

hi-fi news

THE HOME OF REAL HI-FI

& Record Review

CHIC MUSIC

Exclusive – first test of the dCS Debussy DAC



FRAMPTON
Comes Alive! 35 years on

'Anti-piracy – from magnets to Daleks'
Investigation p16



Trilogy 907

Phono stage for LP lovers

Ultimate CD Group Test

Seven £1000 models reviewed

McIntosh MC275 tube amp

The history of an Audio Milestone



EAT Forte S turntable

Big and beautiful vinyl LP spinner



Pass Labs INT-30A

The world's beefiest '30W amp'



• **PLUS** 13 pages of music features • **VINYL RE-RELEASE** Ramones *Live In NYC 1978* on 180g LP
• **HI-FI @ HOME** Triodes and Quad ESL57s • **SHOW BLOG** Ken Kessler at Milan TOP Audio '10
• **VINTAGE** Goodmans Maxamp 30 on test • **READERS' CLASSIFIEDS** Hi-fi bargains galore

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MUSICAL FIDELITY

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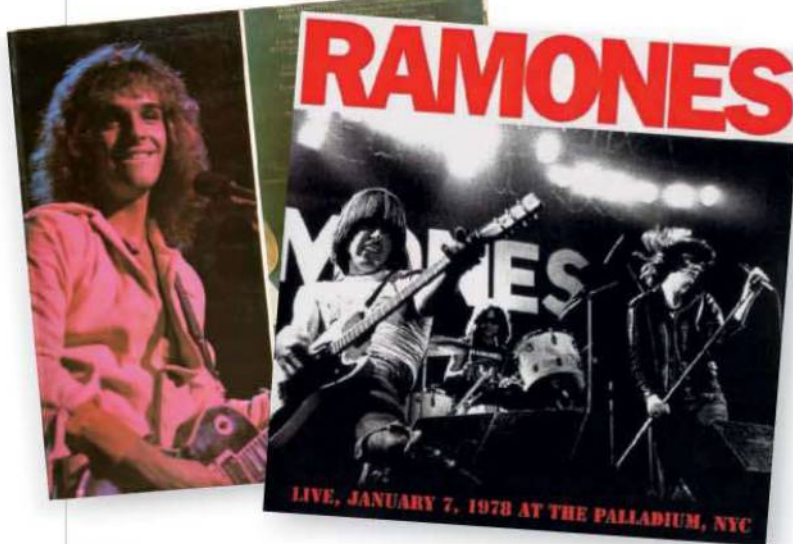




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ABOVE: A McIntosh Audio Milestone celebrated, p116



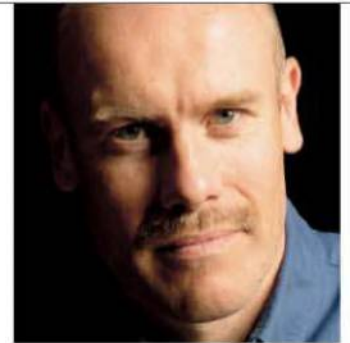
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Many enthusiasts were justifiably cautious at the dawn of the digital age. Some 28 years ago, the launch of CD opened a new and largely unwritten chapter in the evolving story of hi-fi. It offered sound free of speed variations, bearing rumble, vinyl roar, clicks and pops. But was the original Red Book specification of 44.1kHz/16-bit digital audio resolution enough for the discerning audiophile?

Obviously not, for the intervening period has witnessed the rise if not overwhelming success of far higher resolution formats. DVD-Audio has all but shuffled off its mortal coil but the same 96kHz and even 192kHz/24-bit digital audio still trickles out on the Blu-ray format. Then there's SACD, beloved of a hardcore and capable of offering 22-bit (plus) resolution through the audible frequency range.

Nevertheless it's the very real rise of downloadable hi-res audio files that points the way ahead for the adventurous audiophile. But as these 'virtual' formats steadily gain traction within our community, I'm sensing *deja vu* in the debates arising over their delivery from PC or Mac hosts to the outside world.

Do you remember the arguments that raged over the 'sound quality' of CD player/



transport digital outputs in the early 1990s? 'If the data adheres to the S/PDIF standard' argued dyed-in-the-wool objectivists 'and is rendered entirely intact then it cannot influence sound quality'. I paraphrase, of course, but those who actually listened heard otherwise. And these

'Those who listened heard otherwise. And they were right'

enlightened enthusiasts were eventually supported by factual measurement.

Different CD transports and even different digital interconnects did – and do – have an impact on the sound of the receiving DAC just as different FireWire, S/PDIF and USB ports on our computers also influence the subjective quality of today's outboard converters. We have two in this issue, see p22 and p63, while the hard evidence for differences in 'PC sound' begins on p94.

PAUL MILLER EDITOR

HI-FI NEWS' EXPERT LINE UP: THE FINEST MINDS IN AUDIO JOURNALISM BRING THEIR EXPERIENCE TO BEAR ON ALL AREAS OF HI-FI & MUSIC



BARRY FOX
Investigative journalist supreme, Barry is the first with news of the latest developments in hi-fi and music technologies



JOHN BAMFORD
JB brings huge industry experience, a penchant for massive speakers and a love of hi-res audio in all its diverse guises



KEN KESSLER
is currently our Senior Contributing Editor and almost singularly responsible for the renaissance in valves and 'vintage hi-fi'



KEITH HOWARD
has written about hi-fi for 30 years, and edited *Hi-Fi Answers* for nine. KH performs our speaker and headphone lab tests



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



JOHN HOWES
Foremost collector and archivist of vintage hi-fi, famous for the UK's bi-annual Audio Jumble, John shares his experience with *HFN*



STEVE SUTHERLAND
Worked on *Melody Maker* and then edited *NME* from 1992-2000, the Britpop years. Steve brings a unique slant to our Vinyl Release pages



ELECTROCOMPANIET

If music really matters™

SOUND OF NORWAY



The New Integrated Amplifier ECI-5 MK II

Our aim when designing the ECI-5 MK II was to make the sound more modern, enhancing the details and dynamics. Feedback from our listening team tell us that we have succeeded – “this amplifier sounds much larger than the size and the price tag”

Made in Norway

www.electrocompaniet.no

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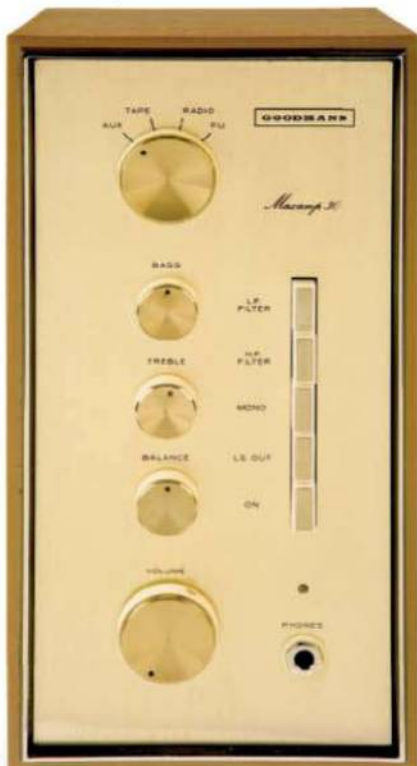
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L'Océan makes waves

CABASSE FLEXES ITS SPECS WITH FULLY ACTIVE ADDITION TO ARTIS RANGE OF LOUDSPEAKERS



French speaker manufacturer Cabasse adds another premium design to its stable in the form of the €80,000 L'Océan. And it's not just the cosmetics that echo the company's flagship La Sphère [see *HFN* Feb '10], as L'Océan employs the very same 23cm TC23 three-way coaxial driver system found in its bigger brother. Meanwhile, the 38ND woofer is an entirely new design employing a 38cm honeycomb dome diaphragm.

Again fully active, L'Océan is driven by four Class D amplifiers per channel, which are housed in the base of each speaker. These deliver 1kW to the bass unit, 500W to each of the low/mid and high/mid drivers and 250W to the tweeter.

Like its illustrious forebear, L'Océan comes complete with a bespoke preamplifier and CRCS (Cabasse Room

Compensation System) controller. This includes five digital and four analogue inputs, implementing both room-correction and crossover (at 120Hz, 900Hz and 3.5kHz) in the digital domain. Cabasse's DSP includes adjustable linear-phase digital filters (up to 94dB/octave) which, together with the measurement microphone and onboard software, allows an automated adaption of the speaker's response to the room conditions. The CRCS controller feeds the speaker via digital S/PDIF optical links.

By way of improvement, L'Océan benefits from a 96kHz sample rate in place of La Sphère's 48kHz, thereby doubling the practical bandwidth of the loudspeaker system. With a displacement of some 80kg, L'Océan is scheduled to set sail onto the market in the first quarter of 2011.

Cabasse Acoustic Center,
+33 298 05 88 70
www.cabasse.com



Cayin now in UK

US TUBES WITH RETRO APPEAL

Cayin Audio's range of hand-built valve amps and tube-driven CD players is now being distributed in the UK by Audio Sanctum. Prices range from £840 for the CD-50T CD player to £10,840 for the Mono Valve Amp.

Pictured is the SP-CD300 CD player, part of the company's Retro Series. Combining a PCM1792 Burr-Brown DAC with a traditional valve output stage it is joined in the series by the SP-10A integrated amp, SP-30S preamp and SP-40M power amp. All Retro components cost £4020 each, employ matched valves and are offered in walnut, cherry or piano finishes.

Audio Sanctum, 07517 889 738;
www.audiosanctum.co.uk



HI-FI NEWS' NUGGETS

ON THE MOVE

Following a period of strong growth, UK turntable and electronics manufacturer Avid is relocating to a new, dedicated production facility. Its new address is Avid Hi-Fi Limited, Bicton Industrial Park, Kimbolton, Huntingdon, Cambs, PE28 0LW. The company's telephone and other contact details will remain unchanged after the move.

ALSO ON THE MOVE...

By the time you read this your favourite magazine will have moved offices too. *Hi-Fi News* is vacating its Leon House Croydon HQ for the sunnier climes of Kent. Our new address is *Hi-Fi News*, My Hobby Store Group, PO Box 718, Orpington, BR6 1AP. Please send all correspondence, reader's classifieds ads and enquiries to this address.

Pavarotti on vinyl

PREMIUM LP RELEASE FOR TOP TENOR

Monitor Audio has added the Ultimate Pavarotti Collection to its Exclusive Limited Editions Range of box sets. Along with two Blu-ray discs documenting the Modena and Barcelona operas, with audio culled directly from the original masters, are four 200g vinyl discs squeezed from the legendary EMI 1400 press. These offer over two hours of Pavarotti classics. The Monitor Audio Pavarotti collection costs £300 plus shipping.

Monitor Vinyl, 01268 740580
www.monitorvinyl.com



Yamaha's Natural Network

DLNA-COMPATIBLE NETWORK AUDIO PLAYER GETS ITS DEBUT FROM YAMAHA

Given its world premiere at IFA 2010, Yamaha's sleek NP-S2000 network player represents the peak of its 'MusicCast' and 'Network Pure Audio' philosophies. Designed as a true audiophile player compatible with the latest lossless audio codecs, the NP-S2000 combines top Burr-Brown DACs and fully balanced XLR outputs. There's no internal hard-drive, for the NP-S2000 is intended for

connection to computers, servers and/or NAS drives in a home network. Employing DLNA technology, the NP-S2000 is Windows 7-certified and is compatible with other current Microsoft, Mac and Linux operating systems.

The NP-S2000 will play from iTunes and Windows Media Server music libraries and includes a licence for the multi-award-winning Twonky Media Server. It also supports a wide

variety of formats including high definition FLAC 96/24 and WMA lossless together with WAV, WMA, AAC and MP3.

The NP-S2000 also supports 'gapless' playback, its internal buffer allowing one title to be played directly after another without interruption. The user-operation is no less slick, with Yamaha offering traditional remote control alongside a web interface accessible from any PC connected to the network.

There's also Yamaha's custom 'NP-S2000 App' which allows efficient control via an Apple iPhone, iPod Touch and iPad. Finally, the alloy front panel and characteristic wooden sides of the Network Audio Player are the perfect complement to its A-S series integrated stereo amplifiers. Price yet to be confirmed.

Yamaha UK,
01908 366700
www.yamaha.com



Icon Audio's pure valves

PROMISE OF TUBES 'ALL THE WAY' FROM NEW ICON DESIGN

Like Cayin Audio [see opposite], Icon Audio is proud of its hybrid valve CD players. Now it promises to go one better by isolating the valves it uses in the output stage from both the circuit board and power supply employed for the digital electronics. The result is the CD-X1 'Pure Valve' CD player, which sees the valves mounted on their own hard-wired chassis with a choke-regulated power supply, valve regulation and valve rectification brought into service.

The output valves are 6SN7 types, while the digital section features a 192kHz/24-bit upsampling DAC. Two digital inputs are also offered in order that external digital devices can benefit from the CDX1's bespoke digital-to-analogue conversion and 'pure valve' output stage. The CD-X1 costs £1000, with a Signature version by designer David Shaw costing £1350.

Icon Audio, 0116 244 0593
www.iconaudio.com



Transcendent meditation

AVALON ACOUSTICS LAUNCHES 'MINI TIME' LOUDSPEAKERS

Drawing from experience gained in its development of the flagship Time loudspeaker, and employing drive units drawn from the Ascendant and Indra models, Avalon has crafted the smaller, two-way Transcendent. Pitched at £14,950, this new model employs a mix of two 7in Nomex/Kevlar composite cone woofers with a Concave Ceramic neodymium tweeter, all combined through an entirely new crossover network.

The Transcendent floorstander is available in a variety of luxurious 'quilted cherry', 'curly maple' or 'figured walnut' real wood finishes.

Avalon Acoustics
020 8948 4153
www.audiofreaks.co.uk





AMR 777 SERIES

1. AMR Compact Disk Processor CD-777 2. AMR Pre-Main Amplifier AM-777 3. AMR Phono Stage PH-77



2. AM -777S



3. PH-77T



Abbingdon Music Research

"Analogue, Musicality, Realism"



1. CD-777B

First precision turntables

PEDIGREE NAME LAUNCHES NEW RANGE

Ex-Nottingham Analogue designer Tom Fletcher has released two turntables plus a matching tonearm, the first fruit from his new company Fletcher Audio.



Manufactured in Denmark and distributed in the UK by The Audio Boys – a new distribution company with strong links, past and present, to Fletcher – the Omega .5 deck (pictured) is priced at £3699, the Omega .3 at £2599 and the Zero Arm, shown on the .5, at £1999.

A variety of armboards can be made to order for those wishing to use an existing or alternative arm option.

Fletcher Audio, 01908 617288; www.theaudioboys.co.uk

TEAC's 'bargain' DAB

WALLET-FRIENDLY STEREO TUNER PACKS IN THE STATS

TEAC has unveiled a DAB/FM/AM stereo tuner which it says offers an unbeatable mix of performance and features at the price. The T-R650 is a slimline unit featuring manual and automatic tuning, 'a good selection of presets' with an auto-preset function, plus a digital clock with timer and sleep functions. Inside, a Quartz PLL synthesized tuning system ensures 'crisp, low distortion sound'. Priced £170, the T-R650 is available now.

TEAC UK Ltd, 0845 130 2511; www.teac.co.uk



Boost for original Quad

VINTAGE AMP GETS A THOROUGHLY MODERN UPGRADE

If you're the proud owner of an original Quad II power amplifier then GT Audio is offering a newly developed PSU capacitor block which can directly replace the original Quad item.

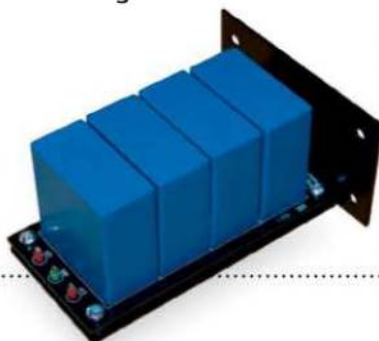
Said to offer gains in resolution, larger soundstage width and depth, plus faster transients, the upgrade is simply mounted on a bracket which in turn mounts behind the original badge using the same screw holes and fixing hardware. Once the original power supply capacitor has been removed of course...

The parts used in the new unit are said to be of a very high quality, will not

deteriorate over time like the original or replacement electrolytic capacitors and will outlast the life of the amplifier.

Supplied in pairs, the power supply can be ordered direct from GT Audio. Enthusiasts should contact the suppliers for its latest prices.

**GT Audio, 01895 833099
www.gtaudio.com**



A simply Divine design

SLIM FLOORSTANDERS FROM POLISH SPEAKER MAKER

Designed and made in Poland, these striking-looking floorstanders from Divine Acoustics are a two-way, closed-box design with a claimed 8ohm impedance. Sensitivity is rated at 89dB and maximum power handling 80W. Measuring 105x32x12.5cm (hwd) – including speaker base – each cabinet weighs 19kg.

As for those drivers, the tweeter is a 28mm silk dome unit while the mid/woofer features a 17cm polypropylene cone in a cast aluminum basket with a reversed rubber surround and 10cm vented magnet system.

The speakers are available in no fewer than six finishes: wild zebrano, olive, plum, calvados, african zebrano and piano black. Price is £995 per pair (£1148 for the piano black finish).

**Audio Sanctum, 07517 889 738;
www.audiosanctum.co.uk**



HI-FI NEWS? JUST ASK...

If you can't always find a copy of this magazine, help is at hand! Complete this form, hand it in at your local store and they'll arrange for a copy of each issue to be reserved for you. Some stores may even be able to arrange for it to be delivered to your home. **Just ask!** Subject to availability

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IF YOU DON'T WANT TO MISS AN ISSUE...



Upcoming Events

IMPORTANT DATES FOR YOUR HI-FI DIARY

- 25-28 NOV** European Triode Festival, Stella Maris, France; www.triodefestival.net
- 8-11 JAN** International CES, Las Vegas, USA; www.cesweb.org
- 13 FEB** Audiojumble, The Angel Leisure Centre, Tonbridge, Kent 01892 540022; www.audiojumble.co.uk
- 25-27 FEB** Sound & Vision Show, Bristol; www.bristolshow.co.uk
- 26-27 MAR** Audio World '11, Heathrow; www.chestergroup.org

Top Audio Milan Show 2010

Words & pictures: Ken Kessler



Defying the general malaise in the market, Milan's TOP Audio at the Hotel Quark was again a hive of activity, with hardened audiophiles wandering the halls amidst families, who were treated to a terrific selection of 3D TV demonstrations.

The show, as ever, hosts purist audio, multichannel, vinyl stalls, automotive systems and home theatre, all with their own spaces so visitors need not offend their sensibilities with the hardware

that doesn't interest them. (Yes, I did peek into the car audio display, but quickly left...)

After Munich, this remains Europe's best and biggest high-end audio and home entertainment event, with more emphasis on tweaky gear as well as mass market, and with a distinctly Italian warmth. So if you need a hi-fi show fix, grab a ticket on EasyJet next September, for a day or two in Milan.

And the food is better, too.



Hottest launch of the show was Dan D'Agostino's first product since forming his new, eponymous brand. Rated at 300W into 8ohm, the amp's tentative price is US \$42,000 per pair. www.dagostinoinc.com.



This twisted cabinet, the Teti from Book Of Music, caught everyone's eye in the 'best of show' display in the lobby. Drivers include a Scan-Speak R2904/700000 tweeter and Scan-Speak 18W/8531 mid/bass driver. Impedance is a claimed 6ohm and power handling up to 150W. The enclosure stands 1450x380x400mm (hwd). www.book-of-music.com.

The new-look Unison Research single-ended Class-A integrated S6 is less swoopy, more tech-y, the semi-matte black upper section contrasting well with the woodwork. Valves are three LE34s and an ECC82 per channel, for a 35W/ch output. It accepts five line sources. www.unisonresearch.com.



SHOWBLOG Sights and sounds from around the globe



This handsome stack from MSB offers a refreshing new look, with finned sides and curved faceplates. From the top are the Platinum DATA CD IV transport, Platinum DAC IV convertor, operating up to 32-bit/384kHz, and Signature Power base power supply. www.msbtech.com.



My fave of the show, a microscopic integrated amp with valve phono stage and Class D amp. Carot One's Ernestolo measures 65x60x98mm, costs €220 and delivers 2x6W into 8ohm. It offers a line input on the rear panel, with front panel inputs for MP3 and headphone. I bought one. www.carotone.it.



Not new, but we thought you ought to see this artisan version of Absoluta's Partenope integrated amp, normally shown in gloss black or wood, or other 'normal' finishes. Only the Italians... www.absoluta.it.



Monrio's sleek, top-loading Asty Player VT features a 12AU7 valve output stage and USB input. Transport is a Philips GyrFalcon CD mechanism, the unit features a 'Warm up function' to extend tube life, it upsamples to 24-bit/192kHz and conversion is via Wolfson DAC. www.monrio.com.



Seen in Munich spread apart, this is how T+A's new flagship tube hybrid M10 monoblock looks when fully assembled. Depending on the set-up, the amplifiers can deliver from 60W pure Class A to a kilowatt Class AB. It's available in silver, aluminum and titanium finishes. www.taelektroakustik.de.

New Egea 3 and Iroise 3
Altura MC range,
heritage and innovation



Emotion. Expression. Experience.

Enjoy every day new sonic experiences with your Altura MC speakers. In the heights of the captivating 3D soundstage inherent to our SCS technology, every musical expression is faithfully reproduced.

Instruments and voices are where they should be. Their size, dynamic range and timbres are respected. Savour and share true sound emotions.

Please visit our website www.cabasse.co.uk

Cabasse



Seen with a choice of finishes, Pathos' Inpol Remix integrated amplifier is a valve hybrid design with onboard DAC. Power is 2x10W in pure Class A. It supports one balanced XLR line input, one unbalanced RCA line input and two USB ports. www.pathosacoustics.com.



Less costly than the record decks that match the V-Series valve amps, this R-Series offering, which is accompanied by a comprehensive range of partnering electronics, is a simplified belt-drive player complete with Rega tonearm and Ortofon 2M Bronze cartridge. www.taelektroakustik.de.



No less than Mk III status has been applied to Monrio's Asty Line hybrid valve preamplifier. Measuring 438x84x360mm (whd) the look is luxurious, the construction superb, and the unit offers a balanced input in addition to its single-ended line inputs, as well as balanced and unbalanced main outputs. www.monrio.com.



Diesis Audio's Caput Muni is a three-way system topped with a horn-loaded coaxial compression driver. Horn and baffle are made of Corian, contributing to a weight of 97kg for the 1370x512x365mm (hwd) structure. www.diesisaudio.com.



Do we spot a theme here? Another palm-sized valve amp that appeared in Milan was the cute Nero Nanotube. For all intents and purposes like a sexed-up version of the Carot One [see p9], the Nanotube accepts USB and SD cards through the front panel. Price is €500! www.openitem.it/virtuemart/Nero/Vedi-tutti-i-prodotti.html.

Just for the record

If you love vinyl our newest components will raise your musical enjoyment to a new level.

- Brinkmann Bardo and Oasis magnetic direct drive turntables
- Lyra Delos and Kleos moving coil cartridges
- Trilogy 907 phono preamplifier
- Brinkmann 9.6 tonearm and Pi moving coil cartridge
- Esoteric E-03 phono preamplifier
- Grand Prix Audio Monaco direct drive turntable
- Brinkmann Edison fully balanced vacuum tube phono preamplifier
- Sumiko Pearwood Celebration 2 and Palo Santos Presentation moving coil cartridges
- Brinkmann high precision cartridge and tonearm protractor

SHOWBLOG Sights and sounds from around the globe



Copland's CDA825 CD player finally reaches production, Scandinavian minimalism intact: no more than six press buttons, red illumination and a central display. Above them is a sliding, circular cover for accessing the CD drive. Inside are two Wolfson WM8741 24-bit/192kHz DACs, a superior power supply, proprietary error correction and more. www.copland.dk.



Following Naim's Ovator S-600 is the smaller S-400 with two 6.5in woofers and one 46mm Balanced Mode Radiator. Aimed at those with more modest listening rooms, Naim says the smaller model can be used with less ambitious amplification from the company's range. Low frequency response still goes down to 36Hz, it points out and says the S-400 gives little away to the S-600 in terms of dynamics. Enclosure size is 1060x330x345mm (hwd). Sensitivity is said to be 88dB/1W. www.naimaudio.com.



Vexo's LP-PS is an all-valve, remote controlled line-level preamplifier with onboard power supply, four inputs and an eye-catching meter. 'Smoothness is assured by resorting to the most esteemed triodes in hi-fi history,' says Vexo, 'the legendary 300B/2A3.' Construction is superb, with internal isolation of sensitive circuitry stages. www.vexohifi.it.



More stealthy-looking than the company's S6 [see p6], Unison Research's single-ended Class A stereo integrated S9 offers the same power output and one less line input, but uses two 6V6-10 and two ECC82 tubes per channel. www.unisonresearch.com.

At first, I thought it was a museum display, but, no, Yamaha has given us a retro integrated amp, the A-S300, and the R-S500 receiver. Aside from stickers denoting iPod/iPhone compatibility, both pieces could have been transported from 1978. Even the prices are vintage: €319 for the integrated and €369 for the receiver! www.yamaha.com.



Next
month
Ken Kessler reports from
Rocky Mountain AudioFest

Vinyl anti-copying

From magnets to Daleks... Barry Fox on the history of analogue spoilers

RIGHT: An early example of a disc carrying an anti-copying spoiler system was The Beatles *Sergeant Pepper* album. It was pressed with an inaudible high-frequency signal which was said to upset the duplication process when a tape copy was made. It only worked with the highest quality hi-fi equipment and most people found it copied perfectly

BELOW: A tax on blank tape to compensate for home taping was first suggested by Edward Lyons MP in February 1973. A certain vote loser, the government of the day said it would consider backing a 'technically successful' anti-copy system instead

There is a lot about the vinyl revival that I don't understand. But in one area LPs score hands down. They can be easily copied to tape or disc, without Digital Rights Management (DRM) trying to screw up the innocent task of editing a compilation of favourite owned recordings to play on the move or in the car. The music industry tried long and hard to bolt the analogue equivalent of DRM – which it called a 'spoiler' – onto the LP format. It was a long, bitter and often hilarious tale of wild goose chasing.

BLACK MAGIC

The dream of a spoiler was born in the early '70s, when the Philips cassette was starting to make home taping an inexpensive doddle, compared to the expensive hassle of reel-to-reel taping.

In his 1979 book *All You Need Is Ears* the Beatles' producer and founder of Air Studios George Martin had some interesting things to say about the first wild goose chaser, Magic Alex Mardas.

The Beatles were working with four-track tape machines, with eight-track and 16-track under development. Magic Alex turned up one day and announced 'I'm designing a 72-track machine.'

He designed the Apple studio in Savile Row, for use with the magic machine on *Let it Be*. The recorder never materialised and Apple had to borrow mobile gear from Abbey



Road. The anti-copying spoiler had been one of Alex's earlier ideas. He promised the Fab Four that when *Sergeant Pepper* was issued, no-one would be able to tape it. But of course they could.

The Magic Alex system relied on a high frequency tone recorded on top of the music on disc. This could not be heard by humans under normal listening conditions, because human hearing cuts off at 20kHz or less. But when the signal is re-recorded on to tape, the inaudible ultrasonic tone beats with the even higher bias frequency of a tape recorder and produces a lower frequency. This is heard as a whistle on the tape and spoils the enjoyment of the recording.

That was the theory at least. Although the idea can be made to work in the laboratory under the supervision of men in white coats, trying to make it work in the real world resulted in a very different outcome. As anyone who remembers the JVC CD4 and Nippon Columbia UF4 quadraphonic

systems will know [see illustration below right], it is a very tall order to record and reproduce an ultrasonic signal on vinyl. Both CD4 and UD4 conveyed the rear channel information on a 30kHz carrier. The drive coils of normal cutting heads burn out when confronted with energy in this range. So the master discs have to be cut at half speed.

CD4 and UD4 sank without trace but half speed cutting was adapted for 'supercut hifi'.

Ordinary domestic pickups ignore an ultrasonic signal, often physically destroying the groove modulation. Even if successfully tracked, the high frequency is cut by capacitance and inductance in the connecting leads.

FATAL ATTRACTION

Magic Alex quietly abandoned his idea, and his patents, but there was soon talk of a new magical spoiler – a small permanent magnetic buried under the LP label. This would induce LF in the pickup, and upset the automatic gain control of a cassette recorder. But recorders



without AGC are unaffected and the LF could cause intermodulation distortion and spoil normal listening. So that idea sank like a stone, too.

In 1977 the ITV current affairs programme *Thames At Six* staged a demonstration to show how easy it was for the owner of a simple music centre to tape a borrowed disc onto a blank cassette. Presenter Andrew Gardner introduced a man from the British Phonographic Industry, trade body for the UK record companies, who demonstrated a spoiler at work. A disc was copied and when the tape was replayed it produced a high pitched whistle over the recording. Andrew Gardner was visibly impressed and asked the BPI demonstrator how the system worked. Sheepishly he had to admit that the demonstration hadn't actually been genuine. It merely showed what the BPI would like to do if it were possible.

Now visibly shaken, Andrew Gardner wondered aloud why he and the studio technicians had spent all day preparing for a demonstration which was now admitted to be a fake.

A NEW APPROACH

Two years later the BPI commissioned the Wolfson Unit for Noise and Vibration Control at Southampton University to

look for a workable spoiler. Amid much optimistic publicity Wolfson investigated what it described as a 'completely novel approach'.

More than £10,000 later, the BPI admitted that Wolfson's research had proved unproductive. In fact the report said clearly that hunting spoilers was a waste of time and money. But, despite repeated requests, the BPI would never release the Wolfson Report.

This secrecy saved the BPI's face but sacrificed the chance to stop technically ignorant record company bosses being led astray by yet more new dream ideas. In 1980 the Bron

Organisation, which owned the Roundhouse recording studios, claimed success with a spoiler which, said head honcho Gerry Bron, would 'give

a tape recorder the heebie-jeebies'. Bron filed for patents, but soon abandoned them, and stopped talking about the heebie-jeebies, too.

The tale then took a new twist. The idea of a tax on blank tape to compensate for home taping was first suggested by Edward Lyons MP in February 1973. The Mechanical Copyright Protection Society then started a scheme which let home tapers buy a voluntary licence to make personal copy tapes. But in September 1980, under pressure from the BPI, the MCPS scrapped the

scheme. This left the BPI free to lobby for a tape tax. In an extraordinarily inept advertising campaign the BPI placed half page spreads in the national press signed by struggling artists like James Galway, Elton John, Cliff Richard and Sir Adrian Boult, begging for a tax on tape.

The British government published its first Green Paper on copyright law reform in July 1981. Recognising that a tax on tape would be a sure fire vote loser, the Department of Trade cleverly exploited the BPI's quest for a spoiler. Rejecting the idea of a

'The Viper C system was secret, but patent filings tell all...'



tax the DTI assured that if the record industry could develop a 'technically successful' anti-copy system the government would 'seriously consider supporting it'.

That shut the BPI up for a while. But in 1986, Tom Keen of Milton Keynes tried again, allegedly with help from the prestigious Cranfield Institute of Technology.

VIPER C

A demonstration given to the BPI and international trade body the International Federation for Phonogram and Videogram Producers was a wash-out but Keen insisted that he needed only money to make a prototype and prove that the technology worked.

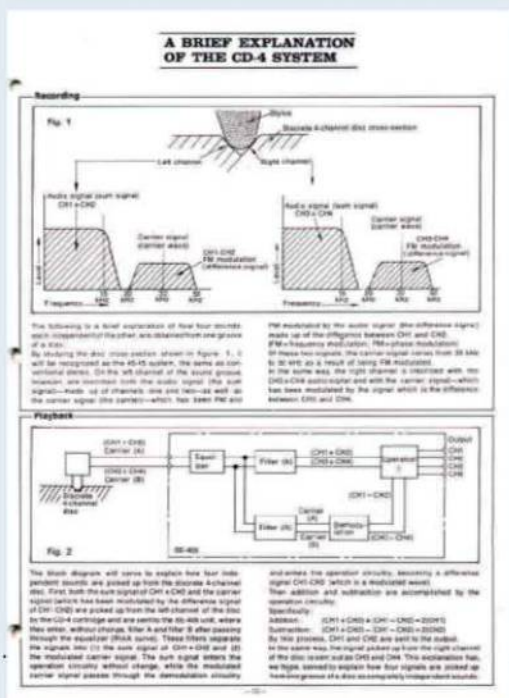
He said his Viper C system was secret but thanks to a quirk in UK law his abandoned patent filing (patent GB 2199689) told all.

The Viper tone was to swing between extremes, for instance 17kHz and 21kHz, to foil removal by filtering. The patent also talked about modulating the high frequency spoiler with a low frequency tone, for example, at 600Hz. Filtering the HF tone, would (allegedly) 'release' the 600Hz.

Keen hoped to avoid the problem of overheating the cutter head by switching the tone on and off to give the coils snatches of breathing

ABOVE: Long before digital file sharing and DRM, record companies were seeking to protect their copyright interests via a host of third-party technologies. None proved successful

LEFT: JVC's CD4 system, which conveyed rear channel information on a 30kHz carrier. Drive coils of normal cutting heads would burn out when confronted with frequencies this high so recording an ultrasonic signal onto an LP as a potential spoiler proved a tall order indeed



INVESTIGATION

space. Utopia studios was asked to make some demo discs for the record industry. The cutting engineer later told how he had refused to continue when the head started smoking – unless he was guaranteed the cost of a replacement.

What if a pirate simply filters off everything above 17kHz, I asked the inventor at the time.

'Then we would simply reduce the frequency of the spoiler tone to around 15kHz,' said Keen, dismissing the reminder that this would bring the spoiler tone down into the audible range, and as a result spoil normal listening. 'Only people with ears like bats will hear anything wrong. And whether they hear anything wrong on a double blind test remains to be seen'.

The Viper died before any bat ears got a chance to hear a demonstration.

In 1980 the Recording Industries Association of America wrote to 38 universities and research centres

across the USA, asking them to try and come up with a workable spoiler system. Said RIAA President Stan Gortikov: 'We can't just sit back and do nothing... it's a fishing expedition'.

CBS COPYCODE

The CBS Technology Center in Connecticut – before CBS was bought by Sony – told the RIAA just what Wolfson had told the BPI. It was 'futile' to look for a single-ended audio spoiler system, where the blocking mechanism is buried in the music. The only answer would be a double-ended system with anti-copy circuitry built into the recorder and trigger signals buried in the music. And by happy chance, CBS had just such a system. Copycode was first announced in 1982. What followed



was pure pantomime. Copycode sucks a narrow band of frequencies out of a sound signal, and the notch is detected by an analogue or digital recorder which then refuses to record. This depends on laws to enforce the incorporation of switch circuitry in every new recorder sold to the public, with no hope of spoiling copies made on existing recorders. Nevertheless, the music press dutifully enthused 'CBS invents tape spoiler'.

The International Federation of the Phonographic Industry (IFPI) and RIAA backed Copycode as the official solution to home copying, and EMI joined in with secret experiments and market research, to use the same system for automatic copyright royalty collection from broadcast music.

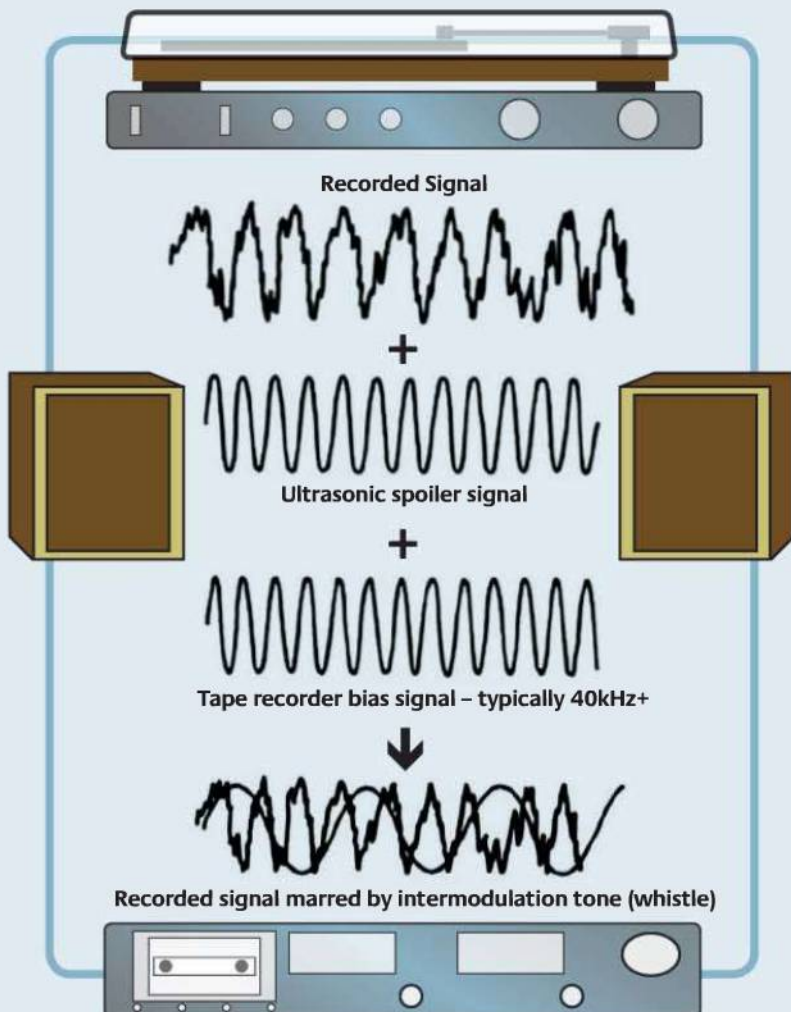
FALLING FLAT

There is a world of difference between notching low-fi radio and sucking holes out of hi-fi music. But CBS, the IFPI, RIAA and EMI all closed their ears to warnings that the Copycode notch would spoil the sound of ordinary listening. I vividly remember a demonstration given by CBS at Abbey Road studios where the sound of a piano was piped through a Copycode coder. Oh how we winced as notes around A flat were painfully spoiled.

Copycode was thereafter unofficially dubbed the 'A flat remover.' ☺

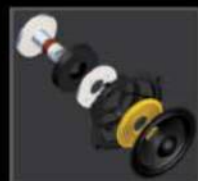
ABOVE: Billboard reports on the rejection by parliament of a tax on blank tapes in an issue dated 22nd Nov 1986. It says the BPI 'is now looking toward the CBS-developed Copycode spoiler as the most viable solution to the problem of home taping'

LEFT: An idealised anti-piracy system proposed the use of an ultrasonic spoiler which would intermodulate with the bias signal used in tape recorders to produce a whistle which would spoil a recording. The system only worked in the lab



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But the record industry wouldn't give up and CBS kept changing the system to try and skirt objections.

The original Copycode notch was at 3.84kHz, around 250Hz wide and 60dB deep. A comparator in the recorder sensed any unnatural dip in the signal at this frequency and switched off the recording function.

On being told that the notch was clearly audible CBS narrowed it by half. But narrow notch filtering is more likely to cause phase shifts, elsewhere in the sound spectrum.

EXPERT ASSURANCES

In March 1987 Ian Thomas, Director General and Chief Executive of the International Federation of the IFPI assured: 'Among those who have satisfied themselves in subjective tests as to the inaudibility of the system are Government experts from EEC member states, leading figures in the recording studio world (including George Martin) and technical experts from Polygram and Philips, as well as CBS. A number of those who heard the system were initially doubtful or sceptical, but all have been convinced that it is not audible and it is on this basis that I have stated that the CBS Copycode system is inaudible'.

When I pushed for names of satisfied experts the IFPI cited respected Dutch engineer Hans Tendeloo, formerly with Polygram and then PdO the Philips/Du Pont CD pressing plant. I checked with Tendeloo who had a rather different take on the matter:



ABOVE: It was recordable CD that saw analogue spoiling abandoned

BELOW: George Martin with The Beatles – Copycode? 'Better ask my daughter...'



'The IFPI, in endorsing implementation of Copycode, did not do so on my recommendation... neither I, nor any of my associates, have investigated the system in its present form.'

At a large music industry event at the Mayfair hotel George Martin called for everyone to 'Vote for Copycode' but then admitted his hearing was no longer particularly acute and that it would be better to ask his daughter for her opinion.

'Everyone was happy with Copycode until people like you started to make trouble,' an IFPI lawyer told me angrily when the US government's National Bureau of Standards was brought in to judge the technology.

COPYCODE CONDEMNED

In March 1988 the National Bureau of Standards condemned the system on all counts – Copycode spoiled the sound of music and didn't work reliably anyway. The scathing NBS report killed Copycode and pretty much killed the idea of analogue spoiling. But occasionally an inventor

still popped up with a new variation on the same old theme.

In 1999, Rakvere of the Isle of Man described (patent GB 2348736) a system that analysed the original sound and added high pitched tones at frequencies masked by the music. So normal play was (allegedly) not affected but when a recording was made the tones would beat with the tape bias signal and generate a Dalek voice speaking the message

'This is an illegal recording'.

Even if the system would work, the dominance of recordable CD had by then made analogue

spoiling a Dinosaur. Rakvere sold the patent to Dwight Cavendish who abandoned it in 2005.

The record companies had by then already turned their attention to digital spoiling. This has also been another hugely entertaining pantomime, climaxing when Sony had to pay out millions in damages to consumers whose equipment had been damaged by playing copy-protected CDs. But that is another fun story for another day. ☺

'A Dalek voice would say "This is an illegal recording"'

dCS Debussy (£7499)

A case of 'Claire de lune', perhaps, for this more affordable – and USB equipped – DAC from dCS. Our reviewer was sufficiently enchanted to listen to a Christmas carol
Review: **Keith Howard** Lab: **Paul Miller**

Down the years a great many words of praise have been directed at dCS products but I doubt that 'stylish' or 'chic' have often been among them. Its converters, upsamplers and transports have always had a certain presence, no question, but I've often wished that Britain's leading exponent of audiophile digital audio would shell out for some proper industrial design, so that the circuitry within was matched by an appropriately classy exterior.

Well, the new Debussy DAC certainly represents a big step in the right direction. Had it arrived in an unmarked box and not been accompanied by a dCS engineer, I would not have guessed that this silver box, with its two big, sweeping scoops out of the bow-fronted fascia, hailed from Great Chesterford.

It isn't quite a complete aesthetic success, I think, if only because the small lettering on the front panel will be distinct only to sharp young eyes, but it is unquestionably an improvement over the Scarlatti upsampler and DAC, the last dCS products to grace my listening room.

There's no disguising, though, that the Debussy is *big*. Thin, yes, at just 65mm high including its three substantial feet (you can fit four as an option) but large in plan form: too big, maybe, for some shelving systems and quite heavy too at 8.8kg.

USB LIMITATIONS

Let me begin the tour with that striking fascia, festooned with no fewer than 17 blue LEDs. To the left, a diamond of four buttons control power on/off, volume up/down and mute. Further inboard, three more buttons toggle between linear phase or minimum phase digital filters, inverted or non-inverted signal polarity (absolute phase), and between the five digital inputs. No remote control is supplied as standard but one can be had as an optional extra.

