

Waversa Systems WBridge: A Bridge to the Digital World

Waversa systems



W Bridge

'Ford vs Ferrari' tells the story of two men who devoted their lives to cars. Even if you are not interested in cars, the bromance depicting the friendship between these two men and the long-distance racing scene that makes you think about life is enough to mesmerize men in particular. It is an adaptation of the original 'Go Like Hell' by AJ Beim, and is based on a true story. The story of racers and the managers of each brand unfolds in an interesting way, centring on Ford, an American symbol of the 1950s and 1960s, and Ferrari in Italy.



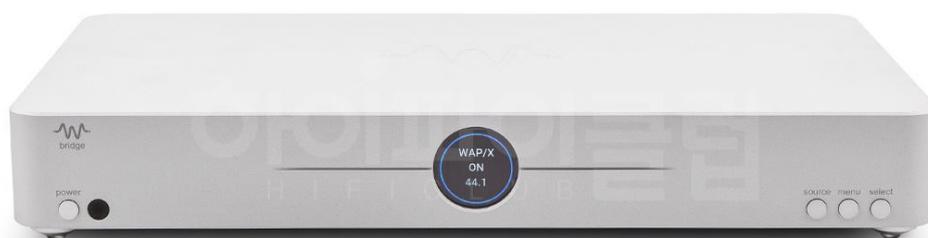
In the movie, I suddenly remembered the scene where Ford's executive went to the Italian headquarters to find the chairman to take over Ferrari. In the opinion of Ford's acquisition of Ferrari, a conglomerate that dominated the United States with mass production as a weapon, Enzo Ferrari called it "a factory that makes ugly and small cars", and in the end, "Ford's chairman is not Henry Ford, but Henry Ford II." It was a small company compared to Ford at the time, but the way one person builds an engine from start to finish shows that it is a completely different company. After being insulted by Enzo Ferrari, Ford starts building a car that will destroy Ferrari at the Le Mans race...

Seeing this scene, I thought of the high-end audio industry recalling the history of brands that started high-end audio, such as Sonus Faber of Italy, Goldmund of Switzerland, and Wilson of the United States. Ferrari is still going strong today, but on the contrary, many brands have lost their former reputation. The same goes for audio: Sonus Faber moved into the Macintosh unit in the United States, and B&W was absorbed into a conglomerate called Sound United. In this field, mergers and acquisitions of major brands and holding companies often create synergies, but on the contrary, their unique brand image as well as performance may fade.



However, new creators with creativity and genius engineering with a passion for music are bound to return. For example, as brands such as Magico and YG Acoustics are continuing the high-end speaker scene occupied by Wilson and Eggleston Works in the past. The digital field is more intense and trends change rapidly. Although the legends of the past still exist, CH Precision, MSB, etc. are rapidly responding to the new era and expanding their horizons.

Smart Hub + D/D Converter



If you look to Korea, you will definitely think of Waversa Systems (hereinafter 'Waversa'). When we think about the time when the first usable CDP came out in Korea, the allegation grows stronger. Waversa, which was born after a long delay among domestic audio makers that had only **Taekwang Honor series, Inkel Thema series, and Samsung Emperor**, skipped the classic CD player form, transport, or outdated noise shaping and filter technology a few steps. It is focusing the attention of domestic and foreign audiophiles with next-generation digital technology that can compete with the technology of leading brands around the world.



The center of evolution in the ever-changing digital world lies in the music format and the protocol that delivers it. Beyond WAV in the past, lossless compression formats can now be used in a variety of ways, and MQA encoding technology has made it possible to enjoy high-

resolution sound sources through streaming from a few years ago. However, the current protocol, that is, the transmission standard, is not so simple. Starting with S/PDIF based on the old Sony/Philips CD development, classic transmission standards such as AES/EBU and optical are still being used. Of course, USB and HDMI and, more recently, ethernet and LAN transmissions have entered the domain of hi-fi audio.

Waversa, meanwhile, does not simply rely on traditional protocols of global standards. The reason is simple. This is because the transmission standard, which has become a standard all over the world, was not developed focusing solely on sound quality as audiophiles think. For this reason, some high-end audio makers have adopted the I2S transmission method as an external interface and insisted on their own transmission standard through customization among their devices. Even with the Ethernet transmission method, the recent Lean Klimax DSM came out with an SFP socket.



In the case of Waversa, the development of a transport protocol called WNDR rather than RAAT was a representative achievement while collaborating with ROON on Ethernet streaming. WNDR was Waversa's own transmission standard that bypassed RAAT and made it possible to transmit with lower buffering to prioritise sound quality. If you've used WNDR, it's obvious that you can't go back to RAAT. In addition, in the field of network streaming via Ethernet, Waversa has developed a technology that significantly attenuates various noises that previously fatally degraded sound quality. This has been applied to various products such as the Smarthub, WCore, and WRouter. In addition, it is true that independent algorithms such as WAP and WAP/X showed unrivaled performance differentiated from DSP performance of any other manufacturers.

