnopédie*. It’s a delight, from start to finish. *AE*

Sound Quality: 85%



ROBERT DEAN SMITH, DAME SARAH CONNOLLY, BERLIN RÁDIO SO/ VLADIMIR JUROWSKI

Mahler: Das Lied von der Erde (96kHz/24-bit, FLAC)

www.hi-resaudio.com; Pentatone PTC5186760

In an Idagio video Iván Fischer describes Mahler’s interests in pantheism and – more specifically – early Chinese poetry and music. And in this live recording of his ‘song cycle/symphony’ (given at the Berlin Philharmonie in Oct ’18) Jurowski brings out the individuality of scoring and Mahler’s dabbling with the pentatonic scale to impressive effect. He also writes a lengthy personal introduction in the booklet. This is certainly a version to hear and it differs from the Bernstein, Klemperer or Walter versions in that the singers are less forwardly balanced – you lose some of the words, and in (i) as the tenor moves his head the image shifts distractingly. That said, to have the mezzo voice is a telling alternative to the contralto weight mostly heard elsewhere. *CB*

Sound Quality: 80%



LAB REPORT

Recorded post-Covid with mastering and release in mid-2020 this is a fine Pentatone offering and a true 96kHz/24-bit file, largely free of spuriae, that never peaks above -1dBfs. The ~48kHz bandwidth is fully occupied. *PM*

LAB REPORT

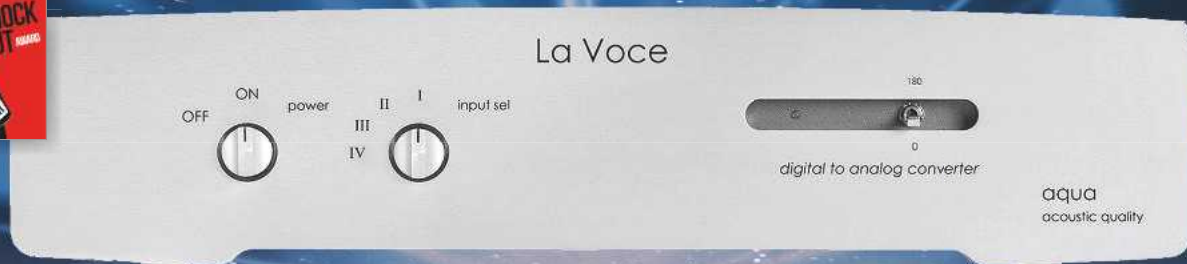
Captured in DSD64 via a Sonoma DSD multitrack recorder/editor, this file shows filtering of ultrasonic requantisation noise above 45kHz (no bad thing). There is some loss of bandwidth and dynamic range above ~28kHz, however. *PM*

LAB REPORT

Our second Pentatone release this month is a genuine 96kHz/24-bit file offering excellent dynamic range, albeit peaking within 0.1dB of the digital end stops in the 1st movt. Some spuriae at ~28kHz but the ~48kHz bandwidth is fully used. *PM*

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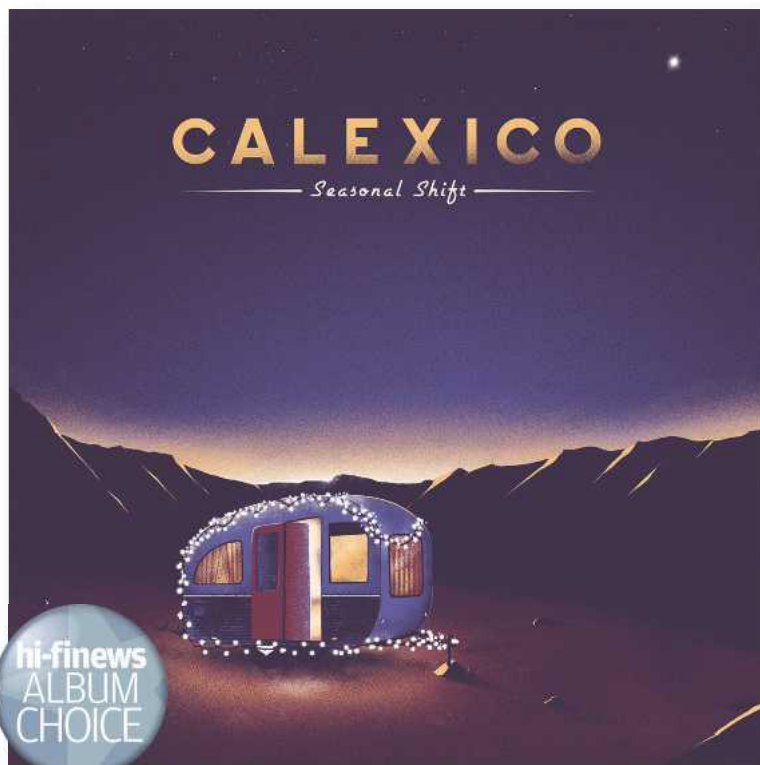
BLU-RAY



VINYL



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CALEXICO

Seasonal Shift

City Slang CD/LP: SLANG50339

Arizona-based Calexico have delivered a 'sort of' Christmas album and to those allergic to such an idea, they've dispensed with the mawkishness associated with music marking the festival. Instead, it's a delightful, pithy set. They are augmented here by guests, and their filmic take on Tex-Mex music is cut with Latin brass and hints of Portuguese Fado. Singer-guitarist Joey Burns appears to be seeking a temporary retreat into a more certain, secure world, sifting through regrets, taking stock, and hoping for better in 2021. He praises friends, family and drunken parties, on material that includes a cover of John Lennon's 'Happy Christmas (War Is Over)' and the chilly, vibraphone-led instrumental, 'Glory's Hope'. **MB**

Sound Quality: 95%



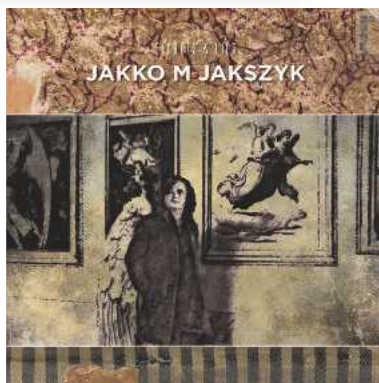
COLDHARBOURSTORES

Dearly Devoted

Enraptured RAPTCDB1; LP: RAPLP81

The cover here was designed by Martin Andersen, who has worked for 4AD, and Coldharbourstores have the sort of ethereal quality that hallmarked acts on that label. The picked guitar on 'Big Deal' evokes memories of The Cocteau Twins, but this quartet have an individual character and a lightness of touch with keyboards and busy electronic and real drums gliding beneath Lucy Castro's soft, clear vocals. Bark Psychosis frontman Graham Sutton's production adds a depth and sumptuousness to the sound field, but at times the mood darkens with ominous low notes and abstract sonics, and things begin to get chilly on the eerie, drifting 'AMY'. **MB**

Sound Quality: 85%



JAKKO M JAKSZYK

Secrets & Lies

Insideout 19439779492 (CD + DVD); LP:19439779501

King Crimson vocalist and guitarist Jakko Jakszyk has worked with a wide range of musicians including Level 42, Tom Robinson, Sam Brown and a who's who of avant-rockers, all of which feeds into his first solo album since 2009. It encompasses dreamy ballads, inventive pop forms, and tough, angular compositions with fluid lead guitar and intricate picked patterns, recorded with members of King Crimson. Lyrically he deals with love, loss and societal unrest with two tracks particularly poignant: 'The Borders We Traded', an *a cappella* song about his search for his Irish birth mother, and its companion instrumental, 'Trading Borders'. **MB**

Sound Quality: 90%



SMASHING PUMPKINS

Cyr

Sumerian 0810016762683 (two discs); LP: 08100167627

Smashing Pumpkins' complicated career continues with the second album by a near re-formation of the original lineup. But Cyr is very different from their '90s grunge heyday. Billy Corgan's production is bright, his songs concise and his vocal melodies are uniformly strong, but glossy synths dominate – with echoes of Tubeway Army – and drummer Jimmy Chamberlin sticks to stiff, foursquare beats. Things change on the twisting, riffy 'Wytch', with big guitars crashing the party. It's the double-album's most overtly rock moment, but the remaining 11 songs are more rhythmically inventive and more instrumentally diverse – there are even a couple of guitar solos. **MB**

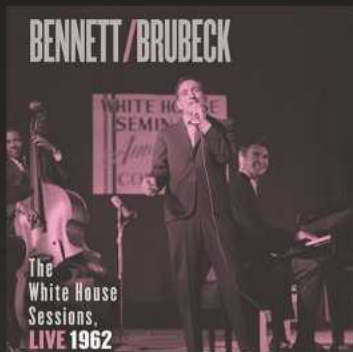
Sound Quality: 85%



The VINYL ADVENTURE



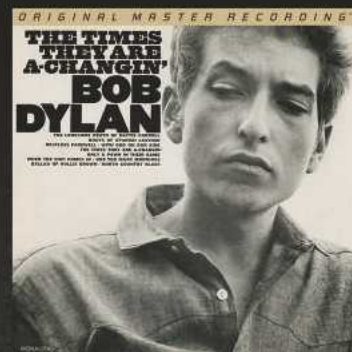
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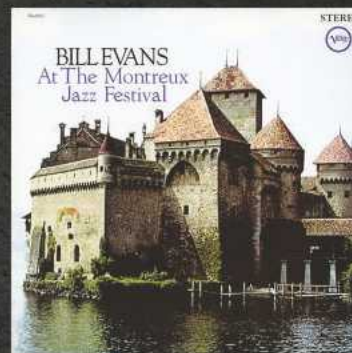
The Times They are a-Changin'
Bob Dylan
180g 45rpm 2LP Mofi Mono Vinyl



Breaking Silence
Janis Ian
200g Analogue Productions Vinyl



Hard Bop
Art Blakey's Jazz Messengers
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Bill Evans At The Montreux Jazz Festival
200g 45rpm Vinyl LP



I Put A Spell On You
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Santana
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The Doors
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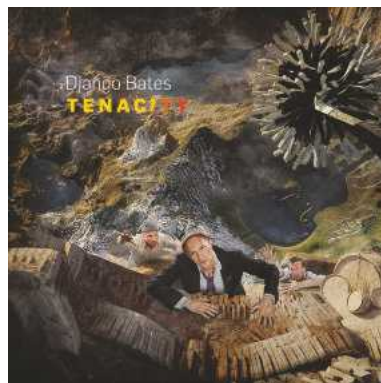


JOSHUA JASWON OCTET Silent Sea

Ubuntu Music UBU0065

After the Guildhall School of Music and an early quintet album, *Ribbons*, alto saxophonist Joshua Jaswon re-located to Berlin, where he formed his multi-national Octet. Central here are three contemporary poems on themes of climate change and Brexit, set in soaring arrangements and sung by the marvellous Dutch vocalist Anna Serierse. From Spain come trumpeter Miguel Gorodi and drummer Aarón Castrillo, who combines drive and swing with an airy touch. Germany contributes sax star Marc Doffey, guitarist Johannes Mann and bassist Sidney Werner, while the horn lineup is completed by Polish trombonist Jan Landowski. Brilliant and refreshing. *SH*

Sound Quality: 90%



DJANGO BATES Tenacity

Loose Marble LM009

Pianist, composer and educator Django Bates has written prolifically for big bands since the 1980s heyday of Loose Tubes, most recently re-imagining *Sgt Pepper*. This time the track listing indicates a centennial tribute to Charlie Parker, a musical hero that Bates celebrated notably in 2016 with *Beloved Bird*. Here his Belovéd trio joins the Swedish Norrbotten Big Band to play 'Confirmation' and other Parker themes in wild, extravagant new creations with unsettling rhythmic twists. Bates originals include the title theme, signifying perhaps the determination and brilliant musicianship the big-band players needed to bring these challenging pieces to life. *SH*

Sound Quality: 85%



DAVE BRUBECK Lullabies

Verve 3514268; LP: 3513980

Unheard until now, this set of 15 short solo piano pieces from 2010 constitute Brubeck's last studio recording, intended originally just for young family members and friends. Opening and closing with Brahms's *Lullaby*, its soothing melodies range from 'Danny Boy' to 'Over The Rainbow' and from 'Summertime' to 'There's No Place Like Home'. There's also Brubeck's own 'Lullaby For Iola', to the wife and lifelong inspiration who would outlive him when he passed away in 2012. Though likely to be overshadowed by the Brubeck Editions label's *Time OutTakes* album, which should be out by the time you read this, *Lullabies* is a heartwarming release. *SH*

