Waversa Systems:
a streaming solution

Chris Thomas

As I sit to try and unfold my musical experiences of recent weeks, I have a feeling that this is going to be different. This is essentially a full Waversa set-up, described by the company themselves as a streaming Eco-System or as I came to think of it, The Waversa-verse.

It started off with the suitably named Slim Pro, a beautiful all-in-one piece of audio architecture. Designed and built in South Korea this machine has an elegant, loft-living minimal design feel. In its most minimal, purist form all it needs is a network connection and a pair of speakers. The Slim Pro has a couple of hundred watts per channel of Class D amplification onboard and with the help of the M Connect app (in my case), full access to whatever streaming services you might wish for.

Single Billet

I love the design and it is superbly built, fashioned from a single billet of aluminium with each of its elements housed within their own internal rooms. It can be controlled via a discreet set of flush buttons across the front of the top panel, the Waversa app, or a supplied Apple remote. Elegance is its middle name. Though experience had left me a little suspicious of Class D amplification I spent about 10 days getting used to its ups and downs before Fraser

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》 from Airt Audio, the importer of Waversa, returned to show me how a full streaming system might evolve around a Slim Pro. It was an entirely bespoke education as to the elimination of noise within such a high bandwidth system and the musical rewards that brings. That single day showed me a multi-faceted, cause and effect approach to Waversa streaming, the like of which I hadn't seen before.

But at the end of my initial ten-day solo trial run of the Slim Pro I was left with the feeling this could be a "Curate's Egg" product. There were clearly things that it did very well. But I often found its remarkable resolution rather academic to its overall musical appeal. Initially its tonal pallet consisted of too many pastel shades and it left me wondering. It was true that as the days passed and the Slim Pro presumably ran in a bit I began to enjoy it more. It has this musical directness and remarkable note control that became fascinating. I began to like it for about 60–70% of the time but couldn't avoid the fact that, in all honesty, I felt slightly unconvinced about it.

Outside the conventional

When Fraser of Airt returned, we had a bit of a heart-to-heart about my feelings. I didn't hold back. Then he began to explain to me the way that designer Colin Shin had approached the whole question of streaming. Waversa, a company who has been around for over a decade, decided to move outside the conventional by ignoring the 24-bit rigid processors that are supplied by a narrow group of chip suppliers and specify their own 32-bit, 1.5 MHz integrated hardware system. Their reasoning being that this would provide them with more signal processing power with available headroom for additional features. The addition of the WAP (Waversa Audio Processing) software was added as a complimentary software algorithm. The WAP is designed in-house and is used for high-resolution upsampling. This, I am told, is then processed through

thousands of iterative calculations to create a waveform as identical as possible to the original analogue signal.

In all conscience I have to admit that while I might basically grasp the principle, I am not a scientist or a digital engineer but I can hear from my listening chair that Waversa systems are very high bandwidth and thus at the mercy of all kinds of noise. The sort of noise that pollutes our mains and is an unavoidable part of the electronic world of today. The transmission of digital signals through cables also produces both EMI and RFI interference to say nothing of the rubbish produced by the plethora of phone, tablet and laptop chargers we use, to name but a few of the culprits.

I soon began to understand that for Waversa, the network is everything. Colin has designed an ultra-wide bandwidth environment and that any subsequent additions to the Waversa-verse would need to include specifically designed components to deal with the inherent noise. After all, if you're going to install a very, very large window, you need to keep it immaculately clean. In fact the Airt philosophy is also based on this very concept. Their mantra is "Lowering The Noise Floor" and they cite the three areas they concentrate on. Electronically, as with this Waversa system, mechanically, through their support systems and of course acoustically by employing everything from acoustic panels to resonators. It's an active approach and one that needs individual consultation for each listening room as treatments in one area plays directly into another. Hopefully we will be looking more closely at their solutions in coming issues.

Making a mark

When it comes right down to it, an audio review is all about musical experiences that either leave their mark or not, but I had become acutely aware that although I wasn't completely sold on the Slim Pro at that stage, I still felt it was outstanding in some ways. Its packaging 》

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» was brilliant. You can plug just about anything into that superbly designed rear panel, analogue or digital which makes it extremely versatile, but I suspect it's the single box elegance of the design that will attract most people. But what was to follow was a complete turnaround in my feelings about its streaming abilities and this did involve a dip into the Waversa catalogue which offers solutions at all levels.