However, it seems that the time has come to clean up this complex transmission protocol, the ever-increasing line-up, and the DSP, which is only used in Waversa devices. In addition, from the outside, there is a sense of disparity from the transmission standards and interfaces used only by Waversa, and this must also be a task to be solved. The WBridge, a product that will serve as a bridge, appeared in a timely manner in this complex, rough, and harsh digital world that changes every day. WBridge, which is appropriate from its name, is the main character.



The WBridge is a system that combines a smart hub and a D/D converter. As a device with a fairly unfamiliar concept, there are a total of four sets of Ethernet inputs, and in addition to this, almost all transmission standards that are generally available can be converted to input/output. The WBridge comes in two variants Basic with just the smart hub and Standard with the rest of the D/D converter I/Os with the product in review a full option Standard version. Therefore, in addition to various ethernet inputs, coaxial, BNC, optical, AES/EBU, USB as well as HDMI can all be input/output. This means that data received through ethernet can be freely converted into a total of seven protocols including ethernet.



There are many reasons for the existence of this product. In particular, it is possible to upgrade the sound quality to a much closer analogue sound through internal WAP processing, as well as to enjoy the unique noise cancellation effect of Wavera through battery power. In addition, the sound quality can be improved by converting the sampling rate and adjusting the dynamic range. In particular, in the case of WAP/X level, it can be radically raised to Level 8 through a whopping 32bit/1.5Mhz processing. If you are using a

Waversa digital device, the focus will be on improving performance by adding WAP/X in addition to functional aspects such as interface conversion.

Listening

The WBridge test was unusually conducted three times. This is because it was difficult to organize them at a glance, as slightly different features were revealed for each system, both functionally and in terms of sound quality. We tested the first on a Macintosh XR100 speaker with MA12000 Integrated and WDAC3c, the second on a Chord Hugo TT with 802D3 and Parasound JC2BP/JC5 combination, and finally on an 802D3 speaker with a Chord Ultima 6 power amp and Meitner MA3. The system that was able to observe the most detailed sonic characteristics was the last test. The test was conducted by comparing the case of using the MA3 as a network streaming DAC alone with the case of using the MA3 as a standalone DAC by inserting the WBridge in the middle and connecting the USB output to the MA3.

RADKA TONEFF STEVE DOBROGOSZ
FAIRYTALES



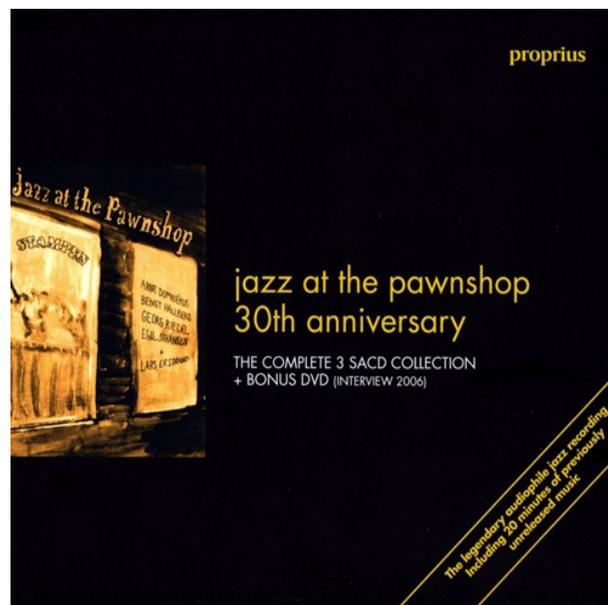
Radka Toneff / Steve Dobrogosz – The Moon is a Harsh Mistress Fairytales

All settings were fixed to the default settings and the test started, but the WAP/X settings of WBridge had a slight effect on the overall tone even with the default settings. If you listen to Radka Toneff's 'The Moon is a Harsh Mistress', the sound image is bigger and rounder, so the musicality is high. In terms of tonal balance, it is calmer and tends to have richer harmonics. The piano key is expressed in a rounded shape instead of a knife-like sophistication, and tension is relieved, increasing a more analogue nuance.