RIGHT: As usual with dCS, field programmable gate array (FPGA) chips running proprietary code do all the work, including implementation of dCS's famous error-averaging Ring DAC

The selected input is displayed in the first vertical array of LEDs over to the right of the fascia, the second indicating the input sampling rate in those seven familiar steps from 32kHz to 192kHz. It also doubles as a low-res volume indicator when the volume setting is changed. Well done to dCS for including the sample rate display, which rates as highly desirable in a world where it's only too easy not to be enjoying the sampling rate of the source material, either because of downsampling within an optical disc player or because of the daft audio handling of today's computer operating systems.

At the back are balanced and unbalanced analogue outputs on XLR and phono sockets respectively, a switch selecting 6V or 2V output level, two AES/EBU digital inputs on XLR, two S/PDIF inputs (one on phono, one on BNC), a work clock input on BNC, a type B USB input socket, a multi-pin test socket, and an IEC mains input socket and switch.

Yes, the USB socket is an audio input, as well as providing a means of applying software updates via computer. It uses

dCS's asynchronous mode technology – first seen in the Scarlatti Upsampler and recently licensed by Arcam for its rDAC – which streams audio data under command of the DAC's master clock, thus eliminating the poor jitter performance typical of conventionally realised USB interfaces.

But, a little frustratingly, the USB link remains limited to a 96kHz maximum sampling rate, and dCS persists in using dual-wire connection for quad-rate (176.4kHz and 192kHz) data input via AES/EBU. The S/PDIF inputs, like the USB input, are limited to 96kHz. As the aforementioned dCS engineer accompanied the Debussy, I asked him why on both counts.

The 96kHz limit on USB, it turns out, is a hardware limitation related to the Texas Instruments TAS1020B USB receiver that dCS uses, which is too slow for 192kHz operation and has to be goosed into achieving even 96kHz. It is housed on a separate circuit board internally and dCS is currently looking at alternative solutions, so an upgrade to 192kHz capability is clearly on the cards. Likewise dual-wire





operation at the highest sampling rates – which dCS has preferred for its superior jitter performance – may give way to single-wire connection in future, or at least the option for it, on both AES/EBU and S/PDIF. Given that single-wire is now the norm elsewhere, making dual-wire downright inconvenient for most users with a non-dCS source, let's hope so.

It can be – and often is – argued that 176.4 and 192kHz operation are of little relevance given the paucity of files currently available at these sampling rates but (1) Reference Recordings' HRx discs use 176.4kHz, and (2) those of us who have managed to locate and download DVD Audio Extractor have a ripper that will recover 176.4/192kHz stereo tracks from DVD-A. These are two good reasons, particularly in the context of an upmarket product like the Debussy, to have both 192kHz capability on USB and single-wire 192kHz capability on AES/EBU and S/PDIF.

TAKING THE HISS

I was particularly interested to try dCS's asynchronous USB input again, not because of any remaining doubt about the sound quality it delivers – the Scarlatti Upsampler and DAC blew me away – but because of a problem I'd encountered with it while the Scarlattis were on review. On that occasion I used a laptop computer as the USB source, which worked just fine so long as it was on battery power but elicited all manner of background whirrs and whistles over the speakers if its wall wart power supply was connected [for background data, see the Ed's Opinion, p94].

RING TONES

The Debussy's filter selector manifests a long history of concern about the effects of digital filters at dCS. Indeed, dCS introduced the concept of 'energy smear' and used it to suggest why higher sampling rates sound better. As well as reducing energy smear because of the shorter impulse response of the anti-alias and reconstruction filters, higher sampling rates also offer designers the luxury of using the extended transition band between the top of the audible spectrum and the Nyquist frequency to implement gentler filters that have shorter impulse responses still. And the pre-response inherent in linear-phase filters can be reduced or eliminated without incurring much phase distortion within the audio band. At 44.1/48kHz the choice is starker: either pre-response but no phase distortion or phase distortion but no pre-response.

It seemed to be a grounding issue but I elected to say no more about it in the review in case it was a bizarre one-off. Today I use a previous-generation Mac mini as my computer audio device. When I tried it recently via the Arcam rDAC's USB input, a similar problem occurred. This time there were no burps and farts but just touching the outer metal sleeve of the USB plug to the rDAC's USB input or S/PDIF input ground resulted in an obvious – and unacceptable – increase in background noise level. Would the Debussy behave in the same way?

Indeed it did. With the USB cable connected, whether I was replaying via USB or S/PDIF, there was a noticeable difference in system hiss level – to the extent that I could hear the hiss from the listening seat with USB connected but not with it disconnected. Suspecting that this was an issue with my Exposure XVIII Mono power amps, which do have a less than optimal internal grounding arrangement, I substituted a Bryston 4BSST. As I'd anticipated, the hiss disappeared.

Should a DAC be censured for a problem caused by grounding inadequacies in the amplifier(s) or other peripherals to which it connected? Perhaps not, but my experience does at least raise the possibility that some Debussy buyers will suffer similarly. Galvanic isolation of the USB input should fix the issue – something I'll be able to check when the USB isolator I have on back order finally arrives. If so then

'There's light and shade to temper its high resolution'

ABOVE: Chunky, curvy fascia gives the Debussy a visual boost, as do a host of blue LEDs, but the lettering will strain older eyes. You can have any colour you like, as long as it's silver

perhaps dCS should consider incorporating such isolation in future products.

Hiss now temporarily resolved it only remained to compare the Debussy's sound quality via USB and S/PDIF (which I derived from an RME Fireface 800 connected to the Mac mini via FireWire). I eventually concluded that there's precious little to choose between them, although if I were forced to – and didn't suffer the hiss

problem – I would opt for the USB input.

The other obvious comparison that needs making is between the two digital filter options; dCS says that they have very similar amplitude responses but disparate

phase responses, the first (indicator off) being a conventional linear phase filter with consequent pre-response whereas the second (indicator on) is a minimum phase design, lacking pre-response but introducing high frequency phase shift.

MAKING A CHOICE

As dCS says, the choice is a matter of personal preference, and will inevitably be influenced by the system in which the Debussy finds itself. In mine – with the aforementioned Exposure amps driving revealing Thiel CS1.6s via Townshend Isolda cable – my preference on 44.1kHz material was solidly for the linear phase filter, principally because of its rhythmical superiority. On the pacy 'At Sundown' from *The Hot Club of San Francisco* [Clarity Recordings CCD-1006], for instance, there was more toe-tapping bounce from the very outset. By comparison the minimum phase filter sounded marginally, but appreciably, slugged.

There's no good reason to suppose that the same preference will apply at higher sampling rates, so I repeated the comparison on a number of tracks at 96kHz. Now my preference was more equivocal. On Diana Krall's 'Narrow' ↻

OUTBOARD DAC



ABOVE: The asynchronous mode USB input is more than a match for the other digital interfaces but limited, for the moment, to 96kHz

Daylight' (ripped from the DualDisc of *The Girl In The Other Room*, Verve B0003758-82) I preferred the slightly softer, less aggressive sound of the minimum phase filter, while on the third movement of Rachmaninov's *Symphonic Dances* (from Classic Records DAD 1004) I opted for the crisper, slightly more energetic sound of the linear phase alternative. Which just reaffirms that the option is worth having, even if some more neurotic audiophiles will fret over it.

For users who consistently prefer different filter settings at different sampling rates – even more so if they're in the habit, like me, of compiling playlists with mixed sampling frequencies – it would be nice were the Debussy to provide a means of coupling the filter setting to the incoming sample rate.

ENGAGING HOKUM

Duty done, I was now able to listen to and appreciate the Debussy at leisure, with informal comparisons to other DACs resident *chez moi*. Lucky me because, while my recollection of the Scarlatti duo is that they're even better, the Debussy is a great life partner in the listening room.

I've been meaning for ages to get a copy of David Bowie's *Hunky Dory*, specifically for the wonderful 'The Bewlay Brothers'. It's all hokum, supposedly – a melange of profound sounding lyrics that actually mean diddly squat – but that doesn't stop Bowie's wordsmithing being wonderfully engaging. 'Now the dress is hung, the ticket pawned, the Factor Max that proved the fact is melted down, and woven on the edging of my pillow' – who cares if it's piffle, it's glorious piffle. And the remastered version [EMI 724 3 521899 0 8], unlike so many modern remasterings of classic albums, isn't compressed to death, even though I suspect it isn't as good as previous releases I've heard. What you want of a DAC here is

that it should unpick all the details of the track's construction without tearing your ears off in the loud and potentially searing choruses – a task that the Debussy relished.

This isn't a DAC for listeners who like Vaseline-on-the-lens soft focus but neither does it grind you down with incessant leading edge zing – there's light and shade to temper its high resolution.

In the listening that followed, another, albeit quite different, example of the Debussy's iron fist in velvet glove was the SACD version of *Cantate Domino* [Proprius PRSACD 7762], the atmospheric Swedish recording of church music, taped on a Revox A77 with a single pair of microphones – a demo disc that we all eventually tired of hearing at hi-fi shows after 1976.

I knew it was a bit early but I couldn't resist listening to 'Stille Nacht' and revelling in the simple unadulterated rightness of this purist recording that so caught people's attention all those decades ago. The Debussy served it up with just the right blend of insight and warmth, delineating voices in the chorus but retaining the characteristic creamy blend of the sound. When Christmas is really upon us, I must contrive to listen to the SACD layer. ☺

HI-FI NEWS VERDICT

Although the Debussy didn't recalibrate my expectations of an outboard DAC in the way that the stupendous Scarlatti Upsampler and DAC did, there's no question that it is a very fine product worthy of its illustrious marque. It offers high resolution, musically engaging sound, is built like the proverbial brick outhouse and gilds the lily by shedding the industrial *mien* of its forebears. What's not to hanker for?

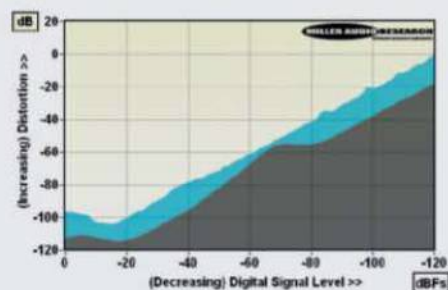
Sound Quality: 86%



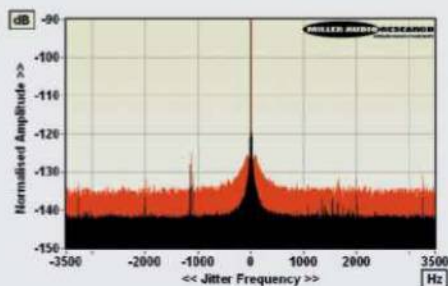
dCS DEBUSSY (£7499)

USB DACs have clearly come of age if the dCS Debussy is any guide. For all practical purposes, it processes 24-bit data at 48kHz and 96kHz no less transparently than the same information carried as LPCM over the S/PDIF interface. Differences are microscopic. Distortion at the peak (balanced) 6V output amounts to 0.0003% via USB and 0.00027% via S/PDIF at 1kHz and 0.0011%/0.0009%, respectively, at 20kHz. The responses are the same – ostensibly ruler flat to within ±0.03dB over 20Hz-20kHz with 44.1kHz/48kHz inputs and -0.2dB/40kHz to -21.9dB/45kHz with 96kHz inputs. Higher 192kHz rates were not supported on this sample. Incidentally, dCS's 'filter' option extends its response with 24-bit/96kHz data out to -0.77dB/45kHz, trading a slightly poorer alias rejection for a superior transient performance.

The unusual trend of distortion versus digital level is indicative of dCS's innovative Ring DAC technology with its 'knee' in low-level distortion at -65dBfs to -80dBfs [see Graph 1, below]. Jitter performance is quite superb, offering <60psec through all inputs at all sample rates. The reduced correlated jitter (just 14psec) observed via USB is traded for a minor increase in decorrelated noise [see red trace, Graph 2 below]. Otherwise the overall A-wtd S/N ratio is close to 114dB for all inputs while channel separation is good to 125dB. Finally, its vanishingly low 0.6ohm output impedance ensures the Debussy will even drive the lowest impedance headphones directly. Readers are invited to view full QC Suite reports (S/PDIF and USB) for the dCS Debussy DAC by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Distortion versus digital signal level over a 120dB dynamic range using 24-bit data at 1kHz (black) and 20kHz (blue)



ABOVE: High resolution jitter plots; 48kHz/24-bit over S/PDIF (black spectrum) versus USB (red spectrum)

HI-FI NEWS SPECIFICATIONS

Maximum Output Level/Impedance	6.01Vrms / 0.6ohm
A-wtd S/N Ratio	114.1dB
Distortion (1kHz, 0/-30dBfs)	0.00032% / 0.00045%
Distortion (20kHz, 0dBfs)	0.0011%
Frequency response (20Hz-20kHz)	+0.0dB to -0.04dB (48kHz Fs)
Digital jitter (24-bit; 48kHz/96kHz/USB)	57psec / 40psec / 14psec
Resolution @ -100dB	±0.1dB
Power consumption	16W
Dimensions (WHD)	445x65x392mm

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EAT Forte S (£5200 with arm)

EAT has wasted no time in following up its impressive debut turntable, the Forte, with the simplified, less costly S version, with a single plinth and two onboard motors
 Review: **Ken Kessler** Lab: **Paul Miller**

Turntables are intrinsically 'retro', no matter how you style them. But as radical and far-removed as the Continuum, various SMEs, Avids, Clearaudios, the Spiral Groove and other ultra-modern decks are from wooden-plinth'd icons of yore, for many audiophiles there's something to be said for a turntable that *looks* like a turntable. Pro-Ject launched the 'Classic Line', in homage to the great Micro-Seikis of 40 years ago, while Linn's LP12 is almost indistinguishable from a 1972 original.

EAT's first Forte turntable boasted a beautiful, rectangular wood-veneered plinth that could have been fashioned by any of a few dozen Japanese manufacturers in 1978, but the nod to decks of yore has not been allowed to compromise the need for contemporary capabilities. Launched at CES 2009, it appeared simply to be an oversized take on tradition. Once you got past the vast wooden expanse, you saw two separate chassis, with the narrow one to the left containing two motors and the associated electronics, and the main plinth supporting the platter and arm.

SCALING DOWN

Enhancing its impressive presence, beyond Brodingnagian girth, was a 400mm platter, itself weighing a mighty 20kg. With a five-figure price tag, however, it was clearly aimed at those devoid of financial constraints. EAT's goal was to halve the price, for a model accessible to a greater audience. Yet even with a cost reduction, minor simplification and a more compact but still considerable footprint – the Forte was 770mm wide! – the 'S' still falls into the high-end category in every sense.

Like its sibling, the Forte S is a mass-loaded turntable. Despite the significant change to housing the control electronics and the two motors/pulleys in the same chassis as the platter and arm,

RIGHT: Drop-dead gorgeous yet minimalist looks, sophisticated controls for its two speeds, twin motors, outboard power supply and – for this review – Pro-Ject's 12in Evolution arm

the smaller S weighs a hefty 40kg overall, thanks to the plinth's loading of metal-filled sand. It is supported by height-adjustable magnetic feet, which act as a subchassis of sorts. Their efficacy was impossible for me to assess because my room is built like a bunker, and I used the Forte S on the equally butch GM Accessori table, so it wasn't going anywhere. As for needing to adjust the height, the deck weighs so much that it's virtually self-levelling.

For those who cherish EMTs and other broadcast-grade turntables, there's something reassuring about an enormous platter extending beyond the edges of the LP. The Forte's 400mm slab has been reduced to a still-impressing 360mm, with a weight reduction from 20kg to 15kg. But as I've said, the Forte S still weighs 40kg so it remains a bulky two-man lift.

According to EAT's CEO, Jozefina Krahulcova, in a charming accent somewhere in-between Eva Herzigova and Rosa Klebb, 'You could say: double size of diameter and four times more effective sound. The platter uses Sorbothane

damping inside and has a black damping mat produced from recycled vinyl: a perfect interface for the record, that makes the platter completely quiet.

'Supporting this is an inverted bearing,' she told me, 'with an oversized, polished shaft. A ceramic ball is used on the top because it is very hard and inert. The pressure on the ball is reduced by two neodymium magnets that hold the platter and take over most of the load.'

'Due to the magnets we can still move a large mass allowing the bearing to see virtually no pressure. This avoids rumble. A mass-loaded platter usually causes high levels of rumble. Usually high pressure would cause the bearing to wear out over time. This does not happen because of the very low pressure created by the use of the magnetic system.'

TWO MOTORS

For motors, EAT again fits two AC units which, Jozefina explains, 'use a sophisticated electronic circuit to create 100% clean AC. Motor energy is absorbed





by using a sandwich system of metal and MDF. We decided to use a dual motor design to eliminate noise in the motor. By using two relatively weak, but silent-running motors, we achieve perfect torque. Each drives the platter with special silicon strings.'

Jozefina wanted a turntable that was inert. From the ground upward, there is decoupling via the magnetic feet, the MDF chassis is filled with the aforementioned metal sand, unwanted energy from tone arm and cartridge is absorbed by the Sorbothane that isolates the tone arm base, and energy from the belt is also absorbed by the platter mass.

Operation consists of three buttons to select 33.3 or 45rpm and on/off. Each is accompanied by an illuminated dot, which flickers when the speed is selected, settling down to a constant green glow once speed is achieved. Also supplied is a record puck, while the outboard power supply connects to a dedicated rear socket.

Pre-fitted to the review Forte S was the 12in Pro-Ject Evolution arm, with carbon-fibre arm-tube; the review sample was finished in the optional Makassar veneer. Complete with the Evolution it costs £5200, or without arm £4390. It's also

available in Piano Black for £4650 with the same tonearm or £3850 without.

HANDS TO THE DECK

With Blue Angel cartridge in place, feeding an Audio Research PH5 phono stage and Ref 5 preamp, Quad II-eighty mono amps and Wilson Sophia 3s, the Forte S felt right at home. Yes, that made for a system on the wrong side of £40,000, but, hey, what's that against a university education, care for a senior citizen or much-needed surgery? It sounded great.

But post-haste I made a discovery that slightly soured the experience until I spoke to the designers. While determining the perfect level of torque, even with a brace of motors, they optimised it for 33.3rpm. So, when moving to 45rpm, sometimes the deck would shimmy a bit, needing a little 'help' in the form of a hand-spin to the platter. They felt it a small price to pay for greater performance at the lower, more popular speed. Now I hardly find this to be an inconvenience on a par with decks which could, on occasion, spin backwards, but it was my duty to point it

ABOVE: The massive Forte S is a two-man lift, thanks to the oversized, extra heavy platter. Details include substantial feet, soft-touch speed controls and choice of arm cut-outs


out... especially as I needed that higher speed to hear the astounding new transfers from Analogue Productions of Nat 'King' Cole's finest LPs, to 2x45rpm status. And that little shove made all the difference, for the sounds of 'When I Fall In Love' and 'Stardust' – two peerless masterpieces – in all of their Capitol glory, were revelatory.

Those who have heard 1950s Capitol A-list LPs know that they represent possibly the finest capturing of sound in the history of recorded music.

'The deck weighs so much that it's virtually self-levelling'

No, that's not my hyperbole: countless audiophiles feel their sound rivals Mercurys and Shaded Dogs and the like. So deathly quiet is the Forte S's disc handling that switching to SACD barely rewards the listener with a notable reduction in background noise. If you value quiet grooves and the banishment of tracing noise, the Forte S is a champ, especially if you use a locking clamp.

(In fact, the clamp normally supplied with this deck was lost in transit, so I used a variety, including the excellent Thorens multi-part device. The Forte S was so highly-tuned and precise that I could hear the differences each time.)

While the lush orchestral backings that characterise NKC LPs of this period bless any sound system permitted to reproduce them, the single most vivid element is the velvety voice which wafts from the speakers like the scents of autumn. Cole treated his voice like the musical instrument it was, with wavering 

FROM VALVES TO DECKS

Jozefina Krahulcova founded EAT (EuroAudioTeam, to give it its full name) after working with Aleša Vaic Vacuum Technology. Older heads will recall their luxury-grade VAIC tubes, made in Eastern Europe in the mid-to-late 1990s. JK appeared in 2002/2003 with her own versions called Cool Valves, the line-up now consisting of KT88s, 300Bs and ECC83s/12AX7. Jozefina augmented these with Cool Dampers, beautifully-made metal-and-rubber cylinders that slip over smaller tubes to aid in both cooling and damping. Not content with producing only tubes and the dampers, Jozefina launched the ambitious Forte turntable at CES 2009, with two outboard motors and two belts; the S is the simplified version. If you're wondering how she segue'd so smoothly into turntable manufacturing, Jozefina married Heinz Lichtenegger this year. And Heinz owns Pro-Ject.

TURNTABLE



ABOVE: The tonearm cable exits below the plinth and is trimmed according to the arm fitted. The recessed 3-pin connector is for the remote power supply

touches, modulations, carefully positioned sighs. 'Stardust', one of the five most-recorded songs in history, becomes a mini-movie, everything *Love Story* and a million chick-flicks try to convey.

Via the Wilsons, the Forte S placed the lavish, silky strings behind Cole, a diaphanous curtain from wall-to-wall. Little sweeps, crescendos – no rasps, no squeaks. The voice hovered. I thought: no way can this date from '57! A warm, poignant 'Ain't Misbehavin' that would have thrilled Fats Waller, a reading of 'At Last' that surely inspired Lou Rawls, with those swelling strings... a seamless, shimmering sound, in possession of stage depth that would impress James Cameron.

NOD FROM A RIVAL

But those were gentler times, and the Forte S exists in the here and now. The vinyl of Keb' Mo' could not upset the Forte S's lowest octave composure, while the bottleneck guitar fills possessed the liquidity that can so often turn crystalline, brittle. Solo piano had body, a presence correct in scale, in all three dimensions. Attack? Fast, crisp and in complete control.

But the vocals were too close in texture to Cole's, so more revelations were needed. And you can't get further away from Cole or Mo' than the whinings of Neil Young. Don't take that the wrong way – I'm a huge fan, even though he should never be forgiven for shtupping the rest of the Buffalo Springfield when they were inducted into the Rock 'n' Roll Hall of Fame. Regardless of his odd behaviour, his first four LPs are among the finest work he's

ever produced, and last year's vinyl reissues are stellar.

'Cinnamon Girl' – that delightful juxtaposition of Young's castrato non-voice backed by quasi-heavy-metal – taxes most systems, but the Forte S provided every gram of mass without swamping his weedy warblings. 'Down By The River'? Majestic, powerful, as epic as it needs to be. While at times these were almost Spectorian in their grandeur, presenting, yes, a wall of sound, the retrieval of detail and faultless clarity allowed you to zoom in on specific players with ease.

During the course of the listening sessions, a notoriously acerbic rival turntable manufacturer called to visit me. Humility is not an issue that plagues him. He sat in my listening room not just attentively, but was wholly complimentary about the system. This is not an individual who bites his tongue, and so for him to comment so positively is an accolade surpassing anything I might write. ☺

HI-FI NEWS VERDICT

Although I'd have preferred to review this with a familiar arm, I can hear that the Forte S and Evolution work beautifully as a package, for those who'd rather not deal with choosing arms. It should appeal especially to audiophiles who adore classic decks of the 1970s, with cubist plinths and staggering woodwork. It's a doddle to set-up, a joy to use. If your stand can cope with the size, you'll love it.

Sound Quality: 85%

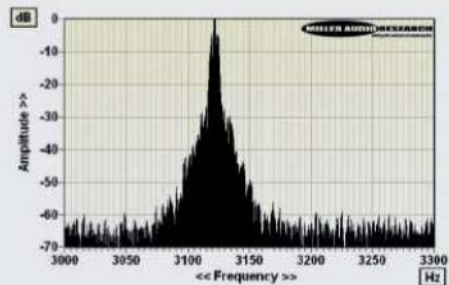


EAT FORTE S (£5200 with arm)

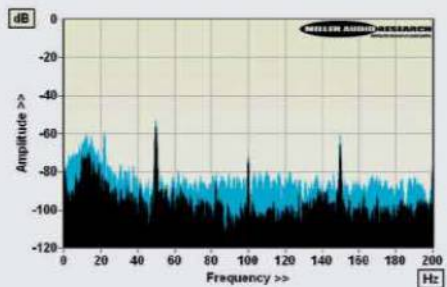
Power consumption is not something that's uppermost in our discussion of a turntable's performance but, on this occasion, a draw of just 4W for two substantial motors manhandling a very substantial alloy platter is worthy of comment. It's illustrative of EAT's decision to trade motor torque for reduced motor noise and reflected in the impressively low –69dB groove noise (re. cartridge output at 5cm/sec). A portion of the platter's 15kg mass is at least partially supported by two neodymium magnets that are secreted beneath, the remaining load borne by a substantial inverted bearing tipped with a ceramic ball. The low –71.4dB through-bearing rumble also demonstrates the efficacy of EAT's heavyweight engineering [see Graph 2, below].

Nevertheless, as observed by Ken during his time with the deck, this low noise performance was occasionally bought at the expense of some motor/belt 'skidding' as the Forte S was brought up to speed. Some manual assistance is certainly recommended as is the need to keep the belts, platter periphery and motor spindles scrupulously clean. Either way, our sample was up to speed within six seconds and offered state-of-the-art figures for wow & flutter [see Graph 1, below] amounting to a DIN B-weighted 0.05%, albeit with a fixed speed error of –0.88%. It's unusual to find a new deck running slow – most run fast – but the decrease in pitch will not be audible.

Readers are invited to view a full QC Suite report for the EAT Forte S/Pro-Ject 12in Evolution turntable/arm package by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Wow and flutter re. 3150Hz tone at 5cm/sec (plotted ±150Hz, 5Hz per minor division). Under speed results in imperceptible loss in pitch

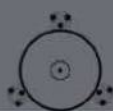


ABOVE: Unweighted bearing rumble from DC-200Hz (black infill) versus silent LP groove (blue infill) re. cartridge output at 1kHz at 5cm/sec

HI-FI NEWS SPECIFICATIONS

Turntable speed error at 33.33rpm	33.04rpm (–0.88%)
Time to audible stabilisation	6sec
Peak Wow/Flutter	0.02% / 0.03%
Rumble (silent groove, DIN B wtd)	–69.2dB
Rumble (through bearing, DIN B wtd)	–71.4dB
Hum & Noise (unwtd, rel. to 5cm/sec)	–56.3dB
Power Consumption	4W
Dimensions (WHD)	550x440x300mm

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Pass Labs INT-30A (£6395)

This modestly styled, mostly-Class A integrated delivers more than the specs suggest; it's a pragmatic design that takes into account both purchase and running costs

Review: **Keith Howard** Lab: **Paul Miller**

An engineer, as the old description has it, is someone who can do for a shilling what any fool could do for a pound. But this doesn't mean that an engineer is someone who merely knows how to cut costs – that's an accountant. Implicit in the description is economy of resources: good engineers don't embrace complication if a simpler solution is just as good or better.

Simplicity has been considered an overarching virtue by at least some of the audiophile community for as long as I've been part of it, and minimalist means were lauded long before that. Today we often see this expressed as a preference for valve amplifiers, particularly single-ended triode (SET) designs, and full-range driver loudspeakers – although there's nothing particularly simple about those if they're (competently) horn loaded.

It's often forgotten in the ongoing enthusiasm for thermionic amplification that minimalist solid state amplifiers have a long (not as long, naturally) and distinguished history too. I think, from a European perspective, of John Linsley Hood's 10W Class A amplifier, the design of which was published in *Wireless World* in 1969, updated in 1996 and still revered; or Jean Hiraga's 8W Le Monstre – so called because of its huge unregulated power supply – which was published in the French magazine *L'Audiophile* in 1979 and spawned a more powerful successor in 1994. You can still buy circuit boards for these designs online, as you can for others originating elsewhere around the world.

MASTER OF ZEN

That said, there aren't so many solid-state amplifiers in production today which espouse 'less is more' as a core design philosophy. Obvious exceptions are the products of Pass Labs, whose designer Nelson Pass has devoted many years to

finding simpler amplifier design solutions, a good number of which – like the popular Zen series – he has published as DIY projects [see box out].

My only previous hands-on experience of a Pass Labs design came quite recently with the XA60.5 monoblock amps, which I loved [*HFN* April '10]. They really did deliver on the promise of a more persuasive musical experience, of simpler circuitry putting less between listener and performance. This time around I have one of Pass Labs' stereo integrated designs to assess – the INT-30A – which is based on the XA30.5 stereo power amplifier but with a line-level preamplifier stage and volume control.

Although the INT-30A is one of Pass Labs' Class A range, it's clear that it cannot run in Class A across the gamut of its output capability or the gamut of likely loudspeaker impedances, otherwise it

would have to run a great deal hotter, and draw a lot more standing current from the mains than it does. Class A push-pull amplifiers – which operate such that both halves of the output stage conduct throughout the signal cycle – are notoriously inefficient, in ideal circumstances achieving only 50% conversion of power consumed into power delivered to the loudspeakers. In practice they are less efficient even than that, not least due to the statistical nature of music signals, and the need to accommodate variations in speaker impedance.

A QUESTION OF CLASS

According to my mains monitor the INT-30A draws 156W (at a high mains voltage of 246V) or 78W per channel – certainly enough to meet its specified 30W continuous output into 8ohms in Class A.

RIGHT: A large toroidal power transformer and preamp and power amp circuit boards dominate the interior. Smaller boards parallel with the heatsinks at the output devices





But don't imagine that it will remain in Class A while delivering the high power capability identified in the lab report, or while exercising its full output voltage capability into a 2ohm load.

Nevertheless, on wide dynamic range music signals, particularly if it's used with sensitive speakers that don't present a punishing load, the INT-30A will operate in Class A for a very large proportion of the time. To improve on this would require higher standing current and larger heatsinks, adding to both the cost of purchase and the cost of running this amplifier – so the compromise is a thoroughly pragmatic one. The INT-30A takes the chill off a listening room quite nicely as it is!

Six push-buttons adorn the chunky fascia – power on/off, mute and input selectors for the four inputs. Two of these inputs (1 and 2) are available either balanced on XLR sockets or unbalanced on phono sockets, whereas the remaining two (3 and 4) are unbalanced only. Above the push-buttons a dot-matrix alphanumeric display shows the selected input and, at either end, the left channel and right channel volume settings. A large volume control to the right provides 1dB steps over a 63dB

range, the supplied remote control – a solid, all-aluminium item – duplicating this via volume up/down buttons and adding a balance control. Other buttons control power on/off, input selection, muting and display brightness (toggling between high, low and off).

On the back panel, input connections are as already described, with preamp outputs available balanced on XLR or unbalanced on phono sockets. Speaker connection is via small gold-plated binding posts, plus there is a 4mm terminal post connected to signal ground. This is provided for the attachment of a subwoofer via its speaker-level inputs, if required, and is necessitated by the INT-30A's speaker outputs being balanced rather than single-ended; that is, the black terminals aren't connected to ground but to amplifier outputs operating in antiphase to those connected to the red terminals.

CREAMY SMOOTHNESS

With the dCS Debussy DAC reviewed this month [see p22], I rubbed my hands in glee

ABOVE: The fascia is simple and functional, as is the display. All the controls are duplicated on the remote handset which also adds a balance function and control of display brightness

as I first sat down to listen to the INT-30A after a protracted warm-up period. As things turned out, my time with it did not reprise the revelatory experience I'd had with the XA60.5s – but then, this is a cheaper, integrated amplifier, not a pair of beefy monoblocks, so no surprise there.

'I enjoyed this amplifier most with simple vocal tracks'

By comparison with its illustrious stablemate the INT-30A sounded a little soft, and that's not a quality you could lay at the door of either the source (Debussy) or speakers (Thiel CS1.6s) to which

it was connected. So I see the INT-30A appealing most to a particular creed of audiophile rather than audiophiles of all denominations: specifically, those who find most solid-state amplifiers brash, even harsh, to varying degrees, and who prefer a more emollient, less forthright sound quality. If that describes you, then this Pass Labs amp could be right up your boulevard.

I enjoyed it most on simple vocal tracks where the creamy smoothness of its delivery could be intoxicating. Sarah K's *Vincent* [Chesky JD 133], for instance – just her voice and acoustic guitar accompaniment, spaciously recorded in the Chesky mould – was perfect soul food for a scotch-in-hand debrief following a stressful day. Another of my favourite vocal recordings (ignoring the tape print-through that now afflicts it), this time of unaccompanied tenor – James Griffett singing the achingly beautiful English folksong 'The Turtle Dove', from *Strawberry Fair* [Regis RRC 1112] – also fared well, ☺

BUILD ONE YOURSELF

If you'd like to own a Nelson Pass amplifier, don't have the wherewithal to buy one but are competent with a soldering iron, then you could always build one of his many DIY designs. There's an official web site devoted to them (www.passdiy.com) where you'll find numerous articles describing the various circuits. Descriptions of his commercial amplifiers have been removed since my last visit but if you Google 'Pass Aleph' you'll find that schematics and printed circuit boards are available from www.kk-pcb.com. If you've never built a power amplifier before then don't underestimate the work involved or the costs of providing large heatsinks and power supplies, and don't forget that you'll need metalworking skills and tools as well, to build the case for it all. But if you enjoy having 'a project', it's great fun and can save you some money.

INTEGRATED AMPLIFIER



ABOVE: To the rear of the amp, balanced and unbalanced inputs are available on XLR and phono sockets respectively. Preamplifier outputs are also provided

transporting me to Boxgrove Priory near Chichester where it was recorded many moons ago, complete with chirping birds.

Todd Rundgren's surprising 'For Lack Of Honest Work' (from *A Cappella*, on Rhino R2 7576 1) – a multi-tracked, unaccompanied song that sounds for all the world as if it originated on the folk club circuit – was utterly grain-free too, but, to be hyper-critical, didn't quite assail me with the full pathos of its protagonist's fall into the gutter from what he thought was a union-protected job for life.

One of the best-known items of Arvo Pärt minimalism, *Spiegel Im Spiegel* [ECM 449 958-2] – a meditative piece for violin and piano that you're sure to have heard snippets of in television dramas – was also grist to the INT-30A's mill. It burnished the notionally simple but endlessly intriguing interplay between the searching quality of the violin line and the metronomic quality of the piano which makes this piece so insidiously addictive.

As soon as I'd played it I went searching for another of my favourite instrumental double-acts, Schubert's 'Songs Without Words' played by Mischa Maisky (cello) and Daria Hovora (piano) [DG 449 817-2]. Arguably you need an amplifier with a little more resolution than the INT-30A can muster to match Maisky's emotionally charged cello playing, but this was nonetheless captivating.

SKIPPING A BEAT

Where the INT-30A missed out relative to the XA60.5s was in its ability to do full justice to the energy and rhythmical drive of more

up-tempo pieces. For instance, it took a little of the fizz – as in champagne – out of 'At Sundown' from *The Hot Club Of San Francisco* [Clarity Recordings CCD-1006], a performance harking back to the days of Django Reinhardt and Stéphane Grappelli that thrives on its infectiously bouncy rhythm.

It was also a shade too polite-sounding on rock music, missing some of the essential coarseness, for example, of Black Sabbath's eponymous *Black Sabbath* [Sanctuary Records SMRCD031] or Eric Clapton's live *Double Trouble* [Polydor 531 827-2].

So I returned to favoured INT-30A territory by putting on and settling down to Hilary Hahn's elegiac performance of Vaughan Williams's *The Lark Ascending* with the LSO and Sir Colin Davis [DG 474 8732, CD layer]. The violin fluttered and climbed, and the orchestra soared too in its turn. But for the review deadline, I might have been there enjoying it still. ☺

HI-FI NEWS VERDICT

It's no discredit to the INT-30A that it doesn't scale the stratospheric heights of the XA60.5s, just a demonstration that in the Pass Labs range you get what you pay for – which is as it should be. The INT-30A isn't everything to all men but it will delight audiophiles for whom lack of grit and grain is a foremost requirement. Best suited to smaller-scale, intimate music, it is not an amplifier for headbangers.

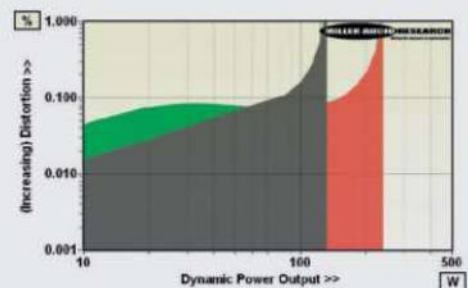
Sound Quality: 80%



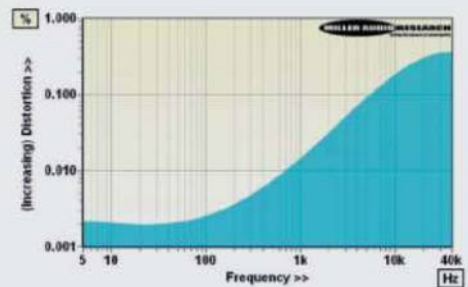
PASS LABS INT-30A (£6395)

More than a few hi-fi mags who simply repeat the manufacturer's 'Technical Specification' as their own will tell you the INT-30A is rated at 30W/8ohm and 60W/4ohm. This couldn't be wider of the mark – in fact Pass Labs' integrated will sustain a full 2x112W/2x187W into 8/4ohm with a dynamic power output of 133W, 241W and 234W into 8, 4 and 2ohm [see Graph 1, below]. Coupled with its low 0.037ohm output impedance, the INT-30A is vastly more capable of handling difficult and/or low sensitivity speakers than a lazy trawl through Pass' literature might suggest.

This under-specification is nothing new, after all the XA60.5 [HFN Apr '10] delivered closer to 130W rather than 60W. Other qualities of that well-reviewed power amp are equally in evidence here, including the mild PSU-related intermodulation [see IMD plots on line], the gently rolled-off response (-0.1dB/20kHz to -1.8dB/100kHz) and very distinctive distortion trend that increases proportionally with power output from 0.003% at 1W to 0.03% at 20W and 0.3% at 100W. Versus frequency, distortion also betrays the same trend – 0.003% at 200Hz, 0.03% at 2kHz and 0.3% at 20kHz. This simply has to be 'engineered' [see Graph 2, below] and is a hallmark of Nelson Pass' innovative 'SuperSymmetric' amplifier designs. Finally, this sample did demonstrate a slight lack of 'symmetry' in noise, the A-wtd S/N ratio reaching 91.1dB (right channel) and just 85.7dB (left channel, re. 0dBW). Readers are invited to view a comprehensive QC Suite test report for the Pass Labs INT-30A amplifier by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



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

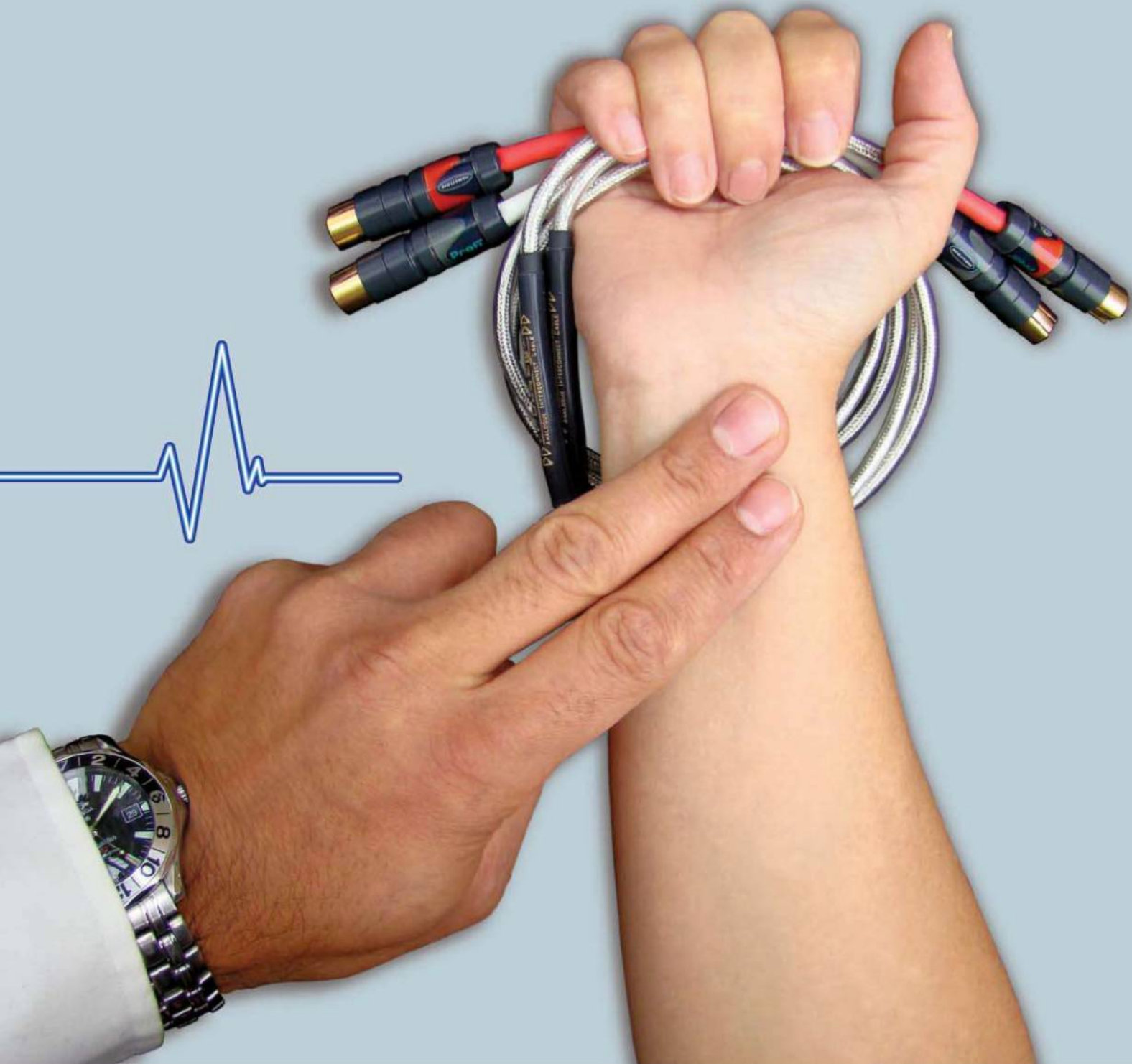


ABOVE: Distortion vs. frequency from 5Hz to 40kHz (10W/8ohm). Steady increase in distortion with frequency is a hallmark of the amplifier design

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	112W / 187W
Dynamic power (<1% THD, 8/4/2/1ohm)	133W / 241W / 234W / 125W
Output impedance (20Hz-20kHz)	0.037-0.065ohm
Frequency response (20Hz-100kHz)	+0.0dB to -1.8dB
Input sensitivity (for 0dBW/30W)	133mV / 745mV
A-wtd S/N ratio (re. 0dBW/30W)	91.1dB / 105.9dB
Distortion (20Hz-20kHz)	0.0016-0.33%
Power consumption (Idle/Rated o/p)	154W/258W (27W 'Standby')
Dimensions (WHD)	483x178x483mm

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hi-finews GROUP TEST

While manufacturers are focused on producing increasingly affordable Blu-ray players, there still remains a role for dedicated CD players. We've put seven sub-£1000 models on test

CD PLAYERS £665-£1000

TESTED THIS MONTH

CREEK EVOLUTION 2	£665
DENON DCD-1510AE	£900
MARANTZ SA-KI PEARL LITE	£1000
MICROMEGA CD-10	£800
MUSICAL FIDELITY M3CD	£1000
NAIM CD5f-2	£925
ROKSAN K2 CD2	£900



Cutting-edge gear, cherry-picked by the Hi-Fi News editor



The pinnacle of sound quality within its peer group



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How times have changed. Two decades ago we were spoilt for choice when choosing a CD player. Today, new players dedicated to high quality CD replay are increasingly rare, predominantly made in small volumes by specialist firms catering for a niche market of audio aficionados such as ourselves.