After listening to my experiences during those initial days, Fraser added a pair of inline QSA Organic Blue LAN jitter filters, one at the router and one at the Slim Pro itself. Like most of what was to follow, I was unprepared for the results. The whole musical picture immediately calmed down. Gone was the slight sense of breathlessness and a new level of colour was now flowing from the speakers. These are £90 each and are entry level filters in the QSA range. Seldom has £180 been better spent on an audio system I would say. With just that simple addition the music became much more familiar to me and of course I had many questions. But, before I could really get my head around the improvements I could hear that the things seemed to be growing more interesting as the tracks passed. I was told that the QSA filters can take a while to really open up, perhaps 100 hours.

You're Grounded!

I have always liked the Entreq local grounding boxes and have been using a couple in my home system for quite a while. They too are in the Airt armoury and Fraser removed the smaller box, the Olympus 10T from the main system and reconnected it to the router using a custom RJ45 grounding cable made by Entreq. This was a real furrowed-brow moment. Just grounding the Virgin router with a small box does that? Though, upon further reflection, most commercial routers, like mine, are cheap plastic affairs with no mains earth or even a suitable tag with which to attach any sort of grounding and a huge aerial attached at one end where the cable enters the house.

The music now flowed with a sense of body and togetherness that had eluded it before. Tonality and note control were so much better I could hardly believe it. In fact everything was better. The door into musical performance was being prised open and the Slim Pro was beginning to show new depths to its possibilities. I started to play old recordings with more confidence although I must say that the Waversa had proved uncommonly adept at unravelling them even in its native form. Billy Cobham's *Crosswinds*, fifty years old and a wonderful slice of the way things used to be, punched me hard in the stomach as his bass drums thundered into the room. Where had all that old multitrack compression gone I wondered? The command that Billy has always had and the crazy tightness of his locked-in feel for the groove was now so focussed and the leading edges of all the instrumentation was more natural than it had seemed the evening before when I was walking through »

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» these and other albums from this era. Albums made when musicianship was more technique based perhaps rather than electronically supplemented.

Fraser turned his attention to the network switch that I was using. There is still an ongoing debate as to whether the switch is a vital musical cog in the high-end streaming system. Having swapped my rather rudimentary one for a much better one a few years back I am firmly in the camp that says it is. In fact, I would say that ignoring its relevance is short sighted, but that's just my opinion based on nothing more than my ears. Lots of digital experts will tell you that it simply cannot make a difference though.

Smart Hub

In went the Waversa Smart Hub 3.0 network switch along with its battery power supply the WLPS H/P, effectively removing the connectors from the general compromising mains noise. This, like all the Waversa components is compact, beautifully made and maintains the batteries in an optimum state of charge during use and the mains side apparently has a bit of regeneration in there. The switch has 4 LAN connections, 2 USBs, a digital filter, a dual battery bank and is also a Roon bridge. Waversa tend to add features to many of their components. For instance you could add a Smart Hub 3.0 to a non Waversa system to clean up the network noise and get Roon streaming capability included. This opened the door still further. Realising that Joni Mitchell was right when she sang "You don't know what you've got 'til it's gone" I was beginning

to get a feel for how insidiously intrusive this network noise might be if only because the system soundstage had now grown ever more black. Also that the music stood out in a relief so stark and so unadorned that there was now a sense of shape and control that started right at the leading edge that was becoming ever more fascinating. When I say that, I mean that the precision of the voices and the instrumentation is impossible to ignore. A few friends have dropped by to listen to the streaming side of things in the past week and each and every one of them has immediately picked on how explicit the music sounds. Perhaps it's another way to comment on its sense of resolution, fine detail or perhaps it's actually a comment on how low the noise floor is.

I should also mention the Waversa WAP-X and its role within the system. During the processing of the digital information there are still issues to deal with such as digital noise and quantisation and as a result a certain amount of harmonic information is lost. Waversa constructed an algorithm to both recognise and re-insert these even-order harmonics to their original configuration. Immediately I heard about this process I must admit that I didn't like the idea of it. It's perhaps somewhat jarring to that audiophile purist within me to lose part of the music through a process and then creating an algorithm to re-insert it? But, hey this is digital engineering! I am however happy to report that it is switchable through the app, its effect is quite subtle and it doesn't introduce a swathe of swirling harmonics or anything remotely like that. I like it on.

