

HIFICRITIC

AUDIO REVIEW MAGAZINE

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USB CABLES COMPARED

We discover some quite obvious differences between some fifteen types of USB cables

GATHERING MOMENTUM

Dan D'Agostino's striking new stereo Momentum amplifier

BEAUTIFUL BODNAR?

A high value, high sensitivity single-driver speaker from Poland

A FINE IDEA

This compact floorstander provides a new entry level to Avalon's range

ULTIMATE VINYL?

CB finds that the Thrax Orpheus phono stage sets a new benchmark for vinyl replay

DAB MYTHS

Under the shadow of an FM switch-off, the DAB steamroller lurches on

MUSIC & MUCH MORE

REVIEWED THIS ISSUE

D'AGOSTINO
MOMENTUM STEREO

SP ACOUSTICS
SP1 SIGNATURE

NAIM SUPERLINE/
SUPERCAP DR

BODNAR SANDGLASS
FANTASY

NAIMUNITY 2

THRAX ORPHEUS

ORTOFON ANNA

AUDIO RESEARCH REF DAC
DIGITAL MEDIA BRIDGE

METRUM HEX

CAD DAC 1543

CAMBRIDGE AUDIO
DACMAGIC PLUS

BULLY SOUND BSC-100M

AVALON IDEA

NEAT IOTA

USB CABLES FROM AUDIOQUEST,
CARDAS, CHORD, FURUTECH,
KIMBER, QED, SUPRA and WIREWORLD



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And One For All

THE NEW *NAIMUNITI 2* REVIVES THE RECEIVER CONCEPT, BUT WITH SERIOUS HI-FI PRETENTIONS TOO. MARTIN COLLOMS CHECKS OUT THE MOST COMPLEX UNIT THAT *HIFICRITIC* HAS EVER ASSESSED.

It's got to be much more than a decade since I reviewed a receiver, or 'tuner-amp' as we used to call them. The genre was populated by the international consumer electronics names, but received wisdom said that true hi-fi performance required at least a separate tuner, and ideally a separate pre-amp feeding a power amp. Now Naim Audio, of all companies, is getting stuck into the high quality end of the 'all-in-one' business.

One key factor that makes such a product possible today is the relative compactness and modularity of modern electronics. Naim now has skills in network audio, in ripping, serving, and streaming. It also has access to FM, DAB and internet radio technologies. Custom DSP for digital filtering and similar functions, and custom remote controls are all now commonplace down in Salisbury. CD replay has been a Naim strength for many years, while little need be said about its competence in signal control and amplification. Chuck all this together in a full width but slim alloy enclosure and the result is a £2,795 *NaimUniti 2*.

One of a family of six *Uniti*-series models distinguished by their home network connectivity, this *Mk2* version of the *NaimUniti* has been substantially upgraded. Power has been increased from 50 to 70W per channel while the interior is sufficiently revised as to represent essentially a new design. At its heart is something rather similar to the *SUPERNAIT* integrated amplifier design we enthusiastically endorsed back in 2008 (*HIFICRITIC Vol2 No4*).

In addition to the multi-format radio, a swing-drawer CD player (based on the upcoming revised 5-series) has its own, local, close-coupled *PCM1973* DAC. The five analogue inputs include a 3.5mm

front panel jack and one DIN type for use with (and supplying power to) an optional external phono head amp. Five digital inputs include two optical, two coaxial RCA, and one 3.5mm front panel connector, plus one that provides a fully authenticated Apple *iPod/iPhone* charging and control connection via a universal USB interface, which also handles memory sticks. (Charging may be turned off to improve quality.) Using the standard UPnP protocol, the network connection allows digital audio replay from NAS drives, Windows or Mac computers up to 24-bit/192kHz resolution.

A WiFi aerial (need not be used) provides direct system connectivity including App control, though for the consistently best sound such control should be via the network cable and a remote WiFi router. The main outputs accommodate one pair of speakers and a pair of headphones. A pre-amp output enables a larger external power amplifier to be used if and when available, and there's also a subwoofer output which must be set via the remote handset in the speaker menu.