The majority of the world's major electronics manufacturers ceased developing new CD players in the mid 1990s, instead prioritising their R&D budgets to developing DVD-Video players. More recently they have been racing to develop ever more affordable BD players. The £300 BD player that feeds my plasma TV certainly delivers stunning picture quality from BDs and DVDs given its modest price, but it sounds thin and coarse when playing CDs through my hi-fi system. All is not lost though...

THE LINE-UP...

Most of us have accumulated substantial CD libraries over the years and naturally want to eke the best possible sound quality from our collections. For those enthusiasts

Marantz and Denon continue to develop new CD players and both brands are represented in this month's group test with their latest models. Pioneer still makes a couple of high quality players too, however its PD-D9MK2 and PD-D6MK2 models have been featured before in these pages [*HFN* Oct '09 and Dec '09, respectively].

British specialist companies are represented this month by Creek, Musical Fidelity, Naim and Roksan – plus we've a model from French specialist Micromega.

MUSIC MATTERS

The players were auditioned extensively in both 'blind' and sighted listening tests, connected to a Mark Levinson No.383 amplifier with Townshend DCT 300 interconnect cables and Monitor Audio PL200 and Townshend Sir Galahad floorstanding loudspeakers.

Care was taken to normalise the listening volume of each player precisely. Recordings used included established 'references' such as Diana Krall's 'My Love Is' from her 1997 *Love Scenes* album [Impulse IMP12342] with its organic double

bass intro and explicit vocal, and 'Revised Music For A Low Budget Orchestra' from the Omnibus Wind Ensemble's *Music Of Frank Zappa* hybrid SACD [Opus 3 19423]. This features energetic brass and dynamic percussion instruments captured in a natural acoustic.

To assess the players' performance on orchestral music we listened to Samuel Barber's *The School for Scandal Overture* with David Zinman conducting the Baltimore Symphony Orchestra, recorded in 1991 for Decca's Argo imprint [CFM FW 004, one of Classic FM's 'The Full Works' bargain-priced CDs]. And for an example of a modern 'pop' recording we listened to 'Facing Home' from 23-year-old singer Maeve O'Boyle's album *All My Sins*, produced by Calum Malcolm of The Blue Nile fame [Linn AKD 318]. As with the Opus 3 disc of Zappa music, this too is a hybrid SACD. But of the seven players in our group only the Marantz and Denon models were able to play the higher resolution SACD layer. ↻

REVIEWS BY JOHN BAMFORD
LAB TESTS BY PAUL MILLER

• AMPLIFIERS • TURNTABLES • CARTRIDGES • AM/FM TUNERS • CD PLAYERS • HEADPHONES • SPEAKERS •

Creek Evolution 2 (£650)

Creek Audio's Evolution CD player and matching integrated amplifier were upgraded to Evolution '2' status last year, this being the first time we've tested the player in its 'Evo 2' guise with Burr-Brown PCM1796 DAC. It sports a slim profile and 12mm-thick polished fascia (black or silver finish available) with a blue filtered vacuum fluorescent display that is readable down the length of a listening room. Functionality is minimal however, the display showing only a track's elapsed time while playing, and the total number of tracks (and total playing time) when a disc is stopped. The display has three brightness levels (set via the handset) but cannot be fully disabled.

As mentioned in our review of Creek's latest '5350 amplifier [HFN Nov '10], all Creek components now ship with the company's SRC3 system controller that beforehand was included only with the company's more expensive Destiny components. This is a much better handset than that previously supplied with Evolution components, with clear buttons that fall nicely to the fingers. Don't lose it by the way, as contrary to what's stated in the CD player's instruction manual, tracks cannot be scanned by holding down the Previous/Next buttons on the player's fascia.

Scanning through a track is single speed and pedestrian, too. This will be bothersome for fans of classical music who may regularly want to fast forward to the finale.

SMOOTHLY DOES IT...

There's a warm 'analogue' tonality to the sound of the Destiny 2. The jangling guitars and slightly



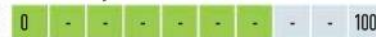
ABOVE: The Destiny 2 offers clean lines and a slim profile along with an easy-to-read display, but facilities are minimal

hard percussive sounds in Maeve O'Boyle's 'Facing Home' were pleasingly smooth while the explicit vocal in Diana Krall's 'My Love Is' appeared less forward and explicit than when heard via the Musical Fidelity M3CD and Naim CD5i. The Creek's more gentle reproduction of high frequencies was more akin to the 'sweet' character of the Micromega and Marantz players.

The Creek also sounded bold and full bodied and boasted a powerful, fruity bass. The more explosive passages within *The School for Scandal Overture* were particularly potent. Although lacking the subjective bass extension of the Denon and Musical Fidelity players the Creek nevertheless sounded energetic and compelling, the rich texture of the orchestra's strings being lush and golden.

But the tonal balance might be considered a little cloying if you prefer a highly detailed presentation. The dynamic swings in 'Revised Music For A Low Budget Orchestra' were certainly vigorous, but the three dimensional image of this simple, crossed pair recording appeared rather closed in, lacking the air and space that was resolved by the best players here.

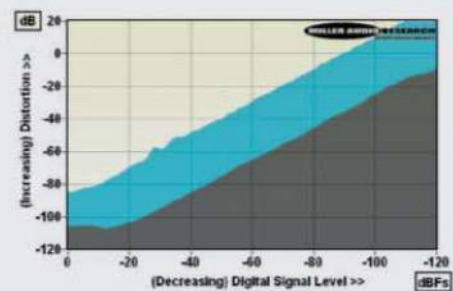
Sound Quality: 65%



HI-FI NEWS LAB REPORT

Within the audioband at least, Creek's Evolution 2 player is entirely illustrative of a modern, very low distortion (<0.001% over the top 25dB of its dynamic range) and very low jitter (120psec) CD player. Creek's choice of an older Burr-Brown DAC does yield an increase in ultrasonic requantisation noise, as evidenced by the slight swell beyond 10kHz (noise at 100kHz is typically 20-30dB higher than at 1kHz). While true distortion harmonics punch through the noise at peak output (0dBfs) to give 0.005% at 20kHz, the increase to 0.11% at -30dBfs is really ultrasonic noise [see blue trace, Graph below]. Any subjective impact will depend on the partnering amplifier's sensitivity to this noise but the Evolution 2 certainly gets off to a good start with its low-ish 97ohm output impedance and wide 104dB in-band A-wtd S/N ratio from a maximum 2.2V output.

Good circuit design keeps stereo separation >100dB and channel balance within 0.02dB from 20Hz-20kHz while Creek's top-end filtering only has the slightest influence on its response which rolls away above 10kHz to reach -0.4dB/20kHz. PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range

Maximum Output Level/Impedance	2.23Vrms / 97ohm
A-wtd S/N Ratio	104.3dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00094% / 0.0038%
Distortion & Noise (20kHz, 0dBfs)	0.005%
Frequency response (20Hz-20kHz)	+0.0dB to -0.37dB
Digital jitter	119psec
Resolution @ -100dB	±0.5dB
Power consumption	8W
Dimensions (WHD)	430x70x340mm



ABOVE: Both optical (Toslink) and electrical (RCA) digital outputs are provided, alongside single-ended analogue outputs via a pair of gold-plated RCA sockets

Denon DCD-1510AE (£900)



Paired with its partnering PMA-1510AE amplifier, this DCD-1510AE CD/SACD player is the most recent addition to Denon's 'Advanced Evolution' series of stereo components. It's a scaled down version of the company's massive DCD-2010AE priced £1700. While the chassis construction is less elaborate (it's two-thirds the weight at 8kg) and it's missing its bigger brother's optical and coaxial digital inputs there's no denying that this is still a lot of player for the money.

It features the '2010's 'Suppress Vibration Hybrid' disc mechanism with a loading tray that is smooth in operation and delivers rapid track access once a disc's TOC has been read. But I was surprised to discover that such a luxurious machine offers only single-speed scanning through tracks (via the handset only) and that scanning forward and backwards is both jerky and slow.

The player supports playback of CD-R/RWs containing WMA and MP3 files and the front panel USB socket is a welcome feature, especially for its digital iPod connection. But when playing music from flash drives it is limited to MP3 and WMA files and does not support WAV (or FLAC) despite what you may have read about the player in the past.

LOUD AND PROUD

This muscular looking Denon possesses a big, muscular sound. The bass on Maeve O'Boyle's 'Facing Home' track was immensely deep and powerful, although not as tightly controlled and articulate



ABOVE: The fascia sports a headphone output along with a USB input which provides a digital connection for iPods

as when heard through the Naim CD5i. And to its detriment the DCD-1510AE seemed to highlight the recording's shortcomings, exaggerating the hardness in the percussion and jangling guitars when playing the disc's CD layer.

Playing the high density SACD layer improved the quality immeasurably, the sound becoming smoother, more open and much more lifelike while revealing texture in Maeve O'Boyle's voice that was equalled only by the other SACD player in the group, the Marantz.

Only the Musical Fidelity M3CD came close to the Denon's vigour and bass potency. The dynamic impact of the fiery crescendo during *The School For Scandal Overture* was formidable via the '1510, the character of the Baltimore Symphony Orchestra appearing colourful and exuberant.

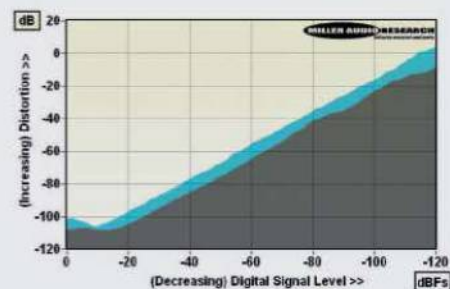
Sound Quality: 85%



ABOVE: To the rear of the Denon can be found both optical (Toslink) and electrical (RCA) digital outputs alongside a pair of single-ended analogue outputs

HI-FI NEWS LAB REPORT

Denon's proprietary digital filter, teamed with a '32-bit/192kHz' DAC topology and custom master clock has clear benefits. The filter trades a reduced ringing with transient signals in the time domain for a slightly early response roll-off, beginning at ~18kHz and reaching -2.0dB at 20kHz. In contrast with other regimes of this type, the rejection of aliasing images is still very good (-95.5dB by 24.1kHz) while the A-wtd S/N ratio remains state-of-the-art for 16-bit CD at 109.3dB. Jitter is fabulously low at ~120psec with CD (the measurable limit for 16-bit data) and <10psec for SACD. SACD is not limited by downsampling to LPCM at 176.4kHz so the response runs smoothly out to -0.9dB/20kHz, -2.9dB/40kHz, -6.5dB/60kHz and -23dB/100kHz. Distortion is impressively low at ~0.0005% through bass and midrange frequencies for CD and SACD at 0dBfs, increasing to just 0.001% for CD at 20kHz and 0.075% for SACD as its THD is joined by rising levels of requantisation noise. Levels of any ultrasonic noise with CD between 20kHz-100kHz are very low indeed, typically <-120dB below peak output. PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range

Maximum Output Level/Impedance	2.12Vrms / 322ohm
A-wtd S/N Ratio	109.3dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00054% / 0.0039%
Distortion & Noise (20kHz, 0dBfs)	0.001% (CD) / 0.078% (SACD)
Frequency response (20Hz-20kHz)	+0.0dB to -2.0dB (-0.9dB, SACD)
Digital jitter	120psec (CD) / <10psec (SACD)
Resolution @ -100dB	±0.3dB (CD) / ±0.05dB (SACD)
Power consumption	12W
Dimensions (WHD)	434x135x331mm

Marantz SA-KI Pearl Lite (£1000)



Following the 'KI Pearl' SACD/CD player and amplifier duo designed by Ken Ishiwata to celebrate his 30th anniversary at Marantz [see *HFN*, Sept '09] comes a more affordable 'KI Pearl Lite' player/amp combo. Prices are £1000 for each component rather than £2500 each for the limited edition Pearls.

At 7.8kg the SA-KI Pearl Lite is half the weight of the Pearl player, the build being less sumptuous. Gone is the Pearl's sexy front panel illumination and 5mm-thick aluminium top plate while the Lite model comes with a standard Marantz remote handset. And the Lite's glossy side cheeks – redolent of the wooden urushi lacquered panels fitted to luxurious products of yesteryear – are in fact plastic. Nevertheless it's a handsome player and still feels a lot for the money.

Moreover, it's loaded with appealing features for a wider audience. The front panel USB input affords a digital connection for iPods and playback of MP3, WMA, AAC and WAV files from memory sticks (limited to 16-bit/48kHz and with no FLAC support) while the capability of the USB input at the rear (for computer connection) extends to 24-bit/96kHz PCM. Under the bonnet the Lite employs the same Cirrus Logic Delta-Sigma DAC but without the Pearl's selectable filter.

POLISHED PEARLS

Whatever the music the SA-KI Pearl Lite always sounded polished, with a gracious demeanour. While demonstrating the communicative midband clarity that's a hallmark of 'classic' Marantz KI Signature



ABOVE: High feature count includes front panel USB input and built-in headphone amp with volume control

CD players, this Pearl Lite delivers a refined sound that makes for particularly relaxed listening.

The tone of the strings of the Baltimore Symphony Orchestra sounded truly sweet – less vivid and forthright than with the Musical Fidelity and Naim players but exquisite in texture and warmth while losing nothing in terms of detail. So easy on the ear is this player that it allows you to observe fine details without any sense of strain, sounding deliciously 'open' and transparent and seducing the ear with its mellow charm.

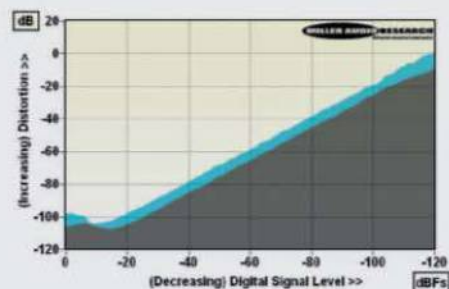
The background percussion in Maeve O'Boyle's 'Facing Home' displayed a coarse electronic 'edge' with all the players in this group, the Denon and this Marantz sounding considerably more natural and cultured when playing the disc's SACD layer. Yet even the 'standard resolution' CD layer sounded polished on the KI Pearl Lite.

Sound Quality: 88%



HI-FI NEWS LAB REPORT

By any measure (especially weight) this is an awful lot of player and one that compares very favourably with the £5000 SA KI Pearl [*HFN* Sep '09]. The Lite player utilises what is essentially the digital 'Filter 1' setting on its bigger brother, trading a slow out-of-band roll-off of just -26.7dB/24.1kHz for reduced ringing in the time domain and reduced group delay at the top end of the audioband. Nevertheless, the Lite's bespoke analogue stage offers a flatter response than the Pearl, ruler flat in fact with a mere -0.03dB drop at 20kHz! The SACD response is also fractionally more extended (-14.7dB/100kHz instead of -16.7dB) and while it enjoys the same wide 109dB in-band A-wtd S/N ratio, its low-level linearity is actually slightly improved with errors of just 0.2dB at -120dBFs and 2.0dB at -130dBFs. Jitter shows the same complex pattern we saw with the Pearl's CD stage (300psec), clearing up slightly with SACD (235psec). Distortion remains very low at 0.0004% through bass and mid, but note that the maximum output with CD (2.45V) is higher than from an equivalent SACD layer (1.75V). Beware quick A/B demos! PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range



ABOVE: As with the KI Pearl, the player can be used as a DAC. But while the Pearl had only an optical input the new Pearl Lite includes coaxial and USB inputs too

Maximum Output Level/Impedance	2.45V (CD) 1.75V (SACD)/145ohm
A-wtd S/N Ratio	109.0dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.00035% / 0.0037%
Distortion & Noise (20kHz, 0dBFS)	0.0004% (CD) / 0.11% (SACD)
Frequency response (20Hz-20kHz)	+0.0dB to -0.0dB (-0.1dB, SACD)
Digital jitter	300psec (CD) / 235psec (SACD)
Resolution @ -100dB	±0.8dB (CD) / ±0.05dB (SACD)
Power consumption	11W
Dimensions (WHD)	440x109x344mm

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Micromega CD-10 (£800)

Micromega has three CD players in its portfolio. This CD-10 is its entry model; we tested the top-of-the-range CD-30 (with a more elaborate power supply design) alongside its IA-180 integrated amp earlier this year [HFN, Mar '10].

The slim and compact CD-10 appears positively lightweight alongside the rest of the players in this group, but it's nicely finished with a folded aluminium wrap-over bonnet that obviates sharp corners, while the fascia is refreshingly clean with a simple row of control buttons. Designers of CD players take note: the Micromega's vivid blue ten-segment dot matrix display is truly excellent. It displays CD Text information too. It's a pity its brightness can't be adjusted, but it can be switched off via the remote handset and can show elapsed/remaining time for the track playing or the entire disc.

It's also a pity the supplied remote is a lightweight affair covered with 46 identically sized buttons that offer little 'feedback'. Skipping a track using the handset sometimes resulted in skipping two or three tracks by mistake.

The CD-10 employs a DVD disc drive that clunks a little noisily (noticeable if you sit close by), but which provides quick track access. Unusually, you can alter the speed of the loading drawer to taste – fast, medium or slow – by holding down the front panel's Play and Previous keys when powering up the player.

FRENCH POLISH

Possessed of a 'fresh' and open demeanour the CD-10 delivered a polished rendition of Diana Krall's 'My Love Is'. The acoustic bass



ABOVE: Mode button on the fascia switches CD Text on/off, while holding it for two seconds disables the digital output

introduction may have lacked the body and 'oomph' of the Denon and Creek players but it was rich in texture and detail. The vocal too was delicately seductive, with a clarity that preserved the halo of reverberation in the recording.

With the large scale orchestral work, *The School For Scandal Overture*, the Micromega painted a wide and deep image across the listening window of the loudspeakers. Again, one could hear deeply into the recording's details as delicate percussion was juxtaposed with vibrant brass and lush string tones. In some respects it was as beguiling as the Marantz, but a touch 'light' in balance and lacking body. I scribbled a note during my listening: 'more Quad electrostatic than ATC studio monitor...'

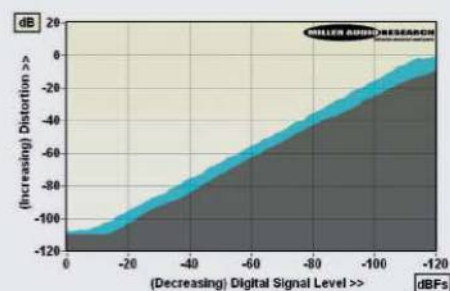
The Micromega is kinder than many when playing electronic pop/rock recordings. The electric guitar and percussion in Maeve O'Boyle's 'Facing Home' showed little of the hardness observed from the Musical Fidelity and Naim players. It wasn't that the sound was overtly smooth, rather it was delicate and refined. So while the Frank Zappa piece lacked some 'pizzaz' it did sound wonderfully spacious.

Sound Quality: 80%



HI-FI NEWS LAB REPORT

This player is a stripped-down version of the CD-30 [HFN Mar '10] with the same DAC but minus the '132.3kHz oversampling'. Technically there's very little to separate the two: both offer a 2.1V peak output with an above-average 108dB A-wtd S/N ratio. The player's digital housekeeping is first rate with a mere 18ppm clock error (a measure of the quality of the crystal) and an equally fine 120psec jitter (near the practical measurement limit for 16-bit data). Differences in digital filtering means the CD-10 offers a 111dB rejection of stopband images while the CD-30 stretches to 125dB but there's no real difference in the in-band frequency response (-0.2dB/20kHz) nor in either the level of ultrasonic noise or very high frequency distortion. The latter is impressively low, in fact, at just 0.0006% for a worse-case 20kHz/0dBfs signal. The player's 485ohm output impedance is higher than I'd like, potentially inferring some sensitivity to long interconnects, but the low THD, low 0.00015% intermodulation and wide 110dB midband separation all suggest the CD-10 is furnished with a solidly designed analogue stage. PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range



ABOVE: One set of single-ended (RCA) outputs and a coaxial digital output are all that's provided, although a DB9 connector can be fitted to allow RS232 control

Maximum Output Level/Impedance	2.14Vrms / 485ohm
A-wtd S/N Ratio	108.4dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00065% / 0.0033%
Distortion & Noise (20kHz, 0dBfs)	0.00065%
Frequency response (20Hz-20kHz)	+0.0dB to -0.21dB
Digital jitter	120psec
Resolution @ -100dB	±0.8dB
Power consumption	10W
Dimensions (WHD)	430x70x250mm

Musical Fidelity M3CD (£1000)

In our recent group test of sub-£1000 amps [*HFV* Nov '10] we featured Musical Fidelity's M3i amplifier – and this month we have its partnering M3CD CD player. These new 'M3' components share the casework of the company's M6 Series, and although in a slightly lower-profile chassis the uniformity of the understated cosmetic designs allows mixing and matching between the two ranges.

Musical Fidelity employs a slot-loading disc drive for the M3CD. The company is not alone here – Meridian and Classé have used them for years – since they are designed to be robust and ultra reliable. After all, they're used in tens of millions of car CD/DVD players and laptop computers the world over. And they are delightfully convenient to use.

Still, the M3CD does have a couple of foibles you might find irksome. If you're playing the first track of a disc and want to return to the beginning, you must first start playing track two before hitting the Previous button, since it takes you to the start of the previous track rather than returning to the beginning of the track that's actually playing. And while the blue filtered backlit LCD display looks stylish it's impossible to read unless you're sitting close by.

SQUEAKY CLEAN

The acoustic bass introduction to Diana Krall's 'My Love Is' sounded particularly vivid with sharp leading edges to the plucked strings. As with Naim's CD5i this made for a subjectively 'fast', up-beat presentation that commanded attention. Meanwhile, the vocal appeared a touch 'hard', though



ABOVE: M3CD employs a slot-loading disc drive and white-on-blue LCD display that can be dimmed or defeated

it has to be said that it possessed tremendous detail, for example in the reverberation tails as they decayed to silence.

'Clean' and 'informative' are adjectives that appeared regularly in my listening notes for the M3CD. The Samuel Barber orchestral piece was presented in a bold and forthright manner, with impressive bass 'wallop' during the performance's crescendos, the player delivering a real sense of occasion thanks to its deep and wide soundstage.

Less relaxing to listen to than the Marantz SA-KI Pearl Lite and Micromega CD-10, the tranquil demeanour of Maeve O'Boyle's 'Facing Home' seemed instead quite bouncy and edgy, with accentuation of the hardness in the recording's tonality. The M3CD really shone with audiophile recordings, however. Frank Zappa's 'Revised Music For A Low Budget Orchestra' sounded wonderfully clear and vibrant.

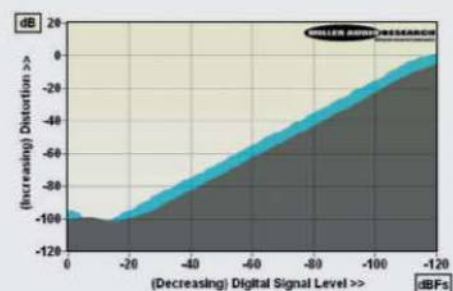
Sound Quality: 75%



HI-FI NEWS LAB REPORT

This latest MF player makes good use of a slot-loading transport and BlueTiger control board from StreamUnlimited coupled to an analogue stage – based around the popular Burr-Brown DSD 1796 DAC – of its own design. The M3CD delivers a textbook 2V from a usefully low 46ohm output impedance, offering a wide 108dB A-wtd S/N ratio and low 215psec jitter. This is not the minimal 120psec enjoyed by other players in this test, but it's more than low enough and well distributed in its spectral content. Idle patterns and ultrasonic noise are vanishingly low.

Mild 2nd-5th harmonics add up to a mere 0.0014% distortion at its peak output through the midrange, a figure that barely increases to 0.002% at the 20kHz high frequency extreme. The Burr-Brown oversampling filter suppresses digital aliasing images by >100dB. The analogue frequency response is very flat – second only to the Marantz SA-KI Pearl Lite – with the merest +0.03/-0.05dB variation between 10-20kHz. Putting this into perspective, many loudspeakers will have variations one or two orders of magnitude greater! PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range

Maximum Output Level/Impedance	2.00Vrms / 46ohm
A-wtd S/N Ratio	108.1dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.0014% / 0.0054%
Distortion & Noise (20kHz, 0dBFS)	0.002%
Frequency response (20Hz-20kHz)	+0.04dB to -0.05dB
Digital jitter	214psec
Resolution @ -100dB	±0.7dB
Power consumption	7W
Dimensions (WHD)	440x100x375mm



ABOVE: A set of single-ended (RCA) outputs are provided to the rear of the player along with optical (Toslink) and electrical (75ohm RCA coaxial) S/PDIF digital outputs

Naim CD5i (£925)



As with most British hi-fi stalwarts, Naim has never ceased developing new CD players. The firm's 'entry' CD5 model dates back some ten years, becoming the CD5i in 2003 and upgraded to this 'CD5i mk2' in October 2007 – and differentiated from the previous version by its nomenclature becoming CD5i.

Under-the-bonnet revisions in 2007 included changing to a Wolfson Microelectronics WM8706 DAC, better optimised star earthing, some electrolytic capacitors changed to tantalum types in key areas and modifications to the output filter.

Unlike Naim's costlier models there is no provision for upgrading the CD5i's performance by adding external power supplies. Nevertheless, build quality is robust and the understated design is handsome thanks to the subtly illuminated company logo and control buttons. You can only play, skip tracks, or stop a disc via the player's front panel – so, as ever, don't lose the remote controller.

The bold, easy-to-read display is minimalist too, pressing the display button on the remote switching simply between the track number, its elapsed time, and display off.

To own a Naim CD player you must enjoy the ritual of playing a disc, as disc loading is manual. The CD5i employs a Philips mechanism housed in a custom made, glass reinforced drawer that is swung out by hand, the CD secured in place by a magnetic puck, and the drawer swung closed before pressing Play.

CLEAN AND VIVID

Highly communicative with a 'clean', vivid presentation, the



ABOVE: Front panel is a sturdy zinc die-casting which provides a rigid mount for the manual swing arm disc-loading tray

CD5i demonstrated an ability to command attention to whatever music was playing. While subjectively not as powerful and extended in the lower registers as the Denon '1510 the bass introduction to the Diana Krall track was really snappy, the notes stopping and starting against a dark, silent background as the strings were plucked. The vocal, meanwhile, leapt forward of the speakers as if brightly spotlighted, avoiding excessive sibilants despite the up-front staging.

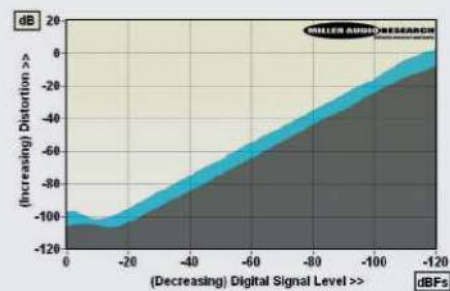
The Baltimore Symphony Orchestra recording also sounded vibrant and engaging. Tonally the CD5i appears neutral and 'honest', with tremendous clarity through the midband. The pizzicato strings again were vivid and quick-footed, although the player didn't sound as open and three-dimensional as the Marantz SA-KI Pearl Lite. Also, with the very natural recording of the Omnibus Wind Ensemble's Frank Zappa arrangements the sound felt a tad restricted at the frequency extremes and lacked some 'air' and spaciousness. Yet the Naim's forthright character helped the image feel less closed-in than with the Creek Destiny 2 in this regard.

Sound Quality: 80%



HI-FI NEWS LAB REPORT

Tested in its inaugural guise [*HFN* May '08] the core components of the CD5i, including the Philips CD decoder and Wolfson WM8706 DAC, have been retained. Subtle improvements to the PSU and analogue stage have brought benefits, witnessed by the A-wtd S/N ratio which is now up from 100dB (CD5i '08) to 103dB (CD5i '10). Midband distortion is also reduced from 0.0018%/0.001% at 0dBfs/-10dBfs to just 0.0007%/0.0004% respectively while the peak output level remains unchanged at 2.04V. The original response ripples are milder now although the -0.8dB/20kHz roll-off remains unchanged. In common with virtually all Naim players, the CD5i's clock error is still higher than average at +230ppm but this has nothing to do with the DAC (or jitter which is a fabulously low 120psec), unlike the weaker ~40dB rejection of digital images which comes courtesy of Wolfson's inbuilt oversampling filter. The CD5i also benefits from a super-low 10-15ohm output impedance above 100Hz which should render it less susceptible to longer and/or more esoteric interconnects than the other players in our group. PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range

Maximum Output Level/Impedance	2.04Vrms / 10-170ohm
A-wtd S/N Ratio	102.8dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.00065% / 0.0042%
Distortion & Noise (20kHz, 0dBfs)	0.002%
Frequency response (20Hz-20kHz)	+0.0dB to -0.78dB
Digital jitter	123psec
Resolution @ -100dB	±0.2dB
Power consumption	7W
Dimensions (WHD)	432x70x301mm



ABOVE: There are two single-ended analogue outputs via a pair of RCAs and a DIN socket, either or both selected via the remote handset; no digital output is provided

MUSICAL FIDELITY

M6i Integrated Amplifier

200wpc integrated amplifier. Balanced inputs. USB. Home theatre bypass.

M6CD/DAC

24bit/192k true upsampling CD player. 3 digital inputs.



Roksan K2 (£900)

From the outside it may appear that nothing has changed – and the price remains the same – but the Kandy K2 CD player has been modified by Roksan during recent months. It's still called the Kandy K2, but under the bonnet is said to be a new master clock, upgraded audio output power transformer and tweaks to the power supply arrangement for both for the laser control and audio output. The player still employs a Burr-Brown PCM1798 24-bit/192kHz DAC with 8x oversampling.

The Kandy's mirrored front panel may be considered rather 'showy' for some tastes, and the brightly illuminated red 'K2' logo on the fascia can't be dimmed or turned off, but at least you can't say it doesn't stand out from the crowd.

Behind the mirror is a comprehensive display with a calendar readout of a CD's tracks together with time elapsed/remaining/total time information. Trouble is, it's all rather cramped and the legends are so small that they're impossible to see unless your rack of kit is right next to your listening seat. The display can't be disabled either, so it always looks fussy.

As before, the remote handset is an illuminated touch screen system controller with learning functionality.

RICH PICKINGS

There's plenty of detail on offer from the Kandy K2. The reverberation halo around Diana Krall's voice was portrayed with refinement and subtlety, her voice hanging



ABOVE: Behind the Roksan's mirrored fascia is a calendar-type track info display, but its legends are very small

attractively within the sound field. The percussive click track and plucked bass notes were sharply delineated and full of verve.

As with the Naim CD5i the bass was tightly controlled, making easy work of the dense production on Maeve O'Boyle's *All My Sins* disc so that the layers of guitars and keyboards could be easily observed in the mix. As with the Musical Fidelity (and the Denon – when playing the CD layer of this SACD) there was a touch of graininess and hardening to the sound as the volume increased in the music.

This was also evident once the Baltimore Symphony Orchestra began to let rip a few minutes into *The School For Scandal Overture*. However, the rich tones of the Omnibus Wind Ensemble were vibrant and colourful, the wonderfully natural acoustic of Opus 3's audiophile recording obvious.

Sound Quality: 70%

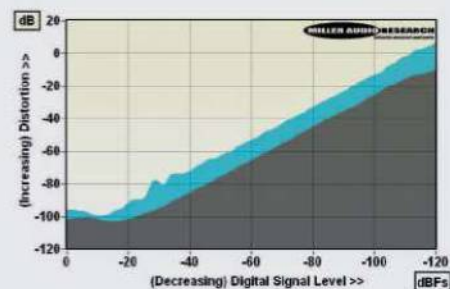


ABOVE: Analogue outputs are only single-ended RCAs, but unusually at this price there's an AES/EBU (XLR) digital out alongside optical and coaxial S/PDIF outputs

HI-FI NEWS LAB REPORT

First tested with its partnering Kandy K2 amplifier [*HFN* Apr '09] the K2 CD player still utilises the Burr-Brown PCM1798 DAC. It enjoys a wide 109dB S/N ratio, low 120psec jitter and distortion as low as 0.0007% over the top 20dB of its dynamic range. Even at 20kHz, THD is held to 0.0017% while any ultrasonic noise is suitably suppressed. The integral digital filter offers a full 99dB rejection of aliasing images while Roksan's own analogue filter stage gently rolls its response off to -0.3dB/20kHz.

The player also offers a healthy 2.24V maximum output from a usefully low 97ohm source impedance, so the K2 will not prove as interconnect-fussy as some other players in our test this month. Moreover, Roksan's board layout ensures stereo separation is a full 100dB+ from 20Hz-20kHz with a L/R channel balance that's better than 0.01dB. You'll be lucky to use an amplifier whose volume tracks better than 10x this value. Incidentally, the 'ripple' visible in the 20kHz distortion trend [see blue trace, Graph below] is entirely characteristic of the PCM1798 DAC. PM



ABOVE: Distortion versus digital signal level at 1kHz (black trace) and 20kHz (blue trace) over a full 120dB dynamic range

Maximum Output Level/Impedance	2.23Vrms / 97ohm
A-wtd S/N Ratio	109.5dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.0011% / 0.0038%
Distortion & Noise (20kHz, 0dBFS)	0.0017%
Frequency response (20Hz-20kHz)	+0.0dB to -0.37dB
Digital jitter	119psec
Resolution @ -100dB	±0.2dB
Power consumption	7W
Dimensions (WHD)	432x102x380mm

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GROUP TEST VERDICT

• AMPLIFIERS • TURNTABLES • CARTRIDGES • AM/FM TUNERS • CD PLAYERS • HEADPHONES • SPEAKERS •

Every one of the seven CD players tested here had its merits, despite being under the microscope of a full range high-end system.

It sounded a bit fruity and 'lush', but the Creek Destiny 2 is the cheapest player of the group by a considerable margin and offers good value at its price. Its warm balance means it should sound great with most budget speakers, but if your system is highly transparent you might aspire to something more neutral sounding.

Roksan's latest Kandy K2 delivers an engaging and more open sound, especially with audiophile recordings. But its idiosyncratic design won't be to everyone's taste and while the AES/EBU output might be considered a bonus I question its real usefulness, since balanced digital inputs tend to be the preserve of extremely expensive outboard DACs. If you aspire to a cost-no-object professional DAC you'll likely want to partner it with a sexier transport than a Kandy K2. Balanced analogue outputs would be much more beneficial.

THE REST...

Musical Fidelity's brand new M3CD with slot-loading drive mechanism sounded powerful and explicit with good discs. But like the Denon DCD-1510AE it can be unforgiving of compressed, over-produced recordings. Given its minimal facilities and rudimentary display it's less competitively priced than others here too, but if you like its style it's a great sounding player.

Micromega's CD-10 seems physically lightweight in comparison, but its svelte design could be judged very much of the moment and it's nice to operate, with arguably the clearest display we've seen in years. The sound is expressive and refined too. It's a touch light on bass energy

perhaps, but if fatigue-free listening is high on your list it's gratifyingly tolerant of harsh digital recordings.

Both the Naim CD5i and Denon DCD-1510AE are finely engineered players. Which appeals more will depend not just on subjective sound quality in your chosen system but in preferences regarding facilities, as they couldn't be more different.

You've probably got to *want* to own the Naim, as it offers no luxurious touches whatsoever. No digital output, no headphone socket, nothing. And

you need to feel that loading a disc should be a special event (to some extent rather like cueing up an LP on a turntable) before sitting down to enjoy listening.

By contrast, the Denon includes a useful USB input – great for iPod owners – digital outputs, a headphone amplifier and even

though it's a few pounds cheaper it retains the advantage of being able to play higher-resolution SACDs.

With regular CDs the Naim always satisfies; the Denon sounds a bit more open and transparent, but in being more ambitious can tend to highlight inadequacies in less-than-great recordings.

THE BEST?

Which brings us finally to the Marantz SA-KI Pearl Lite, trickled down from the considerably more expensive and luxurious Pearl model introduced last autumn (and limited to 500 pieces worldwide). This Lite version sounds sublime with CDs and SACDs

alike and is loaded with features including two USB inputs and digital inputs for other digital sources. It's an outstanding example of budget-priced esoterica. ☺

'It's sublime with CDs and SACDs and is loaded with features'



ABOVE: Both the Marantz SA-KI Pearl Lite and Denon DCD-1510AE offer tremendous value for budget-conscious audiophiles, and both offer two-channel SACD replay

• AMPLIFIERS • TURNTABLES • CARTRIDGES • AM/FM TUNERS • CD PLAYERS • HEADPHONES • SPEAKERS •

Electrocompaniet ECI 5 MK II (£2890)

We discover the latest revisions to the Norwegian company's long-running ECI 5 integrated make an already capable amplifier even more versatile and bombproof
 Review: **Steve Harris** Lab: **Paul Miller**

When it's writ large enough to half-fill the fascia, it's got to be a name to conjure with, as well as being reasonably long.

Fortunately, Electrocompaniet is more than just an agglomeration of 16 letters: it's a brand which earned its audiophile credentials well over 30 years ago.

Electrocompaniet's current Classic series looks forward as well as back, with products designed to be integrated into modern multichannel, multi-source systems. By the end of this year the line-up is expected to include the ECR-1 FM/DAB/internet radio tuner and the EBD-1 7.1 channel Blu-ray player.

In the spring of 2010, though, these introductions were preceded by an update of a long-established model, the ECI 5 MK II integrated amplifier reviewed here. Apart from a wider display window, it looks pretty much the same as the previous ECI 5 model, which we reviewed in October 2009. But there are major internal changes, and the company says that this is 'in many ways a brand new amplifier'.

At the same time, Electrocompaniet emphasises that all its amplifiers are still 'made in the TIM-free school based on the principles laid down in the works of Dr Otala and Dr Jan Lohstroh'.

FIRST PRINCIPLES

It was at the Audio Engineering Society Conference in March 1973 that Lohstroh and Otala presented a paper called 'An Audio Amplifier For Ultimate Quality Requirements'. This described an amplifier designed 'with particular emphasis on lack of transient intermodulation distortion (TIM)', in which 'excellent phase and amplitude linearity is obtained using low

feedback value, class A operation for most of the signal time, and a fully symmetric DC-coupled high frequency design'.

A delegate from Norway, record and broadcast producer Svein Erik Børja, was impressed. He took the paper to Per Abrahamsen, who made electronics for pro use, suggesting that he might build the 'Otala' amplifier. Abrahamsen agreed. Nils Jørgen Kjaernes of the Oslo radio company Nera was enlisted to design the circuit board. Two prototypes performed well, and Abrahamsen built a first production run of ten amplifiers.

Development continued, and according to Terje Sandstrøm, who joined Electrocompaniet in 1974, the 'golden ears' of Svein Erik Børja were a key factor.

The amp had informally been named after Otala, but after discussion with him it became 'The 2 Channel Audio Power Amplifier'. In 1976, a review in the US underground magazine *Audio Critic* called it 'the world's best sounding amplifier,' and the small company was quickly swamped with orders. With sales booming, an operation was set up in 1978 to manufacture in Scotland under the Norse Ecosse banner, but this proved short-lived.

A power output of 25W/8ohm was really too low, so a bridged version was offered, giving a mono output of around 85W. But in 1981, both were replaced by the Ampliwire II, rated at 50W, and the bridged Ampliwire I monoblock, giving 150W. More power amps followed, the 1986 AW100



RIGHT: Internal changes in the MK II include a bigger mains transformer and reservoir capacitors, and, as seen on the left, the number of output devices has been doubled



at last providing 100W/ch from a stereo chassis. This formed the basis for the first Electro integrated, the ECI 1, in 1991.

Remote control arrived in 2000 with the 70W/channel ECI 3, the first version to use a motorised volume control hidden behind the impressive acrylic fascia, with the now-familiar blue light rotating to show the volume setting, and an array of four buttons for volume control and source selection. A year later came the more powerful 120W/channel ECI 4, replaced in 2004 by the ECI 5.

LATEST CHANGES

Coming up to date, the changes in the new ECI 5 MK II seem to have been mainly intended to meet the demands of big modern speakers when driven to high levels with rock music. So the MK II has been given 'a more powerful output stage', using twice the number of output devices, and a much bigger power supply to increase current capability. This uses a new 500VA transformer, with reservoir capacitance increased to 80,000µF.

A new overload detection system dispenses with the previous output relay, avoiding the possibility of such a relay in the signal path deteriorating over time.

From the user's point of view, though, the most obvious change is in the display, which now indicates the source in very large characters, easily readable across a large room. When using the system remote handset provided, the display can be

dimmed, in four steps, but not completely turned off.

Unchanged from the previous model is the rear-panel array of six line inputs. Two of these are balanced XLR pairs, labelled CD and Tuner, while the remaining unbalanced (RCA phono) inputs include a direct HT, or Home Theatre input, bypassing the volume control. When selected, this mutes for a few seconds as a precaution against accidental overload.

It's clearly intended that you use a CD player with balanced outputs. Otherwise, you will need to use the unbalanced-to-balanced adaptors provided. To avoid using these, you can of course plug a CD player into one of the single-ended inputs, but these are labelled Tape, VCR and DVD and there is no obvious way of renaming one of them to give 'CD' in the display.

Apart from the Rec ('tape') out, there are balanced and unbalanced Pre Out connections, so an additional power amplifier can be connected for bi-amping or to power remote speakers.

Once set up, the ECI 5 MK II proved very tractable and easy to use. Although the main power switch is on the front, it's intended that in daily use you just switch off by using the remote's Mute button. I found that the remote's up/down buttons gave a pleasantly precise control of volume, and responded quickly. The blue

ABOVE: Electro's 'Diamond' control layout is unchanged from the previous model, but the display is much larger. Left and right buttons select source, the other two control volume

light which indicates the position of the volume pot behind the fascia looks really good, but of course it's not as informative as a numeric display.

NORDIC CONNECTIONS

I got down to serious listening with the suitably-Scandinavian audiophile classic, *Jazz At The Pawnshop*, recorded on analogue tape in the same year that Electrocompaniet's original 25W amp first broke into the US market. This time I was listening to one of the more recent


Pawnshop remasterings (the CD layer of Proprius PRSACD7879).