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≫ Ever-improving equation

The final part of this ever-improving equation came in the form of the WLAN Reference. This, as its name implies is an isolator that sits outside the system as a noise isolator and in this system plugs into the back of the Smart Hub 3.0. Battery PS, on the mains side. As with so many of the Waversa products its aim is to reduce network noise and it can be used alongside other Network Noise Isolators in a cascade set up. If noise elimination is its purpose then, from a front row seat it felt like inserting the final piece of the musical jigsaw. At each stage of the system building process I had gone through this initial feeling of trying to get my head around what I was hearing in as much as the improvements were so profound and here I was feeling that this was an audio road I had never walked before.

The inclusion of the isolator just freed everything up and bought pinpoint perspectives into sharp focus. All the remarkable leading edge qualities, plus the sheer naked beauty of the instrumental elements like the variations in attack were combined with a sense of depth that gave the whole audio soundstage remarkable projection. The further improvements in note control was something I am more used to hearing through amplifier upgrades. I sat through John Williams fantastic score for *Memoirs Of A Geisha* transfixed with the way the dramatic scale was illuminated in perspective by the small etched detailings and where they were placed within the frame. It was as cinematic as it should be. Any reservations I had about the slightly cool tonal palette had reduced as I made my way through the works of Ryuichi Sakamoto, who sadly passed during my exploration of his music. Some of his solo piano pieces were so expressive and percussive that they could make me feel uncomfortable. The Waversa-verse is not always a warm place to be and when Ryuichi felt like jarring the emotional boat, I felt it. This was all part of the experience of course but the merits of the Waversa system led me to explore the world of ambient music, using Ryuichi as a launch pad and I found myself floating in uncharted musical territory without a compass on many occasions. It was great and a reminder of where superb audio can lead you.

Matured over time

So, relegated to bed with a bit of a cold for a couple of days, I left it all alone. This was good because when I stepped back into the Waversa-verse, it had matured. The flavour and immediacy of the delivery had perhaps mellowed a touch. It was now more luxuriant I found. All the marvellously detailed control was still there but I had been warned that it all needed a bit of time to really come on point and how right that was. All those new boxes and cabling were now singing as a harmonious system, full of music. Still a tad dry in comparison to what I am more used to perhaps, but with truly instantaneous dynamics and a feeling of strident confidence that's hard to describe.

The journey was fascinating I must say and the rewards each step of the way were certainly enlightening. While the Slim Pro is a great start, it's the attention to the system details on the streaming side that brings the greatest musical rewards. You can take the system way, way further than you could ever imagine after listening to a Slim Pro for an hour. I must end with an observation though. Most, if not all audio equipment improves with use, from new. The Waversa system and its complimentary add-ons like the jitter filters and the local grounding really does need days before it settles into its final form. If you are interested in exploring it, then please bear this in mind. Having said that, I must say that I won't forget my time with it, especially the journey which was educational and a lot of fun musically. ✚

Technical specifications

SLIM PRO Amplifier Hub

Type Integrated streamer/dac/ amplifier.

Inputs Supported DNLA, Roon Ready,WNDR,Airplay, USB, Coaxial, Optical, Bluetooth, FM, HDMI

Internal Music Storage 1 × SSD slot

Conventional Digital Inputs Coaxial, AES/EBU, Optical

Analogue Input Balanced and Unbalanced

Speaker Outputs 1 × pair binding post

Power Output 200W per channel Class D

Remote Control Yes. Via Waversa app or Apple remote.

Dimensions (H×W×D) 300 × 430 × 350mm

Price £13,000

Smart Hub 3.0

Type Hub

Connections 4 × LAN, 2 × USB

Features Digital Filter, Dual Battery bank, WNDR, DNLA, Airplay, Roon Bridge

Dimensions 42 × 15 × 20mm

Price £2,200

WLPS

Type Ultimate high power DC power supply

Features 5–24v/10A supply, twin output

Dimensions 25 × 15 × 15mm

Price £1,400

WLAN Reference

Type Network noise isolator

Features For external use. Can be used in multiples in cascade fashion

Dimensions 350 × 200 × 45mm

Price £4,000

Manufacturer Waversa Systems

⊕ www.waversasystems.com (Japanese language site)

UK distributor Airt Audio

⊕ www.airtaudio.com ☏ +44(0)1354 652566