Sound Quality: 85%

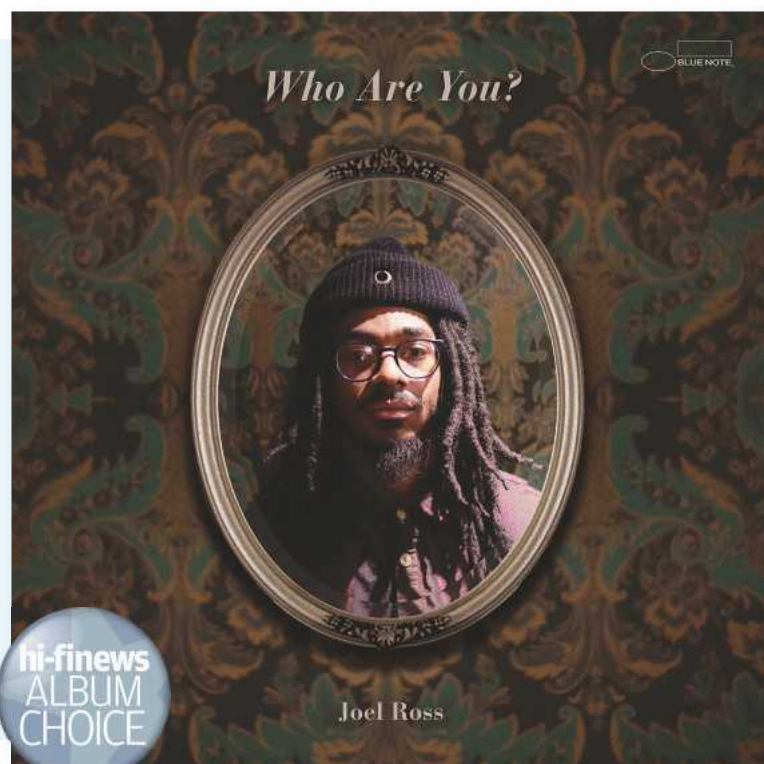
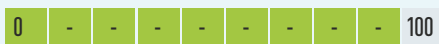


JOEL ROSS Who Are You?

Blue Note 0712749; LP: 0712750

In the young vibraphone master's follow-up to his 2019 debut, *KingMaker* there's once again a major role for the brilliantly communicative alto saxophonist Immanuel Wilkins, whose own Blue Note debut, *Omega*, appeared last summer. Pianist Jeremy Corren and drummer Jeremy Dutton also reappear, this time joined by bassist Kanoa Mendenhall, who played cello before moving into jazz and being mentored by drummer Kendrick Scott. A special guest is harpist Brandee Younger, who helps make 'After The Rain' such a beautiful, evocative and tender track. Ross demonstrates his sure and subtle harmonic sense throughout, even with no chordal instrument when the group strips down to a trio for 'The Nurturer'. *SH*

Sound Quality: 90%



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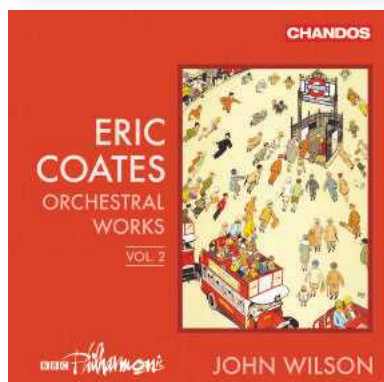
**YVES SAELENS, LUCILE RICHARDOT,
HET COLLECTIEF/REINBERT DE LEEUW**

Mahler: *Das Lied von der Erde*

Alpha ALPHA633 (downloads to 88.2kHz/24-bit resolution)

This is the third *Das Lied* we have had in as many months – but one with a difference. Following the example of Schoenberg, in 2010 Reinbert de Leeuw made his own reduced forces transcription, involving just 15 players – he felt his choices gave a better idea of Mahler’s own sound world. A labour of love, de Leeuw completed this recording in Amsterdam’s modern Muziekgebouw in Jan ’20, one month before, sadly, he passed away. Piano is perhaps a little prominent, but this intimate re-scoring somehow allows the vocal parts to have greater impact. The singers are both excellent, and this is altogether a rather special release. Alpha provides generous booklet information. *CB*

Sound Quality: 95%



BBC PHILHARMONIC/JOHN WILSON
Eric Coates Orchestral Works

Chandos CHAN20148 (downloads to 96kHz/24-bit resolution)

Everyone will know *Calling All Workers*, the lively piece commissioned by the BBC for its wartime morale-boosting programme ‘Music While You Work’ – it ran for 27 years. There’s *London Bridge* too (no *Dambusters* which must surely be in the pipeline). John Wilson’s zips through these in readings that are as smart as new paint, while the 1938 ballet score *The Enchanted Garden* shows – say, in the charming *Allegretto*, No 4, with its swooning second theme – what a master of orchestral colour Coates was. When the BBC Philharmonic moved to MediaCityUK, Salford, I thought Chandos was not getting such good sound quality, but it has clearly come to terms with its acoustics. *CB*

Sound Quality: 90%



**IDA RÄNZLÖV, THE MOZARTISTS/
IAN PAGE**

Sturm Und Drang, Vol.2

Signum SIGCD636 (downloads to 96kHz/24-bit resolution)

This second volume in Ian Page’s period-orchestra series celebrating the *Sturm Und Drang* arts movement – the CD cover seascape here is a typical example – has minor-key symphonies by JC Bach, Haydn (No 39) and Vanhal. These are interspersed with short vocal pieces by Gluck and Mysliveček, expressively sung by the young Swedish mezzo Ida Ränzlöv. These are fine St John’s, Smith Square, recordings (the venue so often used, years ago, by Argo). The Haydn, c.1756, stands apart from the two companion symphonists – anyone who has doubts would surely become a convert via this spirited Mozartists performance. *CB*

Sound Quality: 85%



**PHILHARMONIA ORCHESTRA/
SANTTU-MATIAS ROUVALI**

Tchaikovsky: *Swan Lake* excerpts

Signum SIGCD648 (downloads to 96kHz/24-bit resolution)

Forty-three minutes is hardly generous for a full-priced release, but the 13 *Swan Lake* excerpts here were recorded live, during the second half of a long concert given at the Royal Festival Hall in Nov ’19. It’s the first Philharmonia/Rouvali CD and a fine showcase for the orchestral playing – the principal trumpeter shines in the Act 1 Waltz, where apparently Rouvali asked Jason Evans for ‘some Mexican tequila... more mariachi trumpet’. And the Act 3 ‘Scene’ is fairly enchanting. Rouvali is certainly strong-willed, which some will dislike, and to my ears misses the sense of ‘theatre’ this music should convey. *CB*

Sound Quality: 80%



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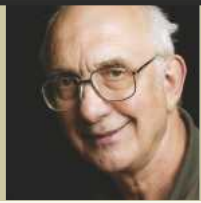
Effortless EFFICIENCY

The Cornwall IV derives its name from being the first Klipsch loudspeaker designed to operate from either a corner or against a wall (corn/wall). The new Cornwall IV is an excellent combination of wide frequency response, low distortion, and high power output. The new Cornwall IV delivers deep bass response that comparebale to even fully horn-loaded designs.



FINISH
OPTIONS:





Barry Fox Technology journalist

Barry Fox trained in electronics with the RAF and worked as a patent agent, but he gave that up to enter journalism. He is one of the world's top technology writers

Tools of the trade

'Test and trace' has become an all too familiar phrase but **Barry Fox** suggests ways of checking all your cabling for your home listening and viewing set-ups – and welcomes a free arts channel

Without the right tools, setting up and sorting out a hi-fi system can be frustrating at times. After all, we've now come a long way from test discs with 'this is the left/right channel' tracks. I've already recommended the use of a label printer, to generate identity tags for cables [*HFN* Oct '20], to avoid digging through wired spaghetti – and Dymo's new thermal print system really is the only game in town. Until you've clearly labelled both ends of every cable in your AV stack you won't fully appreciate what a game-changer it is. (I confess to using Dymo-equivalent tape at half the price.)

LIFE IMPROVING

Treat yourself also to some cable testers. Cables can be bad when you buy them, or go bad over time, especially if bent or plugged and unplugged. For easy mains cable testing, get a simple neon or LED night-light that glows when plugged into a live socket. For around a fiver you can buy ones that indicate bad earthing.

For low voltage, two-wire, phono or coax, buy (or make) a shorting plug and a battery-powered plug that glows and beeps when connected correctly to the two ends of the same cable. This is the easiest way to identify cable-ends emerging from a tangle, and also check a cable's electrical integrity.

Meanwhile, you'll need to buy, rather than make, a dedicated tester for the RJ45 plugs that terminate Cat 5 Ethernet cables. These are now cheap, being around a tenner, and are worth their weight in gold plating when trying to identify network cable ends, or work out why a network won't network.

If you crimp your own RJ45 plugs, it is all too easy to get Cat 5 wires into the wrong holes of the plug. An Ethernet cable tester automatically scans all wires,

RIGHT: This typical network cable tester for RJ45 RJ11 cable from CSL (left) costs £12.99 while the KELUSHI 'HDMI Portable High Definition Cable Tester Checker NF-622' (right) is priced £30. Both testers can be found at [amazon.co.uk](https://www.amazon.co.uk)



with LEDs identifying open-circuits. And you'll also need an HDMI cable checker. This automatically scans all wires and lights up to show shorted or open-circuit pairs. I have bought HDMI cables that were dud, but be wary of false open-circuit readings caused by tester voltage drop on long runs. HDMI testers cost around twice the price of an Ethernet checker, but you can find a combined Ethernet and HDMI check device.

I've recently found three other life-improving tools. JDownloader is a free Open Source software program, for Windows PC or Mac, which downloads just about any audio-video content that is being streamed over the Internet. Just copy and paste the stream's URL into the JDownloader LinkGrabber window and the stream is captured in full quality.

Obviously, there are copyright issues here and its use is at one's legal and moral discretion. The software is free to use, but to avoid malware or PUPs (Potentially Unwanted Programs) be sure to download it direct from <https://jdownloader.org/download/index>.

A newly available dongle without a catchy name (generically 'HDMI to

USB 2.0 Video Capture Card 1080P HD Recorder Game/Video Live Streaming') has an HDMI connection at one end and USB at the other. The HDMI end connects to an HDMI source and the other connects direct to a Windows PC or Mac.

REACH FOR THE SKY

The dongle converts the HDMI stream into the standard USB stream format for capture by your computer, eg, with free Open Source OBS (Open Broadcaster Software). Again, download the software direct from the developer <https://obsproject.com/download/obs>.

Because the dongle is essentially dumb, and capture requires compression encoding into standard audio-video formats, a reasonably powerful computer is needed to avoid judder and stutter.

These nameless dongles are now widely available from many online sources; although they probably all use the same chipset, cost varies widely. Under a tenner is a good guide.

Finally, just in case you haven't noticed, the Sky Arts channel is now free to view and listen to, and record, on Freeview terrestrial channel 11 and Freesat satellite channel 147. There's no catch, only some adverts. Sky Arts is a rich source of music performance and documentary content. ☺

'I have bought some HDMI cables that proved dud'

Amplifiers with elegance and finesse



Integrated amplifiers clockwise from top left: Hegel H590, Luxman L-507UXII, Hegel H390, Audio Analogue Maestro Anniversary, Luxman L-509X

Three amplifier manufacturers that offer a more refined sound than many. Their common aim is to produce a more natural sound, with accurate tonal balance, large holographic sound pictures, and fast dynamics, recreating music of all genres as honestly as the artists intended.

Audio Analogue have recently redesigned several of their long-standing products with new dual mono circuitry, using higher grade components and stylish cabinets. This new Anniversary range consists of two integrated stereo amplifiers called Puccini and Maestro, which have a more refined, detailed sound producing exceptionally large sound pictures.

Hegel Music Systems are known for manufacturing high-end quality electronics at realistic prices. Their unique SoundEngine technology reduces the noise floor and distortions, producing a clean organic sound. A very focused range of products which include five integrated amplifiers and two pre-power amplifier combinations. All their integrated amplifiers include sophisticated DAC designs to support streaming.

Luxman is a legendary Japanese brand renowned for their high-end audio products. Exceptional build quality of reference standard, with a recognisable retro aesthetic, but with a modern sound from state-of-the-art electronics. A range of amplifiers including Pure Class A, Class A/B with a high Class A content, and pure valve designs. All offer an elegant, natural presentation, allowing the listener to get closer to the music through emotional involvement.