An aspiring owner would do well to review all these facilities and see just how many of these functions could be applied to a modern multisource music system. At £2,750 it cannot be regarded as cheap, but there is a lot of Naim audio technology here and massive functionality for the money. For a stack of separate components of similar performance and technology one could easily pay £5,000 and very likely it would not sound as good. Advances in system design, and in internal component architectures now take advantage of modern switching and control methods which help preserve the audio chain sound quality inside the unit, which in this example arguably has a much shorter path

than a stack of discrete units with all their separate supplies and support furniture, plus multiple mains and interconnect cables.

In theory, plug it in and most of the facilities will work straight away, including the UPnP network connectivity. If there are issues with this, the dealer will provide the necessary support. And it weighs a ton, or more accurately nearly 12kg (26lb). Note that the speaker cable connections are via Naim's usual spaced 4mm sockets.

The front panel has pushbuttons that operate functions including volume. Alongside is a large LED status display in subtle green which also reads out radio programmes and track data. The neat handset has full functionality but no display. It worked well enough, but most will probably prefer to run an *iPod* or *iPad* App.

There is so much versatility in this audio compendium that even a five page review might not be sufficient for an exhaustive evaluation. In use it was obvious that it had been very well thought out, and the key issue for a new owner will be to try everything out and get acquainted with its operation and menus, which is all press button, but clear enough once under way. I would have liked a two-button up/down input option rather than the continuous loop access supplied.

Sound Quality

I began with some stock loudspeakers, including the promising Avalon *Idea*, and quickly found that the *NaimUniti 2* was more than capable of reaching beyond its nominal price range. I still could not find its limit, so I lightheartedly connected the Wilson Audio *Sophia 3* and was rather shocked to hear a powerful and full blooded performance, with a clear articulate and extended bass, good midrange transparency and depth, and an explicitly detailed and grain-free treble. The Naim hallmark of a significantly upbeat and connected rhythmic performance was clear enough, if rather unexpected for this price sector, and its musical qualities were unmistakably good. While this view held for many modes of its operation there was some understandable variation with signal sources.

On the network it ran my 192kHz/24-bit material and the improvement over 44kHz/16-bit recordings was clear enough to qualify it as a high resolution player capable of making format comparisons. The S/PDIF input also sounded very good on normal and hi-res audio fed from an augmented *UnitiServe HDD*.

I was intrigued by the performance of the internal CD player, which in many such units is merely an adjunct. However, this is a fine player

in its own right validating the decision to allocate a second DAC for just this section. CD replay is really no afterthought here, and fits in with the overall performance, fully complementing the entertaining amplification.

The USB dock on the front panel that will play files from memory sticks also works well, and is one way of playing hi-res downloads from a computer without necessarily involving the network.

Plugging in an *iPod* can result in the *NaimUniti 2* supplying up to 2A of charge current, which does mildly reduce sound quality. Once the charge mode is disabled the connected digital interface sounds pretty good, though understandably not quite to the standard of the internal CD player in my opinion.

At times broadcast radio was very good on FM, while DAB (where even a portable aerial managed to grab 98 stations) could actually sound presentable enough for casual listening, depending on the chosen station and its bit rate. Much the same goes for internet radio, though some of the higher resolution stations are rendered capably enough, and some entertainment value can be found here. With revisions to transmitter chain linkages and excessive use of studio processors, FM isn't what it used to be; nevertheless some live studio feed on Radio 3 was worth tuning in.

There was a consistent freshness to the overall *NaimUniti 2* performance, plus sheer competence from the user interfaces which made something quite complex easy to use. This is a serious audio system, well worth the painstaking installation necessary to bring out its full potential.

User Trial by Stephan Wagner

Here it is: the new *NaimUniti 2* all-in-one audio player! This one unit can do everything just as well as my four separate Naim components (CD player, pre-amp, power amp, external power supply), alongside FM/DAB/internet radio sources, and digital music from NAS, USB stick or iPhone.

I found the set-up actually easier than any other Naim system I have experienced. For example, if you need to move the player, there's no need to take pictures to ensure the cable layout between the units is in order after the event. The user interface on the unit or via iPad works really well, and Naim has clearly improved this over its earlier designs. By allowing for so many different sources, it can be termed 'open access'.

I found that it sounds particularly good with natural vocal and acoustic music, though as is often the case with Naim products, is not so forgiving with 'over produced' commercial audio. I became a little frustrated in trying to fault it, but the *NaimUniti 2* does everything and more, just as well as equivalent individual audio components, and with much less fuss. But of course it doesn't look as impressive as my multiple hi-fi separates, which I have researched long and hard to acquire and assemble!