With this disc, I think the ever-fascinating audience noises can often tell you straight away whether you're going to like the sound

'The big bass drum on "God's Kingdom" was just right'

or not, even before the music starts. In this case, I felt myself thoroughly drawn into the club/pub atmosphere. And I was captivated by the music too.

For more modern jazz with a Nordic connection, I put on *Alive* [Edition Records EDN1021] from Phronesis, the trio led by the great Danish bassist Jasper Høiby. The big sound of Høiby's double-bass was fat and dominant but didn't get out of control. At the other end of the spectrum, the widely-spread sound of Ivo Neame's piano had a bright clarity at the top end that stopped short of being brittle.

Moving on to one of the great female rock vocalists, Jennifer Warnes, and one of the great opening tracks, 'First We Take Manhattan' from *Famous Blue Raincoat* [RTHCD 5052], I continued to be impressed. The ECI 5 MK II had Jennifer's voice projecting forcefully, and yet with a smooth-toned power, convincingly placed in the fairly spacious soundstage, and very expressive. Treble sounds generally 

A HIGHER PROFILE

A change of ownership in 2004 brought new life to Electrocompaniet. It is now a division of Westcontrol, a successful Norwegian electronics company which develops and manufactures electronic systems for industry and agriculture. Westcontrol has transformed Electro's profile as an international brand, setting up subsidiary distribution companies in Germany, the UK and the USA. Launching Electrocompaniet USA in 2009, Westcontrol's founder and CEO Mikal Dreggevik said 'These last few years have seen Electrocompaniet grow by more than 200 per cent, with quality distribution in more than 45 countries worldwide'. While continuing to develop the Classic range, Electrocompaniet also offers the lower-cost Prelude series, which includes amplifiers, speakers, a USB DAC and the Maestro all-in-one Blu-ray network player.

INTEGRATED AMPLIFIER

ELECTROCOMPANIET ECI 5 MKII (£2890)



ABOVE: Rear panel layout is also unchanged, with two balanced line inputs and a balanced preamp output. Unbalanced inputs include home theatre bypass

were bright enough but without exaggeration, hardness or 'sizzle'.

Next I turned to my favourite Chesky chanteuse, Marta Gomez, and *Entre Cada Palabra* [JD301]. Although I'd felt that the bottom end could have been tighter on Warnes' 'Manhattan', the ECI 5 MK II resolved the often-problematic heavy bass sound on the opening 'Maria Mulata'. And its top-end clarity was highlighted here by the way the flute solo sprang convincingly from the acoustic.

LIGHT AND AIR

On *Ultimate Mancini* [Concord SACD-1-34-6], the little discord, high up the keyboard which kicks off the beautifully re-crafted 'Pink Panther' theme was arrestingly sharp and clear, like striking a light. There was a huge stereo spread. On this recording, it's somehow not the same kind of space that you hear in the Hollywood studios of the 1950s and '60s but it's still big and impressive – at least it was here.

By contrast, there is a real and very dominant acoustic to be heard in Mitsuko Uchida's Debussy *Études* [Philips 464 698-2]. From the velvety opening notes, you could feel the life in the acoustic, and the piano still kept its singing quality even as the percussive treble sounds audibly sent their echoes around and back. The Electro did exceptionally well on this material.

On 'Easy Money' from *Rickie Lee Jones* [Warner 256 628], that double-bass intro really seemed to come to life, with perceptible 'air' around it, and Rickie Lee's vocal was also presented with a real sense of presence, from the convincing detail of her breath sounds to – again – a sense of air from the studio acoustic. I caught myself listening to the decay of the cymbal splash that illustrates 'They flipped a dime...'

and, yes, it was a commendably long time dying.

With *Get Onboard*, [Telarc CD-83675], surely one of Eric Bibb's gutsiest, most amplified albums, the Electrocompaniet certainly let loose the power of the opening 'I Am The Spirit I Am'. And the ragtimey-jugbandy 'New Beale Street Blues' was truly foot-tapping.

The ECI 5 MK II was good too on the tracks like 'Pockets', starting with just his mellow vocal and beautiful, clean-picking guitar, before the other instruments steal in quietly. Finally, I felt that the big bass drum on 'God's Kingdom' was just right: weighty and natural.

With Ry Cooder's *Bop Til You Drop* [Warner 7599-27398-2], the Electrocompaniet produced a fine wide soundstage filled with enticing detail, the solid, uncomplicated bass sound giving the music depth and weight. It was nice to hear real texture in the background vocals, and to appreciate the way Cooder can make his guitar sound like horn riffs. It was almost as if, to this sometimes clinical-sounding studio recording, the ECI 5 MK II was bringing real flesh and humanity.

HI-FI NEWS VERDICT

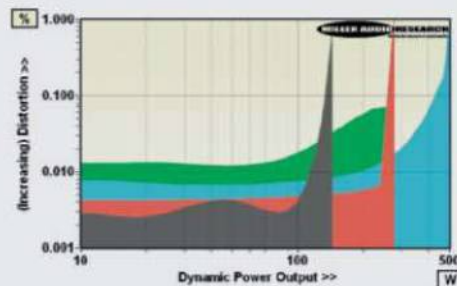
Electrocompaniet was the first to produce a commercial amplifier based on the precepts of Dr Matti Ojala, and has largely stuck to them. Other designers have long ago caught up, but with the beefed-up ECI 5 MK II, Electro strikes a commendable balance between traditional 'subjectivist' virtues and modern demands for high power and neutral sound. A fine-sounding, enjoyable product, which will inspire much affection.

Sound Quality: 80%

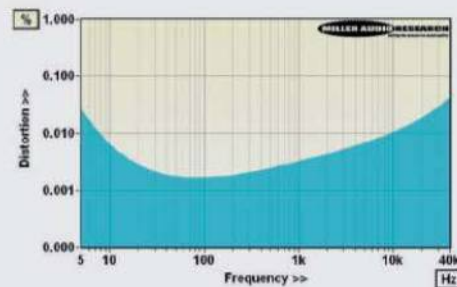


A bigger power supply and doubling of the number of output devices has conferred some real benefits to the ECI 5 MK II although these are revealed in its dynamic rather than steady-state figures. Compared directly with the original ECI 5 [HFN Oct '09] this MK II model offers almost exactly the same 2x130W/8ohm and a slightly higher 2x240W/4ohm, an increase of around 20W. It seems that the MK II PSU is far better regulated so that under dynamic conditions [see Graph 1, below] the MK II actually offers less headroom than its predecessor at 145W and 280W into 8/4ohm versus 160W and 300W, respectively. However, distortion under dynamic conditions is halved (~0.003% versus ~0.006% into 8ohm) while into lower impedances still the MK II leaps ahead with 540W versus 440W into 2ohm. So the MK II will be slightly more tolerant of difficult speaker loads despite the revised electronic protection, limiting output into 1ohm at 265W. Gain is unchanged at +27.7dB (balanced input) but the A-wtd S/N ratio is closer to 92dB rather than the MK I's 97dB (re. 0dBW) – an excellent figure nonetheless.

The high frequency characteristics of the ECI 5 have been remapped so the amp now offers a slightly lower output impedance above 20kHz even if figures of ~0.04ohm remain typical for bass and midrange. Bandwidth has been extended in tune, the old -0.4dB/20kHz response flattened-out to just -0.06dB/20kHz reaching -1.5dB/100kHz in place of -5.1dB/100kHz. As promised by Electro, this amp is still DC-coupled throughout with a response of +0.04dB at 1Hz. Which begs the question: just how low will your speakers go? PM



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



ABOVE: Distortion vs. frequency from 5Hz to 40kHz (10W/8ohm). This MK II version of the ECI 5 offers a wider bandwidth and slightly lower distortion

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	130W / 240W
Dynamic power (<1% THD, 8/4/2/1ohm)	145W / 280W / 500W / 265W
Output impedance (20Hz-20kHz)	0.039-0.070ohm
Frequency response (20Hz-100kHz)	+0.03dB to -1.5dB
Input sensitivity (for 0dBW/120W)	116mV / 1295mV
A-wtd S/N ratio (re. 0dBW/120W)	91.9dB / 112.7dB
Distortion (20Hz-20kHz)	0.0012-0.018%
Power consumption (Idle/Rated o/p)	84W/430W
Dimensions (WHD)	483x135x405mm

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Teufel Ultima 800

(£2498 + £100 shipping)

Teufel's Ultima 800 aims to be a reference at the price for this direct-to-consumer brand
Review: **Richard Stevenson** Lab: **Keith Howard**

Bristling with drivers and offering eye-watering material value for money, the Ultima 800 is Teufel's first United Kingdom foray into serious stereo loudspeakers. Having concentrated on entry-to-mid priced AV packages on these shores to date, the company's audiophile reputation rests firmly on this excitingly chunky pair of speakers.

And excitingly chunky they are too. Relatively short but weighing in at a substantial 32kg, they pack eight drivers, adjustable bass tuning and come in a gloss finish deep enough to drown in. The industrial-strength plinth bars – not shown in our pics – are rather severe and the huge metal bases are straight out of the esoteric audiophile (OK, tweaky) school of speaker design. Ball park guess at the price, sir? I would say £5000 the pair. I would be wrong.

At two and half grand plus one hundred pounds delivery the Ultima 800 is a whole lot of speaker for the outlay. The reason is that Teufel does not distribute through retailers but is a direct manufacturer-to-consumer brand [see boxout]. The advantage is that you do not have to pay a dealer margin (often +30% of the cost); the disadvantage is that you can't go anywhere to listen to these speakers before you order.

MONEY-BACK GUARANTEE

A rather risky commitment at £2600 then? Absolutely not, says Teufel. The company offers an eight week money-back guarantee allowing you to audition the speakers in your own home. Ah, but what about set-up help, servicing, spares and repairs that your retailer would normally organise? Again Teufel has this covered with on-line help functions (that were in fact out of date!); and the company backs up all of

its speakers with an industry leading 12-year guarantee.

Interestingly one of the on-line FAQs revealed something of a falling-out with Denon. It commented that Denon's AV receivers 'often do not work thoroughly' with 40ohm speakers – which is the figure Teufel quotes for the 800 and many of its designs.

ALL THOSE DRIVERS

Fully clothed with three grilles per speaker, the Ultima 800 looks purposeful if not particularly elegant in walnut finish. Front and rear grilles are mounted on old-school pop-lugs and reveal three 170mm drivers a piece. (Teufel is clearly not a brand to shy away from a 'more is more' philosophy where drivers are concerned, as its flagship THX Ultra 2 cinema speakers are seven-driver, four way D'Appolito arrays!) Each bass cone is a sandwich of rather fetching woven carbon with Rohacell filling – a closed-cell polymethacrylimide foam – for stiffness and light weight. Two of the front three drivers are active; the lower unit on the front baffle and the three rear drivers are passive radiators.

The passives are linked to what Teufel terms a bass alignment function. Using a series of additional 4mm speaker terminals pairs (with much potential for a wiring cock-up, I'd suspect), bridging out positions 1, 2 and 3 damps the bass output in steps. Maybe something got lost in translation but the Teufel manual describes the third position of greatest damping as giving 'very thin bass'. Made me chuckle...

RIGHT: An impressive array of driver hardware is fitted to a substantial cabinet with the HF and mid drivers angled back some 15° from the vertical front baffle





The midrange driver, with its smooth concave profile titanium cone, and the fabric dome tweeter are angled back some 15° on their own baffle, so fire upwards into the room. They are covered by their own small grille which, unlike the rather ugly lower grille fittings, are mounted on sub-surface magnets. Undressed, the Ultima 800 is a long way from being cosmetically chic as the driver bolts are proud and visible, and the bright silver mid cones rather stare out at you from the otherwise all-black baffle.

GETTING THINGS RIGHT

More of a concern though was how all those bass drivers were going to interact with my room. Before I had even fired them up I mounted the supplied floor protector discs on little bits of cotton material to allow sliding. However, despite looking like a stocky Rottweiler and accosting the visual senses with a plethora of drivers, a bass monster the Ultima 800 is not. It took about two nano-seconds of playing Muse's *The Resistance* before realising that any of the bass attenuation settings would be redundant in my 230 square foot room. This is a very lean and taut sounding speaker in standard fettle, majoring on the mid and upper mids with a tightly controlled and actually rather recessed bottom end.

Contrary to what I had anticipated, I found that positioning nearer to the rear wall than usual (about three feet) hit a really sweet spot with little excess bloom.

LEFT: Another trio of carbon sandwich bass cones faces rearwards, although all three of those at the rear are passive bass radiators rather than active drivers

The balance remained drier than my predilection for gizzard wobbling LF so I removed my large corner bass traps as well. This allowed the Ultimas to breathe much more deeply with a response that goes fairly low with controlled precision if not real thunder. With the bass alignment function effectively switched off (no terminals bridged) there is considerable lateral movement in all the bass drivers at high volume, rather indicating that the passives are doing more damping than boosting of the overall LF output.

The top end too is not without its quirks. The natural extension and gain of the HF unit is equally controlled and extended but like most large fabric domes the off-axis response is quite different from the linear response. With the baffle angled backwards and the speakers some 10ft from the listening position I found the on-axis response was around 5ft from the floor. Standing up, the top-end is rather hard and

feisty, slumped on my sofa the off-axis smoothing makes it a whole lot more laidback. The lean bass and smooth top end allowed mid and upper mid to really shine – so it's just as well the 800 is quite

'The detail and resolution through the mid is intoxicating'

sublime in this region.

The detail and resolution through the mid is intoxicating with a richness and texture that is largely glossed over by competing speakers at this price point. A romp through the *Best Of John Lee Hooker* played squarely to the Teufel's strengths with JLH's voice rendered articulate and remarkably realistic. His growling emotional blues and hard-plucked guitar were thrillingly edgy with a sense that he could be playing on your porch. The 'live' 

WHO IS TEUFEL?

Teufel was founded in 1979 in Berlin as a retail store for self-build loudspeaker kits. These were very successful in the German hi-fi press and more Teufel stores opened, reaching over 230 outlets across Germany by the mid 1980s. By 1990 Teufel had moved from kit supplier to fully fledged speaker manufacturer. In an effort to reduce the cost to consumers the company began to dismantle its specialist dealer base and set up a direct mail order business. The immediate effect was to reduce the price of its entire speaker range by up to 66%. Unsurprisingly this retailer-less model was a great success and allowed a rapid expansion of the product range, including Teufel's first multichannel Dolby Surround speaker system, the Theatre 2, in 1995. Teufel shifted its attention to AV speakers, becoming Germany's first THX licensed manufacturer in the late '90s and unveiling a comprehensive raft of multichannel speaker packages for another ten years. By 2005 Teufel realised there were audiophiles outside of Germany and expanded its mail order business to include the UK in 2008.

LOUDSPEAKER



ABOVE: Single-wire binding posts are complemented by Teufel's bass alignment terminals that damp LF output depending upon which pair are bridged

effect was further enhanced by the smoothed, off-axis treble's limiting the hiss on this 1962 compilation.

The bare hand-beat through 'Louise' was well timed and intimately linked to the song whereas some speakers can make it sound rather detached. The transient slap of his fingers was fast and immediate but the resounding bass of the actual beat rather too shallow. While not a major foible, I did find this robbed the music of some of the foot-tapping, head-bobbing quality that Hooker nailed throughout his illustrious career.

YET MORE ROOM MOVES

Switching to rock music, from '70s classics to Muse's current epic album, really doesn't find the Ultima at its best – it's simply too lean, with the bottom end and the forward midband too prominent and too polished to get down and dirty. Moving the speaker further back towards the rear wall resulted in increased LF response but thickening of the entire lower registers. Moving them into the room lessened the LF further and hardened the mid and upper frequencies with proximity to the listening position.

Sliding the Ultimas about, it occurred to me that they are far more akin to a good standmount speaker than a big floorstander. And if that were the case I would have glossed over the lack of bottom end grunt and simply revelled in their alacrity and poise instead.

Which, if nothing else, seemed like a good excuse to stop heaving 32kg speakers all over the place and chill out with some Lisa Cuthbert.

The title track from *Obstacles* is a beautiful melancholic track with spacey multi-track vocal and genteel keyboards that finds the Ultima 800s at their very best. Cuthbert's voice soars and wanes with detailed expression and emotion that only a few speakers at this price manage to reveal. The upper reaches of her voice were presented with razor precision and a slightly glassy edge that in itself was tamed by the off-axis HF response. Standing up revealed a more dramatic and rather harder top-end balance with greater projection but the 'seated' presentation simply gelled with the track's more mellifluous style. 🎧

HI-FI NEWS VERDICT

Direct-to-consumer sales, superb build and enough drivers for an F1 grid give the Ultima 800 unrivalled value for money. Its lean bass and hard top end don't have the raw energy for serious rock fun, but the incredible articulation throughout the midband make for a speaker that excels with vocal-centric and light classical music. Not exactly an all-rounder but certainly worth an eight-week audition at home.

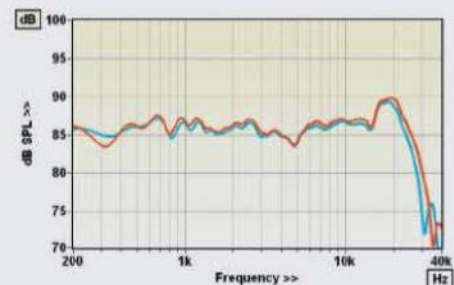
Sound Quality: 67%



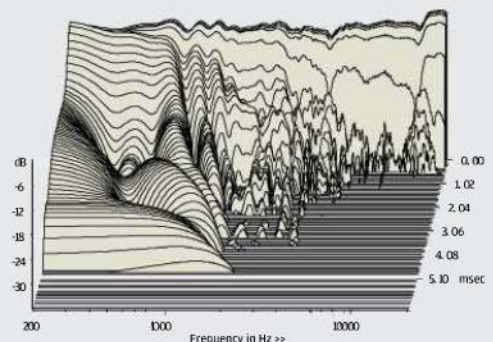
TEUFEL ULTIMA 800 (E2498)

Teufel claims 86dB sensitivity for the Ultima 800, a figure which accords well with our measurement of 86.2dB on pink noise. Given that this is a relatively low sensitivity for today's breed of reflex-loaded floorstanders (to be accurate, the 800 uses ABRs rather than reflex ports but the benefits are much the same) it's a little disappointing that the Ultima still has low impedance, the measured minimum modulus of 3.3ohm at 610Hz according well with the 4ohm nominal rating. Impedance phase angles are modest, though, resulting in a minimum EPDR (equivalent peak dissipation resistance) of 1.8ohm at 838Hz, so the 800 is not too challenging to drive.

On-axis frequency responses, measured on the tweeter axis [see Graph 1, below], are commendably flat up to about 15kHz, above which a hump in output contributes significantly to the ± 3.2 dB and ± 2.9 dB response errors, 200Hz-20kHz. But for that hump the response figures would be truly impressive, as is the ± 0.7 dB pair matching, measured from 400Hz up on this occasion. Following the treble hump the response rolls off rapidly at ultrasonic frequencies to be -6 dB/30kHz (re. 10kHz). At the other frequency extreme, diffraction-corrected near-field measurement showed the response to be a modest -6 dB/47Hz (re. 200Hz) but all that bass radiating area does ensure low distortion at 100Hz, with 0.4% THD recorded for 90dB sound pressure level at 1m. The cumulative spectral decay waterfall [see Graph 2, below], shows fast decay in the extreme treble but what look to be midrange driver breakup modes between 1kHz and 7kHz. KH



ABOVE: Through midrange and lower treble the 800's pair matching and response flatness is excellent. A hump in output dominates the high treble



ABOVE: Low distortion through the bass and a clean treble but breakup modes are evident in the midrange

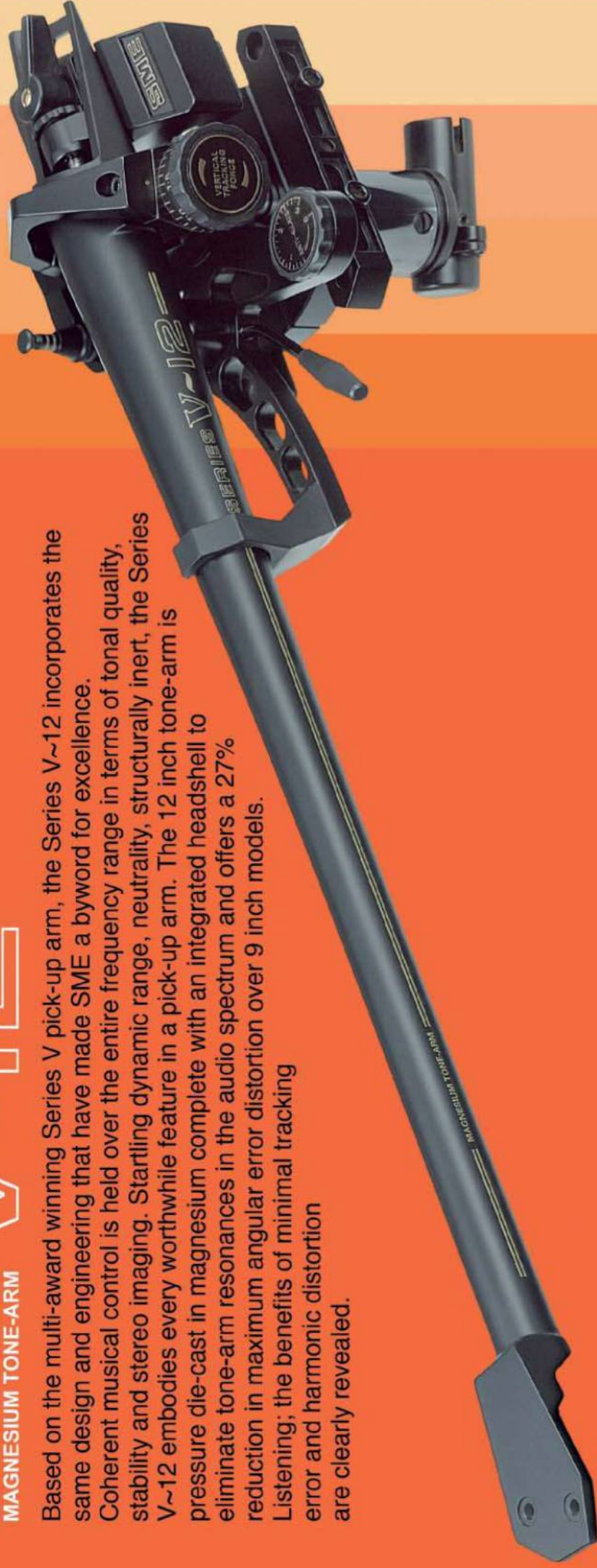
HI-FI NEWS SPECIFICATIONS

Sensitivity (SPL/1m/2.83Vrms – Mean/IEC/Music)	87.1dB/86.2dB/85.9dB
Impedance modulus min/max (20Hz–20kHz)	3.3ohm @ 610Hz 11.8ohm @ 2.4kHz
Impedance phase min/max (20Hz–20kHz)	-17° @ 38Hz 44° @ 1.3kHz
Pair matching (200Hz–20kHz)	± 0.7 dB
LF/HF extension (-6 dB ref 200Hz/10kHz)	47Hz / 29.9kHz/27.7kHz
THD 100Hz/1kHz/10kHz (for 90dB SPL/1m)	0.4% / 0.2% / 0.3%
Dimensions (HWD)	980x200x374mm

SERIES V~12

MAGNESIUM TONE-ARM

Based on the multi-award winning Series V pick-up arm, the Series V~12 incorporates the same design and engineering that have made SME a byword for excellence. Coherent musical control is held over the entire frequency range in terms of tonal quality, stability and stereo imaging. Startling dynamic range, neutrality, structurally inert, the Series V~12 embodies every worthwhile feature in a pick-up arm. The 12 inch tone-arm is pressure die-cast in magnesium complete with an integrated headshell to eliminate tone-arm resonances in the audio spectrum and offers a 27% reduction in maximum angular error distortion over 9 inch models. Listening; the benefits of minimal tracking error and harmonic distortion are clearly revealed.



SME

“The best pick-up arm in the world”

TrilogY 907 (£1795)

Hot on the heels of Nagra's similarly-styled, ultra-compact BPS phono stage, comes a UK-made alternative with massive outboard power supply, from TrilogY

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

No-one would accuse you of cynicism nor of Forrest Gump-like imbecility if you said out loud, 'Looks like phono stages now out-number the customers'. I, for one, am at a loss to understand why they keep arriving, but I'm glad this one did: I've always gotten on well with TrilogY equipment, and I'm partial to components that feel like they were made by a watch house such as Panerai.

The TrilogY 907 is so superbly put together that I was glad the Editor asked me to take it apart for photography. Otherwise, I'd never have guessed that it was machined out of a solid billet of aluminium. At 150x38x235mm (whd), and with a made-to-hide-away outboard supply sharing the same footprint but with a height of 57mm, the 907 is no burden size-wise. The only demands made by TrilogY are the need to separate the two by at least 250mm, and to allow for ventilation.

The TrilogY 907 elicited sighs of admiration from a brace of watch-loving audiophiles to whom it was shown, confirming that the initial impression – always the most important in life, love or the pursuit of audio bliss – was wholly positive. And when the main chassis was flipped over to reveal easily-accessed, sealed-for-longevity-and-reliability DIP switches, the two LP-lovers were rendered even more pro-907.

SWITCHED ON

Aside from the DIPs, the 907 is as minimalist as one can imagine. You connect the phono stage via its captive lead with four-pin plug to the outboard power supply, which in turn accepts AC power from a cable with an IEC three-pin connector. Turntables are connected through standard RCA phono sockets of the solid, gilded variety, and output to a

RIGHT: This beauty is machined from a solid billet, with its cavities milled to contain each of the three PCBs. Multiple DIP switches enable cartridge matching

preamplifier's line input is courtesy of the same. A small screw terminal for earthing completes the connections.

You'll notice no mention of an on/off switch. TrilogY recommends leaving it on at all times, provided you don't consider its 10W power consumption too excessive. It reaches optimum performance after 15-30 minutes, and never struck me as running uncomfortably hot, but *some* people might balk at never switching it off.

On the underside, accessed through four cutouts, are DIP switches for separate left-and-right channel fine-tuning. The two smaller blocks with two switches apiece deal with gain in levels of 50dB, 64dB or 70dB – which correspond to MM cartridges with 3-5mV output, and MC cartridges either with 0.7-1.5mV or 0.25-0.7mV. The two larger blocks, each with six switches, allocate four to deal with resistance and two to deal with capacitance.

While I'm absolutely certain someone out there has a cartridge that the 907 simply won't accommodate, it would have to be something *outré* indeed. The capacitance switches provide the four settings of 100pF, 200pF, 320pF and 420pF, while the resistance DIPs cover nine values between 70ohm and

47kohm. Far be it for me to make TrilogY boss Nic Poulson's life more complicated, but I'm certain that he could, for a suitable fee, make a 907 with, say, a 68kohm setting for Decca militants, or 1 or 2ohm impedance for certain low-output Japanese MC rarities.

Once powered up, a red light on the fascia shows it's on, as does the downward glow of blue lights. They're not just pretty: the glow comes from the 907's constant current sources, indicating that the Class A shunt regulators on the main board are operating correctly. The phono stage circuitry occupies separate PCBs for the left and right channels, nestling, like the main board, in niches machined out of the solid metal block.

GETTING OVER THE HUMP

We take great pains to ensure that the lab tests do not influence subjective assessments, but on this occasion the Ed's results led to some steering of my choice of arm and cartridge. It emerged that TrilogY uses a servo for DC correction and to provide a low frequency roll-off, albeit with a 20Hz bass peak [see Lab Report]. As arm/cartridge combinations with a resonance frequency in this region might excite





it, I was advised to find pairings that sounded off around or below 15Hz.

Throwing caution to the wind, I used both the classic Linn combination of Ekos and Arkiv on an LP12 as well as the 12in SME Series V-12 on the SME 20/12 with a wide selection of cartridges, and found nothing untoward. I repeat: *nothing*. Measurements might have suggested the potential for hellfire and brimstone, a plague of locusts and the death of my favourite LPs. Rather, I learned instead that tonearms, cartridges and the LPs themselves are far more forgiving than God and even Michael Fremer might ever entertain. For the record – no pun intended – I used MMs from Ortofon and Shure, and MCs from Koetsu, Clearaudio, Transfiguration and Blue Angel.

STONED OUT

No, I didn't dig out any Doobie Brothers vinyl. My regime of titles, auditioned over a period of a week to let the LPs 'rest' when undergoing playback via five cartridges, included the new Nat 'King' Cole treasures from Acoustic Sounds, *All American Boy* by the criminally underrated Rick Derringer, Keb' Mo's *Peace... Back By Popular Demand*, *Ode To Billie Joe* by Bobbie Gentry, some Gram Parsons and Burritos, and

'A fullness, a richness belied a wholly solid-state step-up'

an original pressing, rather than the controversial reissue, of the Rolling Stones' *Get Yer Ya-Yas Out* for a heady whiff of live raunch.

It was the indisputably salacious guitar work on 'Midnight Rambler' that dealt with one overriding concern: can a product rock? Or, indeed, roll? There's a skill at delivering the nasty, edgy, biting, primal, indisputably sexual tenor of Keith Richards' rhythm guitarwork. One thing in particular about that recording, which I noted 40 years ago, and expect to

savour four decades on, is a distinctive ring to his chords, a curious quasi-muffled effect that surely must have been sampled by wannabee Keefs. It needs power and attitude, but there's

also much finesse required to keep the harmonics in place.

With a slight leaning toward the higher output MCs, the 907 grappled with The Stones with exactly the right amount of coarse disregard for politesse. A fullness, a richness belied a wholly solid-state step-up, attesting to Poulson's passion for tube glow and warmth. It's as if he voiced the 907 to fatten up the sound just so – in the way a Jewish or Italian mamma would want to feed Gwyneth Paltrow. And nothing better illustrated this capacity for power and

ABOVE: Discreet styling for phono stage and (more basic) the remote PSU; finishes are natural or black

mass than the relentlessness of Rick Derringer, from his solo debut only a couple of years post-*Ya-Yas*.

One of the great lost LPs, *All American Boy* contains a couple of minor classics that excel at tickling the transient capabilities of a system. The whucka-whucka guitar effects in 'Rock'n'Roll Hoochie-Coo' – arguably superior even to the incendiary version by Johnny Winter – create a stop-start staccato barrage that favours tight-as-a-mouthful-of-alum lower midband behaviour. You want to hear the air when the silences punctuate the muted chords. Via the 907, they seem suspended before you, distanced from the system itself, the way that hardware *should* disappear. If only the hologrammatic worth of a 3D film were as convincing.

LIQUID REFRESHMENT

Moving to guitar sounds with more melodic characteristics, specifically the bottleneck playing of Keb' Mo', the 907 was able to abandon rasp and grit for sheer liquidity. 'Slithery' ain't the same as raucous, and blessed is the sound system that treats the two as equals. The fluid personality of a Dobro, as well as that of pedal steel on the Parsons-related material, enables the listener to hear purity devoid even of the wanted, positive distortion of hard rock. Any misbehaviour won't merely be apparent. It will be aching, painfully, teeth-grittingly in your face. Or ears.

Such intrusions never occurred. Perhaps the cartridge set-up was as ear-perfect as I had hoped, and tracing distortion was completely absent. Maybe the records were in a perfect state. Or was it simply that the 907 never troubled the signal with noise, compression nor any haze to upset the transparency not quite so essential to, say, The Stones' live classic? Whatever the truth, the 907 was

APPLIED TECHNOLOGIES

TrilogY Audio Systems, back after a decade 'on hold' with a new range of valve products, is the sister company to Isol-8, which produces a comprehensive selection of mains line conditioners and AC adaptors. The brain-children of ex-BBC employee Nic Poulson, both are divisions of the parent brand, Isol-8 Technologies Ltd. Nic's plans are simple: he intends to use whichever is the appropriate technology – in the case of the 907, solid-state, though his heart belongs to valves – to create modern components that offer both the sonic qualities demanded of audiophiles, with the fit, finish and styling necessary to appeal to modern standards. Expect to see, over the next few years, the 992 'baby monos' 80W monoblock power amplifiers in the same 'half-width' chassis as the 907, a Class A headphone amp and 908 remote-control line stage.



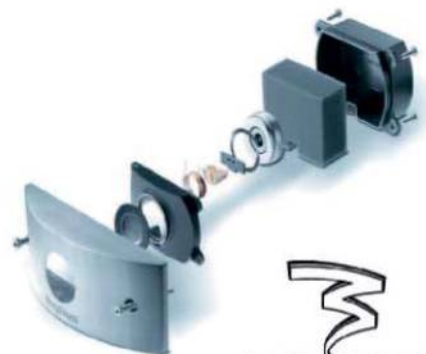
Electra 1000Be 2 - small details, great effects.

How do you improve a range that has been as successful as the Electra 1000Be? These, after-all are the speakers that brought the benefits of beryllium to the audiophile masses.

With over 30 years of expertise in loudspeaker and drive unit design, Focal have always been aware that attention to detail is paramount, and a fine example of that resolve is here in the new tweeter diaphragm of the 1000Be 2. Only 2 millimetres larger, and artfully re-profiled, this remarkable dome (identical to that used in our flagship Grande Utopia) is a large contributor to the greatly improved performance.

Simply put, you'll hear more music, and less loudspeaker. And for movie fans, the matching centre, subwoofer and surround speakers provide a cinematic revelation - every nuance that the producers intended. Focal Electra 1000Be 2. Experience every emotion.

Available in three standard finishes - *Champagne* (pictured), *Basalt* and *Slate Grey*.

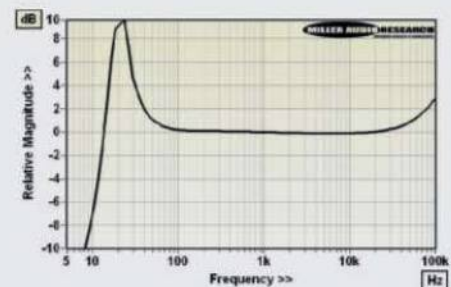


FOCAL
The Spirit of Sound

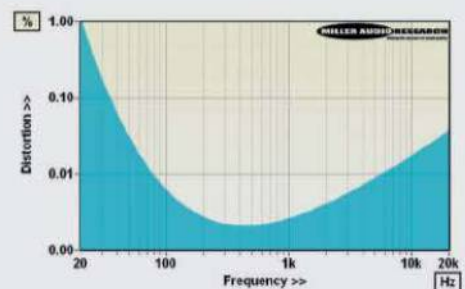
TRILOGY 907 (£1795)

The three gain settings of +49.4dB (MM), +64.3dB (MC) and +71.5dB (MC) are very close to Trilogy's specification and, together with the user-configurable input loading (47kohm-70ohm) and capacitance (420-100pF), makes for a very flexible solution. The 907 also offers a very high 13V maximum output level from a usefully low 170ohm source impedance and shouldn't prove too fussy over your choice of amplifier interconnect. The input overload margins are not especially generous but acceptable, the MM stage reaching 1% THD at 46mV (+19.3dB over a standard 5mV input). The medium-gain MC option is good for 8.5mV while the high-gain MC stage clips at 3.6mV. Distortion is very low at ~0.002-0.04% from 200Hz-20kHz but increases at low bass frequencies, reaching a full 1.65% at 20Hz [see Graph 2, below].

Hum is very low at -69dBV but there's some white noise that puts the 907 at a 10dB-or-so disadvantage to the Moons and Lehmanns with its 82dB A-wtd S/N ratio (MM input). Nevertheless, this and the 77dB achieved via the medium-gain MC input are still superior to the practical S/N ratio of a typical vinyl LP/turntable combo. Finally while Trilogy suggests its RIAA accuracy is within ±0.25dB between 20Hz-20kHz, our two samples both had a response rises below 50Hz, peaking at +9.6dB/20Hz but falling away to -6.5dB/10Hz [see Graph 1, below]. If you own reflex-loaded speakers then your system's arm/cartridge resonance should ideally be tuned lower than 15Hz! Readers may view a QC Suite test report for Trilogy's 907 phono amp by navigating to www.hifinews.co.uk and clicking on the red 'Download' button. PM



ABOVE: RIAA corrected frequency response from 5Hz-100kHz. Note +10dB bass peak at 20Hz followed by steep subsonic bass roll-off



ABOVE: Distortion versus frequency (MM input). The steep increase in THD mirrors bass peak [see Graph 1]

HI-FI NEWS SPECIFICATIONS

Input loading (MM & MC)	70ohm-47kohm / 100-420pF
Input sensitivity (MM/MC/MC re. 0dBV)	3.4mV / 0.61mV / 0.27mV
Input overload (MM/MC/MC)	46mV / 8.5mV / 3.6mV
Maximum output (re. 1% THD)	13V (170ohm o/p impedance)
A-wtd S/N ratio (MM/MC)	82.2dB / 76.9dB
Frequency response (20Hz-20kHz)	+9.6dB to -0.11dB
Distortion (20Hz-20kHz, re. 0dBV)	0.0021-1.65%
Power consumption	12W
Dimensions (WHD: 907 / PSU)	150x38x235 / 132x57x225mm



ABOVE: Connections reminiscent of Nagra: just phono-in, phono-out and earth tag on main chassis. PSU accepts a captive lead from the phono stage via multi-pin connector, and mains via IEC three-pin plug

emerging as a multi-personality device, but not in the pejorative sense of a schizophrenic. More aptly, it behaved like a sonic chameleon, rising to the occasion.

After all, it's quite a stretch from Derringer to Nat 'King' Cole, from a hard rocker with his roots in the McCoys and a stint with Winter, to the smoothest, coolest, mellowest vocalist of the last 70 years. It's enough that Cole's voice was a unique instrument, with its ineffable tunefulness allied to a smoky, velvety character that Heston Blumenthal would murder for if he could replicate it as a taste and aroma. The oenophile in me wants to talk about hickory smoke and Valrhona 70 percent bitter chocolate and last night's glass of Magari '07 after the air opened it up, but then, you'd probably throw this magazine down in disgust.

But believe this: you can approach Cole as you would a fine wine, or the kind of foie gras that makes you forget about the poor duck, or that sour-yet-nutty, lingering aftertaste from a piece of real rye bread that supported peppery pastrami. It then leads you to marvel at how his inimitable voice and content can touch you after a half-century or more, with an intimacy for which the 907 might take credit. After all, the phono stage provides the very point where a fragile signal is first amplified.

For many, especially listeners who care more about tonal accuracy than spatial concerns, such might be enough. You may be one who sits off-axis, or who reads with the music playing. Or, I suspect, you may sit there with no distractions allowed to haunt your reverie. But even a conscious denial of the role of three-dimensionality in a two-channel

context will be threatened by the sheer scale and location of the orchestra behind Cole at his legendary sessions for Capitol in the late 1950s and early 1960s. You've heard it to death, but nothing can prepare you for Cole's delivery of 'Stardust' when it appears to hover in space in your listening/living room.

CONSISTENT

No, the 907 does not have quite the 'bloom' of the Audio Research, nor the panoramic stage width of the Sunilda. While I didn't have them side-by-side, I suspect that the Nagra BPS is a trace faster and may be even a bit more fastidious with the handling of the lowest level details. Its bass is a tad drier than either the AudioValve's or the PH5's. But the 907 joins their company for something just as meritorious as a single stellar trait: it is consistent from cartridge, genre to genre, era to era. And its price is certainly to the south of whatever demarcation point separates the sanely priced from the offensive. For all of its sonic merit and flexibility, the 907 may even be considered a bargain. ☺

HI-FI NEWS VERDICT

Despite the issue with the circa-20Hz performance of the review sample, which I was unable to agitate, I fell in love with the 907. It was a combination of the sound, the levels of adjustability for matching a wide range of cartridges, sublime build quality, faultless looks and tiny dimensions. Its main rival is Nagra's delicious BPS, each has its strengths so I'd advise vinyl-loving enthusiasts to audition both.

Sound Quality: 80%



Micromega FM-10 (£698)

Thanks to a government rethink, it's safe to buy an FM tuner again, and here's one that's dashing slim, neat and easy to use. So how well does it perform?

Review: **Steve Harris** Lab: **Paul Miller**



Back in March 2010, when we tested Micromega's slimline CD-30 player and IA-180 integrated amp, you'd probably have thought we would be wasting space had we also reviewed the French brand's matching FM tuner. At that time it seemed that the British Government was determined to end national FM broadcasting in 2015; but with the Coalition came, not so much a U-turn, more a realistic and timely reappraisal. It was acknowledged that it might take much longer before the criteria for switching off FM – DAB coverage to match that of FM, and a majority of listeners *already* using DAB – could be met [see News, *HFN* Oct '10].

This reprieve for FM was greeted with sighs of joy and relief from radio

listeners all around the country. Except, perhaps, from those already lured by the Radio Amnesty 'scrappage' scheme into trading-in a perfectly good FM radio in exchange for a small discount on a new DAB one. Assuming you aren't one of that

unfortunate few, you might now be ready to consider buying a new FM tuner. And why not one from France: as yet untroubled by any serious move towards switching-off FM?

'The Micromega was rather laidback, even diffident'

SOMETHING OF A PEDIGREE

Micromega's FM-10 is descended from the Micromega Tuner launched in 1995, which designer Daniel Schar says was 'really special', and used an A/D and D/A converter to remove the 19kHz pilot tone and 38kHz carrier. Lacking this feature, but otherwise generally similar, was the later Minium

ABOVE: A readable display, simple controls and user-friendly tuning knob make this FM-only tuner easy and pleasant to use

FM; and the FM-10 is the smarter, slicker successor to that model.

For manual tuning, the central rotary knob will reel pleasantly across the FM band from 87.5MHz to 108MHz in about three turns, with a light click felt for each 0.5MHz step. The large and sensibly-readable display then shows 'FM' and the frequency, with a symbol in between indicating stereo.

A press on the leftmost of the six buttons will select preset tuning instead, the tuning knob now scrolling through the 50 preset memory positions, while the display shows the preset number (from 'P01' to 'P50') instead of 'FM'.

Or you can search the FM band for stations automatically, by pressing the Scanning button. Having found a wanted station, you can turn the tuning knob to choose a preset number, from 1 to 50, then press Memory to store it as a preset.

Pressing the next button selects Mono, confirmed by the deletion of the stereo symbol from the display.

After this comes Mode, which allows you to choose a lowered sensitivity for Cable reception, or to turn RDS on and off. One press will bring up, for example, the word 'Antenna' for two seconds, during which time a press on the adjacent Standby button will change the setting to 'Cable'. A double press displays the signal strength, as 'Level 7' or 'Level 9', etc.

A BRAND NEW CHAMPION

Micromega was founded in 1987, and by the early 1990s had built a reputation for its musical-sounding CD players. Later, though, the company's reliance on a single supplier proved its undoing, when there was a major reliability problem with the transport mechanism used in its players. It turned out that the factory was lubricating the moving parts with the wrong grease, which would congeal and stop the mechanism working after a few months. Dealing with this service problem put an impossible financial burden on the small company, and it eventually succumbed. But at the start of 2007 the Micromega brand re-emerged, seemingly stronger than ever. There was an enthusiastic new owner, the champion motorcycle racer Didier Hamdi, while Micromega's former chief Daniel Schar was happily still in charge of research and development.