Barry Willis

Journalist for top American audio-video publications

While his main interest is high-end audio, Barry Willis also writes about the culinary industry, visual art and theatre for a huge variety of US newspapers and magazines

An inexorable trend

As streaming continues to dominate the way we listen to music how will the manufacturers of premium hi-fi hardware respond? Will we see fewer high end-turntables? **Barry Willis** thinks not...

This past September, in his 'Variety' column, Minneapolis *StarTribune* writer James Lileks reported that in the previous months, sales of vinyl records had overtaken sales of CDs: 'About \$232 million worth of records were sold, and \$129.9 million in CDs'.

Without mentioning his source or specifying the time span for these numbers, Lileks used the statement to launch a humorous attack against fans of both formats, as if they were hopeless troglodytes. The column ('I Come Not To Praise Vinyl, But To Scratch It') is funny, in keeping with most of his writings.

TEN-YEAR TRENDS

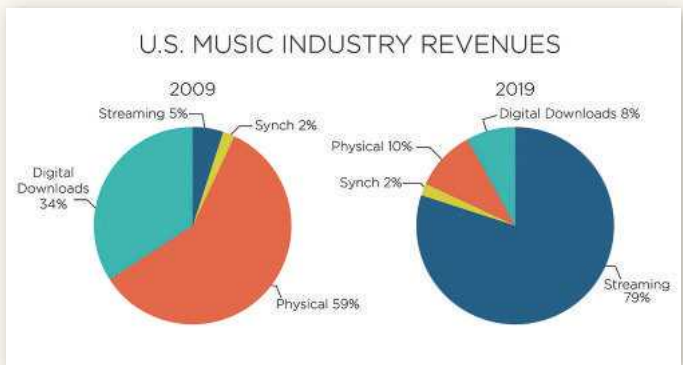
Lileks' website at www.lileks.com is an astounding repository of photos and commentary on everything from old billboards and mid-century motels to the iconography of foreign currency and the graphic design of old stock certificates. He's at his best when poking fun at easy targets such as American cuisine of the 1950s ('The Gallery Of Regrettable Food') or interior design of the '70s ('Interior Desecrations').

Humour and accuracy aside, Lileks' statistics concerning record sales are in keeping with a report released in 2019 by the Recording Industries

Association of America which details ten-year trends from 2009 to 2019. Two side-by-side pie charts provided by the RIAA [see above] say far more than could any dry recitation of sales figures.

A decade ago, physical media (almost entirely CDs and LPs) dominated the market. Digital downloading, meanwhile, was a serious contender – causing much pontificating among tech journalists as to what, exactly, 'owning a recording' really meant – and streaming was in its infancy. Those circumstances have been reversed,

RIGHT: Pie-charts in the RIAA's full-year 2019 revenue report for US recorded music show the dramatic shift from physical media to streaming that has taken place over the past ten years. See www.riaa.com



with streaming now the dominant format. Downloads are on the decline – what is the point of buying a recording if it's available all the time through your streaming service? – and physical media, including a minuscule number of cassette tapes, is no longer a substantial slice of the pie. Eventually it will be a mere sliver.

SAFE ASSUMPTION

Incidentally, after years of wondering what 'Synch' represents, I learned from a former music industry executive that it refers to licensing deals for use of recordings in movies, TV shows, and commercials – in case you were wondering how classic rock songs became theme music in 30-second pitches

for high-performance automobiles and limited-edition whiskies.

The recording industry typically releases the previous year's statistics in the spring, so we don't know yet, but it's a safe assumption that with millions of people homebound due to the global pandemic, streaming will become even more dominant. We can extrapolate, however. Electro-mechanical reproduction – CD, LP, tape – is clearly on the way out. Mainstream manufacturers set production goals according to

perceived demand. One tracks the other, we might say. Therefore, the number of new affordable disc players and turntables is likely to decline. This could also imply, hopefully, that there will be a decline in the production of cheap junk all-in-one players gussied up to look like vintage console radios.

But does it imply a decline in the production of high-end decks? I think not. Even though there are precious few young people so taken with recorded music that they are willing to spend hundreds or thousands on hi-fi gear, there are plenty of older music lovers with the interest and resources to do so.

GROWTH AREA

Let's assume, for discussion's sake, that in a world of seven billion people, there may be a million or so audiophiles who aspire to more than a smartphone and a streaming subscription. Thus, I'm inclined to think that we will continue to see new upper-end turntables, some decent-quality universal disc players, and perhaps many high-performance DACs.

The real growth area will be in high-quality streamers – standalone devices for connoisseurs, and built into integrated amps and receivers for the less fanatical. In other words, the near future looks good for the sort of gear covered in *Hi-Fi News*. We need not cry 'The sky is falling!'. At least, not yet. ☺

'The future looks good for gear covered in *Hi-Fi News*'

COURTESY OF RIAA



Christopher Breunig Music Journalist

Christopher Breunig trained as an architect but became won over by music and collecting classical recordings. He was Hi-Fi News' Music Editor from 1986-2000

Cut and tried

Christopher Breunig remembers the conductor Leopold Stokowski: composer of earth-shattering Bach transcriptions and a star in Hollywood films, experimenting with stereo back in the 1930s

I don't do those scherzo repeats – we'll cut them all out.' If an up-and-coming young conductor said that to his producer, just as they were about to record Beethoven's Symphony No 7, there would be panic. Yet that's exactly what the nonagenarian Leopold Stokowski did in 1973, when he made a Decca 'Phase 4' LP [PFS4342] with the New Philharmonia Orchestra.

Beethoven wrote a five-part scherzo (A-B-A-B-A) but for this last of several Stokowski recordings, dating back to 1927 in Philadelphia [Pristine Audio], he reduced it to a simple A-B-A form, then moving into the finale without a pause. 'Maestro Stokowski has formed the opinion that the conventional Scherzo-Trio-Scherzo format is perfectly adequate,' said the liner notes.

'MY WAY'

His near-contemporary Otto Klemperer also made two big cuts in the finale of Bruckner's Symphony No 8 with the NPO in 1973 [Warner Classics], and had his own view about the coda of Mendelssohn's 'Scottish' Symphony (No 3) where EMI released both the Philharmonia studio recording with the composer's ending and later a Bavarian RSO live version with the Klemperer amendment. (*The Musical Times* had a 2004 article about Klemperer's changes to the works he conducted, where you can log in and read it without payment.)

George Szell had enough clout with his record company, Columbia Masterworks, that his 1965 Cleveland recording of Bartók's *Concerto for Orchestra* came with a radically revised finale of his own devising.

Of course, Stokowski had a reputation for changing details of orchestration; he used to cut the finale of Tchaikovsky's Symphony No 5 and had his own ending

RIGHT: Leopold Stokowski – ever associated with Walt Disney's *Fantasia*, where he gets to meet Mickey Mouse. Amazon has original poster reproductions

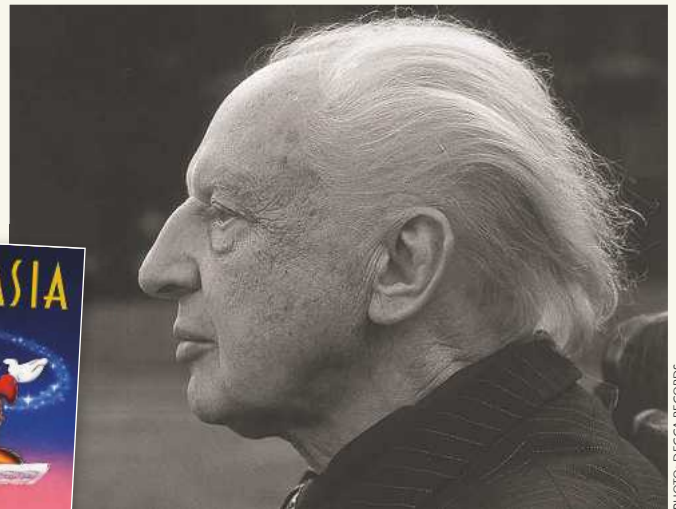


PHOTO: DECCA RECORDS

for the *Romeo and Juliet* Overture. Everyone who has seen Walt Disney's *Fantasia* will know what he looked like when conducting, and (although London born) the way he had adopted a European accent when he spoke.

The session excerpts issued with Cala's CD with the 1964 Rimsky-Korsakov *Scheherazade* – originally produced by Decca – suggested a curmudgeonly figure. He constantly complains about the

playing, telling the LSO to 'just play the notes – it's *not difficult*', and he kept asking: 'Producer' (no personal names here) 'did we get that?'

Stokowski had long been preoccupied with how music might sound on records – and in the

concert hall, where he experimented with orchestral seating and hall lighting for dramatic effect. Hence he was drawn to Decca's 'Phase 4' series where mics were ultraclose to the orchestral sections and with levels veering into the red.

His discography dates back to 1917 and in the 1930s he was working with Bell Laboratories on electrical recording

techniques with the Philadelphia Orchestra, including binaural set-ups with spaced mics feeding separate cutters. Restorations by Ward Marston can be found on the Internet.

Stokowski never forgot his English background. Besides the American and European scores he premiered he had recorded Vaughan Williams's Symphony No 6 with the New York Philharmonic SO in Feb '49 only a few days before Sir Adrian Boult's 78rpm set with the LSO.

FINAL THOUGHTS

Sibelius was another composer Stokowski deeply admired. His American debut concerts in Cincinnati included Symphony No 1, he conducted the US premieres of Nos 5-7 and he made the first set of 78s of the austere Symphony No 4 in 1932.

Thanks to the endeavours of Edward Johnson who has worked tirelessly to bring historic Stokowski material to CD on the London-based Cala record label, we recently had remasterings of Symphonies Nos 1 and 2 [Signum/Cala SIGCD2071], with The Leopold Stokowski SO (1950) and NBC Orchestra (1954). This was, surprisingly, his only version of No 2; No 1 he finally did when aged 94! ⬇

"Just play the notes – it's *not difficult*", he complained"



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Jim Lesurf Science Journalist

Jim Lesurf has spent a lifetime in audio, both as an engineer at UK hi-fi company Armstrong and reader in Physics and Electronics at St Andrew's University

Relay got me...

Jim Lesurf is contacted by two new owners of pre-cherished Armstrong amps and recalls a component fitted that he knew would ultimately give trouble, but which is easy enough to fix

It's a well-established fact that buses in cities tend to hunt in packs: you wait half an hour for one, and then three come along at the same time. This seems to become more common during busy times of the day, or when the weather is awful. Could it be that old hi-fi equipment also displays the same trait?

A couple of months ago I noticed that an old pair of Armstrong 730/732 pre/power amps [*HFN* Jul '82] had been auctioned on the web. Then, a short time later, another pair went through the same process. I had developed these amps 40 years ago and to my knowledge only about 40 sets were sold. So even when new they were quite rare. So to see two pairs in quick succession was a surprise.

PREDICTABLE SNAG

I confess to being pleased to see that both pairs seemed to be in good working condition. I had aimed at making them reliable, and hoped they'd endure for at least 20 years, so 40 years seems pretty good going. I was pleasantly surprised, too, to see that the first pair sold for £1200, which is almost 40% more than their recommended retail price of £870



ABOVE: Prototype 700 power amp in the lab at Armstrong Audio in the mid '70s. The 700 series was an attempt by the British company to steal a march on Japanese rivals by heading up market



back in 1981. OK, that will buy you rather less of most things these days than 40 years ago, but it's more than most amps of that era would gain today.

The second amp duo also fetched £1200, making me wonder if the same sale had accidentally being reported twice. This doubt was resolved when the buyers contacted me and confirmed they were two distinct sets. I learned that both seemed to be in good working condition save for one age-related flaw which I'd predicted when they were first sold.

When I'd developed the power amp, company director Barry Hope worried about the way it produced an audible 'crack' from the loudspeakers when switched on. Being a 'mere injuneer' this didn't bother me because the brief impulse, generated as the amp came on was too small to do any damage to a loudspeaker, and not loud enough to be alarming. I took it simply as audibly flagging up 'Yup! Amp on, and speakers connected!'

However, Barry felt that owners could lie awake at night worrying that it was a sign their speakers were about to die, or that the noise might scare household pets in the vicinity. So he insisted we add a relay that delayed connecting the output to the speakers for a second or so

when the unit was turned on. This would hide the brief electrical impulse.