Paganini • Gil Shaham • Göran Söllscher – Paganini For Two

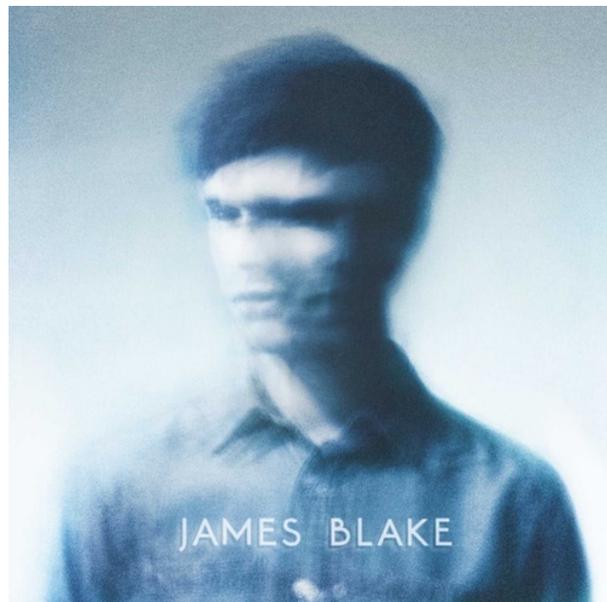
If you listen to the Paganini pieces that Gil Sham and Joran Schonscher did together, it is clearly contrasting with Meitner's tone in the overtone expression. Anyway, DA conversion is done by the MA3, but before that, digital processing and hub performance caused by Waversa's WAP causes a change in sound quality. To exaggerate a bit, it's like replacing only the preamp section to tubes from transistors. It has a softer and warmer feel to it. In the case of the guitar, the exhilarating tension is lost a little, but on the contrary, it feels like playing with less power.



**Arne Domnérus - In a mellow tone
Jazz At The Pawnshop 30th Anniversary**

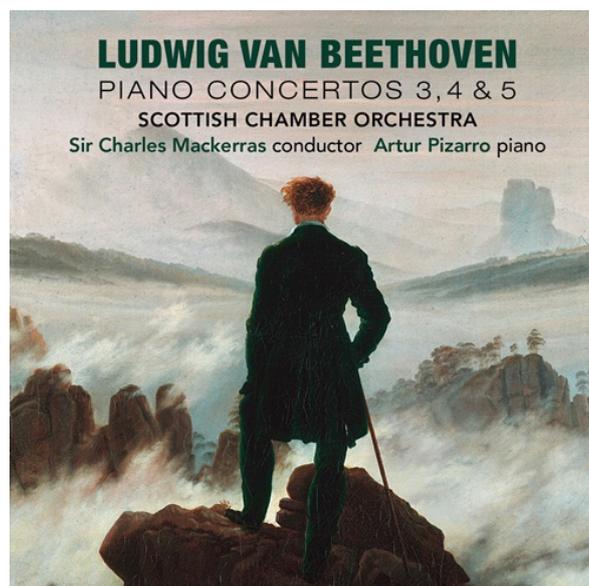
By analogy, the directionality of the sound going through the WBridge is comparable to playing a high-resolution sound source with a delta sigma DAC and then playing it with an R2R. The WBridge is a kind of litmus test about how very low-level harmonic information

affects the entire sound spectrum. In particular, if you listen to 'In a Mellow Tone' during Arne Domnerus' performance, where the vibraphone sound was recorded beautifully, the intonation is soft and the overtones are rich when the WBridge is applied in the middle. This can be confirmed again in the saxophone sound, which has the most complex overtone structure.



James Blake - Limit to your love

Piano keys and rhythm instruments are also reproduced with a louder and heavier tone. For example, if you listen to James Blake's 'Limit to Your Love', it stands out with a fuller sense of density than before. In particular, the bass part feels the most emotionally, and the evidence of that is the ultra-low frequency playback sound that dynamically hits the floor from 1 minute before/after. After applying the WBridge, it produces a sound that is quantitatively larger and heavier. Overall, the sharpness of the tip of the sound is softened, making it softer, but the weight is increased. It is comparable to the aspect of a wine's body.



Scottish Chamber Orchestra Sir Charles Mackerras Artur Pizarro Beethoven: Piano Concertos 3, 4 & 5

In the recording with a large number of strings and wind instruments participating, a sense of space, hall tone, and distance between instruments was captured. For example, in Beethoven's Piano Concerto No. 3 performed by the Scottish Chamber Orchestra, the sonic characteristics of the WBridge were particularly well captured. Strings and wind instruments have a milky white tone like a beef shank soup bone due to the change in overtone. The connection of the instruments has become more flexible, and the strong and clear intonation of the MA3 has a more refined impression. It has a deeper depth of field, and it's a bit of a transition to a particularly fluid, organic, liquid sound. In addition, the hall tone of the space became richer, expressing its own musicality.

Conclusion

In fact, the W Bridge required quite a bit of time and concentration throughout the test. It was difficult to quantify because it basically has several functions and it looked like a chameleon depending on what it was matched with in terms of sound quality. However, in conclusion, the characteristics coexisted with consistent aspects. In addition, this product contains almost all of the mainstream transmission standards currently available in high-end audio. Therefore, there are numerous cases through numerous cross combinations.

If you are using a variety of devices, this product seems to be very useful in terms of its functionality, and if the sound quality change characteristics match your taste, it will be a golden find. It's not a device for everyone, but will be a device that will become so very valuable to those who need it that there are few alternatives. In my opinion, it seems to have quite a lot of uses in the studio, not at home. In short, the WBridge will be a bridge to an increasingly complex digital world.

Written by Audio Columnist Conan