MICROMEGA FM-10 (£698)

Right at the outset, I am bound to say that if you live in a poor reception area or are relying on a T-wire indoor aerial then the FM-10 is unlikely to give of its best. I tested two samples by way of confirmation and if these are illustrative of the design then it appears the FM-10 requires a full 42dBµV to fully break out of muting, making it about 10x less sensitive than the 'typical' modern FM tuner. Our second sample had a more gradual muting characteristic and offered a useable S/N ratio at lower RF levels (~36dB for 25dBµV). Supplied a decent signal in the order of 1mV (60dBµV), this tuner offers very low levels of harmonic distortion, typically <0.2% across the entire audio range [see Graph 2, below] with a perfectly acceptable 65dB suppression of the 19kHz pilot tone.

The pilot notch is evident from the FM-10's frequency response [see Graph 1, below] which falls gently away above 1kHz to reach -1.7dB/10kHz before dropping rapidly at 17kHz and above. In the days of cassette recording it was vital to prevent the ingress of pilot and subcarrier tones which might otherwise interact with the tape bias signal. Used purely as a source of off-air music, modern tuners do not require such aggressive filtering and typically sound better as a result. At full modulation, the FM-10 offers a usefully high 1.3V output (about 3.7dB below that of the average CD player) from a 465ohm source impedance. Finally, a word about power consumption which is low at 6W but absolutely no lower in 'standby' mode which appears to do little more than mute the display.

Readers may view a QC Suite test report for the Micromega FM-10 stereo tuner by navigating to www.hifinews.co.uk and clicking on the red 'Download' button. PM



ABOVE: Rear panel has only the usual 75ohm aerial input and phono outputs plus power socket and switch. The many-buttoned remote will control a complete Micromega system

Pressing Mode three times will reveal 'RDS On' or 'RDS Off', and again the setting is toggled by quickly pressing Standby. With RDS On, the 'FM' and frequency indication disappear from the display after a few seconds, to be replaced by the RDS station name, if available. This is an elegant solution, but there might be moments when you'd wish you could see both at once.

All controls are duplicated on Micromega's alarmingly multi-buttoned system-remote handset, which of course can also control other Micromega components.

SURE-FOOTED

I tried the FM-10 in several systems, using it both with the simple indoor aerial supplied and with a decent outdoor aerial. With the former, in my Surrey location, it was immediately obvious that the Micromega was less sensitive than any of the other tuners I'd tried recently. It would sound noisy on stations that were subjectively noise-free on other models.

But given enough signal, via the outdoor aerial, the Micromega sounded fine. It was certainly a pleasant sound, with good levels of detail and quite good imaging.

It's hard to make direct comparisons of tuner models because the broadcast content is ever-changing. However, BBC Radio 3 live broadcasts provide a high-quality source and, at least with chamber music, the musical content is also usually consistent enough over time to allow fair switched comparisons between tuners.

So, one Monday lunchtime, we tuned in to Radio 3's live Wigmore Hall recital, with soprano Solle Isokoski and pianist Marita Viitasala in songs by Schumann, Duparc and Kuula. On hand for immediate comparison was the Creek Destiny, which performed well in our September 2010 group test.

Compared with the notably weighty Creek, the Micromega sounded rather lightweight in the bass, and although it gave a pleasing image spread, it couldn't match the impressively layered depth effect that the Creek could give. In that Wigmore Hall recital, the Creek presented a convincingly three-dimensional image of the piano and a tangible, flesh-and-blood soprano. The Micromega was rather laidback, even diffident by comparison.

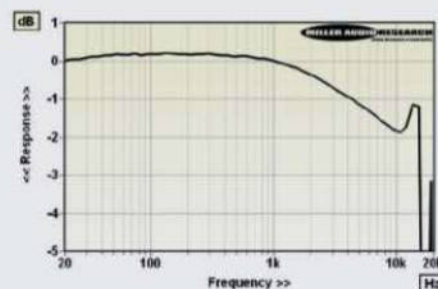
Yet the Micromega, perhaps unlike the admittedly more dynamic-sounding Creek, had no tendency to take on a tinge of stridency. It was not to be tripped up by complex music and could sound acceptable on poorer-quality broadcasts with a lot of compression. It didn't really put a foot wrong.

And the FM-10 delivered a smoother, more detailed and seemingly low-distortion sound than most mid-price tuners can manage. It was free of that rather dry, brittle and uninviting quality which characterises many of those, instead giving a subtly rounded yet well-detailed sound, which proved easy on the ear. ☺

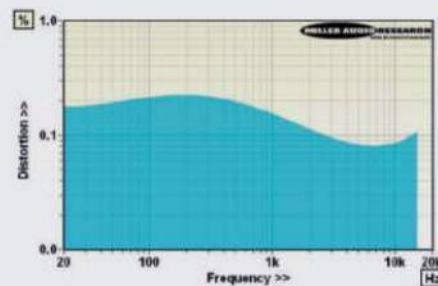
HI-FI NEWS VERDICT

With a style and character of its own, individualistic without being quirky, the FM-10 also scores fairly well on sound quality. Its lower-than-average sensitivity won't be an issue if you have a good outdoor aerial, but it may well be otherwise, depending on location. This, and the lack of AM, means it must be marked down on value for money, though it will serve well if you like the rest of the Micromega system.

Sound Quality: 70%



ABOVE: FM frequency response showing a slight peak before its steep pilot tone filter takes hold



ABOVE: Distortion versus frequency from 20Hz-16kHz at 60dBµV (1mV RF at 75% modulation)

HI-FI NEWS SPECIFICATIONS

Maximum output level/Impedance	1.32V / 465ohm
Muting threshold/Sensitivity (65dB SN)	125µV / 1.1mV
Distortion vs frequency (20Hz-16kHz)	0.08 to 0.22%
Pilot/Subcarrier suppression	65dB / 68dB
Ultimate A-wtd S/N ratio (75% mod)	63.5dB
Frequency response (20Hz-15kHz)	+0.2dB to -1.0dB
Stereo separation (1kHz)	40dB
Power consumption	6W
Dimensions (WHD)	430x70x250mm

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HRT Music Streamer Pro (£475)

Thanks to plug 'n' play simplicity and a small form factor, HRT's USB-powered external DACs provide an elegant solution for high quality audio playback from PC or Mac
 Review: **John Bamford** Lab: **Paul Miller**

Regular readers may recall the original Music Streamer USB DAC featured in these pages [see *HFN* April '09]. West coast of America hi-fi industry stalwarts Kevin Halverson of Muse Electronics and Michael Hobson of Classic Records announced their collaboration in founding High Resolution Technologies (HRT) at 2009's Consumer Electronics Show (CES) in Las Vegas.

Since then its Music Streamer DACs have evolved to Mk II status and there are now three models on offer: the Music Streamer II (£145), Music Streamer II+ (£329) and this top-of-the-range Music Streamer Pro with balanced outputs.

While limited to CD resolution, the original Music Streamer was excellent value and sounded surprisingly good. These days when visiting friends for a music listening evening my CDs tend to stay at home. With literally hundreds of lossless music files on my laptop and HRT's Music Streamer in my pocket, we're up and running within the time it takes the laptop to boot up.

Externally little appears to have changed, but under the skin HRT's Music Streamers have been upgraded significantly. Rather than using the adaptive USB audio mode commonly found in DACs, CD players and amplifiers sporting convenient USB inputs – whereby



ABOVE: The Music Streamer Pro connects to your preamp via mini-XLR sockets. Its USB input resides at the other end of the case

clock timing for the DAC is derived from the computer – they now employ more sophisticated asynchronous USB protocols that 'instruct' the computer when to send data packets. Importantly, HRT's Streamers now support playback of hi-res 24-bit/96kHz files too.



REAL DEAL

OK, so the prices have increased considerably, but even when listening without

'The rattle of the drum kit's snare was most explicit'

a balanced connection (using mini USB-to-RCA adaptors made by Cardas) this 'Pro' model sounded tremendous. Instrumental timbre was much more 'real', the Music Streamer Pro reproducing the rich texture of acoustic bass on Diana Krall's 'My Love Is' from *Love Scenes* [Impulse IMP12342], while rendering convincingly the human quality of Diana's voice.

Switching to the Streamer Pro there is also more air and ambience than the 'old' Streamer, with better resolution of reverberation clues to indicate the size of the recording venue. It's noticeably more open and dynamic too, 'So Real' from Jeff Buckley's classic *Grace* album [Sony 4759285] sounding bold and colourful. The click of the plectrum on guitar strings and the rattle of the drum kit's

snare were most explicit, with deep and powerful bass helping recreate the drama of the performance with striking intensity.

With an ASIO driver installed in my laptop to bypass the sample rate conversion and high latency of Windows' audio mixing kernel ('KMixer'), I've been using Media Monkey as a software player for the past couple of years, preferring its user interface to Foobar 2000. Frankly I couldn't hear any difference in sound quality between the two players. But such is the resolution of this Music Streamer Pro that I now have to concur with audiophile friends who've been telling me for ages that Foobar 2000 sounds slightly better! ☺

HI-FI NEWS VERDICT

There is no simpler way of getting high quality audio out of a computer and into a line input of an amp – and sound quality is top-notch. Moreover, if your music is on a laptop HRT's USB-powered DACs are small enough to travel with you. On paper the less expensive Streamer II+ has the same specifications as this 'Pro' version, offering a considerable cost saving if you don't require the luxury of balanced outputs.

Sound Quality: 80%



HI-FI NEWS SPECIFICATIONS

Maximum Output Level/Impedance	2.22Vrms / 98ohm
A-wtd S/N Ratio (re. 0dBFS)	108.0dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.005% / 0.0017%
Distortion (20kHz, 0dBFS)	0.15%
Frequency response (20Hz-20kHz)	+0.0dB to -0.55dB (48kHz Fs)
Digital jitter (24-bit/48kHz)	43psec
Resolution @ -90dB	±0.2dB
Power consumption	From USB hub
Dimensions (WHD)	540x30x143mm



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weiss

Weiss DAC202 – the ultimate in swiss engineering?

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The DAC202 is a reference class Firewire D/A Converter with a IR remote control for volume control, absolute phase and input source selection. The DAC202 is the latest innovation from Weiss and when connected to a PC or Mac via firewire presents a formidable solution to high-end lossless audio playback. Doubling as a pre-amp also this unit offers the highest performance and flexibility all in one very neat chassis.

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Vinyl Frontier

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

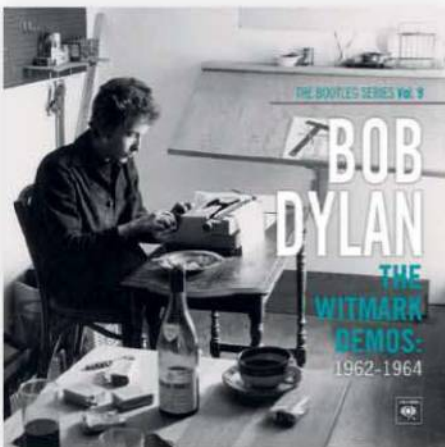
Some 2880g of Hendrix (not counting sleeves) and two hefty boxes of Dylan, **Chris Heard**'s shelves are groaning under the strain, and there's more to join the collection

Some of classic rock's biggest guns are wheeled out this month, with new vinyl releases from such legends as Jimi Hendrix, Bob Dylan, Neil Young and Robert Plant all vying for your attention.

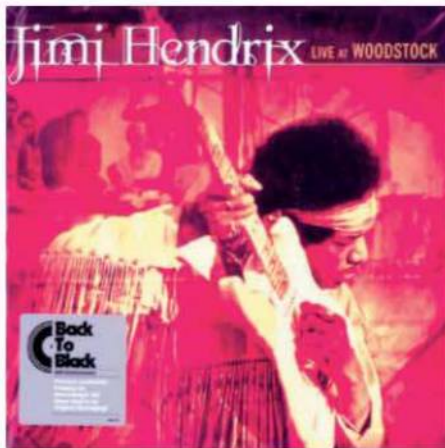
Hendrix is the subject of not one but two high-grade triple albums, a double album and a shelf-bowing eight-LP box set. In all, 32 sides of vinyl covering pretty much every move the world's greatest electric guitarist ever made, from his earliest sessions as an unknown sideman with the Isley Bros and Little Richard, to staggering live performances at the height of his powers that shook the foundations of rock 'n' roll and changed the game forever.

First up is *Blues*, a two-LP set originally released in 1994 featuring 11 of Jimi's singular interpretations of the 12-bar form recorded between 1966 and 1970. It includes his 1967 acoustic 12-string version of 'Hear My Train 'A Comin'' as well as the artist's unique takes on front-porch staples such as 'Mannish Boy' and 'Born Under A Bad Sign'.

The three-LP *BBC Sessions* compiles a wealth of recordings Hendrix made for Auntie on radio and TV from 1967-69. The 38 tracks include The Beatles' 'Day Tripper', Dylan's 'Can You Please Crawl Out Your Window', two collaborations with Stevie Wonder and a lightning ride through Muddy Waters' 'Hoochie Coochie Man'. Also here is a previously unreleased version of 'Burning Of The Midnight Lamp' taken from *Top Of The Pops* in August 1967. *Live At Woodstock* is another three-LP



Dylan demos, recorded back in 1962-4, set him on the road to fame



Hendrix 'at a personal crossroads' in 1969's Woodstock Festival show

edition, documenting Jimi's celebrated headlining show at the 1969 festival, performed to a dawn audience on the Monday morning and locating Hendrix at a personal crossroads between the psychedelic blues of the Experience and the more soulful direction that *Band Of Gypsies* was to take.

The last word on Hendrix, however, must go to *West Coast Seattle Boy: The Jimi Hendrix Anthology*, an exhaustive eight-LP set practically groaning beneath the weight of its own comprehensiveness.

It features 45 – count them – previously unreleased studio and live recordings as well as a 90-minute film made by *Beatles Anthology* director Bob Smeaton, telling the story of Hendrix in his own words (as spoken by Funkadelic/Parliament hero Bootsy Collins) and containing rare archive footage. There are demos and alternate versions of songs from all three Hendrix albums 'proper'. There are pre-Experience 45s featuring Jimi's guitar work on cuts by King Curtis and Don Covay.

There is an unheard performance of Dylan's 'Tears Of Rage', solo acoustic versions of 'Long Hot Summer Night' and '1983 (A Merman I Shall Turn To Be)', and shows from Berkeley and Filmore East. That's before we even get to a batch of unknown takes from 1969 and 1970...

Jimi's estate, Experience Hendrix, which is supervising the ongoing makeover of his catalogue in cahoots with Sony Legacy, is to be admired and congratulated for its meticulous attention to detail

CHRIS HEARD

Chris Heard is co-owner of Classic LPs, one of the UK's biggest in-stock retailers of vinyl re-issues and new releases. With his wife Rachel, he also runs Three Black Feathers Records, the UK's newest audiophile vinyl label. See www.classiclp.co.uk and www.threeblackfeathers.co.uk for more information on the online store and the label.

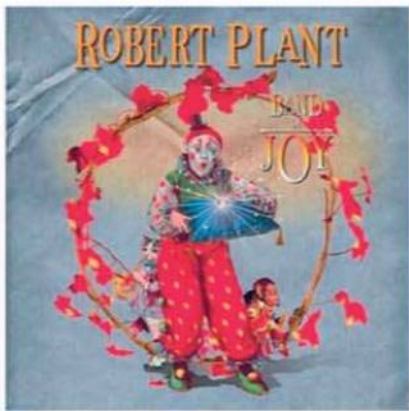


and the style and quality with which the prodigious output of Seattle's favourite son is being preserved for the generations discovering his timeless music. Make no mistake, these recordings sound better than all previous vinyl and digital reissues. The man at the controls is George Marino, senior mastering engineer at Sterling Sound in New York (supervised by Hendrix producer Eddie Kramer), and he delivers a clean yet punchy sound that retains all the life-affirming vitality of James Marshall Hendrix in his pomp.

A FEW BOB

Admittedly one man's rock demi-god is another man's dinosaur, but in either field they don't come much bigger than Bob Dylan, whose unparalleled recording career as self-styled song-and-dance man is rapidly approaching – gulp – half a century. Just when you thought the archives had been relieved of every possible Dylan out-take, demo, cough and sneeze, along come two hefty vinyl box sets of 'new' (old) material to further reinforce the legend. *Bob Dylan – The Mono Vinyl Box Set* gathers together newly remastered mono mixes of his first eight albums, from 1962's self-titled debut to the 1967 country-rock progenitor John Wesley Harding, with a wealth of the decade's most essential albums in between, including what Dylanologists lovingly know as the 'holy trinity' of *Bringing It All Back Home*, *Highway 61 Revisited* and *Blonde On Blonde*.

The collection charts Zimmy's path from puppy-faced Greenwich Village beatnik, in thrall to Woody Guthrie, to post-motorcycle crash recluse busy inventing a new rurally-rooted sound that would extend to Woodstock, Laurel Canyon and beyond. In the intervening years he had almost single-handedly reinvented popular culture and the language of rock music, and the evidence is all here in glorious single-channel mono, the way the studio wizards (and most probably Bob himself) wanted you to hear it. From the first-generation mixes, the LPs are on 180g vinyl



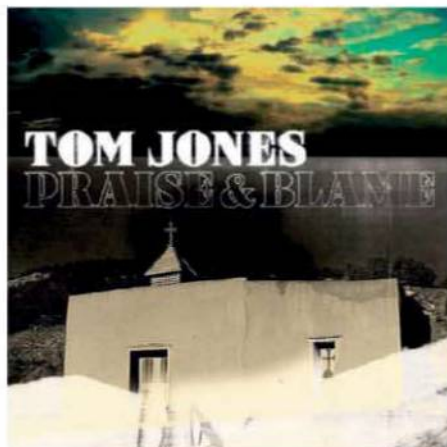
Recorded in Nashville, *Band Of Joy* should appeal to Robert Plant fans

in their original sleeves alongside a large Dylan poster and a Greil Marcus essay.

If 'It Takes A Lot To Laugh', it takes probably two Dylan multiple vinyl sets to make you cry: with joy, of course. *The Witmark Demos: 1962-64* – astonishingly, volume nine of the official Bootleg Series – pulls together 47 early demos that Bob used to establish himself as a Columbia recording artist, including 15 unreleased Dylan compositions. All recorded before he had turned 24, they include preliminary drafts of 'Blowin' In The Wind', 'The Times They Are A Changin'' and 'Mr Tambourine Man', as well as hitherto unknown songs like 'Ballad For A Friend', 'Long Ago Far Away' and 'Guess I'm Doing Fine'.

JUST TWO TO MAKE NOISE

If Dylan is the grand old man of music, then Neil Young is his grizzled heir, a kindred spirit with the same iconoclastic streak that has seen him single-mindedly plough ahead, ignoring the critics and following his muse. Young's latest release, *Le Noise*, teams him up with former Dylan studio cohort Daniel Lanois, the man who gave *Oh Mercy* its textured ambience. Featuring just Young's guitar and voice and Lanois' production, the result is one of Young's most distinctive sounding records, with the emphasis on sound, tone, atmosphere and emotion. Lanois' abilities at the



Tom Jones' *Praise & Blame* delivers 'a direct emotional punch'



mixing console act effectively as a second instrument, with some spellbinding results.

As if one Neil Young analogue weren't enough, completists may be keen to acquire the four-LP box set, *Official Release Series Discs 1-4*, featuring his first four Reprise albums: the self-titled debut, *Everybody Knows This Is Nowhere*, *Harvest* and *After The Gold Rush*. This broadly acoustic series of post-Buffalo Springfield records established the solo Young as the premier singer-songwriter of his era, and this is the best they have ever sounded, remastered from analogue source by Chris Bellman and pressed on 180g vinyl in individually numbered editions (just 3000 worldwide).

PLANT'S BAND

This month's key vinyl releases are clearly dominated by some of the most enduring 1960s voices, and here are a couple more, albeit from entirely different ends of the musical spectrum: Robert Plant and Tom Jones. Plant releases *Band Of Joy*, recorded in Nashville with such country luminaries as Buddy Miller and Patty Griffin, and draws on a wide source of blues, bluegrass and roots material including interpretations of Los Lobos' 'Angel Dance' and Low's 'Silver Rider'. This will appeal to fans of Plant's last album, the six-time Grammy winning *Raising Sand* with Alison Krauss, which sold three million copies worldwide, including 700,000 in the UK.

Front porch staples and an acoustic 12-string 'Hear My Train 'A Comin'' in this two-disc 1994 Hendrix set *Blues*

Jones, meanwhile, is also returning to the music that inspired his own journey with *Praise & Blame* [Lost Highway], a raw, earthy collection of gospel, blues and traditional songs produced by Ethan Johns which come flying out of the speakers. Island Records' boss might not have liked it, but there's no denying the direct emotional punch of material such as 'Run On', 'What Good Am I' and 'Nobody's Fault But Mine'.

'Experience Hendrix is to be admired and congratulated'

SLOW BURN

To bring us screaming back into the 21st century, we recommend two must-hear indie albums; from Killers frontman Brandon

Flowers and the marvellous Manic Street Preachers. Brandon's debut solo album *Flamingo* [Island], is also touched by the hand of producer Daniel Lanois, and features Rilo Kiley's Jenny Lewis on guest vocals. Flowers has a subtle maturity that marks him out ahead of alt.rock also-rans, and this slow-burning gem will find its way on to many an end-of-year 'best of' list. As for the Manics, their 10th album, *Postcards From A Young Man* [Sony] is simply their best since 1996's *Everything Must Go*: a cohesive record choc-full of passion, soaring strings and guitars, anthemic tunes and radio-friendly FM pop-rock. ☺

Vinyl Release

BEHIND THE MUSIC WITH HI-FI NEWS & RECORD REVIEW

The Ramones: *Live At The Palladium NYC*

Recorded back in 1978, this electrifying performance by one of punk's seminal bands is now out on 180g vinyl. **Steve Sutherland** has a close encounter of the third kind

I never used to believe in aliens. But one overcast day in September 1987, I was introduced to Jeffrey Hyman, a creature of barely humanoid demeanour, in the downtown New York offices of Sire Records. It's not that I didn't exactly *not* believe, you understand; it's just that I wasn't, y'know, absolutely sure.

Jeffrey changed all that. Official records had him born in May 1951 in Forest Hills, Queens, but pretty much all the evidence in front of my eyes challenged those facts. He was green for a start. The sort of translucent liquid green that you generally only encounter in those creepy crawly worm things that writhe away from the sunlight when you turn over a rock. He kind of glowed, fluorescent. He was insectoid too, if that's a word. Kinda arched, stooped and bony, half man, half praying mantis.

And his eyes, they were like a fish's, oily and watery, magnified to fairly unsettling proportions by spectacles boasting lenses several centimetres thick.

I met Jeffrey because he – *it?* – tended to ply his trade under the pseudonym Joey, intoning (singing's too precise a word for

it) as the fulcrum of a rock 'n' roll band fictitiously masquerading as a gang of brothers – or 'bruddas' as they would have it – known as The Ramones.

SPEED KINGS

I'd been in love with The Ramones since 1976 when I'd read, in the *NME*, about this band who'd started their tour playing, like, 30-minute sets, but had now got it down to, like, 23 minutes playing exactly the same number of songs. I know it sounds daft, but a band who were so wrapped up in the adrenalin of their performance that each show resembled some kind of athletic speed trial sounded impossibly thrilling to a kid who'd grown up with bands like Yes taking what felt like *years* on stage to show off their instrumental prowess.

So of course, the first thing I needed to know when I met Mr – ahem – Joey Ramone was, 'Hey Joey, are you still fast; fast as you used to be?'

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...



'Faster...' he wheezed. 'Faster. Lately we bin doin' about 48 songs in about... uh... an hour 15... Or a little less.' 'Wow!' I said, trying not to stare too hard at the weird, somewhat lethargic figure haphazardly arranged across a couple of chairs before me. 'That must be tiring.'

'No,' he uttered with a voice that resembled gargling phlegm, 'it's like the ultimate experience. It's like total adren... it's the ultimate high... I mean, you're

flyin', d'you know what I mean?'

I said that I did indeed know what he meant and so will you once you subject yourself to *Live*

'There are 27 songs – idiot gems every single one of 'em'

January 7 1978 At The Palladium NYC, the album that we're here to talk about.

What can I tell you? Ask any survivor of what we like to refer to as the punk rock wars, and they'll doubtless tell you that up there alongside The Sex Pistols' *Never Mind The Bollocks*, The Clash's debut and The Buzzcocks' *Another Music In A Different Kitchen* – albums that legendarily redefined, nay devastated, the musical landscape – you gotta put The Ramones first three long players, the eponymous debut, *Leave Home* and *Rocket To Russia*. And I'm not about to argue with that. But, if you want to know what the sheer head-down-no-nonsense-nosebleed euphoria of The Ramones experience was *really* like, *NYC* is the album for you.

FRENETIC PERFECTION

What it is, is... what it is, if you catch my drift. An entire Ramones gig recorded at the peak of their powers, 27 songs – idiot gems every single one of 'em – delivered in 50m 69s. The longest number is 'Here Today, Gone Tomorrow' at 3m and 14s. The shortest is the fabulous 'Now I Wanna Sniff Some Glue' at 1m 21s.

All the songs are culled – literally, cudgelled – from the band's first three albums so you get pretty much the entire essential ugly cartoon troubled yooof classic



➔ The Ramones let rip on stage in Toronto in 1976 – (l-r) Johnny Ramone (guitar), Joey Ramone (vocals), Dee Dee Ramone (bass) and Tommy Ramone on drums



➔ Priced £29.99, the 180g re-release of *The Ramones Live...* is available to order online from www.classicps.co.uk

catalogue – ‘Teenage Lobotomy’, ‘Pinhead’, ‘Sheena Is A Punk Rocker’, ‘Cretin Hop’, ‘Rockaway Beach’ – blasted out with an eardrum shredding end-of-the-world-is-not-just-nigh-but-NOW! intensity.

It’s a moment captured to frenetic perfection. And a moment long since passed by the time I’d tracked down Joey to this record company office in downtown NYC, where he’d been corralled to promote a forgettable piece of plastic which sought to retread former glories called *Halfway To Sanity*. Joey wasn’t making much of a job of it, truth be told. He was just... well, kinda inhabiting time and space.

ANIMATED, FOR A WHILE...

I wondered whether da brudders were doomed to repeat themselves endlessly to ever diminishing returns, which got him kinda twitchy and animated for awhile:

‘Well, I guess a lot of it is your inner... your demons within. A lot... I mean, sure, playing and everything’s cool but it’s jus’ like livin’, y’know, an’... uh... jus’ like... I guess... jus’... y’know... I guess jus’ everything. Y’know, life... and that’s why and that’s what comes out. It’s not... maybe... uh... I mean... we never had it easy as a band anyway. It maintains to be an uphill battle continuously, d’you know what I mean?... I think it’ll always be this way. This is how we are. This is our chemical make-up as people...’

‘We’re still outsiders. I still feel we’re a reaction to all the mediocrity and pretentiousness, cliché and superficialness of what *isn’t* goin’ on. There’s hardly any real exciting rock ‘n’ roll. There was the punk movement and that was it and now it’s back to like it was again.’

This is Johnny speaking. Did I mention Johnny? Or Dee Dee? No? Well that’s because for the life of me I can’t recall them being present. I mean, they’re there all right, in the interview transcript, but

RAMONES



LIVE, JANUARY 7, 1978 AT THE PALLADIUM, NYC

I can only put it down to the impact of Joey’s utterly unworldly presence that I’ve completely erased the udder brudders from my memory.

Anyway, Dee Dee had this to say about The Ramones being trapped into playing the role of eternal teenagers:

‘When you do this for a living and you’re in a rock group, you sorta live in an adolescent world. It’s not reality. It’s *our* reality.’ And Joey roused himself to combat my accusation that lately there’d been an overwhelming whiff of, well, not to beat around the bush, self-parody about The Ramones: ‘No... our sound is a defined trademark that everybody tries to achieve but few do... I mean, bands like Led Zeppelin, The Beatles had their own trademark. The Ramones have a trademark sound. We can take this sound and do anything with it and it’s us.’

WE’RE THE RAMONES!

So why not do something new? (In retrospect, this is one of the dumbest questions I’ve ever asked anybody and I include it here now with my head hung in shame). Johnny’s retort was this: ‘I don’t think the goal is to surprise our fans, it’s to make them happy...’

‘We stand alone,’ coughed Joey. ‘We’re not in any particular movement or trend. I mean, we’re The Ramones and there’s nobody like us.’

‘The idea is to be timeless but timelessness is just something that occurs, you can’t try to be that.’

According to official records, Johnny died in September 2004 of prostate cancer. Dee Dee died too, in June 2002, of a heroin overdose. And Joey? He passed on in April 2001, stricken with lymphoma.

But you know that bit in the movie *Men In Black* when Tommy Lee Jones and Will Smith are careering along through what looks like the Holland Tunnel, upside down, and Tommy’s singing along with Elvis Presley on the stereo who’s singing ‘Promised Land’ and Will says ‘You know that Elvis is dead, right?’ and Tommy says, ‘Nah, Elvis ain’t dead. He’s just gone home?’

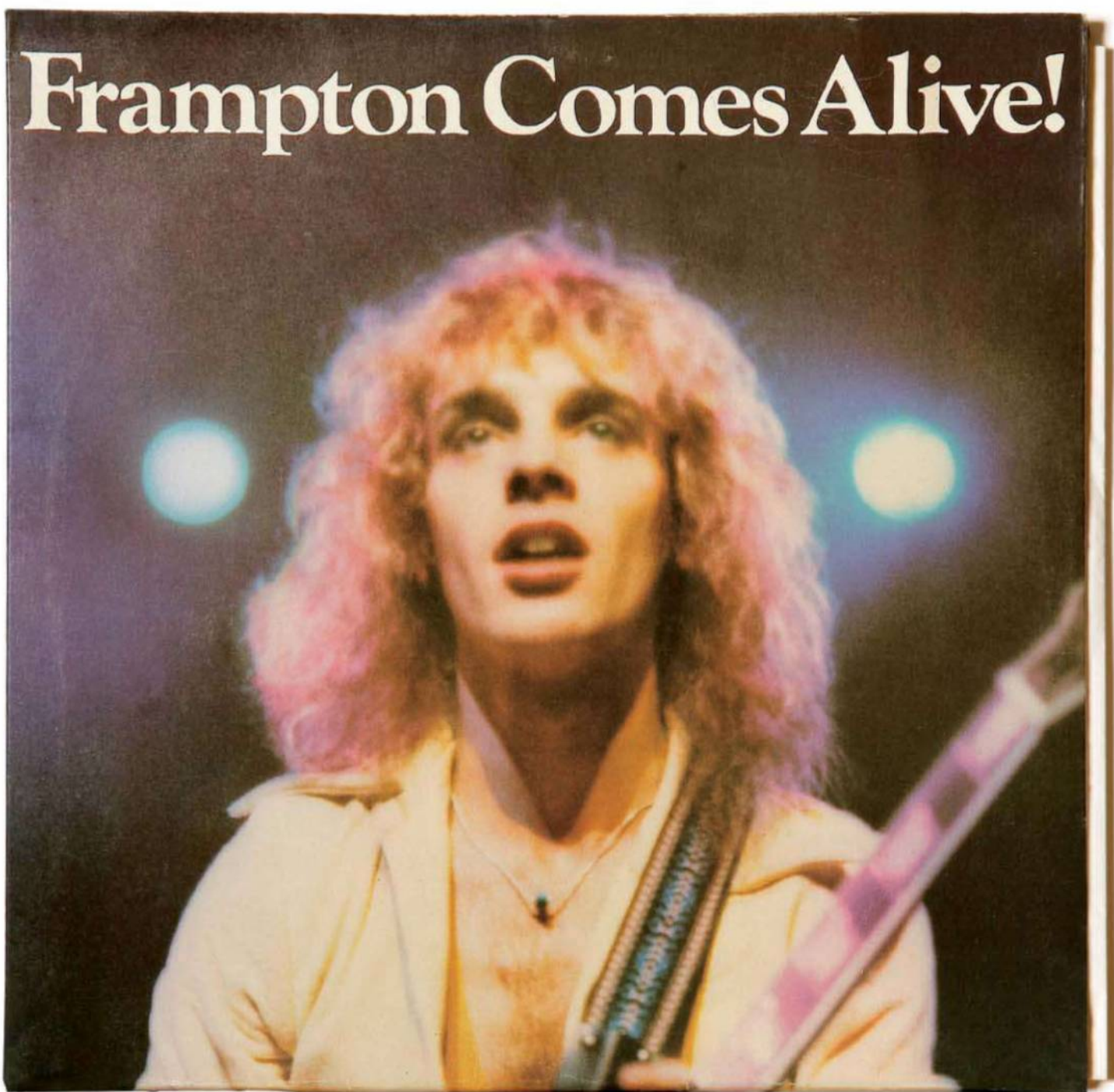
Well ladies and gentlemen, I’m here to tell you the same about Joey. He ain’t dead, he’s just... well, you know the rest. ☺

RE-RELEASE VERDICT

Recorded on the night of January the 7th 1978 at The Palladium in New York – a pre-war concert hall, which hosted rock bands from 1971 onwards – this sizzling 27-song set is proof, if any were needed, that not all punk bands sang atonally about anarchy. The mix is straight from the desk, with little of the venue acoustic caught on overhead mics, but this 180g vinyl pressing ensures fine separation between instruments with the result that the set sounds wonderfully clear, punchy, crisp and, of course, fast. **HFN**

Sound Quality: 85%





Frampton *Comes Alive!* LP...

After four solo albums and little success, Peter Frampton confounded the critics by releasing a double LP of tracks recorded over four nights while on tour in the US. It was a brave move, but the result was to be one of the best-selling live LPs ever made

Words: **Chris Heard**

Everybody in the world has *Frampton Comes Alive!*, says Mike Myers' character Wayne Campbell in the comedy movie sequel *Wayne's World 2*. 'If you lived in the suburbs you were issued with it. It came in the mail with samples of Tide.'

He may be overstating things a tad, but we get the point. Peter Frampton's most celebrated and successful record was a monster, selling six million copies in the US alone on its release in January 1976 and eventually being certified six times platinum. It was a genre-defining album that broke the rules of pop in its brazenness: a double live recording from a relatively little known solo artist which would go on to overshadow everything he had done before and since.

STRIKING A CHORD

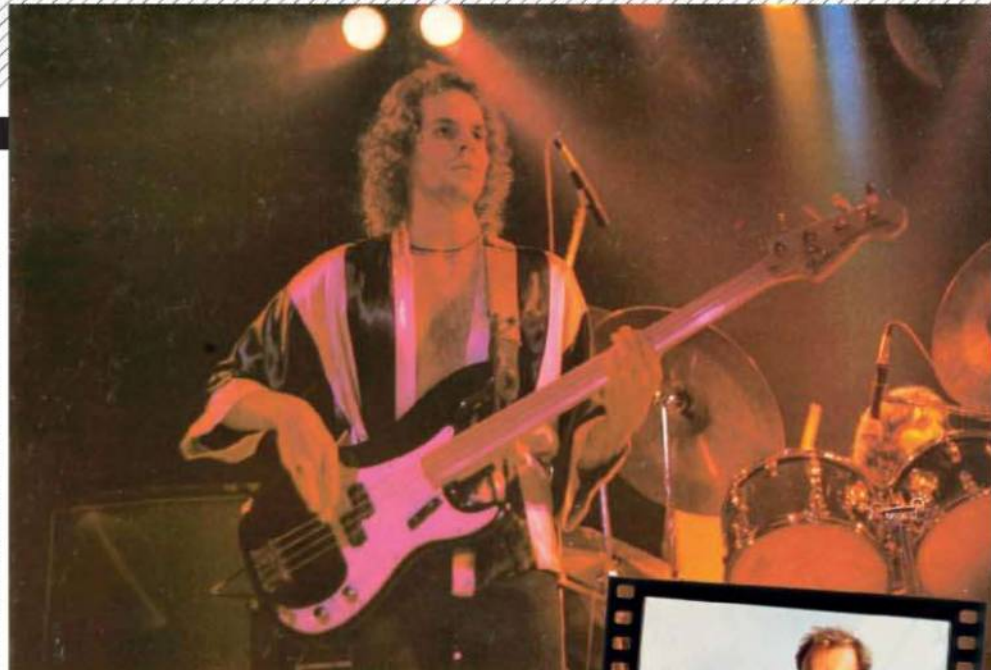
Frampton, former teen heart-throb, sometime David Bowie schoolpal and ex-Humble Pie rocker, had released a string of solo albums during the first half of the 1970s, gaining a respectable if modest following. Frampton and his band felt they were at their best when performing together as a live act, and a series of their 1975 US shows were taped to capture the essence of this appeal for Frampton's fifth solo release.

Polished, tuneful and hovering somewhere between punch-the-air arena rock and easy-on-the-ear pop, the album is chock full of catchy choruses and hook-laden riffs, most notably on the singles 'Show Me The Way' and 'Baby, I Love Your Way', both huge hits in their own right.

With his youthful good looks, blond rock star perm and a sunny demeanour which was reflected in his mellow, life-affirming songs, Frampton's likeable persona and AOR sensibilities struck a chord in the post-Vietnam America of the mid-'70s, which embraced him as a role model of FM radio.

Frampton Comes Alive! came to symbolise an era and a style of music for the *Old Grey Whistle Test* generation – earnest, crafted,

'A lengthy, non-studio album puzzled the critics'



melodic – before the creeping spectre of punk changed the landscape forever. Alongside Frampton's finesse on the guitar and his throaty, soul-tinged vocal – hewn of the finest classic rock – one of the album's defining sounds is the talk box guitar effect which altered the sound of his fret board via the use of a tube connection in his mouth.

By varying the shape of his mouth and position of his tongue, Frampton could mouth words and make it sound as if the guitar was 'speaking'. More than perhaps any other artist, he has become synonymous with this technique (not to be confused with the vocoder so beloved of Cher and others).

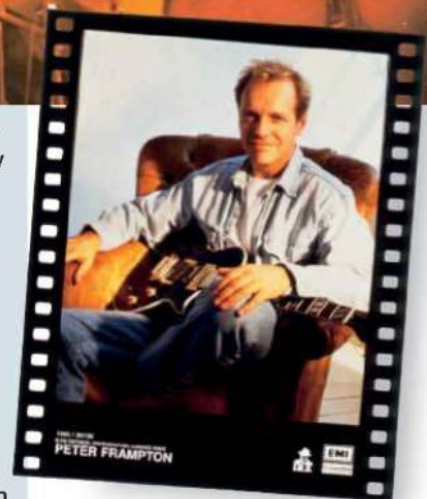
BECKENHAM TO BOWIE

Up until the release of *Comes Alive!* – and indeed in its wake – the singer's reputation has been as something of a journeyman; the musician's musician; instrumentalist

↗ Bassist Stanley Sheldon; he was one of the first rock players to employ a fretless bass

↗ The singer pictured in 1995, the year in which he released *Frampton Comes Alive II*

↙ The Talk Box as used on the album; it enabled Frampton to alter the sound of his guitar via a tube connection in his mouth



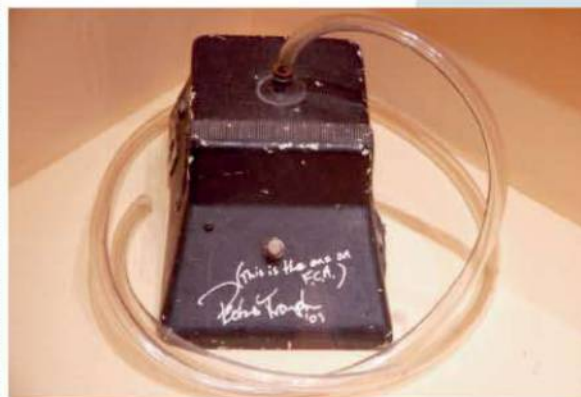
par excellence and loyal sideman to Steve Marriott, George Harrison, John Entwistle and Harry Nilsson among many others.

Born in Beckenham, Kent, in April 1950, Peter Kenneth Frampton grew up devouring US and British rock 'n' roll (Buddy Holly, Eddie Cochran, Cliff Richard & The Shadows) and later The Beatles and Jimi Hendrix. As a young boy he taught himself guitar and piano, and by the age of eight he was studying classical music.

Frampton was a pupil alongside David Bowie [shortly followed by the Ed!] at Bromley Technical High School where Frampton's father was head of art. The pair formed bands which played on the same bill, spending some of their break times rehearsing Buddy Holly songs.

THE HERD AND HUMBLE PIE

As a fresh-faced 16-year-old school leaver, Frampton was recruited to join The Herd, a British beat group with a psychedelic pop edge who had signed to Fontana Records. The band enjoyed hits with *From The Underworld*, *Paradise Lost* and 'I Don't Want Our Loving To Die', ☺



VINYL ICONS

PRODUCTION NOTES

Frampton Comes Alive! broke the mould for live pop albums, being taped from a series of shows rather than a single performance. There was 'considerable studio doctoring of the raw live tapes', according to Bruce Eder of the authoritative *US All Music Guide*, with some speculation that much of the crowd noise was overdubbed to create a more exciting feel.

The best cuts were selected from four US concerts played between June and November 1975, at Marin County Civic Center in San Rafael, California; Winterland in San Francisco; the Island Music Centre in Long Island; and the State University of New York's Plattsburgh venue. Live recordings were overseen by engineers Ray Thompson, Chris Kimsey and Eddie Kramer using Wally Heider's Mobile Recording Truck in California and the Fedco Recording Truck in New York.

The Winterland gig was taped on a 24-track master recorder, while a 16-track machine was used for the remaining shows. Master tapes were recorded at 15in per second using professional Dolby A noise reduction. Remixed at New York's Electric Lady Studios by Kimsey and Frampton, the LP was mastered at the Mastering Lab in Los Angeles by Mike Reese. The album's sole production/arrangement credit belongs to Frampton alone.

He later revealed that there had been problems during some of the mixing because a cord leading to a bass drum microphone had been accidentally pulled, leaving the mic at a 90° angle to the drum head.

During the shows Frampton played a rare glossy black Les Paul guitar, custom-made for him at the Gibson factory with three humbucking pickups – one more than usual to deliver what Spinal Tap aficionados would recognise as 'that extra push over the cliff.'



while the photogenic Frampton was named The Face Of '68 by *Rave* magazine. His dissatisfaction with this image led to him quitting the band – still aged only 18 – to join Small Faces singer Steve Marriott in Humble Pie.

Within the fold of this bluesy supergroup, Frampton found the more grown-up respect he had craved as a musician, and the band made a series of well received albums and performed sell-out tours into the 1970s.

Frampton quit in 1971 after recording five LPs with Humble Pie, just as their live opus *Rockin' The Fillmore* was becoming a hit.

A PUZZLE...

Our man went on to unleash a string of ostensibly solo albums: *Wind Of Change* (1972, featuring Ringo Starr and Billy Preston); *Frampton's Camel* (1973, in a group setting); *Somethin's Happening* (1974); and *Frampton* (1975). Though the latter reached 32 in the US charts, overall his solo career had produced little in the way of commercial success.