As I've mentioned, I was determined to make an amp that would be reliable for much longer than a decade. And I knew that cheap tiny relays and switches have a habit of becoming unreliable. So I chose a large industrial relay that had been designed to give long life and maintain an ultra-clean contact even over many operations and years of use.

SHORT STORY

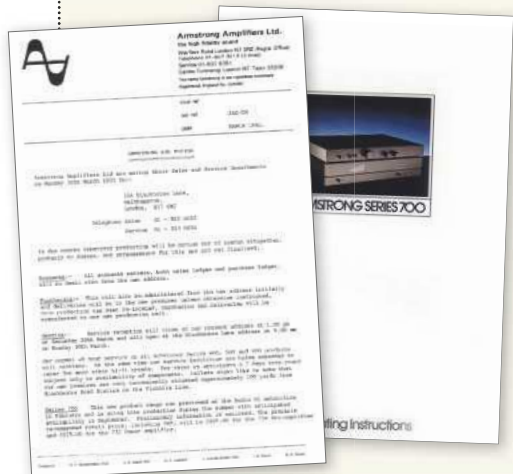
I fitted these to the prototypes. By then my main job was elsewhere and I only worked on the 700 at weekends. Barry

then built the production versions in his back bedroom. Alas, he didn't like the way the industrial relay produced a mechanical *boinnng!* when it was switched on. So he replaced it with a much smaller relay that didn't make any noticeable noise... and as

I then predicted when I found out, duly tended to fail after a decade or so in use.

So if you ever come across a 730/732 pair you might encounter this problem. Again, being an injuneer I'd just solve it by wiring a short circuit past the relay. But if you're the sort to worry about the effect a sudden noise might have on your pet, you might need to find a new relay. ☹

'Barry built all the amps in his back bedroom'



ABOVE: Armstrong press release from 1981 announces 700 series and (right) the manual

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Steve Harris Contributor

Steve Harris edited *Hi-Fi News* between 1986 and 2005. He loves jazz, blues music, vinyl and vintage hi-fi and anything that makes good music come to life

The famous Five

As the record companies tempt us with classic albums remastered and reissued with bonus outtakes or 'audiophile' editions, **Steve Harris** finds the producer's edit was often the best

When it comes to the all-time greats, whether in rock or in the jazz field, we just can't get enough of them. And so record companies are never slow to come up with remasterings, special packages, anniversary editions and completist issues which include all the takes that were rejected from the original sessions.

Even audiophiles who hate jazz usually own at least one copy of *Kind Of Blue*, and perhaps more. According to the wonderful Discogs website, there have been 409 different issues altogether, with dozens of versions currently available.

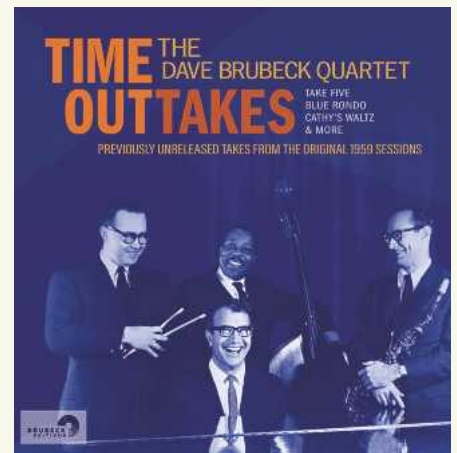
FORGOTTEN TAPES

You want vinyl? You can still get the Sony/Columbia Legacy Vinyl Edition, dating from 2015 [88875111921]. The 2018 blue vinyl version [19075883491] is also still around. You can also easily find a host of convincing-looking 'audiophile' editions that may or may not sound acceptable, and many dubious low-cost offerings.

You want the out-takes? You can have the complete Legacy edition [88697439232], with 21 tracks including all the alternate takes and false starts, giving a total running time of 2hrs, either as a download or 2CD.

Even more, if possible, than Miles Davis, the late John Coltrane inspires the kind of admiration that leads record buyers to purchase more and more product, even though they're duplicating material they already have. But in 2018 Universal Music unveiled an album of music unheard since Coltrane's quartet recorded it back in 1963.

Coltrane had taken the tape home after the session, and it lay forgotten for more than 50 years, until it was issued as *Both Directions At Once* [Impulse! 6749295]. Astonishingly, Universal followed up a year later with *Blue World*



ABOVE: Ella Fitzgerald's *Lost Berlin Tapes*, from 1962 has been issued by Verve, while the Brubeck family label has turned to the great 'Take Five' track in an alternative version

[Impulse! 7762651], an album's worth of music Coltrane had recorded for a soundtrack in 1964. Only ten minutes of the music was actually used in the now long-forgotten movie, and the rest had never been heard at all.

Before moving to Impulse! in 1961, Coltrane recorded for Atlantic. In 2020 that label's current owner, Warner Music Group, came up with a 60th Anniversary Deluxe Edition of *Giant Steps* [0349784839], a Coltrane album significant enough to warrant this most lavish treatment.

There was nothing new here, though the physical issue, sensibly, comprised the original album plus a second disc containing eight out-takes. Those who wanted all 35 takes from the sessions, and hadn't already got them in the *Heavyweight Champion* CD box from 1995, could download/stream the Super Deluxe edition.

And then, also in 2020, Impulse! came up with yet another 'lost album' coup with *Palo Alto*, a previously-unheard 1968 recording of the Thelonious Monk Quartet

[0711285]. There are countless live Monk albums, but this one is very special.

FAMILY FINDS

Worthy as it is, I don't think you can quite say the same about the recent release *Ella: The Lost Berlin Tapes* [Verve 745013]. Recorded live in 1962, it has to compete with the much-loved *Ella In Berlin* from 1960, not to mention *Ella Returns To Berlin* from 1961. But anything Ella did deserves to be out there.

Dave Brubeck's 1959 mega-seller *Time Out* is not far behind *Kind Of Blue* in its Discogs entry, with no fewer than 343 versions listed. But the alternate takes, unlike the ones from those Miles and Coltrane sessions, have remained unheard until the Brubeck family's new Brubeck Editions Label album released them on the centenary album *Time OutTakes*.

Sometimes, listening to a rejected take just makes you realise that the right one was chosen in the first place. But it's fascinating to hear an earlier version of 'Take Five', the most covered jazz tune of all. It just hasn't come together yet. And it makes us appreciate the finished product all the more. ☺

'Impulse!
came up with
another "lost
album" coup'

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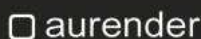
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YOUR VIEWS

Sound Off!

Correspondents express their own opinions, not those of *Hi-Fi News*. We reserve the right to edit letters for publication. Correspondents using e-mail are asked to give their full postal address (which won't be published). Letters seeking advice will be answered in print on our Sound Off pages, but due to time constraints we regret we're unable to answer questions on buying items of hi-fi or any other hi-fi queries by telephone, post or via e-mail.

CARTRIDGE CONUNDRUM A SHOT IN THE ARM FOR A TREASURED DECK

Although I'm a 'key worker' and so have been busy as usual during the past year's lockdown, limited opportunities to socialise during my free time found me able to revisit my treasured turntable and LPs, most of which I bought back in the early '80s and '90s.

The deck itself is a Pro-Ject Debut II with an Ortofon OMB 5E cartridge. My plan was to create a second system, hooking it up to a Rotel RA-01 integrated amp that I replaced in my main system some years back with a Musical Fidelity M5si [*HFN* Apr '16]. The issue is that I am hearing intermittent distortion when playing records.

I have checked the OMB 5E is tracking at the recommended force and that the bias is correctly set, so I can only imagine that I need a new cartridge. My question is which replacement cartridge would you recommend? Would upgrading to the Ortofon OM-10 MM pick-up make sense? And what about a budget phono stage? Would I hear benefits spending money on an offboard unit?

Chris Burrows, via email

Adam Smith replies: Assuming nothing is amiss with the way you have set up the tracking weight or bias, then intermittent distortion could well point to the cartridge starting to fail. Given that the Debut III is more than capable of taking something better than the OMB 5E, this is a good place to start.



ABOVE: Audio-Technica's AT-VM95E MM pick-up (top) and Ortofon's OMB 5E as supplied with the Pro-Ject Debut III

Going up the range to the OM-10 is certainly one option but, frankly, I'd go a bit fancier and treat the deck to one of the pick-ups in the new Audio-Technica AT-VM95 range. Consider the AT-VM95E with its elliptical stylus as a minimum but go as high up the range as you can afford – the sound will improve with each step!

As to a phono stage – the one fitted to the RA-01 isn't bad at all, so to improve on it appreciably, I'd be looking at the likes of the £149 Cambridge Audio Solo or the £159 Musical Fidelity V90-LPS.



ABOVE: The Cambridge Audio Solo moving-magnet phono preamplifier

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Keeping it clean

ANY PREFERENCES WHEN IT COMES TO FLUIDS AND SPRAYS?

Just a quick question concerning the cleaning of the plugs on my power cords and interconnect cables. In his Oct '20 'Off The Leash' column Ken Kessler referred to 'proper hygiene for plugs and sockets' and I wondered if he had any preferences among the various products available. I am aware of WD-40 Fast Drying Contact Cleaner, which is a 'non-conductive' spray that costs around £10 from Amazon.uk, and the rather more expensive DeOxit from the USA. There's also Kontak Audio Cleaning Fluid, which costs around £20 and is a CFC-free electronics cleaning solution specifically for audio systems.

John Whitaker, via email

Ken Kessler replies: To the dismay of accessory junkies I have no preferences, though lately I've been using some dedicated cleaning fluids from Holger Stein (info@steinmusic.de). Being lazy, I clean sockets only periodically, but as they are ostensibly self-cleaning and I change components frequently, it may not be an issue for me. When in doubt, as the late, great UK engineer Stan Kelly told me, there are no better cleaners than the finest vodka or gin, with high proof numbers. I have good results, too, with plain, ol' isopropyl alcohol, or white ('distilled') vinegar, applied with cotton swabs (eg, Q-Tips).

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Put a damper on it?

QUESTIONS OVER THE BENEFITS OF USING TUBE COOLERS

Reading the EAT E-Glo i amplifier review [HFN Oct '20] I noticed that the preamp valves were fitted with red tube coolers, which EAT calls 'dampers'. Aside from their obvious purpose, has any one ever detected any audible difference with or without these fitted? And are they used on power valves, which run even hotter? Also, assuming the coolers grip the glass envelope – even moderately – might this create a hot spot on the glass at those points, leading to early tube failure?

Vince Leonard, via email

Ken Kessler replies: This won't assuage your concern, but I've found no reliable way of comparing with and without. One would need two absolutely identical amps



ABOVE: EAT E-Glo i with red tube dampers, also available in 'metal' or 'metallic grey'

side-by-side, warmed up to precisely the same temperature. However, I discussed dampers (rather than pure coolers) with Warren Gehl, the 'golden ears' tester who signs off every Audio Research unit before it leaves the factory, and he is a confirmed advocate. Tube failure? I only suffered one in 35 years, a lone freak tube from Eastern Europe.

High-quality radio solutions

UK READER AT A LOSS WHEN IT COMES TO ACCESSING SUPERIOR INTERNET RADIO



I have several Marantz network audio players including the NA6006 with HEOS/TuneIn. I also have a TV with Sky Q and a decent HP laptop. Can you explain in simple terms how I can listen to the highest quality Internet radio streams using these devices?

I seem to be thwarted by living in the UK, in that BBC stations are only available at 128kb/s and as I write the Radio Paradise/Audiophile Jazz streams have been turned off.

Chris Humphries, via email

Andrew Everard replies: In the time I've been using Internet radio I've lost track of the number of times I've had to find bodes to carry on listening, and the latest BBC move, removing its streams from the TuneIn platform, has created problems yet again. I would think your best approach would be to find a way

ABOVE: The Marantz NA6006 offers Internet radio via the TuneIn platform

to add the hi-res streams manually, and then either play them through your system using the fairly elderly player available here – <https://mpc-hc.org> – or Winamp (www.winamp.com) on your computer connected through your system, which is a bit clunky, or by adding them manually to the HEOS app's favourites as detailed here: https://denon.custhelp.com/app/answers/detail/a_id/6897.

You'll find a list of the URLs for the BBC's radio feeds here – <https://garfnet.org.uk/cms/tables/radio-frequencies/internet-radio-player> – or you could just play them on your computer from <http://www.radiofeeds.co.uk/other.asp>. As for Radio Paradise, you'll find a list of links here: <https://radioparadise.com/listen/stream-links>.