Review System

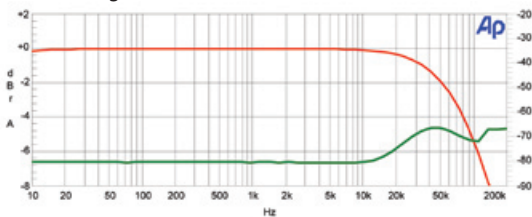
Naim *SUPERNAIT*, Krell *Evolution 402E*, Audio Research *REF5 SE* amplifiers; Naim CDS3 CD player; Naim *UnitiServe* NAS and network drive; Wilson Audio *Sophia 3*, Avalon *Idea* speakers; Transparent *XLmm2* and Yter cables.

Lab Results

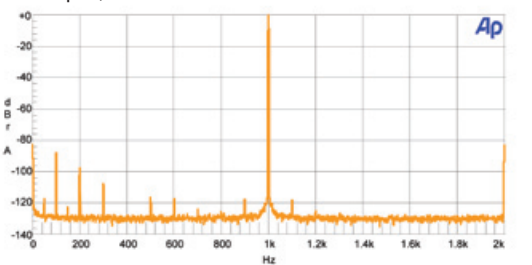
Given the complexity of this unit, these test results must be somewhat abbreviated. Full testing of all the facilities is beyond the resources of a personal laboratory, but it was worth checking some of the basics, such as power, resolution, distortion and noise.

Comfortably exceeding the specification, it could output over 87W into 8ohms, and 82+82W 20Hz to 20kHz; 4ohm loads almost doubled that power. Measured *via* the power amp (*ie* the whole chain), the digital input response was 10Hz to 16kHz +0,-0.3dB, with -1.66dB at 20kHz (see graph). Again *via* the power amp the high resolution graph for 1kHz digital input was excellent and very low jitter artefacts were present. At 50W the S/N was fine at 90dB unweighted while the separation was also fine at 80dB; distortion was excellent, typically in the late 70dBs. Digital linearity was also excellent at around 22-bit resolution, with the output within 0.2dB for a -100dB digital input.

Naim Uniti 2 Frequency Response 10W 8ohm and Distortion (green)



Uniti inc power amp DAC digital jitter 1kHz full level, 0-2kHz span, 140dB resolution



Contact:
www.naimaudio.com
Tel: 01722 426600

TEST RESULTS

Make Naim Uniti2	Date 10/11/2012
Model DAC/ Amplifier	Ser. No.
Distortion, THD inc noise 24 bit 0db	20Hz -78.0 dB (50W) 1kHz -78.5 dB (50W) 20kHz -68 dB (50W)
Power output both channels driven (Singly)	83 W 83.5W 87.5 W 82.5 W
Frequency response	-0.004 dB 0 dB -0.35 dB
Signal to noise ratios inc amp Ref: 0dB 24bit/50W	A wtd 93 CCIR 1k 84 Unwtd 90 dB
Channel Balance	<0.1dB
CD error correction	0.17mm gap corrected
Linearity ref 0dB -70dB -80dB -90dB -100dB -110dB	24bit 0.0 dB 0.0 dB 0.1 dB -0.2 dB 2.2 dB
Volume control 100 steps of	0.5dB to -20dB 1dB to -76 then muted
Channel separation	80.5dB
Size W x H x D	87 mm 432 mm 314 mm
Price	£2,795

The 100-step volume control is high resolution 0.5dB for the top 20dB then 1dB steps down to -76dB, a near inaudible level, whereupon it mutes. The CD player measured much like the rest and concealed an 0.17mm error gap on the PV test disc.

As the amplifier is designed for music duty, no external heat sinks are fitted. Longer term full power two channel tests are therefore precluded, though this gives me no cause for concern. I ran it flat out with music for an hour into the *Sophia 3s*, and although it became warm, this was nowhere near a safety issue (but I would still avoid leaving a magazine lying on top of it).

Conclusions

While performance wise this is not an absolute hair-shirt hot rod like Naim's smaller *Nait XS* integrated amplifier, it is very much more than a traditional receiver. Each internal building block has been carefully designed and sensibly integrated to form a remarkably versatile and eminently capable 'all-in-one' unit. There's no need to make use of all the facilities right away, but it's reassuring that they are provided if needed.