So it was something of a surprise when, under the supervision of his long-time manager Dee Anthony, his next move was to release a lengthy non-studio album. The critics were puzzled but the response was largely favourable. Reviewing *Frampton Comes Alive!* in *Rolling Stone*



magazine, Jean-Charles Costa asked: 'Why would Peter Frampton, so close to stardom after a decade, release a live, double-record set when he hasn't really established a large audience?' Costa acknowledged that 'the move may not be as ill-conceived as it seems', adding: 'this album is a primer for those who've overlooked him in the past... the vocals are forceful, the harmonies balanced and the ensemble playing well-rehearsed. This album is Frampton's most coherent, exciting and accessible.'

Billboard concurred, declaring: 'The variety here offers a perfect balance between rockers and lower-keyed tunes... better than any previous studio LPs, all quality material and perhaps the package that will make Frampton a superstar.'

Culled from four shows, the album boasts nearly an hour and 20 minutes of good ol' rocking on 14 cuts across four sides. It

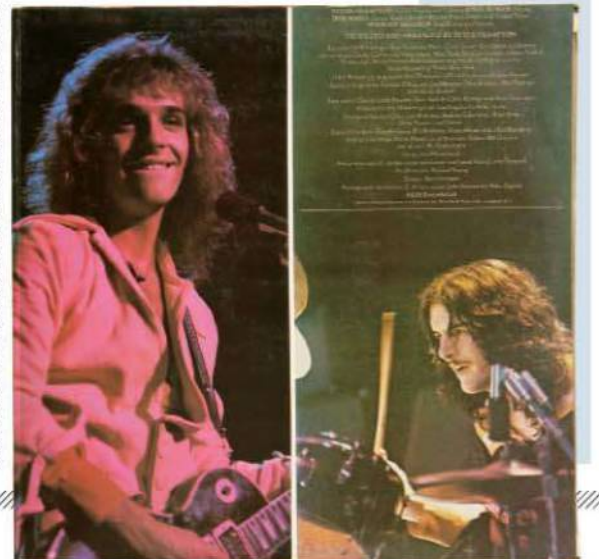
revels in a lively mix of Frampton originals and old Humble Pie tunes (not forgetting a spirited cover of Jagger/Richards' 'Jumping Jack Flash'), kicking off with the jaunty 'Something's Happening' and climaxing in a 14-minute romp through the lighter-waving 'Do You G

← Bob Mayo, who played second guitar and keyboards/piano

← The outside of the LP's gatefold sleeve showed Frampton on stage with his trusty rare glossy black Gibson Les Paul, custom-made for him at the Gibson factory with three humbucking pickups instead of the usual two. He still uses it today (see picture, below left)

← The inside of the sleeve showing Frampton and drummer John Siomos

'The LP set the template for the double live album in the rock age'



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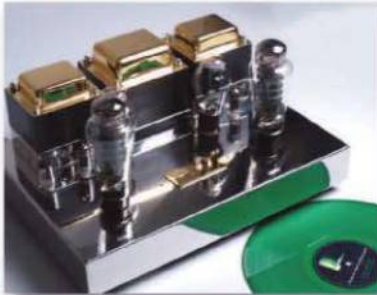
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Alternate Format Discography



➔ Frampton in a publicity shot from 1995 for *Comes Alive II*

Feel Like We Do?' – cue for the band to show off their muso credentials.

Over 78 minutes there are the inevitable moments of self-indulgence and stodge, but let's give *Frampton Comes Alive!* its due. As a representation of an artist's live abilities – rather than a strict document of a single concert, *per se* – it set the template for the double live album in the rock age. Without it, would Thin Lizzy have had the chutzpah to pull off *Live And Dangerous?* Ditto the Ramones, 10cc, The Stranglers and countless others including Bruce Springsteen, whose *Live/1975-85* chronology owes it a debt of sorts.

BEST SELLER

Comes Alive! topped the US charts for ten weeks, becoming the year's best seller. It stayed on the charts for 97 weeks, spawned three top 20 hits and reached number six in the UK. With current-day sales of 16 million, it remains one of the best-selling live LPs ever.

The record's success catapulted Frampton from minor-league singer to *Rolling Stone* cover star (minus his shirt, a move he later regretted fearing it played up to his former teen idol image). He was even welcomed as a guest at the White House by President Gerald Ford's son Steve. Frampton went on to star alongside the Bee Gees in the ill-fated Robert Stigwood movie of *Sergeant Pepper's Lonely Hearts Club Band*, and his 1977 album *I'm In You* was a platinum best-seller. Yet even this was dwarfed by the success of *Comes Alive!*.

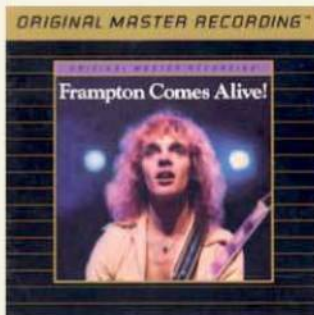
A near-fatal car crash failed to subdue Frampton's *joie-de-vivre*: he was reunited with Messrs Bowie and Marriott in the 1980s, and his 2007 *Fingerprints* earned him a Grammy. His 14th studio album, *Thank You Mr Churchill*, was released in April. ☺



ORIGINAL LP (1976)

The double album [A&M Records, SP 3703] was released in the US on January 6, 1976 at a specially reduced price of \$7.98, only \$1 more than the standard price of \$6.98 for a single-disc record. This pioneering marketing of a 'mid-price' double album, later followed by artists such as The Clash with *London Calling*, gave it a huge chart advantage. It was pressed in automatic sequence, with sides one and four on one record, followed by sides two and three on the other, in order to make it easier for users of automatic record changers to listen to the album in its intended order.

The UK version [AMLM 63703] came out five weeks later, on February the 13th – the perfect romantic gift for big-haired Valentine's lovers of either sex. Herb Alpert's A&M label, home to acts as diverse as The Carpenters, Flying Burrito Brothers and Joe Jackson, was not necessarily known for the quality of its pressings – *Frampton Comes Alive!* was neither the most robust nor the most delicate in its fidelity...

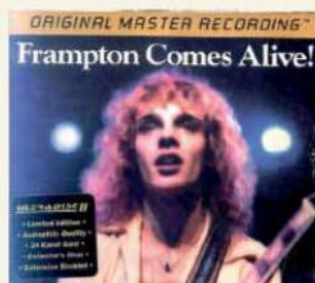


MOBILE FIDELITY LP (1996)

...Unlike this little beauty. The Mobile Fidelity Sound Lab (MFSL) company in California began issuing its peerless high quality LPs in 1977 as US consumers became increasingly unhappy about the quality of their home-manufactured records. During this period many US audio buyers

noted that Japanese and British pressings were by and large much quieter, due to better vinyl quality. Many American pressings were made using recycled vinyl as opposed to virgin vinyl. And many successful albums had been mastered using not just second but third generation 'master tapes' rather than the original mixdown master tapes.

As LP sales rocketed, quality control slipped – warping and other defects were much more common. MFSL's albums, although twice the cost, promised original master recordings; half-speed nance of sound; limited runs to control pressing quality; heavy packaging to prevent warping; and vinyl that was custom-pressed in Japan. You can tell the difference!



AUDIOPHILE CD (1996)

This double Mobile Fidelity CD [UDCD 2-678], issued at the same time as the audiophile LP, was effectively its digital equivalent, a 24-carat gold 'Ultradisc II' which promised a vastly higher quality of sound than normal CDs.

MFSL moved into manufacturing gold CDs in the mid-1980s amid fears among buyers – later discredited – that standard aluminium CDs would oxidise and become unplayable within ten years of manufacture. MFSL led the way for other companies to issue their own 'gold' discs, although in some cases observers have not been convinced of a noticeable improvement in sound.

The consensus is that what really counts here is the quality of the master tape.

REMASTERED CD (1999)

If you can't track down the gold audiophile disc, this A&M 'Remastered Classics' issue [31454-0930-2] might be easier – and less costly – to get hold of. According to US audio expert Bruce Eder,

the remaster sounds considerably better than the original double CD or LP. 'The highs are significantly more lustrous, the guitars crunch and soar, and the bottom end really thunders, and so you get a genuine sense of the power of Frampton's live set,' says Eder, of the print and now online *All Music Guide*.



MISCELLANEOUS ISSUES

Other pressings of this perennial rock favourite include a Dutch cassette [A&M CLM 63703, 1976]; a picture disc LP [A&M PR 3703, 1978]; the original double CD [A&M 6505, 1987]; and a limited deluxe DVD with bonus audio [A&M B0001765-19, 2004].

An SACD from Universal and truncated 'best of' CD issued in 1985 add to the picture.

Frampton Comes Alive II, containing live versions of songs from later Frampton albums, was issued in 1995 to a lukewarm response from the critics.

A 25th anniversary edition featuring four extra tracks – 'Just The Time of Year', 'Nowhere's Too Far (For My Baby)', 'White Sugar' and 'Day's Dawning/Closing' – and a slightly different running order came out in 2001. Completely remixed by Frampton, he promoted the release with an 'impromptu' gig at Tower Records in LA.

One more to mention – unrelated but funny – Phish's 1999 CD, the very wonderfully titled *Hampton Comes Alive*.



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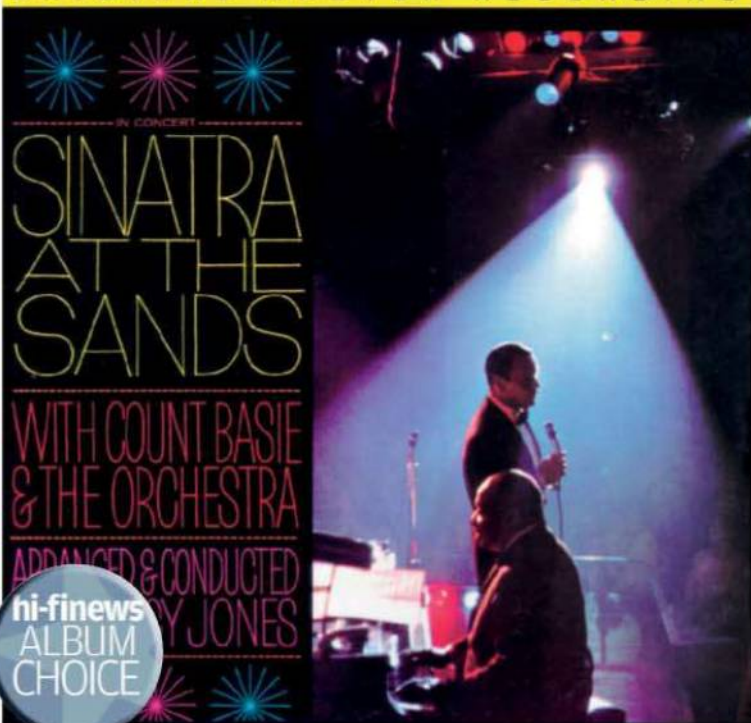


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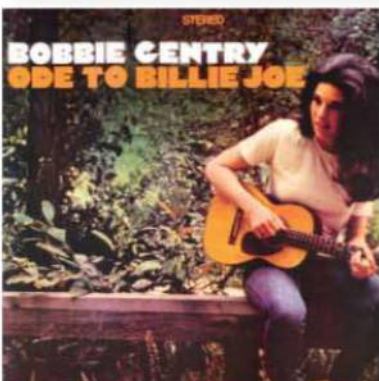
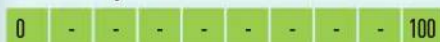
FRANK SINATRA

Sinatra At The Sands

Mobile Fidelity MFSL 2-332 (two discs, 180g vinyl)

If 1962's *Live In Paris* was breathtaking, *Sinatra At The Sands* from '66 defies categorisation. I mean, accompaniment by Count Basie and his Orchestra, conducted and arranged by Quincy Jones? And it was recorded at the Copa Room of the Sands Hotel and Casino in Las Vegas? If ever there was a Rat Pack-less souvenir of Sinatra at the top of his game, a primer in cool stagecraft, this LP takes the honours. All of his standard showstop tunes were delivered, up to and including 'It Was A Very Good Year'. Add to that slick patter, 'All Of Me', plenty of the Basie band, 'One For My Baby', 'I've Got You Under My Skin' ... there's a reason why Ol' Blues Eyes still remains the Boss. Whatever Springsteen fans might say. *KK*

Sound Quality: 97%



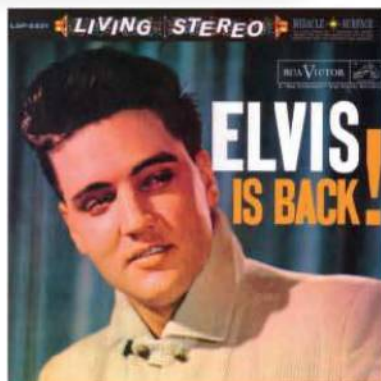
BOBBIE GENTRY

Ode To Billie Joe

Pure Pleasure PPAN ST 2830 (180g vinyl)

As eerie a song as has ever topped the charts, the surprise success of 'Ode To Billie Joe' ensured that Gentry's 1967 debut LP would also reach No 1. In retrospect, this is a seminal release helping to create the break between traditional, Opry-style country warblers, the gutsy, bluesy component turning this into, sort of, a distaff effort at the outlaw approach, with Gentry eschewing the beehive, pointy-bra'd, down-trodden angst of most of her contemporaries. As Gentry faded from the public a mere five or so years afterwards, working only sporadically, this reissue is a reminder of how much she helped to empower today's country songbirds. *KK*

Sound Quality: 88%



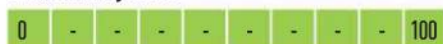
ELVIS PRESLEY

Elvis Is Back!

Analogue Productions AAPP-2231 (two 45rpm discs, 180g vinyl)

In case anyone thought that a stint in the US Army might have dulled Elvis's talents, this astonishing LP from 1960 delivered exactly what the title promised, including the exclamation mark. His voice was in superb form, he was backed by the most sympathetic line-up in his career – including Scotty Moore, the Jordanaires, Hank Garland, and DJ Fontana – and the repertoire included 'Fever', 'The Girl Of My Best Friend', 'Reconsider Baby', 'Such A Night' ... Do you really need any more of an inducement to rush out and buy this state-of-the-art two-disc, 45rpm edition? Audiophile-grade Frank and Elvis LPs in the same month: oh, we are spoiled rotten. *KK*

Sound Quality: 95%



THE SOFT MACHINE

The Soft Machine (aka Volume One)

Sundazed LP5341 (180g vinyl)

Originally released in 1968, this is a cornerstone of the Canterbury prog-rock scene. It benefits, however, from the presence of Kevin Ayers, who instilled upon the project a sense of whimsy absent in the band's later, more serious and jazzy works. Yet even his sense of the absurd, and the inclusion of shorter numbers rather than epic slices of self-indulgence can't disguise the fact that this is a definitively British underground/hippie/acid affair, despite being recorded in New York. What makes it of interest 40 years on is that it's so easily digested – without the need to ingest psychedelics. Maybe it has something to do with astonishing musicianship? *KK*

Sound Quality: 87%





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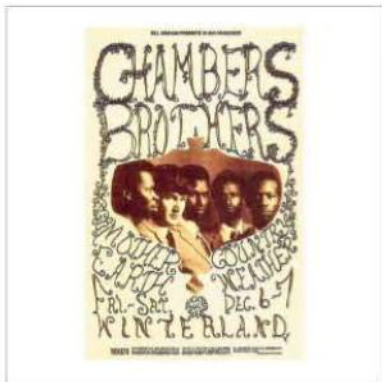
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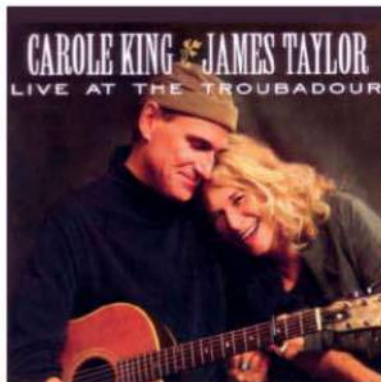
THE CHAMBERS BROTHERS

Live At The Fillmore East, 30 May 1971

Wolfgang's Vault (FLAC download)

Alas, this lacks 'Time Has Come Today', the majestic 1968 hit and their greatest claim to fame, but the seven tracks here remind us that the Chambers Brothers were an R&B act first, and hippie anthem creators/psychedelic soul brothers second. The recording quality is magnificent – not that live recordings from the Fillmores were ever bad – but the sense of space and air, and the precise locations of instruments and players really benefit from the higher-res offering. Percussion and bass make this flow, and the showstopping take of 'I Can't Turn You Loose' recalls a Stax Revue. Possibly the best \$6 I've spent on-line this year. File with Sly & The Family Stone. *KK*

Sound Quality: 87%



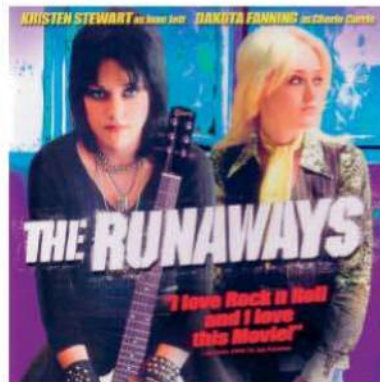
CAROLE KING & JAMES TAYLOR

Live At The Troubadour

Hear Music HRM-32053 (CD+DVD Region 0)

A trend I have no complaints about is that of live CDs which come with a DVD of the same concert, viz. McCartney in NYC, Steve Stills, etc. As I first saw King and Taylor together nearly 40 years ago, this set brought a lump to my throat: for baby boomers, there's no more comfortable pair of slippers. They're simply the gentlest, warmest pair of singer-songwriters imaginable, they clearly adore each other, and they deliver a combined self-penned 15 classics. The DVD gives us the whole set in widescreen, with DTS and Dolby 5.1, with a longer playing time due to bits of commentary. Sublime music, and a reminder: yes, we once were this happy. *KK*

Sound Quality: 85%



THE RUNAWAYS

Sony Pictures/Apparition 35519 (Blu-ray Region A; DTS-HD)

Americans are now able to buy this enthralling Blu-ray, just hitting UK cinemas. Enthralling? The saga of an all-girl rock band from the 1970s who were sold initially and primarily for their post-pubescent sex appeal? As it turned out, they rocked as hard as the boys, giving us the magnificent Joan ('I Love Rock'n'Roll') Jett in the process. Apparently, this slickly-made film has gone down well with Cherie Currie, on whose reminiscences it is based, while Jett and the rest of the Runaways shouldn't be too unhappy with it: as biopics go, it's easily on a par with the young John Lennon movie, *Nowhere Boy*. Beyond the Hollywood teen angst, they really, truly could rock. And they remain not just big, but huge in Japan. *KK*

Sound Quality: 80%



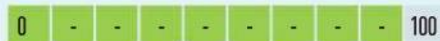
THE BAND

Northern Lights – Southern Cross

Mobile Fidelity UDSACD 2047 (SACD)

Because their first two albums were so spectacular, nothing the Band released after them seemed to possess quite the same level of musical magic. But this, their seventh release, following a lengthy gap after the so-so *Moondog Matinee*, was a genuine return to form. Two tracks in particular, 'Ophelia' and 'Acadian Driftwood', were so purely Band-ish that they could have nestled comfortably with the masterpieces that made up their eponymous sophomore release. Sonically, it's slicker-sounding than its predecessors, the Band recording for the first time with 24 tracks. But that's close to heresy for a group of musicians so rootsy that one might argue they should have only recorded on 78s, in mono. *KK*

Sound Quality: 89%





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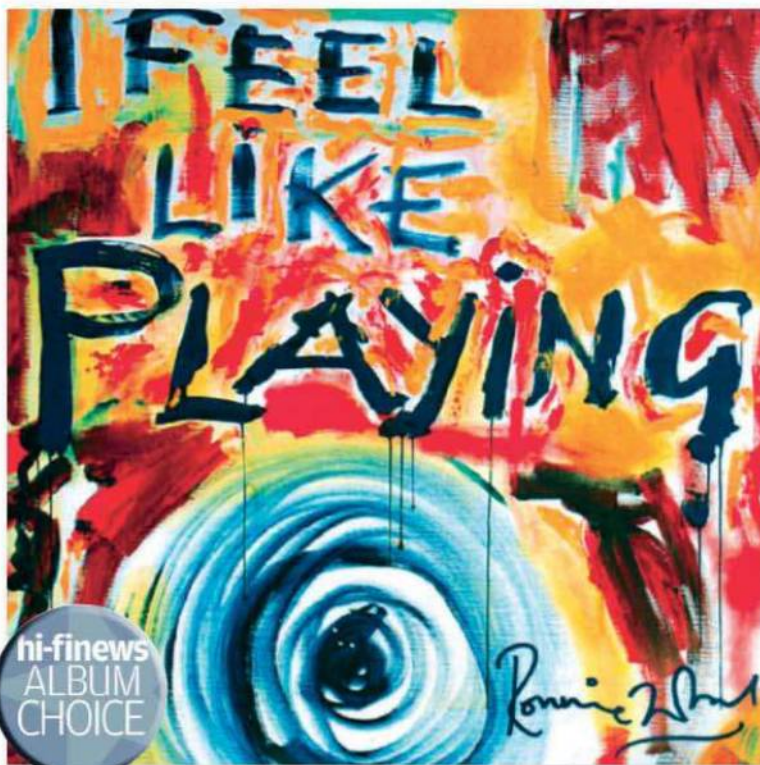
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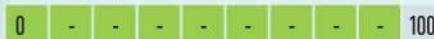
RONNIE WOOD

I Feel Like Playing

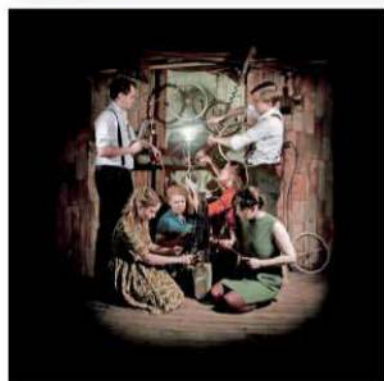
Eagle Records EAGCD428

The grizzled Stones' axeman returns with his seventh solo album. Actually, the horribly messy cover, which he painted himself, says it all. The music is precisely the kind of sloppy, boozy gumbo that Stones' fans have lapped up for decades, but with Ron's croaky sub-Bob Dylan meets Dr John, via Randy Newman vocals floated over the top instead of Jagger's. Ronnie has pulled in all his old mates, including Slash, Flea, Eddie Vedder, Kris Kristofferson, Bobby Womack, Ian McLagan and more, in the hope that all that professionalism will transform a dozen predictable songs (sample lyric, 'It's drivin' me mad, I need you so bad...') into rock genius. It doesn't. Still, production standards alone earns this album choice of the month. *JBk*

Sound Quality: 90%



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AMIINA

Puzzle

Amiinamusic AMIINA5

Amiina was formerly an all-woman Icelandic string quartet working with minimalist popsters Sigur Ros. Now, with the addition of a couple of blokes, they've become a sextet and this is their second rather exquisite album. Nothing here will slap you in the face and demand that you listen to it. Instead, Amiina offer the most delicate and fragile of little melodies, hypnotically repeated, ebbing and flowing, occasionally augmented with gentle vocals. Despite several track titles seemingly drawn from the Ikea catalogue, *Puzzle* is a compellingly gorgeous piece of work. To call this contemporary chamber music might be pretentious but it's not far off the mark. *JBk*

Sound Quality: 91%



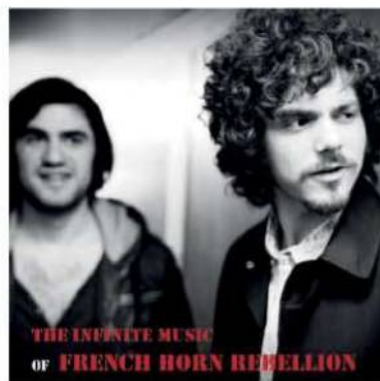
SHARON CORR

Dream Of You

Rhino 2564678839

Sharon plays her folksy fiddle very nicely, and delivers deliciously silky harmonies with her family business. Unfortunately, left to her own devices for her first solo album, she has delivered a handful of gems wrapped in acres of pastel-coloured tissue to fill the empty space. There are three pleasant enough swoony Celtic instrumentals, and at the end of the disc three fairly memorable songs that feel like a consolation prize for having waded through all the foregoing mediocrity. The powerful closer, 'Love Me Better', has a touch of gutsiness that suggests a direction she could usefully pursue if she has any ambitions beyond lulling her listeners to sleep. *JBk*

Sound Quality: 85%



FRENCH HORN REBELLION

The Infinite Music Of French Horn Rebellion

Once Upon A Time OUA14CD

Infinite Music is 2010's most effervescently upbeat album by miles. This ultra-smart Brooklyn-based duo, Robert and David Perlick-Molinari, are good mates with MGMT but their music is streets ahead. In some ways, they're the band that Vince of The Mighty Boosh probably dreams of forming, rich in layers of irony and cynicism, but at the same time impossibly danceable, and overflowing with singalong vocal hooks. 'Broken Heart' should be a gigantic hit just for its 150% feelgood factor; 'New Florida' is the greatest Yellow Magic Orchestra track that YMO never made; and 'This Moment' is Kool And The Gang impossibly pumped up by Giorgio Moroder. Dance-pop magic. *JBk*

Sound Quality: 85%



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SCOTT HAMILTON/ALAN BARNES

Hi-Ya

Woodville Records WVCD130

When Hamilton arrived, British saxist and Woodville label owner Barnes suggested using tunes that Johnny Hodges had recorded with his own band in the early 1950s. And according to Barnes, the American tenor master got all the themes and changes down after a single run-through. Neither of them attempts to sound like Hodges, though, and just as well. While Barnes' bop-tinged alto skeeters around the chords, Hamilton carries right on with his beautiful, fluid and unhurried swing phrasing, effortlessly conjuring up the spirit of Lester Young. Like Barnes' 2009 album with Ken Peplowski, this is relaxed, enjoyable music from beginning to end. *SH*

Sound Quality: 80%



YOUN SUN NAH

Same Girl

ACT 9024-2

She'd recorded albums and won a following in France, but it was last year's *Voyage*, her debut for the German ACT label, that put Korean-born singer Youn Sun Nah on the wider European map. Here she travels once again with her distinguished Nordic labelmates, guitarist Ulf Wakenius and bassist Lars Daniellson, who've proved ideal musical company. They reach the Middle East with a breathtaking piece of scat virtuosity called 'Breakfast In Baghdad'. But Nah can also be beguiling when accompanied only by the quiet and gentle sounds of her own kalimba, as on 'My Favourite Things' and, much more successfully, on the stunning title track. *SH*

Sound Quality: 85%



ESPERANZA SPALDING

Chamber Music Society

Heads Up HUI-31810-02

You might not think of chamber music as 'for the masses,' as the PR blurb has it, but then, the brilliant bassist's reference point is the Chamber Music Society of Oregon, the community orchestra that she joined as a five-year-old violin prodigy. Her Heads Up debut *Esperanza* traversed many genres, but this one brings classical sounds to the mix, with a string trio including supreme session cellist David Eggar, weaving music of rich complexity. Spalding's vocal flights can seem too indulgent, though she's helped out on two numbers by the ever-fascinating Gretchen Parlato and on one by a weary-sounding Milton Nascimento. But still, a fresh, inspiring album. *SH*

Sound Quality: 85%



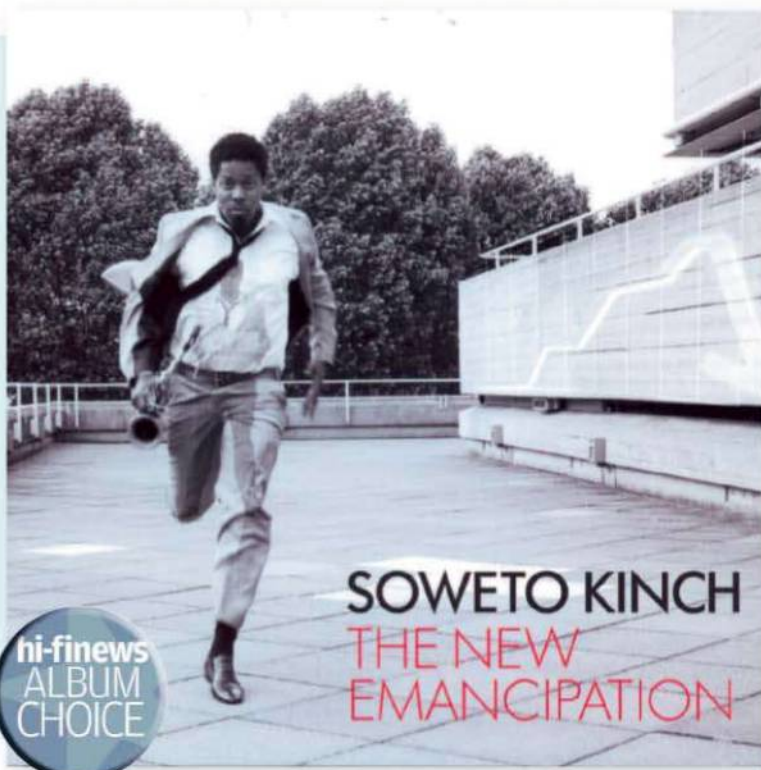
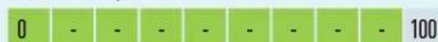
SOWETO KINCH

The New Emancipation

Soweto Kinch SKP002CD

With a large element of theatre, Kinch alternates raps and instrumental numbers, and the theme is the modern slavery of debt: 'Today's fetters are mostly invisible,' he says. Guest vocalist Jason MacDougall is effective on 'Help', Eska Mtungwazi sings superbly on 'Escape', but it is Kinch who brilliantly leads a whole cast of speakers in 'Paris Heights', satirising the brutality of debt collection. But the other musicians are great too, Femi Temowo on guitar chording like a keyboard when he's not soloing, and multi-reed player Shabaka Hutchings adding an arresting bass clarinet solo on 'Trade'. In 'On The Treadmill' the mournful horn ensemble echoes early Ellington. A rap sandwich with substance. *SH*

Sound Quality: 90%



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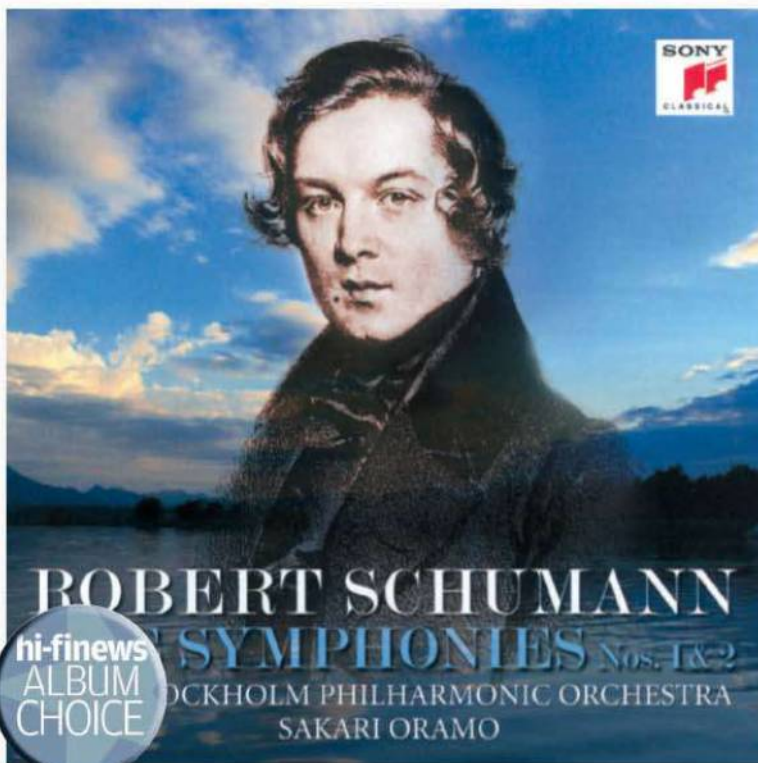
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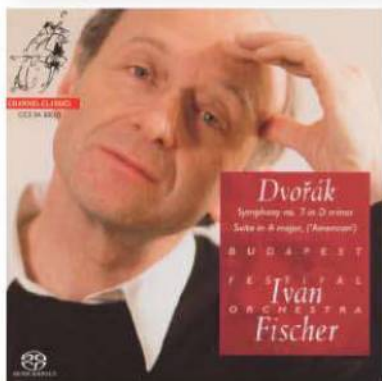
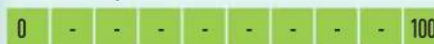
SCHUMANN

Symphonies 1 and 2
Royal Stockholm PO/Sakari Oramo

Sony 88697437072

The Helsinki conductor, after ten years with the CBSO, has returned to his Nordic roots with appointments with the Finnish Radio SO and in Stockholm. These Schumann live performances, 2008/'09, equal the finest on disc: ie, Szell, Sawallisch. The orchestra sounds 'right' in scale and tone for this composer, playing beautifully for Oramo, who brings euphoric brilliance to the 'Spring' Symphony's scherzo and ideal pacing throughout the noble Second, with its returning motifs and (rather like the *Allegretto* in Beethoven's Seventh) delightful little counterpoint section in the slow movement. The sound is natural, and one can only hope Symphonies 3 and 4 will appear. A tonic. *CB*

Sound Quality: 95%



DVORAK

Symphony 7; 'American' Suite
Budapest Festival Orch/Ivan Fischer

Channel Classics CCS SA 30010 (hybrid SACD)

Memorable Dvořák Sevenths we have had from Kubelík, Schmidt-Isserstedt, Monteux, Rowicki and (Sir Colin) Davis. I am not sure that Ivan Fischer's ousts any of theirs but he's always an interesting, individual conductor (visit the Berliner Philharmoniker website to see him in Haydn) and there's enormous warmth in this DSD recording. But what makes this SACD significant is the way he brings to life the five-movement Suite: analogous to Brahms's two *Serenades* – that is, delightful music neglected in favour of the symphonies. Ex-Philips, the Budapest Dvořák Symphonies 8 and 9 SACD coupling is now on Channel Classics. *CB*

Sound Quality: 85%



HANDEL

12 Concerti grossi, Op.6
The Avison Ensemble

Linn CKD 362 (three discs, hybrid SACD)

Boyd Neel was perhaps first (1936) to bring authenticity to Handel's Op.6 – Karajan (very late '60s) being 'last of the dinosaurs'. Period instruments are pretty well the only choice today, Pavlo Beznosiuk's group proving eminently stylish, with good tempi, good balance and imaginative detail. Continuo is harpsichord; and Handel's added wind parts for Nos. 1, 2, 5 and 6 are eschewed. Specialist reviewers have given unstinted praise – what deters me are the insistent 'swells' on long notes, an effect akin to sucking sliced lemon! The acoustic is very resonant too. Trevor Pinnock on Archiv would be my recommendation. *CB*

Sound Quality: 65%



ORFF

Carmina Burana
Patricia Petibon, Hans-Werner Bunz, Christian Gerhaher, Tölz Boys' Ch, Bavarian RSO & Ch/Daniel Harding

DG 477 8778

Daniel Harding stresses what he sees as Orff's 'monumentality' – perhaps this prompted timings outstretching the composer-approved Jochum recording (same orchestra, 1968) by over 5m. It takes the fun out of a piece to which, in any case, the 'law of diminishing returns' applies. Orchestral precision is exceptional, however. The singing is best at the top of the scale: fine boys' and women's voices, a boyish soloist; the 'roasted swan' (Bunz) is arguably the finest yet, but Gerhaher's sensitive work sounds monochrome and the men dry in this live recording. *CB*

Sound Quality: 55%



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Starting with a typical 'student system', Robert fell victim to an 'off-the-back-of-a-lorry' sales scam. But then he started reading about the Quad ESL-57. His system has since evolved through modified amp designs by friends and his current vinyl and CD sources are from Rega. **Steve Harris** is impressed...

More than 20 years ago, Robert's search for better sound began badly, when he fell foul of the notorious white van speaker scam. But perhaps even that was a blessing in disguise, because Robert soon became a very acute listener, and an adventurous experimenter.

He went on to evolve a really outstanding system based on original Quad electrostatics and hand-built tube amps. Here he tells the story from the beginning.

'When I was a child, we lived in Australia for a while and we had a Bang & Olufsen music centre which my father had bought in Hong Kong *en route* to Australia. He'd just wrapped it up and carried it as hand-luggage. It's still in use at my parents' house, after 35 years or so!

'I was growing up in the early 1970s, just about the time everybody was replacing valve equipment with transistor equipment. As a child I liked the resistors with their coloured stripes, and I enjoyed taking valves to pieces – I must have destroyed a lot of lovely old Mullards. I was fascinated by the form of electronics, but not how they functioned!

'Later, as a student, I had what I guess pretty much everybody had – a NAD 3020 and a little pair of Mission bookshelf speakers. But I really got into high-end hi-fi as a result of being conned!'

A CONVINCING STORY

'My brother and I were walking along the street in London one day, and a white van pulled up next to us. You may have heard of this scam.

'We certainly fell for it. I have to say, they were very convincing. This was a well-organised con.

The van had the company logo on the side, the two men inside were wearing overalls with company logos and name badges. They had a clipboard full of receipts for the day's deliveries, pink slips, yellow slips, duplicates of receipts, an order book. In the back they had all kinds of boxes with the company logo on.

'Anyway, one man had leaned out and said "Would you like to buy a pair of speakers?". They showed us their order book and their delivery slips, saying they'd made all the day's deliveries. "We've got one pair left over. Nobody at the warehouse is going to know. They've given us one pair too many. These retail at



£1700. So if you're interested we can do a deal.'

'They half-unpacked the speaker for us. Beautiful packaging, beautiful finish. It looked very much like a Yamaha NS-1000M. Big 12inch woofer, a midrange, a tweeter, a couple of little adjusters on the front, just like the Yamaha.'

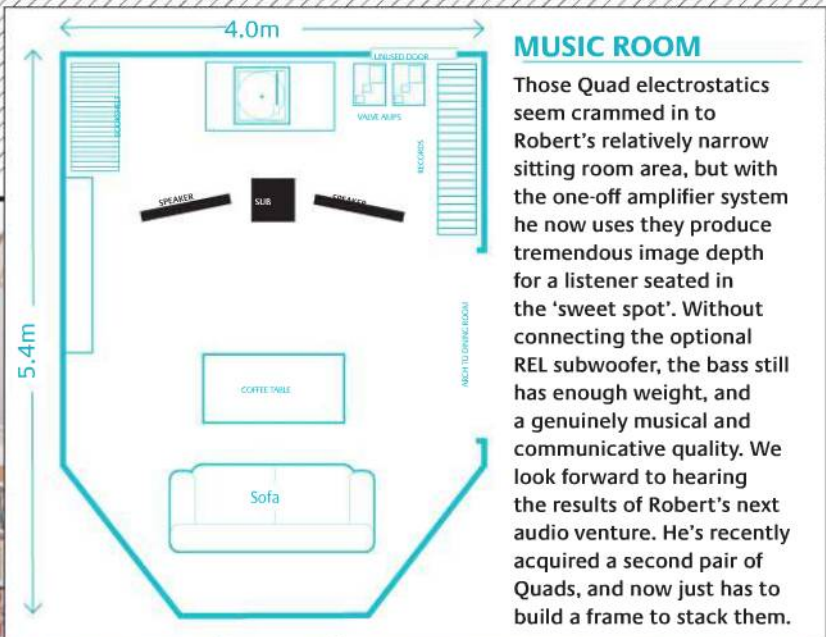
HOOKED IN

'So we fell for it, hook line and sinker. We bought the speakers, for not very much. We were sceptical at first, but they showed us magazines with advertisements showing the speaker on sale at £1700. It was only afterwards that I thought, anyone can put an ad in a magazine! All you have to do is pay for it. It was part of the investment, part of their set up.

'At first I thought they were great, which was because all I'd had before



RIGHT: Vinyl is still Robert's preferred source. He has a massive collection, partly inherited, which has a solid core of classical, but also ranges from esoteric world music genres to 1990s techno dance music



MUSIC ROOM

Those Quad electrostatics seem crammed in to Robert's relatively narrow sitting room area, but with the one-off amplifier system he now uses they produce tremendous image depth for a listener seated in the 'sweet spot'. Without connecting the optional REL subwoofer, the bass still has enough weight, and a genuinely musical and communicative quality. We look forward to hearing the results of Robert's next audio venture. He's recently acquired a second pair of Quads, and now just has to build a frame to stack them.



'So I started reading about the Quad electrostatic. And after I'd read half a dozen rave reviews, I started looking on eBay'

was the little Mission bookshelf speakers. The 'white van' speaker had a big woofer, so I heard real bass from my tapes – I mostly used cassette tapes then – and it was only later that I began to wonder a bit about the sound.

'Then one day I decided to have a look inside them. When I unscrewed the drivers and looked in, I discovered that the gloss, the finish, was entirely superficial. They were made of absolutely the cheapest components money could buy. Everything was incredibly flimsy. A tiny little crossover made of shoddy little components, cheaply soldered

together. Very thin wire, poorly-built drivers. Oh, and a thin cabinet with a chunk of brick glued to the bottom to give it mass!

'I started thinking, well, maybe I can put the better drivers from my Missions into this box and reinforce it. At the time I didn't know what a crossover circuit was, so I started reading about loudspeakers.'

FIT AND BRONZED

'But the more I read, the more I kept coming across people saying things like, "This wonderful loudspeaker is almost as transparent as the original Quad electrostatic".'

'So I started reading about the Quad. And after I'd read half a dozen rave reviews, I started looking on eBay. And the next thing I knew, I was driving off to collect a pair, from somebody who was afraid his children were going to poke something through them and electrocute themselves. I still have that same pair of bronze Quads.'

'The guy who sold them to me asked me what amplifier I was planning to use, and I told him I had a NAD. And he said "No, no! I'd recommend a valve amplifier". I asked him what he used, and he showed me his Leak Stereo 20. It

ABOVE: Quad electrostatics seem to fit naturally into Robert's stylishly retro decor. The REL subwoofer normally sits out of sight behind the left-hand speaker. The other '1950s room heater' now hides massive hand-built mono DHT valve amplifiers



was the first time I'd seen one. It was very dusty and it had valves in it.

'So before I knew it, I was bidding for Stereo 20s on eBay. I got hold of one, and found that all the components inside were very old – it was totally original. Reading about it, I learned that it was a good idea to replace capacitors, to check the old resistors. And that the valves might be dodgy.

'There's a very active Leak discussion group on the internet. So, as a result of buying that amplifier, I can count among my friends Steve Wilkins of NAD, Terry Bateman, who is the chief designer of Rega electronics, and a number of other people who have been extremely helpful.

'Then I needed a preamp to go with the Leak Stereo 20. The NAD had pre-out connections, so at first I used that. But the Quads seemed a little bright, so I went for the Conrad-Johnson PV10, which had a reputation for having a slightly mellower sound.