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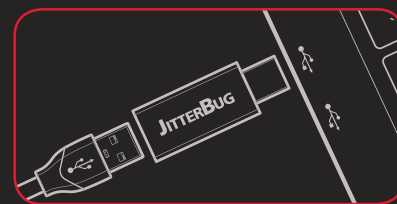
Noise is the problem. Real noise—the kind you can't hear directly. Most often, the word "noise" is used to describe tape hiss or a scratch on a record, but these sounds aren't noise; they are properly reproduced sounds that we wish weren't there.

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JitterBug's dual-function line-conditioning circuitry greatly reduces the noise and ringing that plague both the data and power lines of USB ports, whether on a computer, streamer, home stereo or car audio front-panel USB input.

A single JitterBug is used in between devices (i.e., in series) as shown below. For an **additional "wow" experience**, try a second JitterBug into another USB port on the same device (such as a computer). Whether the second port is vacant, or is feeding a printer or charging a phone, JitterBug's noise-reduction ability is likely to surprise you. No, the printer won't be affected—only the audio!

While a JitterBug helps MP3s sound a lot more like music, high-sample-rate files have the most noise vulnerability. Try a JitterBug or two on all your equipment, but never more than two per USB bus. There is such a thing as too much of a good thing.



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Counting the cost

AT WHAT PRICE IS A HI-FI PRODUCT CONSIDERED TO BE HIGH-END?

Yours is a hi-fi magazine reviewing high-end equipment, yet after reading the letters that appear in the Sound Off pages month after month it would appear that your readers own the most mediocre components known to man. I have spent £140,000 on equipment, and yet consider it very middle of the range. Products include a pair of BMW 800 D3 speakers [HFN Oct '16], Gryphon Audio Antileon Evo and Zena amplifiers and a dCS Paganini four-stack. I have also spent about £10,000 on different cables.

I also have three Musical Fidelity M8-700 monoblocks and a trio of REL Acoustics Stentor 2 subwoofers. Oh, and I forgot to mention my PS Audio DS Power Plant P20 mains regenerator [HFN Apr '19] that cost me £10,000. I think you would agree this is a modest package by high-end standards and it is unfortunate that I cannot afford top of the range. My next upgrade will, of course, be to replace the dCS Paganini with the company's four-stack dCS Vivaldi.

I wouldn't have the temerity to send pictures of Arcam, Naim and NAD components to HFN and regard myself as owning hi-fi. In fact I haven't seen one reader in the Sound Off section who owns anything like a really high-end system. Yet all your reviews, and your hi-fi show reports, feature equipment costing tens of thousands of pounds. So please tell me, who on earth is buying it?

A Nicholls, via email

Paul Miller replies: You are clearly in a very fortunate position, Mr Nicholls, however our international readership avidly consumes HFN not only to inform their next purchasing

RIGHT: The £23,500 800 D3 tops B&W's 800 Series Diamond range



ABOVE: Next on the shopping list – the Vivaldi digital playback system from dCS

decisions but also to indulge, albeit vicariously, in our exclusive in-depth celebrations of the world's most luxurious, cutting-edge gear. Much as, I assume, the most demanding petrolheads will devour the likes of EVO for its supercars while personally driving something less ambitious than a Lamborghini Aventador...

However, the big spenders are out there – following our feature review of the £250,000 D'Agostino Relentless monoblocks [HFN Mar '20]

a full two pairs of these amplifiers were sold in the UK within a few weeks. Such

well-heeled but modest audiophiles simply don't feel compelled to write and tell everyone!

Ultimately, HFN is all about the journey, as well as the destination, and every audiophile is welcome aboard our train. To answer your question 'who on earth is buying it?'. You are, Mr Nicholls.



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Deep into the heart of Texas

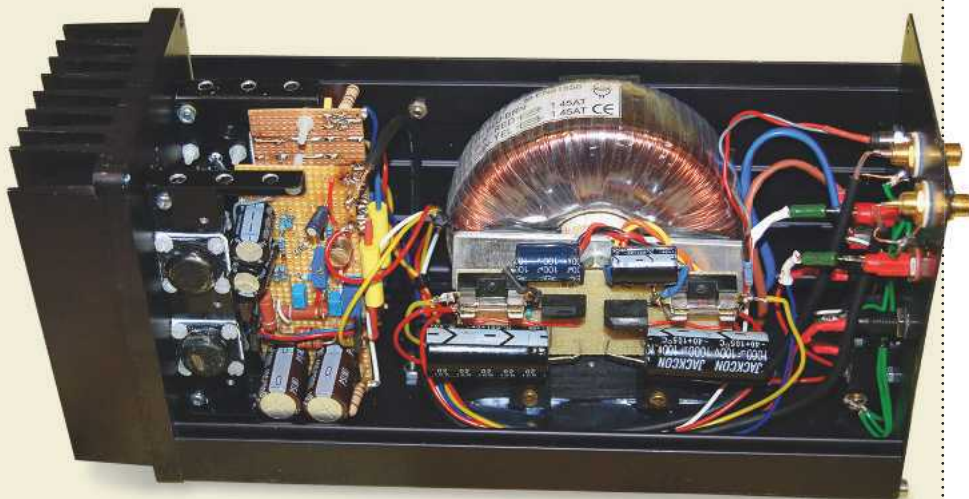
OUT OF THE SPARES BOX COME SPEEDY '60S TRANSISTORS USED TO BUILD AN AMP DURING LOCKDOWN

Those of us who were around in the 1960s like me will remember the great interest we took in the advent of transistor amplifiers. A cutting-edge design from that period came from the semiconductor manufacturer Texas Instruments. This was published in the April 1964 issue of *Hi-Fi News*, in a review of the latest circuits by L N Hulley. The TI amplifier used very fast output transistors and had a simple stabilised power supply, resulting in a claimed output of 30W into 8ohm and a power bandwidth right out to 50kHz. These were exceptional figures, when most other designs from the early '60s produced little more than 10W and struggled to cope with signals at the top of the audio spectrum, producing a good deal more distortion at HF.

The drawback was that the 2S025 devices required for the TI amp were exceedingly expensive. If memory serves they cost £6 apiece, which is about £120 each in today's money. As TI acknowledged, its circuit design simply showed what was possible with the new technology. However, a friend of mine managed to obtain a job lot of 2S025s at a more reasonable price. He kindly sold four of them to me, so I was able to build two monoblock power amps. These were my pride and joy and remained in my system right up until 1977.



ABOVE: Original Naim NAP250 amp from 1975 used BDY58 transistors from Solitron



ABOVE: David's home-brew amp with the Texas Instruments 2S025 transistors visible far left

Eventually I dismantled the amps, and the 2S025s sat in my spares box. But recently I decided I would try to rebuild the circuit and lockdown gave me the time to complete the project. Both channels are in the one case, but each is fed from a separate winding on the mains transformer, so as nearly as possible I have re-created the two monoblocks I had so many years ago.

On my test bench the output reaches the 30W expected. Midband distortion at 10W into 8ohm measures 0.04%, and the same at 20kHz. Impressively, the amp will reproduce a 20kHz square wave, demonstrating its very fast rise-time. For a listening test I hooked it up to a pair of Spendor LS3/5A speakers. First impressions of the sound produced were pretty good. However, I thought it would be interesting to compare the TI amp with a valve design from roughly the same period – namely a Radford STA15 Series 3 [*HFN* Sep '10].

I have never been one to take sides in the transistor-versus-valve debate, but I have to confess that the Radford amp sounds better driving the LS3/5As, being smoother and somehow more melodious. By contrast, the TI amp has a bit of an 'edge'. Back in the 1960s I was unable to make such a comparison, but there were those that could and did, with some concluding they would be better off sticking with valves despite the manifest practical virtues of transistors. From this was born the valve amp revival of the 1970s, of course.

For me this was an interesting recreation of my hi-fi past, and I would be intrigued to know if any other readers have ever come across the TI design. So far as I am aware, the only similar commercial amplifiers from the early days using fast output transistors along with a stabilised power supply were the Naim NAP200 and NAP250 power amps from 1973 and 1975 respectively. This was detailed in an 'Audio Milestones' feature I read in *HFN* some years ago, telling the story of Naim [*HFN* Feb '12].

David Lord, via email

Jim Lesurf replies: I can only speculate given the details David has provided about his splendid home-built design, but two things strike me about the amps he has compared. The first is that the feedback loops of both designs are taken from the 'load' side of their output capacitor/transformer. This helps to suppress alterations these feedback loops can cause when the amp is used with a real loudspeaker rather than a test load.

Secondly, it seems neither amplifier employs an input network in order to limit the entry of ultrasonic components. The result should certainly be a flatter response (though the absence of a filter can expose the transistors to what would come to be called 'Transient Intermodulation Distortion').

It's heartening to hear that the transistor design gave low distortion when David tested it. Full marks for that, even if using a sinewave into an 8ohm load may not fully replicate what happens when an amplifier is driving a real-world loudspeaker with music.

In defence of vintage kit

IT OZZES STYLE AND IS BUILT TO LAST, SO WHY THE 'AGRICULTURAL' COMPARISONS?

I recently bought the July issue of your excellent magazine as I like to keep up with the latest technology in the hi-fi world. Yet a column by Barry Willis titled 'Industrial revolution' caught my eye as in it he equated old farming technology with vintage hi-fi. 'Old tractors were rough and unreliable', he writes. 'Their modern counterparts have high-efficiency engines and... high-tech comforts such as nice sound systems and cushy seats. No farmer in his right mind would prefer an old one.'

I think old Baz has missed the point of why people like myself, the average Joe, like, appreciate and in many instances prefer vintage hi-fi and cars. They ooze style, have beautiful lines, were built to last and cost a fraction of good quality new kit.

I run a 20-year-old Sound Research belt-drive semi-automatic turntable playing through a 40-year-old Hitachi HA-330 amp. Also forming part of my system is a 40-year-old Technics 631 cassette deck, a JVC ED 1240 8-track deck also around 40 years old, and a top-of-the-range Sony SuperBeta Hi-Fi VCR for recording new vinyl onto Pro-X videotape, which gives better performance both on listening and on paper compared to most open-reel decks. Everything is in mint, regularly serviced condition, playing through a pair of German-made Magnat floorstanders.

This set-up not only looks cool, but friends and family often remark how great it sounds. So even if I could afford to splash thousands of Aussie

pesos on a modern system, it would still in my eyes look soulless, like modern architecture. And I wouldn't be able to afford that Jaguar V12 E-Type I've always dreamed of!

Craig Felsmann, Brisbane

Barry Willis replies: Mr Felsmann, you are right – my attempt to equate old farm equipment with vintage hi-fi was a bit of a stretch. I did not mean to offend readers who fancy classic gear. I agree that many old pieces and old vehicles have beautiful lines and a certain 'soulfulness' and I'm glad to hear that your stuff is working fine after so long – I knew there had to be someone somewhere who still had a working 8-track machine.

You must have taken extraordinarily good care of your equipment. I recently hauled a Sony Beta Hi-Fi VCR and Sony LaserDisc player to a local electronics recycling centre after no one responded to my online post offering them for free.

But I insist that technological progress is among the most significant contributors to the quality of contemporary life – the invention of the printed-circuit board, for example, that obviated point-to-point wiring and made mass production of electronic components much more efficient and cost-effective.

Which is not to say that every new bit of audio gear is good value or built to last. A new home theatre receiver may pack every imaginable feature and cost thousands, but five years from now it could be obsolete. In the interim, it may be difficult to get it repaired. Nurturing your vintage kit is an astute hedge against repair issues further down the line.



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ABOVE: The Technics 631 cassette deck was a two-head machine first launched in 1978

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HFNO121P

Technics SB-7000

Bass-heavy behemoth or technical tour de force? We hear a range-topping speaker first launched in 1975 that promised 'true waveform fidelity'. How will it shape up?

Review: **Tim Jarman** Lab: **Paul Miller**

Although the Japanese dominated much of the hi-fi scene during the 1970s, there was one important area where their reach was more limited. That was the loudspeaker market. Yes, the companies' catalogues may have been full of glittering arrays of tempting models, but dealers outside of Japan seldom had that many in stock for interested buyers either to see or hear.

One vintage Japanese loudspeaker with which everyone is familiar is the Yamaha NS-1000M [HFN Oct '18], but what is less well known is that all the big Japanese brands offered something of a similar size, cost and ambition (if not absolute quality). It was inevitable then, that Matsushita – then the world's largest maker of electronic consumer products – would offer a pair of large high-quality loudspeakers under its Technics brand.