The traditional audio core comprises a powerful and dynamic sounding integrated amplifier, judged quite close to a *SUPERNAIT* in performance, together with a fine integral CD player. Provision is made for connecting and powering an external phono stage for vinyl discs, and a versatile radio section gives access to FM, DAB and the thousands of internet radio stations. It has numerous digital inputs, from S/PDIF to USB stick including full digital format connection and control with compatible *iPods* and the like. Headphone listeners are accommodated too. It may also operate as a network-enabled streamer, where the UPnP system allows control and replay *via* unique and effective Naim Apps, for example on an *iPad*, calling up the abundant music stored on an external drive or home network. Both WiFi and network connectivity are accommodated, the latter preferable for stability and fidelity, and the volume may also be adjusted remotely, with a pre-set maximum that may be useful if children have access.

Exploiting those internal short path connections in place of the usual stack of separate units, cables and power supplies can create a definite sonic improvement. As well as improving the compactness and convenience, I think the result sounds very well indeed. For modern living it will solve many logistical problems by integrating many sources of music with straightforward and flexible control. This is unquestionably the thinking person's universal hi-fi source and control system, offering unprecedented performance combined with great versatility.

Subjective Sounds

PAUL MESSENGER

HIFICRITIC

AUDIO AND MUSIC JOURNAL

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Martin Colloms, Publisher

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My limited experiences with room treatment techniques have hitherto been rather disappointing. I do use some melamine foam panels between a couple of beams on the ceiling, and across a large bow window behind my main listening zone, in order to minimise midband coloration and improve stereo imaging, but more dramatic attempts to modify the behaviour of the room have not been too successful thus far.

The whole issue of room treatment is controversial. Some reckon that less is more, and that one shouldn't remove any energy from the system. Others point to the fact that recording and broadcast studios use all manner of treatments to cope with the idiosyncrasies of their rooms.

Irrespective of one's views, there's no denying that the room has a significant role in the sound of a system, and my personal scepticism was well and truly tested when a friendly Dane named Ole Lund Christensen dropped off some of his large Mumax (musicus maximus!) *AMA2* panels for me to try. At £999 for two Air Motion Absorber panels they're not exactly cheap, but then neither are high quality hi-fi cables these days.

The panels are by no means universally applicable, but they do seem effective at countering the effects of unwanted room modes. They're not unattractive to look at, but because they're 195cm tall and 66cm wide (effectively doubling the latter, as they're normally sold as freestanding hinged pairs) they're unavoidably intrusive, especially as they're intended to be sited well clear of a wall – a key disadvantage, especially as the speakers themselves must naturally be still further out into the room.

It's all to do with interfering with the velocity components of the sound energy, and as I understand it the panels need to be well out from a wall in order to affect the low frequency sound waves. Furthermore, the materials used have been carefully selected: one crucial element is a special paint that reduces the absorption at mid and high frequencies, so that the panels operate evenly right across the frequency band.

Although there's no denying their intrusiveness, these panels do really work, quite dramatically so in fact. To assess them I first brought in a pair of Spendor *BCI*s, a free space design with a magical midband but a known mid-bass excess. To my surprise, putting two (or three) *AMM2*s behind the speakers totally changed both the balance and the stereo imaging of the speakers. In this case it wasn't necessarily an improvement, but that's not relevant: what's much more significant is that the change was far more dramatic than, for example, changing cables or support furniture.

The previous and significant 50Hz peak was reduced by a hefty 5dB, which is clearly a good thing, though the somewhat smaller 100Hz peak was increased by around 4dB. In effect, the room mode interaction of the speakers was changed considerably (though it's difficult to say whether this represented a net improvement on the *BCI*'s already good behaviour). Although not susceptible to measurement analysis, the change in imaging was no less dramatic, as the addition of the panels considerably enhanced soundstage precision and instrumental focus. Broadly similar effects were also found using a pair of Nightingale dipole speakers, which certainly seemed improved by the panels.

There's clearly scope for much more work on these Mumax panels, as I want to investigate different speakers and *AMA2* positioning. Pro tem I'll merely say that they do work, and are one of the most interesting hi-fi 'components' I've come across recently. Check out www.actem.de for more info (assuming Christensen gets around to updating his website soon).