'But by joining the Leak discussion group, I had met Andy Evans, who lives not far away and has spent many years designing valve amplifiers. We looked at the Conrad-Johnson together and tried

various valves. As stock it comes with ECC82s, but after a bit of experimenting we discovered that it sounded a lot cleaner and more detailed with E80CCs in it. The circuit has been adapted to match the characteristics of those valves.

'Once I'd got the Stereo 20 amplifier on the Quads, I suddenly realised how good reproduced sound could be. And then the race was on, record player, CD player – as I've upgraded, there have been times when vinyl was ahead, and times when CD was ahead.

'They're now pretty much neck and neck. But I do love vinyl. There's something organic

about it. And one of the great things is the vast range of extraordinary things that you can find for sale. So in the collection here there is everything from Syrian flutes to strange recordings of Medieval dance music... all kinds of things.'

CLIMBING THE LADDER

'My first turntable, as a schoolboy, had been a Fidelity record player. The needle dropped automatically, too late, about 10 or 20 seconds into the record. I don't know what happened to that in the end. As a student, I couldn't really afford

'Before I knew it, I was bidding for Stereo 20s on eBay'



ABOVE LEFT: Monoblock power amps using directly-heated triodes, built for Robert by Andy Evans

ABOVE: Under the Rega Saturn CD player is the turntable's 24V power supply, EAR 834P phono stage and modified Conrad-Johnson PV10AL preamp. Next shelf holds a NAD receiver, used as a tuner only, Yamaha KX-393 cassette and Leak Stereo 20. Below that are Andy Evans' earlier indirectly-heated mono amps, based on Leak TL25

LEFT: Rega P3-24 deck, fitted with Origin Live-rebuilt RB250 arm and Denon DL304 cartridge

vinyl, and I had everything on tape, I used to tape other people's records.

'When I did come back to records, it was largely because I'd spent some time living with an elderly distant relative, who left me her collection. She said in her will that I could take some of her records if I wanted. So I loaded up the boot!

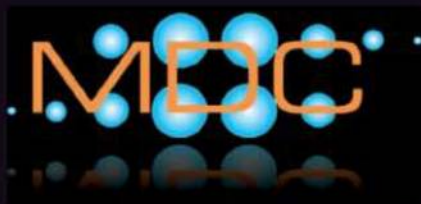
'And that was the basis of a fairly good classical record collection. I bought a Rega Planar 3, and it was very good. But I started reading about the Origin Live modifications to Rega arms, and I ended up buying a Rega Planar 2 just to get the RB250 arm off it. I sold the rest of the record player, sold the RB300 arm from the Planar 3. Had the RB250 arm fully modified by Origin Live, and that's the arm I used.

'Now I have the Rega P3-24, which is a dramatic step up. You can hear the precision, the accuracy of the timing. And I'm quite happy with that. But I have to say that in the bedroom I do have a nice early Garrard 401, waiting for me to make a plinth for it.

'As for CD players, I climbed the Arcam ladder, step by step. I had the Arcam Alpha 7, the Alpha 8 and then the Alpha 9, with the RingDAC.

'That sounded very good to me at the time. But then I got hold of a Rega Apollo, which I'm afraid is in a different league. The thing that clinched it for me was the sound of drums, percussion, or a plucked string. Anything taut, a plucked string, or a taut skin struck with fingertips, had a realism through the Apollo that I had never heard before.

'I was very happy with the Apollo, and it was a machine that I could have lived with. I have heard people



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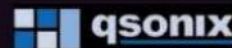


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say that they prefer it to the Rega Saturn, which I have now.

'To my mind, though, the Saturn is better in every way. It has much better bass. It has an extraordinarily three-dimensional soundstage. I have never heard the elements separated like this. It is literally startling. But I can imagine people not liking it because it's impossible to ignore. You can't relax and read a book with music in the background. It commands your attention.'

ONE-OFF DESIGNS

After we'd listened to Robert's system with the more-than-modified Leak TL25s which had long ago replaced his Stereo 20, he switched to a pair of massive, mysterious, newly-installed monoblocks. I sat up immediately, as the sound was now spectacularly good. It was more involving, imbued with more natural textures and a kind of effortless realism that wasn't there before.

'Those power amplifiers have been quite a story. I have two classes of amplifier-designing friends. There are the ones who design amplifiers for a living, and are compelled to build commercial products that can be manufactured in bulk, and can be sold at prices which the consumer is willing to pay.

'And then I have friends who design amplifiers entirely as a hobby, the gentleman-amateurs like Andy Evans. They're only concerned with the sound. So, for every resistor, half a dozen different varieties are tried until the one which sounds best is found. The circuits are endlessly refined. The final result is one-off amplifiers which look a bit like



ABOVE: Late-production Quad Electrostatics are tipped forward slightly by small wooden blocks under the back legs

BELOW LEFT: Optional extra bass is provided by a REL Q-Bass subwoofer

BELOW RIGHT: Robert, Fenella and their dancing daughter Raphaela



a spider's web inside, but sound extraordinarily good.

'Officially, Andy is a psychologist, but designing amplifiers appears to be something of an obsession. He told me that at the age of ten, he helped his father rebuild an amplifier, so that's 50 years of amplifier design.

'You started listening to a pair of amplifiers designed by Andy, which were originally Leak TL25s, but they no longer bear any resemblance to the Leak circuit. Gigantic capacitors on top, all kinds of boutique resistors underneath. Ex-military Russian Teflon stuff. Andy spent quite a long time refining this design, and when he finally didn't think he could go any further, and started thinking about different circuit designs, he sold them. I picked them up from him a few years ago now.

'He'd then become interested in directly-heated triodes, and so I asked him to build me the finest DHT amplifiers he could imagine, saying that I would pay for the parts. Three years later, after an expenditure that had crept into four figures, we had these two monoblocks!

'They're liftable by one person, just. They have three stages, all directly heated. The gain is very low, which is not really a problem, because I don't listen at high levels. They are completely balanced in design. The main amplifier stage is a 2A3 and before that, various more unusual radio valves. And the

biggest capacitors I have ever seen. As we've just been hearing, they are very detailed, extremely clean, and have the most wonderful sense of space and ambience. But if anything were to go wrong, I don't think anybody else looking at the underside could work out what's going on!

Robert told me he felt that the Conrad-Johnson preamplifier was now the weak link in his system. But he also told me that Andy Evans was about to deliver a directly-heated triode preamplifier, using vintage 10Y tubes in filament-bias mode. A few weeks later, the preamp arrived, and I was able to hear it, in the company of Robert and Andy.

'For every resistor, half a dozen varieties are tried'

It lived up to expectations. Listening to what must be one of the very few all-DHT amplifier systems around, we enjoyed a marvellously

inviting sound, which came to life with seemingly endless detail and the most natural timbres and textures. It was a truly foot-tapping sound, too.

'You'll notice there are few dents in the grilles of these Quads,' says Robert. That's a result of them being used as musical statues for little children's birthday parties.

'And my daughter dances to them every evening.' ☺





Paul Miller
Editor

Technician and writer on all things audio for over 25 years, Paul Miller took over the editor's chair in 2006. He invented the QC Suite, used across the audio industry

USB if you want to

Modern USB DAC solutions promise high quality digital audio from a ubiquitous PC and Mac interface. But as **Paul Miller** explains, some USB connections are more equal than others

USB – the computer's Universal Serial Bus – has long been the poor relative of S/PDIF and FireWire when the time came to stream your hi-res digital audio from PC or Mac to an outboard DAC. However, with more outboard USB DACs accepting 96kHz/24-bit digital audio and employing an asynchronous connection, this is no longer the case. Asynchronous transfer allows the receiving device to regulate the flow of USB's packet data, without the need for complex buffering.

Alternatively there's TI's SpAct architecture that recovers the audio clock from USB packet data. In this issue we've the dCS Debussy [p22] and miniature HRT Music Streamer Pro [p63] offering asynchronous USB, while recent stars like Pro-Ject's DAC Box [HFN, Nov '10] employ the Burr-Brown PCM2704 chip with SpAct.

PC AS SOURCE

In his Debussy review, Keith mentions the impact of circulating earth currents on its sound, but I have also noticed how USB DACs are not only influenced by the PC's grounding but also the implementation of the USB hub itself. Mirroring Keith's experience, I discovered the sound of the more affordable Pro-Ject DAC Box was

'Sadly, there's no such thing as an audio industry standard PC'

cleaner, clearer and possessed of a more tactile bass once my Sony Vaio laptop was separated from its 19.5V switchmode supply. With the supply connected – even with the battery fully charged – low-rate, noise-like jitter increased by a factor of 10x (~3000psec) during D/A conversion in the attached Pro-Ject DAC Box [see Graph 1, below left].

So what about other PC solutions and their impact on the general reviewing of USB DACs? In a separate experiment I pressed one of my own lab PCs into service, this employing a superior PSU designed for server installations and genuine Intel motherboard and processor. This, and the Sony laptop, use my preferred Windows XP OS (if it ain't broken...) and FooBar 2000 as a means of bypassing the native kernel mixer (which has a habit of asynchronously re-sampling any 48kHz or 96kHz digital audio down to 44.1kHz).

Same OS, same mixer and the same digital audio files. But guess what? Music sounds better still from my earthed Intel desktop PC than the laptop without its powerpack. Jitter collapses to around 200psec from the Pro-Ject DAC [see Graph

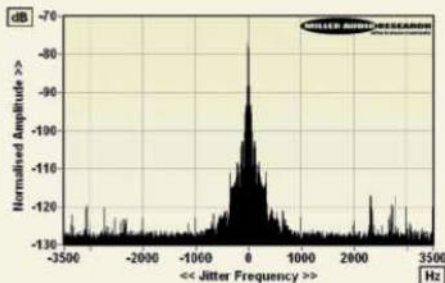


ABOVE: Pro-Ject's latest USB-enabled DAC

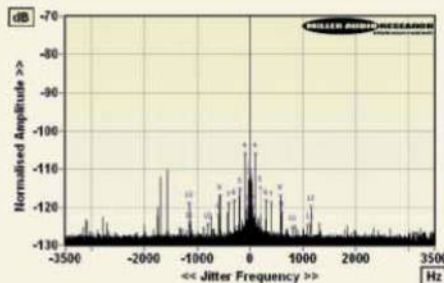
2, below right with jitter sidebands marked). With the dCS Debussy we get just 14psec with the same 48kHz/24-bit data. And it sounds fantastic. Sadly, there's no such thing as an audio industry standard PC, so I'd advise all USB DAC reviews to be read with this caveat.

ONES AND ZEROS

Next month I'm really going to bake your noodles. I'll show you not only how audio performance is influenced by other devices connected on adjacent USB hubs but how your choice of USB interconnect can also make a difference. So that's four weeks for the 'einsnull' flat-earth engineers to reach boiling point. ☺



ABOVE: USB jitter – via mains-fed Sony laptop



ABOVE: USB jitter – via Intel desktop PC



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

Once bitten...

With online retailers like Amazon now a first point of call for many cost-conscious consumers, independents are fighting back with websites of their own. **Barry Fox** tried offering some help...

I wholeheartedly share Ken Kessler's view that anyone who goes to a bricks and mortar dealer for an AV demonstration, and then buys online at lower cost, is a scumbag [see *HFN* Sept '10]. So I feel guilty that I now buy not just books, CDs and DVDs from Amazon, but tools, cables, accessories and computer parts too. I am a sucker for Amazon's very clever automated system of promoting new products with tempting recommendations based on past purchases. 'People who bought this CD are also buying this one too.'

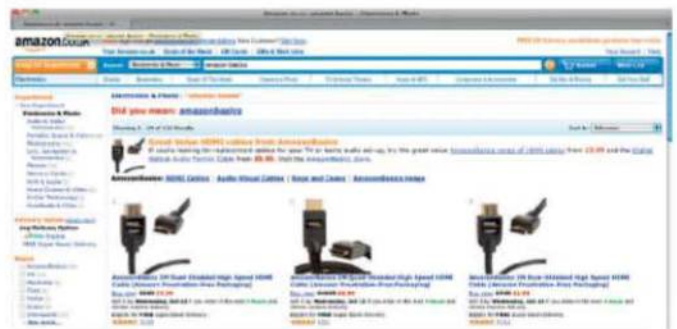
EXPANDING THREAT

It seems pretty obvious to me that this represents a very real and ever-expanding threat to traditional dealers. Some have joined the Amazon vendor system, and pay to sell via Amazon. Others have set up their own web sales systems. Some hope they can compete with online marketing by offering personal demos, installation and the guarantee of after sales service, fuelled by word of mouth recommendation.

Recently I wrote a piece for an electronics industry trade journal telling dealers how I had discovered only by chance that although Amazon actively invites customers to 'review' their purchase for the benefit of others, these invited reviews can only comment on the product, not the vendor's service.

To comment on the vendor's service, the customer has to take the initiative and find the less than obvious way to do it. Although the entered service comment is then available for all to see it isn't pushed at the consumer in

RIGHT: The Amazon range of Basics/Frustration Free Packaging accessories, such as HDMI leads at under a fiver. A threat to dealers?



BELOW: The Retra press release criticising Barry Fox as 'naive'

the same way product review comments are. Perhaps specialist dealers and their trade bodies could somehow exploit this, I wondered aloud.

I expected Amazon to get cross with me for pointing this out. What I hadn't expected was that Retra the trade body which represents 'brown goods' dealers (Radio, Electrical and Television Retailers' Association) would issue a ranting press release in which the Chief Executive personally attacks me for being 'naive'.

Highlights include: 'Retra has today criticised technology journalist Barry Fox's (sic) for a misleading article.'

Bryan Lovewell, Retra's chief executive, cites mysteriously anonymous dealers 'as incensed' before appearing to agree with what I'd said by assuring that 'there are many facets to the independent retailer, including they are established businesses that have been in place for generations in a lot of cases; their attention to customer service, both pre and post sale.'

One of the nameless 'incensed' dealers is then quoted as saying 'Mr Fox's article is incorrect... he does not understand the Amazon review system... Barry just needs to learn to put the relevant comment in the relevant place.'

My point precisely; the consumer may not understand either.

So I asked Chief Executive Lovewell if he would comment on the expanding Amazon range of Basics/Frustration Free Packaging accessories, such as HDMI leads at under a fiver. Is this not a threat to dealers? And what does Retra think about the recent report from market analysts Greenlight which shows Amazon at the top of the Top 10 most visible Brown Goods websites and the best performing retailer with 57% visibility? No comment on either says Retra.

A TOUCH OF FROST

I have tried but not yet found anyone other than Retra's Chief Executive and the anonymous 'incensed' dealers, who

'I expected Amazon to get cross; I hadn't expected Retra to attack me for being naive'

think I was undermining specialists; just the opposite, in fact. So I offered a letter to Retra's house journal, *Alert*, inviting any aggrieved AV

dealer to contact me direct. From the frosty silence I don't expect to see it published. But any *HFN* reader who feels I was short-changing real dealers is very welcome to contact me via *HFN*.

But not anonymously please. That's just cowardly. ☹

retra

Radio, Electrical and Television Retailers' Association

RETRA HITS OUT OVER FOX VOX ARTICLE

Retra, the radio, electrical and television retailer's association, has today criticised technology journalist Barry Fox for a misleading article, in which he wrote that shoppers on Amazon can not give feedback on the retailer they buy from.

The recent Fox Vox article on ERT's website also saw Mr Fox claim that the threat of internet retailers to high street brown goods retailers is 'virtually insubstantial'.



5

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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

You can't do this at home

A night at the symphony points up how far off-track we audiophiles can go when pursuing realistic sound at home, and it's an exercise that more of us should practice, reckons **Barry Willis**

Sometimes, press privileges are wonderful – especially if you happen to be a culture vulture and live in a part of the world abundant with art, theatre and music. Case in point: the October 3 season opener of our local Marin Symphony under the direction of Alasdair Neale. Also Principal Conductor at the San Francisco Conservatory of Music, Neale began the night's entertainment with a lovely performance of Richard Strauss's *Der Rosenkavalier Suite* and closed it with a rousing interpretation of Beethoven's Symphony No 5.

Showcased between these two was Rachmaninoff's 'Rhapsody On A Theme Of Paganini', a challenging piece performed with aplomb by acclaimed young pianist Joyce Yang. Equal parts tenderness and ferocity, Yang infuses her playing with palpable emotion.

LEFT OF CENTRE

My companion and I were lucky enough to be seated in Row 2, just left of centre, giving us an intimate view of Ms Yang, her Steinway grand piano, conductor Neale, and the entire violin section. The upfront seating also put us in the sonic nearfield, essentially eliminating any acoustic contribution from the 2000-seater hall.

I had always thought that I preferred a more central spot in the concert hall – better mix there, went my reasoning – but I was wrong. Sitting near the performers was a revelation – we caught every musical nuance and saw every subtle cue, including Neale's sly wink-and-nod that told Yang when to begin the next phase. Our position also let us experience the full force of the orchestra with none of the sonic blur



ABOVE: 'Every musical nuance caught' – cellists and bassists under director Alasdair Neale

that inevitably muddies a performance for those further out in the audience. Every detail was perfectly clear, but the orchestra was never too loud – not during the 5th's insistent opening, nor during its crescendo.

Despite the assertions of hi-fi manufacturers, and despite the wishful thinking of audio journalists, sound that big and that gorgeous can't be had at home at any cost.

Oh, every once in while we can achieve an approximation of concert-hall realism with the right recordings under the right circumstances, but reproduced music is almost always a smaller-than-lifesize rendering, or compromised in dozens of other ways – by inadequate bass, dynamic compression, clipping distortion, ground hum, background noise, loudspeaker colouration, room acoustics. Insert your

sonic bugaboo here. A night at the symphony points up how far off-track we audiophiles can go in our pursuit of realism in the home, and it's an exercise that more of us should practice. It's a recalibration of the ear and the mind.

TRUST YOUR EARS

Too many people in this field of ours – designers, reviewers, and hobbyists – pay homage to the live experience, but are locked in a self-referential loop of recordings-and-playback.

The only trustworthy 'reference system' isn't an assemblage of loudspeakers, amplifiers, cables and source components. It's your own ears, a group of expert performers before you, and the clear air they set in motion.

Whether this makes you revile your hi-fi system for its inadequacies or makes you appreciate it all the more makes no difference. Live music is the only reference that any of us should honor. Anything else is an impossible dream. 🎧

'A night at the symphony is a recalibration of the ear and the mind'



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

Simply does it...

The need for a headphone DAC has **Jim Lesurf** pondering the concepts of simplicity and elegance as he decides to get out the soldering iron and experiment with assembling a design of his own

Everything should be as simple as possible, but no simpler' is a saying widely attributed to Albert Einstein. In practice of course, what may seem 'simple' to a theoretician struggling with the structure of space and time can look pretty complicated to the rest of us!

Fortunately, in engineering, simplicity is often easily recognised... once someone has had the idea. And engineers and designers often try to get what they make to be as 'simple' as possible. Perhaps aiming at the even higher goal, elegance.

WHAT IF?

A while ago I decided that I wanted to use headphones to monitor sound files I was working on using my new laptop. Alas, experience makes me wary of the sound quality of the analogue outputs of computer soundcards. So I started wondering about using a headphone DAC. Basically I just wanted something that had a digital (S/PDIF,

preferably optical) input, a volume control, and drove headphones. Ideally, battery powered. Searching the net I found various candidates but began to wonder if I could put together something that would be cheaper and work reasonably well.

Since I'd recently also written about 'DIY audio' [HFN Nov '10] I then wondered if I could settle on a design that was as easy as possible to build. Even for someone with no previous experience of making any electronics.

Rather than look for the most modern approach I decided to try and combine some new electronics with an old idea. This was to use small audio signal transformers rather than an active amplifier stage between the actual digital-to-analogue convertor and the headphones.

After some experiments I obtained the result shown on the web at www.audiomisc.co.uk/HFN/HeadphoneDAC/

HeadDAC.html. I was pleasantly surprised to find that what I'd built seemed to me to be good enough to enjoy using it in ways I hadn't planned.

For example, to listen to DVDs of loud music while sitting next to someone else who wanted to quietly read a book.

For that I just connected the headphone DAC I'd made to the optical output of the DVD player. No amplifiers or speakers in the listening chain at all. Simplicity.

'I decided to try and combine some new electronics with an old idea'

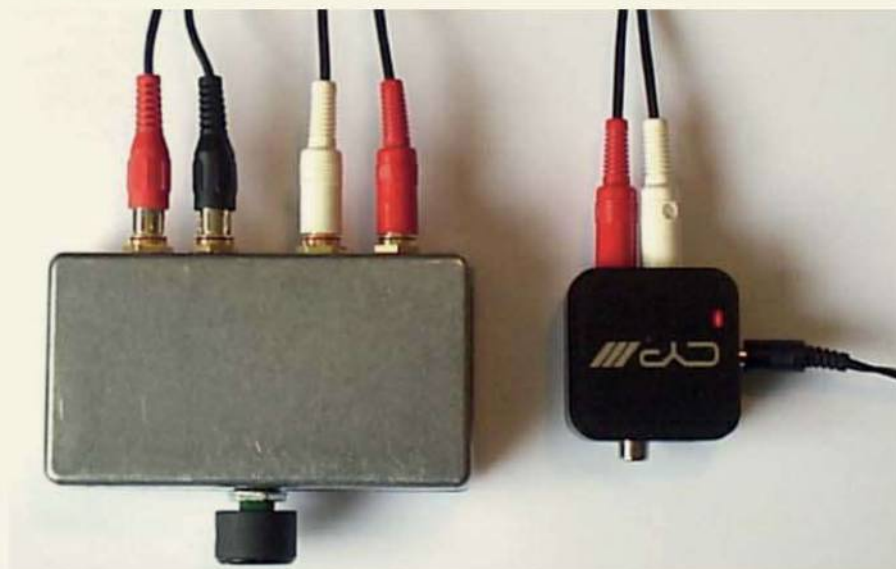
Of course what may be 'simple' will also have its own limitations and drawbacks. No one design is perfect or would suit everyone. For instance, what I built won't play as loud as some would like. Using transformers rather than an amplifier means that the design relies on the tiny amount of signal power that the DAC electronics can provide. So headphones that have high sensitivity are required, and even then the results may not suit fans of Def Leppard!

AURAL ALTERNATIVE

Nevertheless, with a pair of Sennheiser EH350 phones I have been enjoying the music. OK, maybe some of the pleasure comes from the nice feeling of having cooked the cake I am eating. But if so, the listening is still a pleasure.

I think that almost anyone willing to solder a few wires and drill some holes in a metal box could make something like this, and may well enjoy using it. If nothing else, having an alternative like it gives you a new aural perspective on what you are listening to.

Headphones can also be a compact, low-cost entry point into serious audio. And another bonus of DIY is, of course, the possibility of experimenting to see if you can 'improve' the design. ☺



ABOVE: The author's DIY design with adaptor box (left) containing the volume pot and the two transformers next to the black AU-D3 with its power plug entering from the right

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Steve Harris
Contributing Editor

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

Thrilled to bits

The BBC's decision to broadcast the last week of the 2010 Proms using a 320kb/s bitstream has certainly drawn an enthusiastic response from listeners. **Steve Harris** was one of them...

If you owned an early Linn Sondek LP12, you needed three hands to put a record on, because the lid could only be kept open by fiddling with an annoying plastic prop. When Linn boss Ivor Tiefenbrun finally gave in and fitted the LP12 lid with sprung hinges, so that it would stay open on its own, he said that this was 'our instant response to years of criticism.'

Perhaps the BBC could have said the same thing about its Extra High Quality Sound experiment, held over the final days of the Proms season. But I'm being flippant. In fact, the Proms XHQ trial was an admirable initiative, a breath of fresh air, a reminder that when its engineers are given a chance, the BBC can still set standards for others to follow.

SPECIAL STREAM

Just for that last week of the Proms in September, listeners using the internet to hear Radio 3 could choose between the usual bit-rate of 192kb/s and a special XHQ 320kb/s stream. Listeners



ABOVE: The Coyopa system at Broadcasting House, which processed XHQ the Prom feed

RIGHT: The 2010 Proms – for the tech behind the XHQ stream go to the BBC R&D blog page at www.bbc.co.uk/blogs and enter XHQ into the search field at the top of the page



were invited to take part in a survey, giving their views on the quality of XHQ versus DAB and FM. On the BBC website, Rupert Brun, Head of Technology for BBC Audio and Music, gave a lucid explanation of what was about to happen, and followed through during the experiment week by responding to comments on the blog.

And these posts revealed an overwhelmingly enthusiastic response to the better sound of 320kb/s.

Alwyn Seeds of UCL wrote: 'Tremendously impressed... XHQ is smoother and goes a long way to getting rid of the listening fatigue of 192kb/s Layer II that puts me off listening to Radio 3 for long on either DAB or Satellite. A real joy. It's also very much better than FM, which is very heavily level compressed. Wonderful to have the BBC leading in transmission quality again.'

Feedback early in the week from respondent R M Galley and others led BBC engineers to reset gain levels to avoid premature clipping and give optimum dynamic range. You can follow the technical story on the separate BBC Research & Development Blog page.

Only one Internet Blog respondent, Neil, seemed to think the BBC shouldn't

have chosen the Proms for the XHQ experiment: 'Personally, I think Radio 3 should be 80k MP3, the same quality you think is good enough for BBC Local listen again. 320k AAC should be used across the genre[s] of music styles, not just classical. Rant over!'

HIGHER LEVELS

Many posts urged the BBC to make the high-quality streaming permanent for

Radio 3 or even all the networks, on internet radio or satellite. But Rupert Brun's wrap-up comments made it clear that this wasn't likely to happen, due to the costs involved.

'XHQ is smoother and goes a long way to getting rid of listening fatigue'

Listening to the XHQ stream on the Last Night, I thought it was great too. I can only echo one of R M Galley's later blog posts: 'When the audio quality is as superb as this it does encourage listening at higher levels. This is fine until the announcements come along and, guess what, they are much too loud!'

'Apart from the last comment... the BBC are to be congratulated for offering, if only fleetingly, what is possible by way of delivery of truly high quality audio to the home.' Hear, hear. ☺



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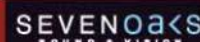
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Alan Sircom, **HiFi Plus Issue 48**



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YOUR VIEWS

Sound Off!

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THE WOW FACTOR... DIGGING DEEP INTO THE TECHNICS TESTS

I read with great interest your review of the Technics SP-10 turntable. In the text you mention a wow sideband at $\pm 2.8\text{Hz}$, but I don't see this in your flutter spectrum? Out of interest I took the wow spectrum from your site [www.milleraudioresearch.com/avtech] and overlaid it with the one from the Garrard 401. They look all but identical. This is quite unlikely as the technology is so very different.

I am interested to hear your thoughts on this. You can see some of my test gear here www.soundhifi.com/test.html.

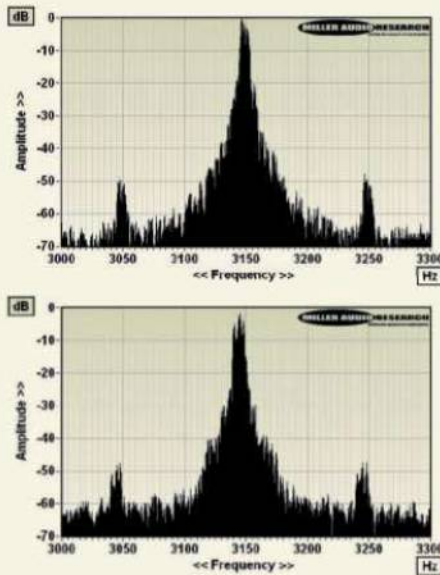
My long term goal is to completely re-engineer the SP-10 electronics using a DDS to give 0.01RPM increments. I have a fixed frequency prototype working on the bench right now!

Dave Crawley, via e-mail

Paul Miller replies: A turntable's wow and flutter spectrum is analogous to the jitter plot for a CD player and will often reflect the underlying 'technology'. I commented on the similarity between the Technics and Garrard spectra in my lab report [*HFN* Nov & Jul '10, respectively].

We should not be surprised as both decks are direct-drive types and differ markedly from the decoupled, belt-drive designs of today. Both are largely free of very low-rate drift and this allows the $\pm 2.8\text{Hz}$ and $\pm 3.5\text{Hz}$ wow sidebands to be resolved quite easily – hence the 'triplet' appearance of the central peak. Both also show additional $\pm 100\text{Hz}$ flutter sidebands as they employ very powerful motors, so some switching noise might be expected.

BELOW: W&F spectrum for the Technics SP-10mkl (top) vs Garrard 401 (bottom)



ABOVE: The Technics SP-10 with offboard power supply that was featured and tested in our November '10 issue. The deck made its first UK appearance in 1974

An audio reawakening

READER'S RESURRECTED KIT STILL SINGS BRIGHTLY TODAY

I have been interested in hi-fi since 1953, long before many of your experts were born! Indeed, mention the term hi-fi to people back then and no-one would have a clue what you were talking about.

Hi-Fi News was the first audio magazine to reach the newsstands, the first issue coming out in June 1956. I took every copy until 1979 when unfortunately I lost my wife to cancer and my interest in the subject dwindled.

By this time I had accumulated a Leak 30 amp together with the Troughline tuner, which were mounted in the one cabinet. I also had a Garrard 301 fitted with an SME arm and Shure V15111 cartridge. I was proficient in cabinet making and constructed, among others, Decca Corner Horns, two large corner speakers with Goodmans units and a 6ft 6in transmission line woofer fitted with 13in KEF drivers. This was concrete lined and veneered, on castors and used as a coffee table! The sound, I hasten to add, was pure magic. However, I eventually decided to move, broke up the speakers and packed all my gear away.

This year I moved again and found a hi-fi friend living just a few doors away. This has re-awakened my interest. A few years ago I picked up a pair of Mordaunt-Short speakers at an auction along with a pair of Mission bookshelf models. I have now connected the speakers to my original electronics with speaker wire from my local hardware shop. It cost pennies. My friend, who has spent thousands on his system, cannot believe the pure sound I am getting from both vinyl and FM BBC3. My 301 is bolted down on its base and there isn't a hint of wow or rumble. Vinyl is still the finest source of sound. I wouldn't have a CD player if you gave me one.

G Coles, Suffolk



ABOVE: A Garrard 301 and SME arm ready to be bolted onto a brand new base, in this case made of laminated ply

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More on remotes

A READER'S PLEA FOR STANDARD CODES

The letter entitled 'Shoot The Remotes' in your *Yearbook 2010* has prompted me to write in with a grumble of my own. Standardised code – we need it now!

I am so tired of those piles of remote controls needed to operate all my various electronic devices. Some of those remotes may be capable of operating more than one device after sorting through endless lists of codes and several awkward programming steps. Or by putting two remotes head to head and going through some tedious learning process. It would be nice to be able to buy some £5 remote from a rack at a local discount store, take it home, and right out of the package operate every electronic and electrical device in the house.

How? Simply ensure that the operating codes for volume, channel, *etc.*, are the same for every device. The only difference is the codes prefix, containing the device code, TV, amp, DVD player, receiver, *etc.*, and the address, 1, 2, 3, *etc.* It would be up to an individual manufacturer as to how many devices its remotes could control. A remote would have several dedicated buttons such as TV, DVD, Sat, Cbl, *etc.*, along with assignable buttons for things such as lights, heaters, and other household electrical devices. Also, with a new standard for remote controls, there would no longer be a need for manufacturers to include a remote with every new piece of equipment!

Gerald Ganger, via e-mail



ABOVE: One remote to rule them all!

KEF's best...

BUT READER TAKES ISSUE WITH HFN REVIEW

As a very satisfied and, I recognise, fortunate owner of a pair of KEF 207.2s loudspeakers, I was keen to see what your reviewer made of them [*HFN* Nov '10]. They are, I think, an under-reviewed speaker apart from the *Stereophile* magazine review and award (a factor in my buying them) and the rather lukewarm *What Hi Fi? Sound And Vision* assessment, which I am glad I ignored.

Overall Keith Howard does them justice and the (probably specious) quantitative judgement of 88% is rare enough. The only speaker I recall bettering this percentage was the latest Quad Electrostatic, which I tried before the KEFs and found very good in parts but unconvincing overall. No doubt the 2% difference was carefully calibrated by Messrs Kessler and Howard.

However the sting in Howard's tail was the apparent (to him anyway) lack of midrange transparency curable, it would seem, only by bi-amping. Since KEF allows for this and indeed tri-amping (which Howard didn't try) one must assume the company thinks there's something in it. Unfortunately, with one Musical Fidelity KW 750 and its power supply weighing down my rack and two 15ft lengths of Reference cable under the floor, it's not an option for me.

But for Howard, introducing another amp transformed the KEFs to something worth £10,000. What value would he have put on them before? Is the 88% a bi-amp figure? What percentage would the speakers get with one amplifier?

In the interests of some control of variables did Howard think of comparing bi-wiring with bi-amping? Or is it even possible that plugging and unplugging the links had an effect in itself? Did he return to single amping to make sure there was a difference?

So I am afraid only 63% to Howard as a reviewer. How did I arrive at this figure? By a similarly inscrutable process to Howard with his 88%.

For anyone who is interested in another more perceptive view, try John Atkinson's review in *Stereophile*. At a more humble level of criticism I would say these are the best speakers I have ever heard and the first for over 40 years which allow me to forget them and concentrate on the music. If you're in the market at this level and price I would recommend a home trial of the kind my



ABOVE: King KEFs – a lack of midrange transparency proved curable by bi-amping

excellent dealer, Lyric Hi-Fi in Belfast, was prepared to give me.

Professor Roger Ellis, via e-mail

Keith Howard replies: Professor Ellis appears to be very happy with his 207/2s, which will be good news to all of us who, in a perfect world, would wish everyone to buy hi-fi products that meet their expectations and give them lasting pleasure. I'm delighted that he's so happy with them. But I wonder why, in the circumstances, he should still seek approbation from others and, it seems, wish to deny them their own experience with these speakers. Given the uncompromising nature of his own assessment, he will surely understand that I remain content with mine.

John Atkinson's exemplary review of them, incidentally, makes no mention of the effects of bi-amping or bi-wiring. Perhaps if Prof Ellis were to try bi-amping his 207/2s then he would hear what I described.

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The Couplet 250S is a 225 Watts into 8 Ohms power amplifier that features Chapter's analogue 'Class D' amplifier technology for a very low distortion performance. Powered by Chapters own 'Balanced Zero Ripple Power Supply' the Couplet 250S offers effortless performance.

Discover Couplet 250S




 **Hardback Series - Preface-S**

The Preface-S is a fully balanced, line level pre-amplifier with seven inputs (2 x balanced, 5 x single-ended). Using the finest part selection available; including Burr Brown op-amps, ultra low ESR Nichicon and Samwha electrolytic capacitors.

Discover Preface-S



 **Hardback Series - Précis 250S**

Taking the key components of both the Preface-S and the Couplet 250S, the Précis 250S is an integrated amplifier rated at 225 Watts per channel into 8 Ohms and 450 Watts per channel into 4 Ohms. The Précis 250S delivers unmatched deep bass with a deft and delicate touch.

Discover Précis 250S



Germany calling

A TEUTONIC TAKE ON THE FIGHT TO RETAIN FM

I have just finished reading your articles concerning the switching off of analogue FM radio in the UK [see *HFN* Sept '10] and I wanted to congratulate you on your courage and frank statements of the facts. During my 25 years as an MD and head of R&D in the electronics industry I have realised that whatever is decided in Europe has been, is being and will forever be dictated by the major entertainment concerns. How do you best enforce sales? You change the norm, so everybody is forced to buy new equipment.

Digital TV is poor compared to analogue, but quality has long since become a dirty word. The same holds true for DAB due to data reduction and compression. FM was one of the greatest inventions in the world of electronics. After the war, Germany lost most medium and long wave frequencies, while the spectrum around 100MHz was still empty. At that time, it was impossible to create frequency-stable oscillators at a decent price so AM could not be used in this frequency range. This is why FM was introduced.

I remember vividly the first 100W FM transmitters. There were few radios with incorporated FM; in the case of most radios small boxes were installed by dealers, which were simple one-tube circuits using IF filter slope conversion of FM to AM. The huge leap in quality was evident even with these simple boxes.

In spite of the wide channel spacing, it has to be said that frequency drift during warm-up remained a problem for a long time and one had to retune continuously. Much more expensive were radios with a full FM chain from front end via mixer, IF and ratio detector.

Every electronics expert knows that the quality of FM, which is a fully analogue system, cannot be surpassed and will always be superior to any digital system. However, where is the FM radio station which still uses analogue input? I know of none. Today radio stations are fully digital and have scrapped their analogue gear. So what we receive over FM is digitised



ABOVE: DAB radio is currently available to around 70% of the Germany population

and compressed music, even on the classical channels. The quality is more akin to medium frequency AM of the 1940s.

Oddly enough, thanks to the existence of private radio stations, all efforts to promote DAB in Germany so far have failed miserably. Why? While the public stations receive compulsory payments and are thus flooded with money, private stations depend on advertising. Unless they can prove that they reach the majority of customers, they will not receive advertising revenue. As hardly anyone has a DAB radio here, switching over would mean suicide for these stations! Apart from this, they don't have the money to build new DAB stations. A third reason against DAB is the fact that close to 200 million German radio sets would become scrap the moment DAB was enforced. For the UK you mentioned 150 million radios.

Unless radio manufacturers are forced to offer DAB by law in Germany, a switch-over just cannot happen. Interested parties will try to enforce DAB here using the same methods you so vividly described in your piece on the UK situation, but there is still the hope that there will be no money. Also, protests against superfluous expenditure of public money are rising rapidly in Germany.

I wish *Hi-Fi News* the best of luck in your fight for FM.

Dr Ing Artur Seibt, via email

Rare Radford

PLEASE HELP IDENTIFY MY POWER AMP PURCHASE

I wonder if you can help? A while ago I bought a Radford STA 20 power amplifier – not a 15 or 25, but an STA 20. I have looked all over the internet, and on the Yahoo Radford group (<http://tech.groups.yahoo.com/group/radford>) but can find no information on this model.

The only place it is mentioned is in the book *Audio Audio* by Jonathan Hill, which gives the price of the amp as being higher than that of the STA 25. Any help or information would be most helpful.

Peter Anderson, via e-mail

Haden Boardman replies: The Radford STA 20 is indeed a very rare bird. It was listed in the *1963 Hi-Fi Yearbook* (printed in 1962) and was not shown in the 1964 edition. It was exactly the same price (£67 10s) as the 'pro' ISTA 30 from Arthur Radford.

Both amplifiers are actually rated at 30W per channel, not 20W, and both were available at the same time. However, your '20 has lower claimed distortion (0.05% versus 0.1%) but also lower sensitivity (500mV versus 250mV).

The STA 25/III was a later amplifier, and it would be interesting to make a technical comparison. Sadly I have never owned an STA 20, but suspect it was a 'domestic' version of the more familiar ISTA 30. Radford does seem to have made an awful lot of odd-ball models.

The lack of any of these amps on the secondhand market would indicate that other than the very popular Series Three amplifiers, they did not sell that many!



ABOVE: Arthur Radford – made 'an awful lot of odd-ball models' alongside the famous amps



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* price for SCM20A SL PRO

COMPACT MASTERPIECE.

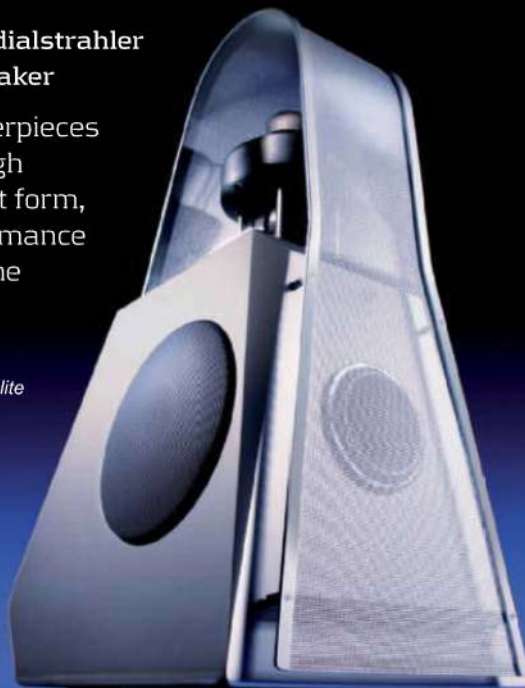
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Noel Keywood, HiFi World (ESL-2905)

QUAD

the closest approach to the original sound.

Goodmans Maxamp 30

Goodmans Industries' opening foray into the world of consumer electronics was the ground-breaking Maxamp 30, the first British integrated amp to use silicon transistors
 Review: **Haden Boardman** Lab: **Paul Miller**

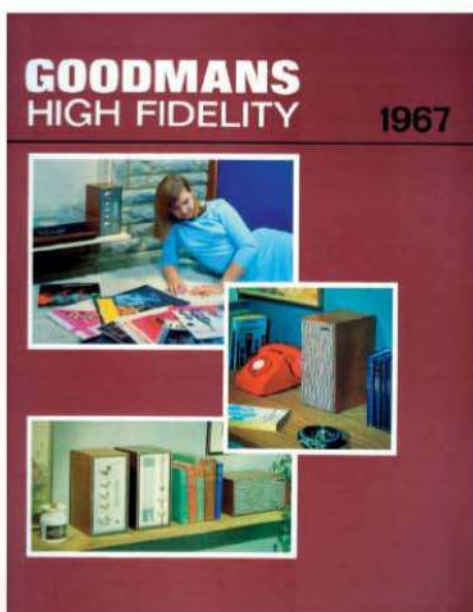
Goodmans was one of the most prolific loudspeaker makers of the 1960s. Along with its own hi-fi lines, such as Axiom full range drive units, Audiom bass units, and Midax and Trebax pressure units, Goodmans also supplied a huge portion of the radio and television trade with high quality loudspeaker drive units. The company first opened in Wembley, Middlesex, back in 1932, specialising purely in loudspeaker production. It was at the forefront of high fidelity design, utilising Paul Voigt's 'twin cone' patent in the 1930s, and post WWII employing the very talented Ted Jordan (a design hero of mine) in the creation of the fabulous Axiote and Maxim designs.

By the 1970s the company had opened a factory in Havant, Hampshire, specifically for loudspeaker cabinet and drive unit production. At one point the loudspeaker manufacturing part – by then divorced from the consumer electronics division, and marketing itself as GLL (Goodmans Loudspeakers Ltd) – merged with several other audio brands including Epos, Mordaunt-Short and Tannoy, to form TGI (Tannoy Goodmans Industries).



GOODMANS MAXAMP 30
 HIGH FIDELITY TRANSISTORISED STEREO AMPLIFIER

ABOVE: An early brochure showing off the vertical Maxamp 30 – Goodmans' first venture into electronics production, back in 1966



ABOVE: The Swinging '60s – lifestyle shots complete with shag-pile carpet, flock wallpaper, false stone fireplace, and the trendy Maxim speakers, Maxamp 30 and the Stereomax AM/FM tuner

Subsequently bought by a Danish company, the TGI group was broken up and the GLL name disappeared when the company went into administration in March 2004. However, the Goodmans name survives as part of the Harvard Group (formerly Alba, which also owns the rights to the German brand Grundig).