MASS APPEAL

Initially released in Japan in mid-1975 as the Technics 7, the design was considered to have sufficient mass appeal to be added to Technics' export programme. Renamed the SB-7000, these three-way floorstanders reached the wider market during 1977. As with much Japanese kit, the SB-7000 offered a headline refinement to set it apart from competitors: 'phase linearity'. Linear phase loudspeakers were not new and had been available for professional use since the mid '60s. But these were based on complex set-ups involving active crossovers and multiple amp channels.

By 1975 both Philips and B&O had introduced practical domestic linear phase speakers to their ranges, the former made possible by the active signal processing that formed part of the Motional Feedback technique (as in the B&O Beovox M70) and the latter by the ingenious mathematical refinement of the crossover design (Philips 22RH544) [HFN Jan '17 & Nov '16].

The approach adopted by Technics was similar to that employed by B&O, even though the Danish and Japanese methods

differed in detail. Like the Beovox M70, the SB-7000 was a conventional passive loudspeaker that could be driven by an ordinary stereo amp, phase linearity being maintained by a combination of carefully optimised crossover parameters and the staggered positions of the drive units. The value of phase linearity in loudspeakers is a

'Phase linearity set the SB-7000 apart from its competitors'

subject that is debated to this day, but Technics was able to demonstrate the excellent waveform fidelity of the SB-7000 by showing that a square wave signal played through it retained

its characteristic shape. A speaker which is not phase linear cannot do this.

Making optimal use of a woofer that measured 350mm mandated a refrigerator-sized cabinet while an additional enclosure was employed for the 120mm midrange unit. Like the woofer, the midrange unit featured a reinforced triple-layer cone made of blended aramid fibre. Meanwhile, on the top of the cabinet an exposed 32mm cloth dome tweeter was simply

RIGHT: Grab handles contribute to the SB-7000's 'pro' aesthetic, as does the large 350mm aramid fibre woofer, married here to a matching 120mm cone mid and fully exposed 32mm soft dome tweeter

placed in free space. The silver rectangle surrounding it was not a baffle but part of its strontium-ferrite magnet assembly.

LOOK SHARP

As for the crossover unit, this was mounted at the rear of the midrange unit enclosure and was not extravagant, although like the drive units themselves all the parts used were manufactured within the Matsushita organisation. As was popular at the time, two controls were provided



RIGHT: As well as basic assembly instructions, the owner's manual included plots of the loudspeaker's frequency and phase response taken from the output of a B&K analyser

so that the owner could set up the treble and midrange characteristics of the loudspeaker to suit their taste. These were on the top of the midrange cabinet and were not crude resistive pads to set the signal level sent to the driver. Rather, they altered the 'Q' (sharpness) of the relevant filters to determine which part of the frequency range each driver handled.

BASE CAVITY

While the midrange unit operated in a sealed and damped enclosure, the woofer was loaded by two resistively-coupled cavities occupying the volume of the main cabinet, eventually leading out to a slot port below. This combination of efficient drive units, a relatively simple crossover and a large, sparsely damped cabinet resulted in a claimed

AMPLITUDE-FREQUENCY RESPONSE AND PHASE-FREQUENCY RESPONSE

Figure 1 Fig. 1

Figure 2 Fig. 2

GRILLE INSTALLATION AND REMOVAL

ANBRINGUNG UND ABBAU DER ABDECKUNGEN

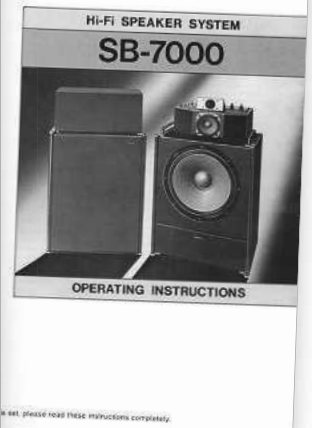
MISE EN PLACE ET ENLEVEMENT DES GRILLES

HUR MAN TAR BORT FRONTSKYDDET

Specifications:
Type: 3-way, 5-driver
Nominal power: 100 W
Rated output: 80 dB (at 1 m) (1 kHz)
Sensitivity: 93 dB (at 1 m) (1 kHz)
Weight: 36.0 kg

TECHNISCHE DATEN
Typ: 3-Wege, 5-Lautsprecher
Nennleistung: 100 W
Ausgangsleistung: 80 dB (bei 1 m) (1 kHz)
Empfindlichkeit: 93 dB (bei 1 m) (1 kHz)
Gewicht: 36,0 kg

Matsushita
Matsushita Electric
P.O. Box 288, Chiba



sensitivity of 93dB/1W/1m [but see PM's Lab Report, p127].

The standard SB-7000 came with black grilles and black laminate over the baffles and cabinet top surfaces

with dark simulated wood for the sides. Costing a little more, the SB-7000MP had real wood veneer on the sides while

for the ultimate in '70s style the SB-7000W was finished in brilliant white with bright green grilles. All versions sported heavy duty carrying handles on the top and polished protection bars around the woofer grille.

Connections to the amplifier are via two uninsulated binding posts which are of an odd design. The top cap part unscrews, then one feeds the bare end of the cable through a little hole in the middle of it. The cap and cable are then fitted to a threaded stud

whose tip is pointed so that the strands of the cable are trapped as the cap is screwed down. No doubt this makes and maintains an excellent electrical contact, but it is tricky to use and thick cables (such as the ubiquitous QED-79 strand) don't go through the hole, making it necessary to splice short lengths of thinner cable onto the ends to make it fit. There is also a tweeter fuse on the top of the midrange enclosure, but as it is bypassed by an internal capacitor it makes no noticeable difference to the treble output, even when it is removed completely!

The sheer size of the cabinets here limits the positioning options available in even a quite generously sized listening room, but needless to say sufficient bass is available to obviate the need for wall or corner placement. The tweeter disperses well and is set at a sensible height for listening while seated, so placement of this speaker is not that critical compared to some.

The high quoted sensitivity of the SB-7000 suggests that they may be a good match for valve amplifiers, but I would advise caution in this area. The lack of acoustic damping in the bass part of the design means that a powerful amplifier which can maintain a low output impedance right down to the very lowest frequencies is what is required. One of the many muscular DC-coupled transistor designs that were coming out of Japan at the time the SB-7000 was launched would probably be a far better match.

TIM LISTENS

From its appearance, one would expect that the sound of the SB-7000 would be dominated by deep and extended bass. While this is certainly true, there is far more to it than that. Although large, the woofer



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Speaker Systems

Our Linear Phase speaker system was designed, after long research into linear phase characteristics, to reproduce musical waveforms as closely as possible to those of the original source. And, as "before and after" oscilloscope pictures of musical instruments being played naturally and through our Linear Phase system show, a remarkable degree of waveform fidelity has been achieved.

The key to the Linear Phase concept lies in our highly successful development of a delay unit using the Bucket Brigade Device (BBD), giving frequency-independent variable delays which can exactly compensate for natural airborne delays. An interesting point here is that we developed this measuring instrument at the same time that Briel & Kjaer developed theirs.

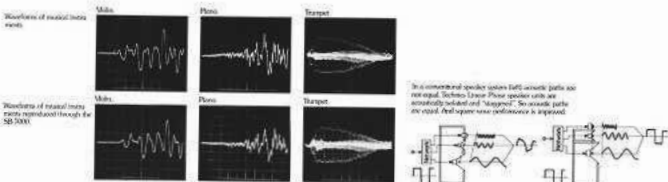
This new method of measuring phase led our engineers to develop unique speaker configurations as well as an entirely new crossover network. And when you listen to the new crossover points working so smoothly, you might easily think there is only one speaker unit. This exceptional smoothness is achieved by a passive crossover network using only inductors, resistors and capacitors (LCR), which produce a completely flat overall response.

The speaker units themselves use the latest technical advances in materials to reduce harmonic distortions, especially Doppler distortion,

where the sound appears to change pitch as it moves away. By "staggering" the units, our engineers found they were able to align the acoustical centres of individual units, eliminating natural phase differences and improving crucial square wave performance. And close alignment of the units vertically, as seen from the front, while keeping them acoustically isolated, led to much improved sound dispersion and a more precise location of the stereo sound image, a fact you will notice if you listen off-centre.

These details might give the impression that all we are concerned about is the mechanical aspect of sound reproduction. But for us the most important part came when we had the experts in to listen. We gave them an A/B comparison test with "live" musical instruments and the same instruments played through our Linear Phase system. Their comments proved to us that we had achieved something very close to true waveform fidelity.

As you will hear, linear phasing reproduces all the verve of a live performance, with the pure, brilliant timbres of natural sound. It goes without saying that our more conventional series of acoustic suspension speaker systems are reliable and carefully built around a time-proven format. Each one is designed to give the maximum listening pleasure to the widest audience.



SB-7000 Linear Phase 3-Way Speaker System
Linear phasing with flat frequency response provides true waveform fidelity. The conventional crossover network is designed for linear phase response. Ultra-smooth crossover points result from the use of a passive crossover network using only inductors, resistors and capacitors (LCR). Large 30cm woofer using TC triple-type with bonded

several free cone greater effective area with less cone movement for reduced Doppler distortion. 12cm cone type midrange features the same material for reduced particle vibration and upper harmonic distortion. New low-distortion tweeter uses titanium kerite square magnet. Also new parallel resonant circuit provides ideal load control.

LEFT: Technics made a good case for its 'linear phase' technology in the catalogue entry for the SB-7000. Smaller, less expensive phase linear models were also offered

Cone is stiff and quite tightly suspended. Its size allows it to move a lot of air even when it is making only small excursions, which minimises the distortion that naturally increases when any loudspeaker cone is driven a great distance from its rest position. This philosophy is certainly at odds with the current thinking in this area that prefers smaller woofers with long-throw suspension.

One might also expect the tweeter to be brash and overly bright-sounding, as is the Japanese stereotype.

This also is not true: the tweeter certainly has a vivid character but it is also both smooth and refined in its presentation. In my view, it is the star of the entire package here and easily ranks as one of the best tweeters I have heard to date.

The word 'bite' is what came to mind time and time again. For example, listening to New Order's 1989 album *Technique* [Factory FACD 275.2], the fast percussion on 'Vanishing Point' combined clarity and power in a way I've rarely encountered.

COUNTER ATTACK

Meanwhile, lots of bass drive – made all the easier by the resonant cavity and the slot port – gives the SB-7000 the rich, luxurious lower register that is so evocative of late '70s high-end equipment. Compared with speakers that would arrive in the next decade, the bass is arguably a bit slow and seems to pull a variety of notes towards an internal resonant point. But it is *not* the boomy, one-note disaster some may expect given the SB-7000's appearance.

RIGHT: All of the connections and controls were located on the top of the midrange cabinet. The fuse holder for the tweeter fuse is just visible behind the tweeter, and note that the binding posts are not insulated

Being able to do the job without taxing the amplifier used or the

loudspeaker itself results in a natural, fluid presentation. If you want to hear albums such as LFO's *Frequencies* [Warp WARP CD3] in the manner in which they were intended then the SB-7000 is a good tool for the job. Near seismic levels of bass were generated even when using only modest amplification.

A comparison between the SB-7000s and a borrowed pair of Yamaha NS-1000Ms [HFN Oct '18] was illuminating, not least because both designs suggest a fairly rapid post-20kHz roll-off [again, see PM's Lab Report, p127]. This made sense for speakers that came about during the LP era as turntables produce increasing amounts of harmonic distortion and ultrasonic noise in this region, and in neither case does it result in a dull-sounding loudspeaker.

Of course the SB-7000, with its rather basic cone midrange driver, cannot hope to match the stunning midrange clarity of the NS-1000M's beryllium domes. Instead, it counter-attacks with what sounds like an octave more of bass and improved stereo imaging, the latter the probable result of the vertical alignment of the tweeter and midrange units and the phase linearity of the system as a whole. Despite being different in character, both attain a similar level of quality and would have offered similar value for money. This was probably the intention in the first place.

REQUIRED LISTENING

Recommending any speaker is difficult as so much rests on personal taste. It is even more difficult with the SB-7000 since its bulk means that main system use would be necessary. After all, they are far too big for occasional use in a bedroom system!