It no longer makes any loudspeaker components, but the brand name survives marketing a range of digital consumer electronics, specifically DVB set-top boxes and LCD TV sets. However, Goodmans' first foray into the world of consumer electronics was this little unit, the ground-breaking Maxamp 30 – first in a long line of very successful audio electronics.

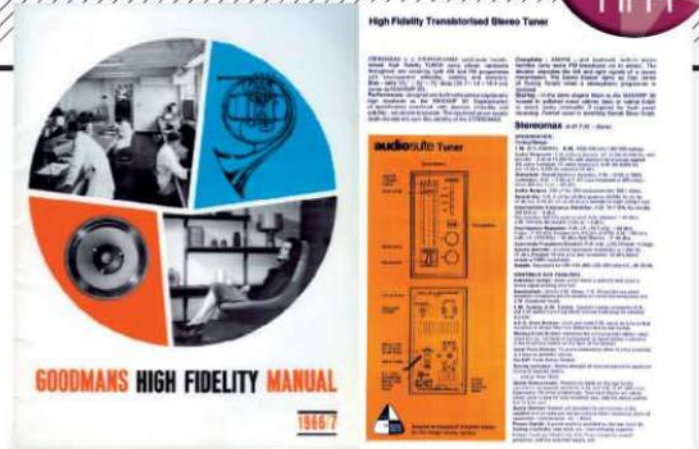
COMPANION PRODUCTS

Introduced in 1966 with a price tag of £49 10s this compact little amplifier, measuring just 10in tall, 5in wide and 7in deep, was beautifully made: resplendent in a high quality polished wooden cabinet with shiny anodised silver fascia, and a vertical row of complementary white knobs complete with metal inserts.

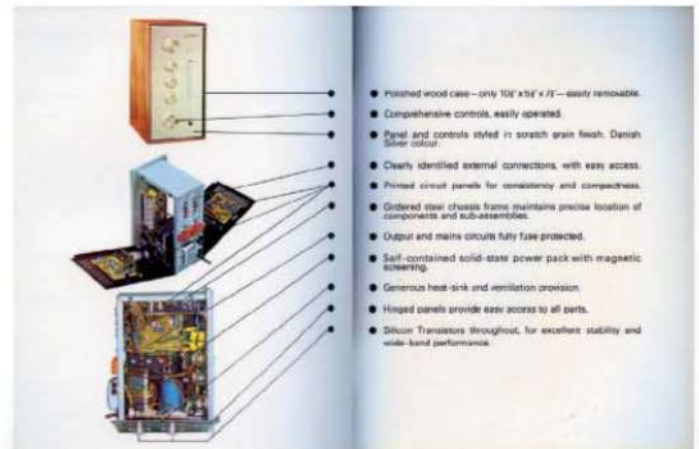


In some ways I feel the styling is something of a mishmash, for despite the compact and sophisticated electronics there is something more '1950s radio set' than '1960s cutting edge' to the design, a look somewhat trapped between two eras. Yet the ergonomics had been very well thought out, the dominant features being the volume control and selector switches, with bass, treble, and balance between them; then we had high and low filter switches, a mono button, loudspeaker and power switches just to one side, plus a neat neon power indicator. A nice touch was its 1/4in headphone socket jack, missing from all similar British competitors' products at that time.

The little amplifier was launched on the back of the highly successful, and truly wonderful, Maxim loudspeakers, and was designed to match them in both sound and style. This tiny tot (the Maxim) truly broke the rule-book on speaker design principles, having a tiny, heavily damped long travel 2in paper cone, die-cast chassis, metal baffle, massive Alnico magnet and very solid cabinet, all setting a new standard for



ABOVE: Technical brochure featuring the matching Stereomax AM/FM Stereo tuner, one of the first British tuners to be supplied complete with an in-built FM multiplex decoder. Better than a Troughline then?



ABOVE: Clever build, as explained in the Goodman's literature. Once out of its cabinet, both sides of the amplifier hinged open for ease of service. Fuses are located on each of the PCBs. Modern manufacturers take note!

low efficiency/compact box design – one which influenced all subsequent compact loudspeaker development. The Maxim was the first pint-sized speaker to generate genuine high quality bass, and the first requiring amplifier power – damping – to do so. A year later, Goodman's then launched the matching Stereomax AM/FM tuner, one of the first to be equipped with a stereo decoder.

EASY TO SERVICE

The Maxamp 30 can lay claim to be the first-ever British built amplifier to use RCA's new silicon transistors in its output stages. The temperature compensated, transformer-less output stage is biased in Class B. The amplifier spec claimed 15W RMS per channel into 8ohm loudspeakers, and 10W in to 4 or 15ohm loads. It featured a high quality moving-magnet pick-up input (3.5mV sensitivity), along with facilities for ceramic and crystal pick-ups. Line inputs were: radio (100mV); auxiliary (3mV); and straight tape inputs (150mV). As you can see, these sensitivities were high by modern (CD) standards. I like

the way the selector switch was located at the back of the amplifier on a long shaft, minimising signal paths and simplifying production. The tone controls were based on the famous Baxendall circuit. From today's perspectives the circuit is quite basic, and overall negative feedback not quite as high as with some similar vintage designs.

Input connections were via the usual 1960s mediocre quality phono sockets, although located not too close together, and output connections via screw terminals for the separate low and high impedances. This was rare in a solid-state design not using a transformer coupled output stage. A 20ohm impedance resistor is actually introduced on the 4ohm connection to protect the amplifier from running too hot. I'm not sure how this helps the loudspeaker damping factor! [See Lab Report, p113.]

A switched AC outlet was provided for a turntable or the later matching tuner. Most Maxamps appear to have a

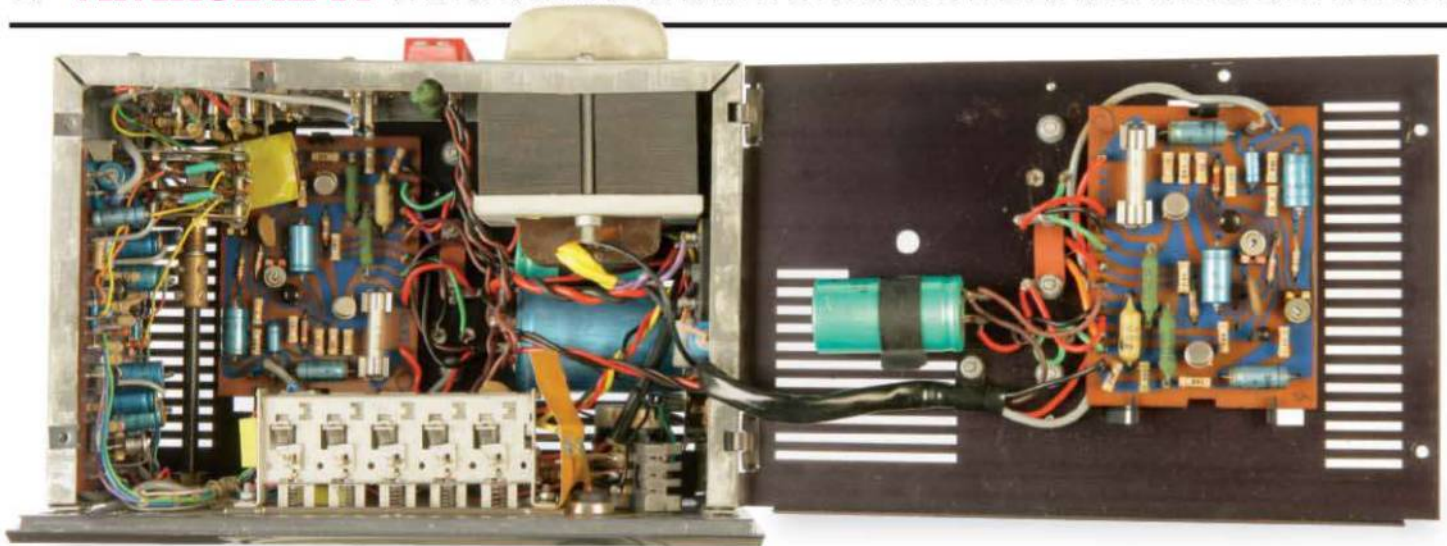
universal mains supply; we don't know how many have been exported. A pair of one-amp fuses protects the two output stages from short-circuit; these are located within the amplifier directly on each of the output PCBs. The case is quite a bit wider than the actual amplifier chassis, thus allowing adequate ventilation for

'Tone controls were based on the Baxendall circuit'

the output transistors located on either side [see photo p113]. This passive ventilation would indicate the amplifier was always intended to be vertical.

Internally the whole amplifier was assembled on three main printed circuit boards, the power amplifier boards located on either side, the preamp to the base, mains transformer and electrolytic capacitors on the rear panel. Construction was quite clever: the chassis pops out of the cabinet on releasing two screws, with the two side-mounted output 'panels' swinging open from the U-shaped chassis on the release of three more screws. Servicing was a doddle! ☺

VINTAGE HI-FI



The Leak Stereo 30 (£49 10s) and PYE Brahm's (£55 13s) were the direct competitors of the day. Both of these used the poorer early germanium transistors. The QUAD 33/303 was still on the drawing board, and Jim Sugden's class A A21 amplifier was also a year off. The Maxamp 30's last entry in the *Hi-fi Year Books* is 1972, and it is a shame that Goodmans did not see fit to develop this particular concept further. In the 1970s the company went receiver mad with the Module range, and that left Sony to parody the Maxamp 30 with the similarly proportioned TA-88 amplifier and (cute) ST-88 tuner.

Secondhand prices are pretty low for this fairly unknown amplifier, which has not reached the cult status of the Maxim speakers. Reliability-wise there do not seem to be any great issues of concern. All parts (or equivalents) are available for the internal electronics.

BACK WITH A PUNCH

Sadly I did not have a pair of original 1960s Maxims to hand, which would have made a nice little set-up. Instead, a thoroughly modern pair of 21st Century B&W 686s was pressed into service. CD replay was via a modified 1980s Philips CD960; vinyl was provided for via a Technics SLQL1 direct-drive parallel tracking deck with Audio Technica cartridge; all cables were from The Chord Company.

Our Maxamp sample for this review had a few quirks – the bass control was quite out of kilter, and at low levels the volume control mistracked. This 1960s amp didn't like the output from the classic Philips

RIGHT: A Goodmans' MAX system ad, with the Thorens TD150 thrown in for good measure

machine. Using either the Radio or Tape inputs it was impossible to turn the volume control a single notch. The Aux input seemed more suited to a microphone and was even worse!

A simple attenuator was crafted on to the Chord interconnect comprising a 10k resistor from plug-centre-pin to plug-ground and a 51k resistor, again from plug-centre-pin, this time to the centre conductor of the cable; both were fitted at the amplifier end. This gave a reduction of around 6:1, and made the amplifier totally useable.

Clearly the amp needed no running in, but did seem to need a good solid half-an-hour to settle down. As is the tradition with these things, my first record played was a period piece appropriate to the age of the amp, a 1965 Decca 'Phase Four' stereo LP. I was genuinely taken aback. My expectations of the little

ABOVE: Internal shot: the Maxamp 30 was a well planned design with both construction and future servicing taken into account

Goodmans phono stage was pretty low, and this little champ had come back with a punch!

These Decca recordings can be very 'ping pong' stereo, but they are dynamic and detailed, almost sonic fireworks, and the Maxamp was not going to let the swinging '60s down! Dropping a 12in 45 of Kraftwerk's 'Tour de France' began to reveal some of the obvious limitations of this 1960s technology. The punchy bass on this track had become somewhat truncated and constipated. Yazoo's classic *Upstairs At Eric* had a similarly restrained sound. The normal vibrancy of Vince's synths was again somewhat mute, and Ms Moyet no longer seemed to possess her true vocal power. Bass and treble controls worked to good effect (though our sample had issues here: see Lab Report), both high and low filters being quite subtle.

'Secondhand prices for the Maxamp are pretty low'



Goodmans High Fidelity Audio Suite

For more than 30 years Goodmans have led the field in High Fidelity Loudspeaker design. In 1968 another major step was achieved by the release of the MAXAMP 30 – the FIRST British High Fidelity all silicon transistor stereophonic Amplifier, and in 1967 – the STEREO MAX – Complete Hi-Fi/Stereo all-silicon HIFI Tuner. Designed to complement each other in performance and styling, MAXAMP 30 and also in 1967 came the release of the Goodmans High Fidelity record player MT 1000 complete with professional pick-up arm and high-resistivity cartridge; the whole handmade based in Teak or Walnut. Total value added with up-to-date service see-through great value in comparison the MAXAMP 30 and STEREO MAX.

STEREO MAX are being produced in today's most advanced and sophisticated High Fidelity Audio System, with units are supplied complete in either Teak or Walnut finish, polished wood housing, instantly ready for bench shelf installation. If desired the housings are easily removable for flush-panel mounting in an equipment cabinet. Brackets for this method are available.

These three hand-made, custom-built, precision instruments plus, of course, the Loudspeakers – make up GOODMANS AUDIO SUITE – complete, attention, see to hear, unique and performance-reliable. The all range of High Fidelity Loudspeaker systems is recommended for use with it.

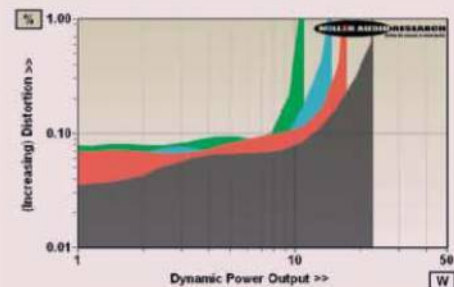
audiosuite



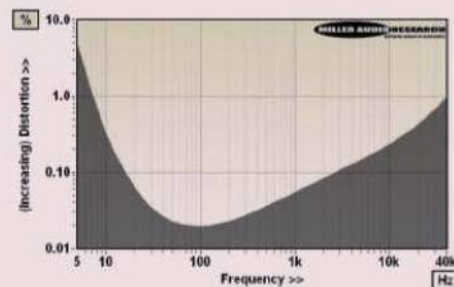
LAB REPORT

GOODMANS MAXAMP 30 (Vintage)

This is the first all *silicon* transistorised amplifier that we've featured in our vintage review series and its performance is notably superior to the germanium-equipped Leak Stereo 30 that preceded it [HFN Oct '10]. The Goodmans Maxamp 30 is certainly more powerful, rated at 2x15W but capable of delivering 2x21W/8ohm and 2x16W/4ohm (through 8-15 and 4ohm connections, respectively) at <1% THD. There's not a huge improvement under dynamic conditions but the Maxamp 30 did prove able to momentarily hold 14W/2ohm and 10W/1ohm for a 10msec duration [see Graph 1, below]. The output impedance is a usefully low 0.18ohm from 20Hz-20kHz although the frequency response is (or was in respect of this sample) flattest with the bass control set at 3 o'clock, offering a mere ± 0.7 dB variation from 20Hz-20kHz. Set at the regulation 12 o'clock, bass falls by -8dB/100Hz and -12.5dB/20Hz which is more substantial than the impact of the separate 'LF Filter' which offers a cut of -0.4dB/100Hz and -8.6dB/20Hz. The amplifier's A-wtd S/N ratio is up with modern transistorised designs at 83dB (re. 0dBV) as is the feedback-enhanced distortion residual. Across much of the audio range, distortion is as low as 0.05%-0.13% from 1W-15W/8ohm, increasing to 0.19%/10kHz and 0.5%/20kHz at 5W/8ohm [see Graph 2, below]. Finally, anyone wishing to enjoy the Maxamp 30 with modern line-level sources should employ the 'Radio' input with its high but still useable +44.3dB gain. Readers may compare the various tone and filter responses, and more, for the Goodmans Maxamp 30 by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



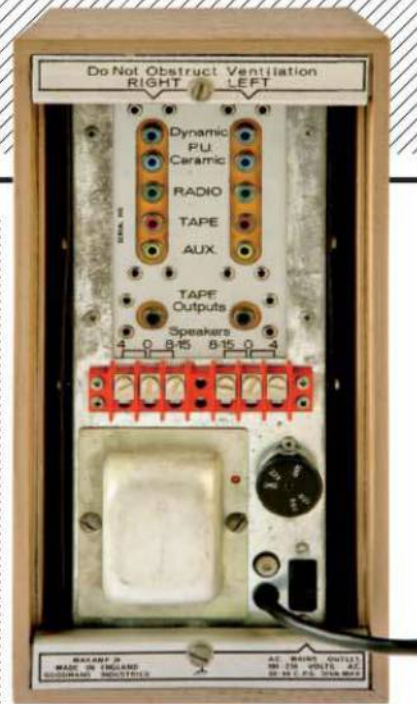
ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads



ABOVE: Distortion vs. frequency from 5Hz to 40kHz (1W/8ohm). THD only increases at (subsonic) bass frequencies as a function of the RC output network

HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	21W / 16W
Dynamic power (<1% THD, 8/4/2/1ohm)	23W / 17W / 14W / 10W
Output impedance (20Hz-20kHz)	0.15-0.18ohm
Frequency response (20Hz-100kHz)	+0.7dB to -8.8dB
Input sensitivity (for 0dBV/15W)	17mV / 69mV
A-wtd S/N ratio (re. 0dBV/15W)	82.9dB / 94.7dB
Distortion (20Hz-20kHz, 5W)	0.025-0.5%
Power consumption (idle/rated output)	7W/70W
Dimensions (WHD)	140x267x184mm



ABOVE: Typical 1960s' connections, if a little better spaced out than its competitors' and very symmetrical. The 4ohm tap introduces a series resistor

Trying CD via the attenuated lead was again quite pleasant. It was pretty obvious this amp was in a different league from the poor old Leak Stereo 30. Still in a 'retro' mood, I popped on the SACD reissue of *Brothers In Arms*, a record so sadly familiar I think it has become part of my DNA. Similar to the vinyl experience, the overall sound was held back. Not flat, but hardly forward. The soundstage was trapped within quite a narrow band between the two loudspeakers. Bass, mid and treble all seemed a little too far away. This recording is not exactly famous for emotional content or intimacy, and this suited the Maxamp down to the ground.

Dinah's 'Mad About The Boy' was really disappointing and my favourite Abba track, 'The Day Before You Came', and Rickie Lee Jones tracks too. All had lost an emotional spark somewhere. Jumping to a bit of Hammond, with the massively underrated Paul Moran album *Smoking B3*, was much more suited to the Maxamp; the punchy 'Mission Impossible' theme, a swinging '60s favourite, hitting all the right notes. Still in Hammond mode, 'About Time' from Steve Winwood was played, and was totally enjoyable - again, just held back in the dynamics, emotion, and stereo imaging departments. For my taste in classical, I felt the unit simply did not suit.

Over extended listening it became clear the amp had quite a personality which it imposed on the overall sound. With 'swinging' rock, pop and jazz, the amp got

away with it nicely, but on more subtle works it became somewhat lost. There was a mild, if innocuous, background noise (hiss) too.

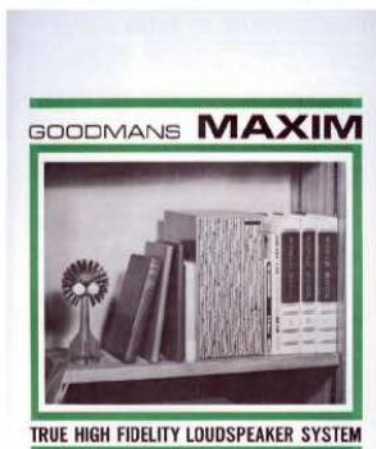
IN THE RUNNING - JUST

So in all the Goodmans amplifier accounted for itself quite well. There's no hidden jewel here: the amp delivers a polite, smooth sound, but failed to excite or interest, lacking those tiny low-level details that make high fidelity such good fun. A shiny new, but budget priced Marantz PM6003 left it for dead in nearly all respects. Still, it was in the running, and a very quick comparison to a Quad 33/303 worked in the Maxamp's favour, although the Quad offered less noise and less colour. I had to concede it was superior, though. ☺

HI-FI NEWS VERDICT

A marked improvement over its main competitor, the Leak Stereo 30, the Maxamp 30 has a reasonable phono stage, but its line inputs need careful matching for CD. Given its rated power it has real punch, and is capable of driving modern loudspeakers. No rival for today's amplifier designs, but much more modern than other competitors of its time. It sells for pin money, is reliable, and has great ergonomics.

Sound Quality: 63%



ABOVE: Groundbreaking little Maxim speaker was designed by Ted Jordan



Jordan Acoustics

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...and a Certificate
of Authenticity from
the chief product
designer



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MC275 • POWER AMPLIFIER • MCINTOSH • USA

McIntosh MC275

When it comes to staying power, few amplifiers rival the MC275 from McIntosh. Introduced in 1961, it still graces the company's catalogue to this day, with updates and refinements that have pleased even the purists. **Ken Kessler** has the story...

As with most things, once hi-fi components go out of production, they're gone for good. Yes, they've brought back Wispa bars, Moxie and other inexpensive edible or drinkable responses to easily-satisfied nostalgia, but they probably require less effort than re-tooling for an out-of-production amplifier. And yet McIntosh re-introduced an (allegedly) obsolete amplifier 20 years after it was discontinued, due to popular demand. To then reissue it again four years later in slightly modified form, followed by a major revamp six years after that, resulting in the design's permanent place in the company's catalogue, indicates a bid for audio immortality.

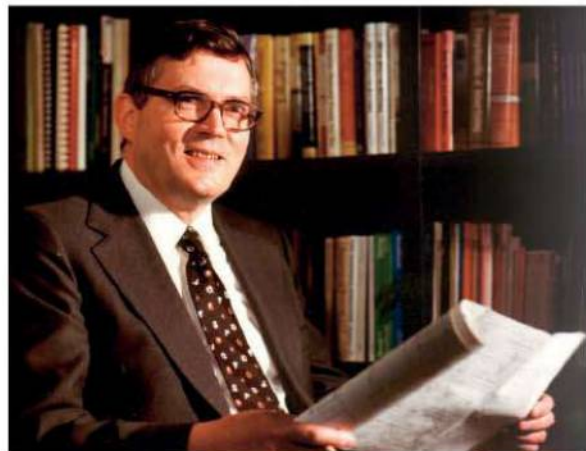
BRAVE MOVE

With the exception of the LS3/5A and continued attempts to reproduce it, the only other hi-fi product brought back from the dead with similar Nosferatu-like incessancy is the Quad II: original, gold replica, Quad II Classic. But that much-loved icon is a less-ambitious



ABOVE: The MC275, released in 1961 and now available as the Series IV

BELOW: Sidney A Corderman, who created the MC275



design, its form less complex, its transformers not in the same league as the Mac's, its metalwork less lavish, its power far lower.

McIntosh re-launching the MC275, and keeping it in production, is akin to Jaguar reviving the E-Type, with original engine, chassis, electrics, brakes *et al.* Mac was wise to do so: every iteration since the original has been welcomed warmly by the purists, each new edition a refinement that respects its predecessor.

This is uncanny: audiophiles are notorious for hating 'Mk IIs', forever arguing that the original just had to be better. It takes a brave manufacturer to reissue one of its most beloved models.

Even before its initial retirement, the MC275 was considered one of the most desirable amplifiers available, a worthy rival to its

respected contemporaries, the Marantz Model 9 and early Harman-Kardon Citations. More poignantly, it was one of the last valve Macs, and undoubtedly one of the key factors in the establishing of the company's early reputation.

By the time the MC275 was introduced in May 1961, McIntosh was regarded as one of the finest high-end manufacturers of the day. It had developed, in its first 12 years, a reputation for utter dependability, customer service without peer, performance that was impossible to fault and – most difficult to quantify or engender – an air of sheer class. And although transistors were starting to supplant valves, McIntosh's innate conservatism – Quad-like, to be sure, as was its Stateside persona – meant valves were still the component of choice.

McIntosh had earlier introduced its first stereo power amplifiers, but the speaker designs of the day, such as Acoustic Research's influential



to paint them!" So we did that. That gave birth to the MC30. MC30 sales took off like a skyrocket compared to the old grey unit. Both amps had the same circuit and same power.'

FORM AND FUNCTIONS

While we now recognise its style as somewhere between 'timeless' and 'retro', the MC275 was born in an era when there was less variety in power amplifier styling, simply because, in the 1950s and the 1960s, audiophiles were prone to hiding away power amplifiers in cabinets or cupboards. Thus, form followed function. The 420x210x305mm (whd) unit, again like a Quad II, doesn't appear to have a clearly defined front or back, for one side bears the model name, while a sloped end section contains the inputs, speaker terminals and level controls. Running the length of the top plate are three superbly-encased transformers, in front of them four output tubes of the 6550 family, and seven input valves: a single 12AX7 voltage amplifier (driving both channels), two 12AU7 phase inverters, two 12BH7 drive amplifiers and two 12AT7 or 12AZ7 cathode followers.

Original design details included selectable source input for two-channel, twin or mono operation, the former delivering 75W/ch, the latter 150W continuous. Back in the day, outrageous speaker plugs or oversized spade connectors were not in use, so the amp featured fiddly, undersized output barrier strips, with taps for 4, 8 and 16ohm speaker impedances in stereo, or 2, 4 and 8ohm in mono. The terminal strips could be connected for a constant voltage output of 25V in either stereo, or mono, or for 70.7V in mono. ↻

AR-3, were placing greater demands on power output ratings. The days when a 15W amplifier was considered adequate were over. McIntosh's MC275, as the model number illustrates, delivered a real 2x75W, more than enough to drive any speaker on the market in the early 1960s, and it could be mono'd for double the power.

FAMILY AFFAIR

Sidney Corderman, who created the MC275, explained the company's approach to amplifier design.

'We built a family of power amplifiers. We didn't have an extensive line, but we did have an evolutionary development of our amplifiers. All featured the McIntosh Unity Coupled Circuit. We did look at the Williamson circuitry to see if there might be an advantage, but the McIntosh Unity Coupled Circuit far exceeded its performance. Ultra-linear circuits? We looked at those, too. Again, the characteristics of the Unity Coupled output stage hasn't let us down in a half-century. It's the best way to go!

'Power amplifiers were the big volume item for McIntosh. The models were an evolutionary process – the A116 became the MC30, which became the MC40 when we added a solid-state power

supply instead of a vacuum tube. Parallel to that we had the MC60 amplifier, which became the MC75. When stereo came, the MC75 was doubled on one chassis to become the MC275. Likewise, the MC40 was doubled to become the MC240. There wasn't a whole lot of engineering that had to go into those products because the basics were so adaptable.'

Over the years, like a watch company that makes its own movements, McIntosh brought

more of the construction in-house, most importantly the winding of its own transformers, as well as passive elements, like

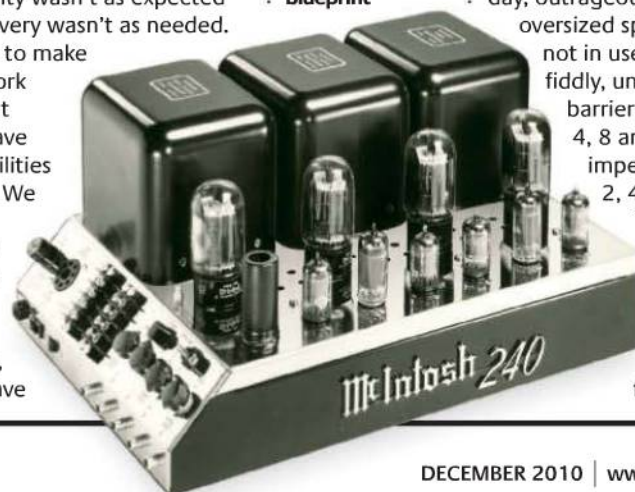
metalwork. It led to a series of happy accidents. According to Sidney, one supplier was letting them down.

'The quality wasn't as expected and the delivery wasn't as needed. We decided to make the metalwork in-house, but we didn't have painting facilities at the time. We thought, "Well, if we make these chassis out of chrome-plated steel, we won't have

ABOVE: Over the years increasing numbers of components were made in-house. Tube amp production is shown top left while a transformer winder is pictured top right

BELOW: The company's first stereo power amp, the 240. Essentially two MC40 mono amps on one chassis, this approach of doubling up monoblocks into stereo amps was to serve as a McIntosh blueprint

'Every iteration of the MC275 has been welcomed warmly by purists'



AUDIO MILESTONES

An octal socket marked line output had connections for 70.7V, 115V, 230V or 600ohm for stereo or 300ohm for mono operation. The 600ohm winding and the 300ohm winding were balanced to ground. Harmonic distortion was stated as less than 0.5% at rated output from 20Hz-20kHz. Typical performance is 0.3% distortion or less from 20Hz-20kHz at full power.

AN ANNOUNCEMENT

As any lucky owner of a mint original will tell you, an MC275 can hold its own against most modern sub-100W/ch valve amplifiers. After McIntosh decided to abandon valves, just as the revival was taking root, enthusiasts begged it to reintroduce the old technology.

According to Sidney Corderman, 'There were a lot of requests for tube amplifiers through the years. We were definitely aware that the audio community still cherished tube amplifiers.' The company actually issued a statement saying that it was not going to reintroduce valves, having firmly embraced solid-state.

With the passing of long-serving president Gordon Gow and the arrival of Englishman Rone Fone as his successor, the time was right to reconsider. On June 29, 1992, Fone sent a letter to all its authorised dealers stating, 'After



ABOVE: Top down view of the MC275 without its cage showing the four unity coupled output transformers, big KT88/6550 valves and smaller 12A27 and 12AX7 tubes

countless requests McIntosh has decided to make a special limited quantity of our most famous MC275 Tube Amplifier. We will be reintroducing the product in a Special Commemorative Edition to honour our late president Mr Gordon Gow. The product will be, wherever possible, identical to the original except in two distinct and positive regards. We will include Balanced Inputs and Gold Plated Loudspeaker Terminals. We will use KT88 Tubes specially produced for McIntosh and they will carry our brand name. They will, of course, be made in the USA and will be faithful to the original design. The smaller tube line-up has been slightly altered to allow for the balanced inputs; this change in no way affects sonic quality.

'Naturally, the Commemorative MC275 will be proudly made in Binghamton. We are reintroducing this product because popular demand around the world, especially in Asia, remains extremely strong. The used value of an MC275 is as high as \$5000 but since we do not wish to be accused of acting opportunistically we intend that the Commemorative MC275 will carry a Suggested Retail Price of \$3995.'

The company turned to Sidney Corderman. 'I brought them back. The MC275, they wanted to bring it back but they weren't happy with it. It had to have a balanced input, which the first one didn't have, so that required some new engineering. And we wanted the same number of tubes on the top of the chassis; we didn't want to add anything to the cosmetics. So, that brought about some head-scratching and changes in design.'

THE CHANGES...

When asked, 'What's the best Mac ever?' every knowledgeable Mac collector I've met has cited either

the MC275 or one from the lower end of the range, such as the wee MC30. The reissue had to remain true to the original, but consumers had to accept that

two decades had passed, and the Commemorative version was an update of a vintage design.

So it was that McIntosh included the following changes to the amp's original specification:

- Gold-plated XLR inputs for balanced operation, fixed at 2.0V for rated output, to allow the design to be used with modern preamps. ☺

'What's the best Mac ever? Collectors will cite the MC275'

McINTOSH DESIGN HERITAGE

McIntosh's patented Unity Coupled Circuit and bifilar wound output transformer designs have provided the core design philosophy since the company was founded. The output transformer has two primary windings wound in a bifilar pattern, with both primaries wound side by side. Each turn of primary number one is next to the same turn of primary number two, with near-complete magnetic coupling between the two wires, reinforced by the capacitance between the two wires.

In the McIntosh Unity Coupled Circuit, one of the bifilar primary windings is connected through the power supply to the plate and cathode of one of the output tubes. The other bifilar winding is connected to the other tube in the same manner. This unity coupled output virtually eliminates notch distortion.

The MC275 used an advanced design of this technology by incorporating a trifilar wound primary to improve the power bandwidth. The third winding is connected to the plates of the cathode follower driver. Groups of interleaved primary and secondary windings improve coupling, achieving a claimed bandwidth of over 100kHz.

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“Best sound at the show” was often heard in our room at Whittlebury Hall in September, the UK launch of these new VTL components.

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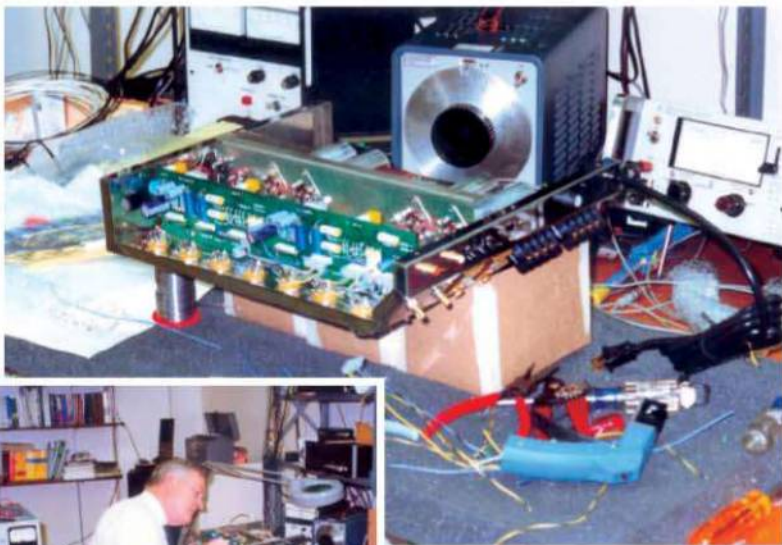
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AUDIO MILESTONES



- An increase in gain to accommodate the balanced inputs, and a resultant change in the valve complement, were necessary. The 12AU7 tubes were replaced with 12AX7s, and the 12BH7s were replaced with 12AZ7s. Power was still derived from KT88s/6550s.

- Alongside the unbalanced RCA type phono inputs, positioned as per the original on the vertical section below the sloped panel, were switches for choosing between balanced and unbalanced operation, and mono or stereo operation. The level controls for the unit remained in the same position as those on the original release.

- Screw tags for the speaker connections (4, 8, or 16ohm stereo or 2, 4, and 8ohm mono) were retained, but they ran horizontally instead of vertically.

- Removed during the updating process were the octal output socket connected to the high impedance transformer taps, the three position mode switch, the balance control, and the mono volume control. (The amp's left/right level controls deal with balance, while the right channel becomes the

mono channel when the unit is used in single-channel operation.)

- Internal upgrades included close-tolerance film resistors, polypropylene coupling capacitors and fibreglass printed circuit boards.
- The aesthetics were preserved, bar the changes to the sockets and switches. The chrome-plated chassis, black transformer cans and badges were retained, while modern safety demands meant that the new MC275 was supplied with a perforated valve cage.

WANTING MORE...

After the Commemorative editions sold out, and quickly, the company was amused to find that the demand for McIntosh tube equipment wasn't sated: it increased.

Responding to customers, dealers, and distributors, McIntosh planned more models, including all-new power amplifiers, preamplifiers and an integrated amplifier. But the very core of the tube line remained the MC275, of which Sidney remains the proud papa.

'If you look into our latest version of the MC275, all of the components are mounted on a printed circuit board.



McINTOSH MC275 TIMELINE

- 1949 McIntosh Laboratory is incorporated, with Frank H McIntosh as president. The first McIntosh product is the Unity Coupled 50W1 power amplifier
- 1951 Sidney A Corderman joins McIntosh Laboratory
- 1954 McIntosh introduces the MC30 power amplifier
- 1960 McIntosh's first stereo power amplifier, the Model MC240, is introduced
- 1961 (May) Birth of the MC275, 75W/ch power amplifier
- 1973 (July) End of MC275 production
- 1993 MC275 Gordon J Gow Commemorative Edition released
- 1997-8 MC275 stainless steel chassis, 'non-Commemorative' version
- 1998-9 MC275 Gold version, with gold-plated stainless steel
- 2004 Debut of the current MC275, officially known as the Series IV

They're beautiful. The first MC275s, back in the 1960s – we used circuit boards with eyelets and a lot of hand-wiring, big “gronky” components. By today's standards, they really look quite messy. By the standards of the day, however, they really looked quite good; I'm still proud of them, but it's beautiful to look into that latest version of the MC275 to see all of those little components lined up like soldiers

“The components used today are so much more reliable and precise”

are so much more reliable and precise. All of the resistors for example are 1% tolerance. We used 10% tolerance back in those days!

Further refinements mark the current MC275 Series IV, not least being decent speaker terminals, a detachable mains cable with IEC connection, and there's now – at last! – an on/off switch. But it's still, unmistakably, an MC275.

When I reviewed the 1993 reissue in November of that year, I wrote that, 'The “new” MC275 is probably the coolest piece of hi-fi you can actually buy today. Provided that you think a 1948 Indian Chief is the coolest motorcycle, Bilko's the coolest Sergeant and Sinatra's just the coolest. Period.' The coolest remains frostier than ever. ☺

ABOVE LEFT: An MC275 on the test bench being worked on by Sidney A Corderman at the company's HQ in Binghamton, New York. McIntosh relocated to New York from Maryland in 1951, the same year Corderman joined the company

LEFT: Tube set for the MC275 Series IV in its presentation velvet-lined wooden case. The set includes matched MC 6550s plus matched 12AX7s and 12AZ7s

Somehow Coventry didn't seem such a bad place after all



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Evolutionary ? Yes
Revolutionary ? Absolutely

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Overall, very impressive. Robert Townsend -- Stereophile Jan 08

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A word from Howard Popeck, of Stereonow

Stereonow

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A little background:

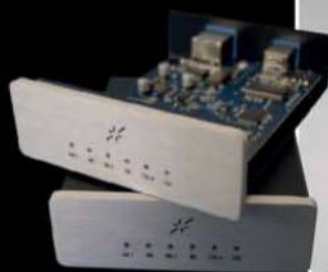
"From December, BBC Radio 3 will be available in HD Sound through its website and special events on other networks will also be offered in extra high quality - starting with the Electric Proms on BBC Radio 2 later this month," reads the BBC press release just in.

A little about Stereonow, the UK's #1 NorthStar retailer

On a no-fee one-to-one basis I provide totally unbiased guidance and demonstrations to help lovers of music in the home obtain the best possible sound reproduction within their budget, within their domestic parameters and within their time frame - even if that means I don't make a sale. Yes, really!

Owners of the Northstar DAC models Extremo and 192 have not been forgotten as a digital interface USB to I2S is available to order.

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The 28-day sale-or-return Stereonow offer!

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Hi-Fi News magazine incorporates: Stereo, Tape & Tape Recorders, Audio News, Record News, Audio Record Review, The Gramophone Record, Vinyl, CD7 and Music Business. Hi-Fi News is a member of the Audio Bureau of Circulations (ABC) and of EISA (www.eisa-awards.org).

Hi-Fi News is published on the first Friday of the month preceding the cover date by IPC Inspire, part of the IPC Media Group. It costs £4.00 per issue (£51.35 for 12 months) in the UK; €107.47 in Europe; \$144.63 in North America; £93.81 for the rest of the world. Rates are for annual delivery. See subscriptions order form on page 70 or call 0845 676 7778 for the latest special offers.

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OFF THE LEASH!

KEN KESSLER TELLS IT LIKE IT IS...

Rumours, gossip and people on the move have **Ken Kessler** longing for a more stable past...



While trying not to exhibit Luddite-ish behaviour, recent changes in the high-end world make me long for the past. Along with advancing age comes an appreciation of stability, so one may be forgiven for greeting upsets with either dismay or poignancy. The latter is preferable if one's blood-pressure is on the high side.

While this column tends to deal with hardware or other non-people-specific subjects, it is the human element that makes the high-end a 'community'. The people must therefore be celebrated as much as the audio equipment, and all of you 'know' the various audio notables because of mentions in reviews. Rare are audiophiles unfamiliar with the names Tim De Paravicini, Ivor Tiefenbrun, *ad infinitum*. Few are those who didn't mourn the losses of Alastair Robertson-Aikman, Peter Walker, Paul Klipsch or other pioneers of the industry.

IN TRANSITION

This would be a far less interesting hobby/passion without the presence of such individuals. Because our appreciation of them grows with time, we assume that they will forever be the bosses of the companies they founded. Naïve as that may be, I, for one, could never have imagined SME without AR-A. But he groomed his son Cameron well

that the company continues to create arms and turntables of the highest calibre.

Recently, however, two changes transformed the high-end terrain, monumental in context, though the transitions may not yet have registered with the audio community. Former *Hi-Fi News* editors John Atkinson and Steve Harris both remarked to me, on separate occasions years apart, that communication of personnel changes is slow – and the internet hasn't speeded it up that much, despite the blogsites.

'Recently, two changes have transformed the high-end terrain'

They were referring to readers' letters and press releases addressed to their predecessors, years after they moved on. In John's case, he received letters addressed to John Crabbe

for some time after the transition; in Steve's case, it was letters to John Atkinson.

What some of you may not know, then, is that Classic Records, one of the most industrious of the vinyl-revival audiophile record labels, has been sold, and that its founder, Michael Hobson, has moved completely into hardware manufacture. The other is that Dan D'Agostino, founder and Chief Design Engineer of Krell, has launched an eponymous brand of amplifier, which should rattle a cage or two.

Why should such examples of not-atypical evolution bother me, let alone warrant comment in a column, especially one called 'Off the Leash'? I suppose it's because I, as

one who has known both individuals for a few decades, find the chasm between reality and web chat (as well as old-fashioned, human-to-human gossip), to be a destructive force that's absolutely not needed at a time when the world of high-end audio is in such a fragile state – and not just because of the global economy.

THE TRUTH...

In Michael's case, he simply decided to sell Classic Records, to Chad Kassem of Acoustic Sounds and Analogue Productions, one of the canniest LP manufacturers and distributors in the business. Michael, I guess, had had enough, and he was enjoying his collaboration with Kevin Halverson of Muse, the two manufacturing USB DACs under the HRT banner. Naturally, the gossipers suggested otherwise. But over an '87 Brunello and a '90 Barolo in Milan, a sanguine Hobson told me the full story, which differed considerably from the industry gossip of bankruptcy.

When one considers that those wines were in the 13.5% region, *in vino veritas* was all the reassurance I needed. But I will certainly miss Hobson's press conferences for Classic's forthcoming titles, always highpoints at hi-fi shows.

As for Dan D'Agostino's new role, well, new management at Krell means that Dan has moved on. One year to the day that he was 'let go', at the 2009 TOP Audio in Milan, he unveiled at the 2010 show a brand-new amplifier bearing his name. While Michael moved from software to hardware, in Dan's situation it's more a case of *plus ça change*.

As one who has also been the victim of rumours, I find it hard to fathom why people simply don't go directly to the subject of said tittle-tattle. Between land-line, mobile phones and e-mail it's easy to get to the bottom of a story. There's never any need to 'publish and be damned' unless – if the story is of public interest – the individuals in question refuse to confirm or deny the matter. As for Michael and Dan, shouldn't we all be grateful that they're prepared to commit to further contribution to the high-end? I rather like the idea of their tenacity and optimism making a mockery of my own the-glass-is-half-empty melancholy. ☺

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