For those normalised to the current take on 'correct' sound they are probably a step too far, but for anyone putting together a top-end, all-Japanese system from hi-fi's zenith years of the late 1970s the SB-7000 ☺





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LAB REPORT

TECHNICS SB-7000 (Vintage)

With B&W's DM6 and the Dahlquist DQ-10, the mid/late '70s saw the SB-7000 as Technics' contribution to the 'phase coherent' speaker debate. The use of staggered drivers to achieve aligned acoustical centres, and passive, maximally flat group/phase delay crossovers are concepts now firmly incorporated into the speaker design cook book – witness everything from KEF's Uni-Q drivers to the sloped baffles of many modern designs [see p56]. However, the pursuit of 'phase linearity' in the SB-7000 is not without consequence in its 'notchy' amplitude response [see Graph 1] where narrowband peaks and dips through mid and treble are superimposed on a broad, U-shaped trend. These contribute to high $\pm 6\text{dB}$ response errors, coinciding with strong driver resonances at 800Hz, 1.1kHz and 1.5kHz [see CSD waterfall, Graph 2] – and at lower 108Hz, 155Hz and 640Hz frequencies seen on the impedance/phase spectra. The mean 500Hz-8kHz output suggests a sensitivity closer to 88dB than the rated 93dB.

Additional diffraction effects from the grille 'hood' are visible above 2kHz [cyan trace, Graph 1] as is the impact of the -2dB and -4dB crossover pads between 2-5kHz [red and green traces], but THD remains $<1\%$ at 90dB SPL. Technics' 6ohm rating is also upheld by the 4.6ohm/2.4kHz minimum, although the load remains sub-8ohm from 85Hz-8.6kHz where the impedance phase swings through a symmetrical $\pm 50^\circ$. The 'slot' bass loading is arguably closer to a resistive 'leaky' sealed-box alignment than a true 4th-order reflex, the 350mm woofer peaking at 75Hz [green shaded area, Graph 1] before rolling away to deliver a (diffraction correction) extension of 46Hz ($-6\text{dB}/200\text{Hz}$). PM



LEFT: Nothing to see here... The black-painted particleboard cabinet hosts nothing except a cautionary warning not to exceed a 150W input

and damaged drive units, and these are best considered as projects for those with cabinet making skills or as sources of parts.

The rather vague power ratings given by Technics have led to some samples being over-driven in their time, so be on the lookout for rubbing voice coils and damaged bonding within driver motor units. All the drivers

is required listening before you drop a grand on the default pair of Yams.

BUYING SECONDHAND

Technics SB-7000s are not an easy loudspeaker to find, but there are more in circulation than you might think. Sadly, many now have battered cabinets, missing grilles

are unique to the SB-7000 but used replacements can be found.

Corrosion to the lead-out wires can cause the tweeter to fail suddenly, but a skilled engineer should be able to repair this fault without too much difficulty. As was previously mentioned, the tweeter fuse is bypassed by a capacitor in some models so don't rely on it for protection. The crossover components are of high quality and very reliable and should not be replaced just for the sake of it. As with the rest of the unit, they were produced by the company to tight specifications and are an integral part of the design as a whole. ⚡

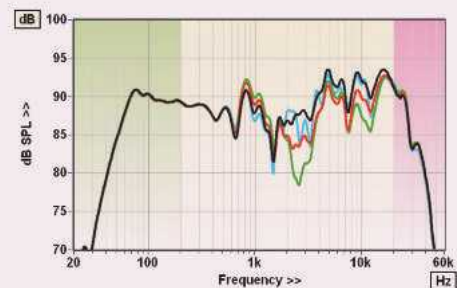
HI-FI NEWS VERDICT

Although a little quirky in some areas, there is no doubt that the Technics SB-7000 is an excellent loudspeaker overall. For those who have the space it is an intriguing alternative to the more usual full-size vintage choices, combining power, refinement and treble clarity in a way few other classic loudspeakers are able to match. A pair in clean, unmodified, original condition would make a fine vintage buy.

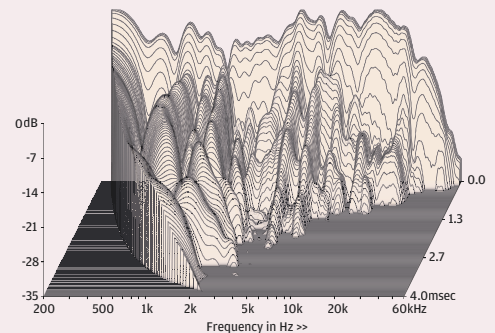
Sound Quality: 75%



ABOVE: The SB-7000 came with a detachable hood for the mid/treble 'head' and cloth grille for the baffle



ABOVE: Response inc. nearfield summed driver/slot [green], corrected to 1m/2.83V [yellow], ultrasonic [pink]. 0dB, black; -2dB , red; -4dB , green; grille, blue



ABOVE: Numerous driver resonances correlate with undulations in midrange and treble response [Graph 1]

HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83V - 1kHz/Mean/IEC)	88.0dB / 88.3dB / 87.4dB
Impedance modulus: minimum & maximum (20Hz-20kHz)	4.56ohm @ 2.4kHz 26.2ohm @ 59Hz
Impedance phase: minimum & maximum (20Hz-20kHz)	-56° @ 69Hz $+55^\circ$ @ 9.5kHz
Resp. error 0dB/ -2dB / -4dB (200Hz-20kHz)	$\pm 6.1\text{dB}$ / $\pm 5.9\text{dB}$ / $\pm 7.6\text{dB}$
LF/HF extension (-6dB ref 200Hz/10kHz)	46Hz / 27.4kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.35% / 0.65% / 0.55%
Dimensions (HWD) / Weight (each)	845x480x410mm / 36kg

A new Reference?

John Atkinson lives with the KEF R107, its new range-topping contender

An understated revolution in loudspeaker design has been taking place in Kent. KEF's Technical Director Laurie Fincham has put together a team of engineers who have been quietly but thoroughly examining the fundamentals of moving-coil, box loudspeaker behaviour, spinning off a regular series of products, starting with the original R105 nearly a decade ago.

Some years back, in a 1979 AES paper entitled 'A bandpass loudspeaker enclosure', Fincham outlined a strategy for a different kind of woofer loading. In 1984, the launch of the R104/2 showed what this technique could achieve.

THE EQUALISER

In November 1982, Laurie gave a fascinating talk to the UK AES on how low in frequency extension a loudspeaker needed to go, using a massive KEF KM1 loudspeaker equalised flat to 5Hz in order to



illustrate the point. The result, surprisingly, was that differences in LF cut-offs below the nominal range of human hearing can nevertheless be distinguished subjectively.

The reason, it was suggested, is that the inevitable group delay associated with the bass high-pass filter action introduces deleterious effects much higher in frequency than the nominal cut-off point. The necessary bass equalisation used with the test loudspeaker was performed with a small box of electronics called the K-UBE, which gave control of the loudspeaker's nominal LF cut-off point and

ABOVE: Launched in 1986, KEF's R107 promised bass extension down to 20Hz

effective 'Q' of the bass tuning. By the way, K-UBE stands for 'KEF Universal Bass Equaliser'.

TECHNICAL DETAILS

The £2000/pair R107 resembles the original R105, due to the use of a similar swivelling treble/mid 'head' unit, which connects to the bass box via a gold-plated XLR plug. The head is constructed from a honeycomb plastic material with the 8.5litre cavity filled with a mineral-loaded polymer damping 'goop'. However,

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whereas the 105 used a B110 driver, the R107 head uses a polypropylene cone midrange driver, coupled with a ferrofluid-cooled dome tweeter based on the R104/2's T33. The original 105 head could also be angled vertically; the R107's swivels in the horizontal plane only.

Meanwhile, the 72litre, 45kg, bass cabinet of the R107 features two 250mm paper-cone drive-units, mounted vertically in separate sealed enclosures and firing in push-pull into a cavity. The driver frames are linked by a non-magnetic tie-bar, and as the reaction motions in the frames are out of phase, they are effectively cancelled.

BOOSTING THE BASS

The bandpass cavity communicates with the outside world via a port, with the air in the port acting as the bass driver proper, having very low mass and capable of very high excursions. In an ideal world, this will result in both high sensitivity and low distortion, coupled with smooth out-of-band behaviour.

The port itself is sited on the top of the enclosure in order to minimise room boundary effects and to position the effective bass driver very close to the midrange unit. To make the best use of the excellent woofer characteristics, the variable Q, variable roll-off, K-UBE box becomes an integral part of the R107 crossover. The 'natural' bass tuning of the R107 gives a rather high bass cut-off frequency for a box this size, -3dB around 50Hz. On the other hand, the sensitivity is high.

The roll-off slope of the bandpass enclosure is a gentle 12dB/octave, however, rather than the very steep slopes of 3rd or higher order enclosures, so it becomes a relatively simple matter to boost the bass below the cut-off frequency to give sensitivity and extension, provided the woofers are not driven beyond their mechanical limits.

To give extension down to 18Hz, a maximum 16dB of boost is required. A conventional cabinet would need to be around 500litres in volume to give the same combination of sensitivity and extension. In fact the R107 K-UBE allows the user to choose between four cut-off frequencies, which are 50Hz, 35Hz, 25Hz or 18Hz, and Q continuously variable



ABOVE: Original brochure explains how the K-UBE provides fixed equalisation for the R107's midrange and high frequency sections along with variable equalisation that can be used to optimise the bass. The K-UBE itself is pictured below the 'lifestyle' shot of the R107 on the second page of the brochure (right)

from 0.3 (over-damped), through 0.5 (critically damped), to 0.7 (maximum extension but less good time response). There is also a bass 'contour' control to get the best match between the speaker's bass performance and the room.

The K-UBE is connected either in the amplifier's tape loop – duplicate sockets are provided – or between preamp and power amplifier, being powered from a small remote transformer, and is left on all the time. The original had flying leads but production K-UBEs will be fitted with gold-plated phono sockets so as to enable the customer to use his or her own cable.

The K-UBE must be used, as it provides some of the HF equalisation normally handled by a conventional crossover. The crossover proper incorporates 'conjugate load matching' to give a uniform, essentially resistive, 4ohm load impedance. Meanwhile the specified sensitivity is 90dB at 1m on the reference axis for 2.83V RMS band-limited (50Hz-20kHz) pink noise input under anechoic conditions.

The 4ohm impedance means that the speaker is actually drawing 2W from the amplifier for this level. Finally, signal input is via 'butch'

gold-plated screw terminals found on the back of the bass bin.

SOUND QUALITY

I hooked the speakers up to my Audio Research SP-10 and Krell KSA-100 combination, plugged the K-UBE in the preamp's tape loop and set the dials for maximum extension and a Q of 0.5. I then put on an LP, and winced. The sound was glassy bright, though astonishingly detailed, and had a very light bass quality, with hardly any extension.

What was going on? The answer, of course, was due to brain strain: the SP-10 was in bypass mode, which gives the most direct path from pick-up to power amplifier, but also conveniently removes the tape loop from that signal path. I was listening to the sound of the naked R107s, devoid of the civilising influence of the K-UBE equaliser at low frequencies and its response shaping at high frequencies!

Blushing, I put things right and settled down to some serious listening. I very quickly settled on an optimum K-UBE setting, with most of the listening done with the Q at 0.5, the extension at maximum and with a slight bass lift to compensate for

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FROM THE VAULT

the dryness of my room at LF. I found it intriguing that KEF's preferred Q from a decade ago, the maximally flat 0.7, was at one end of the control's range. In fact, the change between 0.5 and 0.7 gives a slight muddying of the upper bass, and I only used Q at 0.7 for rocking out.

Supplied with the speaker are two sets of four plastic feet. The rubber feet can be pulled off, leaving standard hardened steel spikes. I ended up with spikes fitted at the front only, to tilt the R107 forward a little so that I could sit on the correct axis – looking the name badges in the, er, face. With two spikes at the front, the extension is felt through the floor so that the 32ft organ pedal notes at the end of the Karg-Elert *Homage to Handel* on Michael Woodward's Liverpool Cathedral recording make the legs of your trousers flap.

CLEAR DIFFERENCE

And it was in the region of low frequency transparency where the R107s excelled. Small matters of upper bass detail, such as the difference in mass of the strings of the electric bass guitar are finely distinguished, the weighty bottom string's special character coming through loud and clear, with the emphasis not so much on 'loud' as on 'clear'. And the differences between similarly pitched sounds are also well resolved.

Take Stevie Ray Vaughan's blues 'Tin Pan Alley'. As Stevie gently solos on his Stratocaster, the drummer strokes three on the ride cymbal,

the bass player plunges deep into the lower reaches of the E string, and the bass drum thuds with an impact that is felt rather than heard. Even at extremely high playback levels, none of the instrumental sounds interferes with any other.

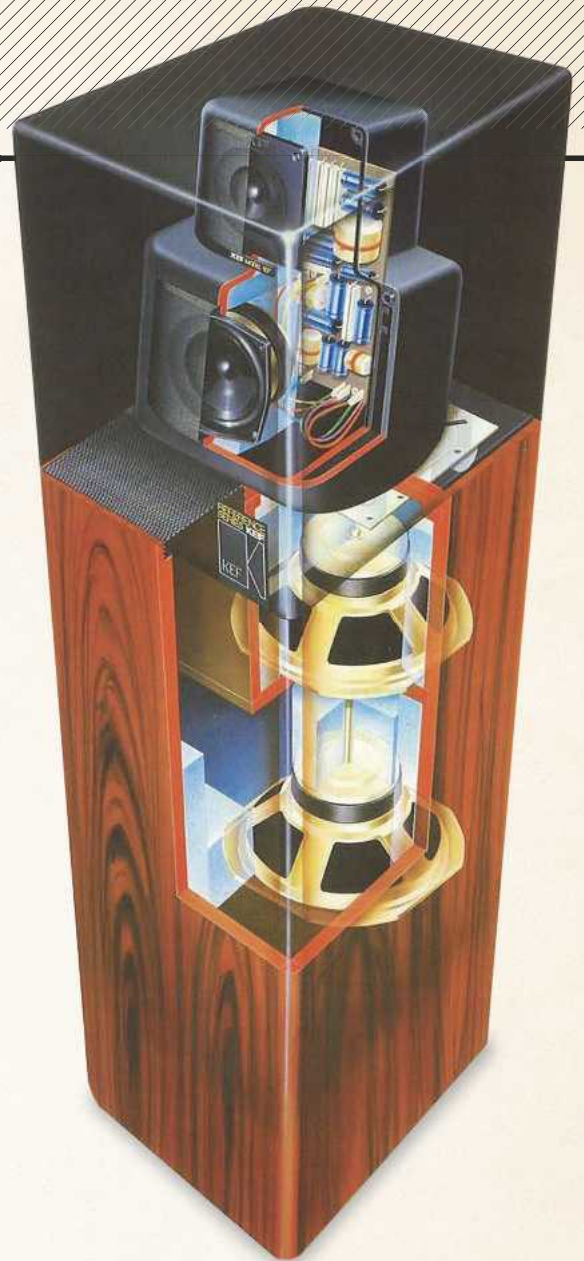
TAKE TO THE FLOOR

Overall, the differences between very loud and very quiet seemed almost exaggerated – the cat leapt off my lap in fright at the first entry of the 'big drum' on Kodo after the spacey shakuhachi intro. The extension itself only added weight when necessary, as in Papa Doo Run Run's cover of 'Let Him Run Wild' on CD where the 16ft bass synthesiser line could be followed without any undue emphasis or missing notes.

And I have never heard the 32Hz bass guitar C at the start of Joni Mitchell's 'Cotton Avenue' reproduced with such authority since I first heard it on the Apogee Scintilla. The rediscovery of the 16ft register in modern rock – the Peter Gabriel track 'Sledgehammer', for example – was a welcome trend that I hadn't been made aware of with smaller loudspeakers.

The KEF R105 had always thrown a wide and deep soundstage, but an aspect of the R107's extended but controlled low frequencies for which I was not prepared was the effect on imagery. Yes, that's right, it would appear that an accurately defined, delicately detailed, stereo image is enhanced by the reproduction of frequencies where no music lies.

'The cat leapt off my lap in fright at the Kodo drum'



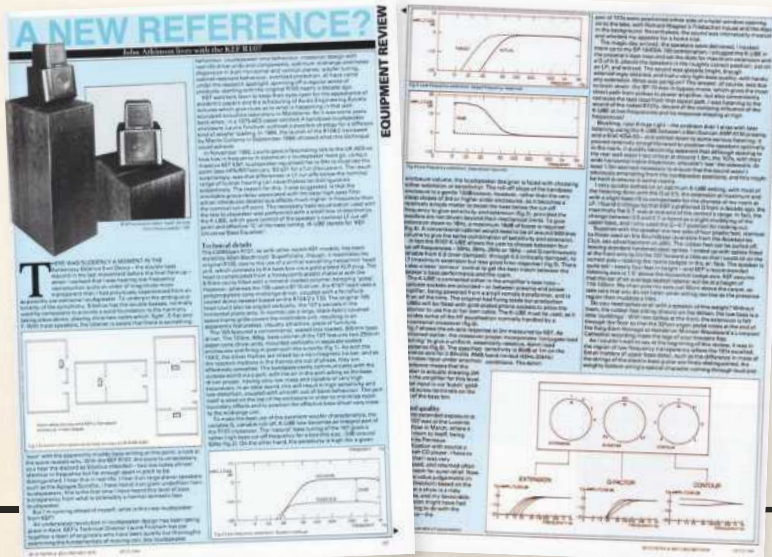
ABOVE: Cross section of the R107 shows the polypropylene cone midrange driver and the ferrofluid-cooled dome tweeter in the head unit. In the bass enclosure are the balanced twin paper-cone woofers

Rex Baldock used to refer to this as the 'floor sound', and it adds to the sense of space around bass instruments in particular. It certainly helped bring out the acoustic flavour of the hall in which the recording was made – you could 'hear the walls' of St John's, Smith Square, around the Dvorak *Serenade* on the HFN/RR test disc.

QUEEN SIZE

A further feature of the imagery, and one the adjustable bass roll-off point of the K-UBE made very easy to spot, was the way the R107's extension rendered mid and high frequency images 'small', or rather, natural in size, an aspect enhanced by the speaker's seamless transition from low bass through the midrange.

Kiri te Kanawa's voice on her first *Chants d'Auvergne* collection, for example, was the correct size with respect to the orchestral



LEFT: Original pages from the July 1986 issue of HFN carrying ex-editor John Atkinson's review of the KEF R107 loudspeaker, with its secret bass weapon known as the K-UBE

FROM THE VAULT

background. Raise the cut-off frequency and her voice image uncannily became more bloated.

I've concentrated on the things the R107s do right up to this point: where were they deficient? The treble was not as clean as I had hoped, there being some 'raggedness' present around 3-4kHz, as well as a slight plateau in this region, noticeable on pink noise. There was also a slight trace of 'cuppiness' in this upper midrange. On the whole, however, what sins the R107s did commit were of omission rather than commission, the general balance being neutral when compared with, say, the R104/2. The only negative aspect to bother me significantly was a loss of 'air' in the high treble, a lack of transparency. How much this is due to the straightforward op-amp electronics that are used in the K-UBE, it is impossible to say.

QUESTION OF TONE

The truth of the saying that you can't get something for nothing was revealed by sweeping a very low frequency tone at what became obvious was too high a level. The LF equalisation means that the bass drivers are being worked hard to get the extension, with the result that some doubling, or distortion, was noticeable on pure tone, due to the drivers running out of displacement.

I should add that this was at very high levels and at very low frequencies. In fact KEF has carefully engineered the bass unit parameters to take advantage of the spectrum of real music, where it is very rare to get a combination of very high energy at very low frequencies, a point that became apparent in the

research that led up to Laurie Fincham's AES presentation.

CONCLUSION

They used to say about loudspeakers that 'A good big 'un always beats a good small 'un! The R107 is not only a good big 'un but the best speaker KEF has ever designed. It is also one of the best box speakers I have heard, combining the tight, extended bass of the Isobarik with a neutral tonal balance and stunningly precise stereo imagery.

It only departs from the (mythical) ideal loudspeaker in the

treble, where it lacks transparency.

There are speakers that are better in this respect – the Celestion SL600 or the Quad ESL-63, for example – but those models lack the bass extension and dynamics of the R107. The balance of subjective and objective parameters chosen for the R107 seem unique for a speaker in this price and performance class. One of the most important hi-fi products to come out of this country, it is indeed a high performance loudspeaker. Ⓣ

'This is the best speaker KEF has ever designed'



BELOW: The R107's mid and treble 'head' was derived from the company's earlier R105. This head swivels, allowing the mid and treble units to be toed-in to achieve a good stereo image



Also in *HFN* this month in 1986

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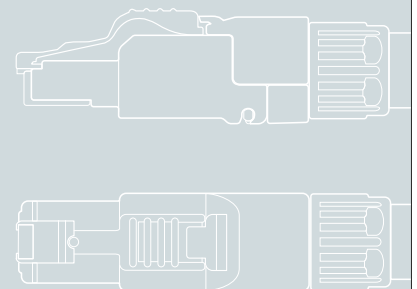
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With lockdown/curfew/social distancing/or whatever continuing for the foreseeable future, it's not difficult to imagine what tomorrow's retail scenarios and instances of human interaction might be like. We have a clue in CES 2021, revealed as a virtual show as far back as last summer, while an increasing number of hi-fi emporia are now looking to online sales.

MAKING DO

Even small gatherings, such as my own 'Sad Café' schmoozefest, have changed, despite our not breaching the six-persons limitation during the autumn. The coffee shop we frequented became takeaway-only, so our meetups moved to my garden as and when rules permitted. Ain't the same, but we feed off each other's knowledge and experience, and I'd be sorely inconvenienced without, say, the open-reel know-how of Jim Creed.

This also portends a two-fold change in the way audiophiles deal with even minor, daily manners. The first will be increased self-reliance for those who use, but don't set up their systems, and no longer able to rely on either immediate professional (*ie*, retailer) or amateur (a savvy audiophile friend) help with, say, installing cartridges or moving huge speakers.

This leads to a second behavioural change: hi-fi magazines will increase in

importance rather than fade away because enthusiasts will want access to the knowledge they impart. We're a long way from the days of journals with the word 'Practical' or 'Answers' in their names, and none today run articles on how to solder or build your own kit speaker, but Q&As often figure in the form of readers' letters in our monthly Sound Off pages [see p114].

More likely, though, is the need for a sense of community, as news-gathering is a given. This journal even has 'News' in its title, our desire being to keep you abreast of developments, new products and other current affairs, while the Internet is bursting with websites – many that are dubious, I fear – for instant gratification.

Before a hit is called on me by some disgruntled website wizard, let me qualify my disdain for most online sources, without resorting to the Trumpian cry of 'Fake news!'. Not all of them are bogus nightmares run by wannabees too illiterate or lacking in hi-fi knowledge to work for legitimate, responsible and culpable

'Our regular meetups have moved to my garden'

magazines or websites. But the horror stories I hear and the misinformation I see, bode ill for the genre overall. I'd love to find out how many web critics posing as independents are actually paid influencers.

As for the sites I trust, they include those with either pre-existing provenance, such as manufacturers' or print magazines' sites,

known writers who have made the transition from print to online, or easy-to-find businesses so I know they are afraid of lawsuits. The biggest gripe that traditional magazines have about spurious websites is that they are impossible to regulate, police, sue or render accountable, when their domain or server is routed via Tierra del Fuego or somewhere and the writers have no track record. Or use an alias.

QUICK REFERENCE

That said, sites such as Wikipedia certainly boost my efficiency, while there are a number of independent websites that provide product listings that are a good place to start when compiling historical material – before it is double-checked. And I can name a dozen general audio sites that I also visit with some regularity, including ones that obsess over valves, open-reel tape, vintage turntables and other interests.

The reason I access them is that they have no axes to grind and nothing to prove, yet are amazing sources for data. I can then, for example, revert to my well-thumbed Babani valve equivalent guides in order to confirm that every substitute for an ECC83 that Google throws up is a correct one.

Which brings me to one of the main causes for a new hunger for knowledge: we're more at home, with time on our hands, so we have ample space in our lives to fiddle with our systems. For instance, I dug out my old Moscode tube checker, opened a box of old cartridges to find which still worked, started donating my archives to a museum, and found myself curating hundreds of secondhand tapes, a benefit of this new-found freedom.

Alas, many cannot see this change in our lives, wrought by the pandemic, as in any way liberating, but rather as captivity. Those with crowded homes, dysfunctional families, money worries or other ills. I feel for them, and do not discount the misery of their lives. But for those of you blessed with a modicum of stability, I merely ask you to find how to exploit the situation rather than bemoan it. The virus may eventually be controlled, perhaps, and life may recover to a degree, but one thing you can never reclaim is time. We need to use this wisely. ☺

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