Waversa systems

New Product: WStreamer 2.0

A fun and powerful streaming player

There are network players from a variety of produces, from as little as a hundred dollars to as high as thousands of dollars. However, it is a fact that there are many uninteresting products which once installs and there is no capacity to adjust any settings to modify their sound.

For products whose performance and tone are fixed the moment the hardware is manufactured, there has always been the need of having to change the device to pursue the sound many are looking for. Breaking out of this framework, we introduce the WStreamer 2.0 where you can directly experience a variety of options to cater the sound perfectly for you and your system needs with a powerful self-developed FPGA as your weapon.

Features
- Powerful WAP processor
- Equipped with WLPS-LP 5V DC Out
- WIDR over Coax support
- Built-in noise isolator
- I/O terminal side alignment
- AirPlay, DLNA, Roon RAAT, WNDR support

Menu Options

System	Storage	Update

Version   2.1.0

System

Sample Rate Conversion   BYPASS
Configure output sample rate

WAP/X

WAP/X Enable   ON
Select WAP/X Engine ON/OFF

WAP/X Mode   MD1(Default)
Select WAP/X Harmonic Mode

Dynamic Range   LEVEL3(Default)
Select Dynamic Range Enhancement Level. (LEVEL3 is default)

Output device

Sound Output   USB
Select output target device.(INTERNAL:Turn off USB & WNDR)

WNDR Transport Level   Level4(Default)
Select WNDR Transport Level. Increase the level when sound dropout occurs.

Misc Option

Network Speed   AUTO
If the network is frequently disconnected, choose the 100M fixed option.

Roon Ready Soft Volume Control   OFF
Select Roon Ready software volume control mod
Warning!!! This setting slightly degrades the sound quality.
This is for digital output such as COAX/OPT.
Not recommended

Roon Ready Bypass WAP Engine   OFF
Turn on to use the Roon Ready multi-room audio feature.
Warning!!! Bypass all waversa audio processes.
This setting only applies to USB output mode.

Powerful WAP Processor

Waversa is a manufacturer with high technology capable of designing an FPGA DSP on its own incorporating their proprietary WAP (Waversa Audio Processing) function which is different from any other manufacturer into the WStreamer 2.0. You can access all the functions of the WStreamer 2.0 simply by entering the streamer's IP address on the WRemote app or Internet browser.

Sample Rate Conversion: By default, the bypass mode is set to X1. X2, X4, and up to 8X are available up to 352.8/384 kHz signals.

WAP/X Enable: WAP/X is a function that restores harmonics included in the original sound through an elaborately designed algorithm.
Even-order harmonics are 2x, 4x, 8x, 16x... of the frequency of the instrument and singer's voice, and these harmonics play a role in making the sound natural. This is one of the reasons why vacuum tube amplifiers, which express the second harmonic, is loved by audiophiles. However, while the expression of the fourth harmonic is important for the sound of musical instruments such as violins that resonate, the vacuum tube has relatively poor expressiveness of this harmonic, and in the case of sound sources, the harmonics lost during recording and digitization must be restored to sound like natural tones. These can be heard, so WAP/X technology was implemented through an algorithm to seek out the traces of this information on a digital signal and restore them..

WAP/X Mode: In the OFF state, the signal is output without going through the algorithm.
• MD1 (Default) : This is the default overtone mode recreated with an elaborately designed algorithm.
• MD2 : Amplifies the 2nd and 4th overtones from MD1.
• MD3 : Amplifies the 4th and 8th harmonics additionally from MD2.

Dynamic Range: This is a function that can compensate for variations in various systems and spaces by adjusting the output dynamic range. Level 3, is default and as you increase the level, the resolution increases, the staging becomes wider, and the expressive power of weak tones comes to life. If you lower the level, it changes to a setting suitable for those who prefer a dense sound rather than sharp resolution for low level night listening for example.

Sound Output: You can select an output option. In case the case where Internal, USB and WNDR outputs are not available, the device can be operated via Coax.

WNDR Transport Level: You can select the transport level of WNDR, a dedicated protocol of Waversa. Systems. Options are available here to select the optimal network environment and configured between Level 1 (optimal) and Level 5 when the network needs to be more flexible due to poor bandwidth or network issues.

W Streamer 2.0 supports all existing network protocols such as AirPlay, DLNA, and RAAT (Roon), and is equipped with Waversa's own rendering protocol WNDR and a new signal transmission method WIDR. When used together with Waversa's devices, it is possible to transmit a clean signal that is free from noise through its own specification that provides unparalleled performance from the server to the endpoint.

Example: WRouter - (WNDR) - WCore (Roon Server) - (WNDR) - W Streamer 2.0 - Coax - (WIDR) - W DAC or Amplifier WIDR over SPDIF

WIDR over SPDIF

• Waversa's proprietary standard that overcomes the limitations of SPDIF PCM transmission
• Transmit WAP data together without any other procedure, dramatically improving sound quality
• DSD transmission possible without going through DoP format
• Significantly lowered audible noise

If you are using a Waversa DAC or amplifier, please experience this with WIDR with the WStreamer 2.0. You can experience DSD, WAP settings, and even lower noise all at once.

WIDR: WIDR (Waversa I2S Direct Renderer) is an I2S-based proprietary transmission technology that can be used when connecting to a Waversa device that supports the protocol. Unlike existing I2S methods, which require a separate terminal and cable to transmit the clock and signal separately, it is Waversa's unique core technology that can transmit more information through the existing Coax terminal.

WAP Data Transmission: Unlike PCM, which supports up to 24bit/192kHz, WIDR is transmitted at 28bit/192kHz, making it possible to transmit all the WAP processing information there is.

Original DSD support: Unless you have a player with a built-in decoder or a device capable of dual digital output, you may have experienced at least once that you could not enjoy DSD sound sources smoothly. Even without these complex devices, transmission was usually only possible via DoP (DSD over PCM). WIDR is a completely different standard from PCM, and it can transmit the original DSD signal with a single Coax cable bypassing DoP.
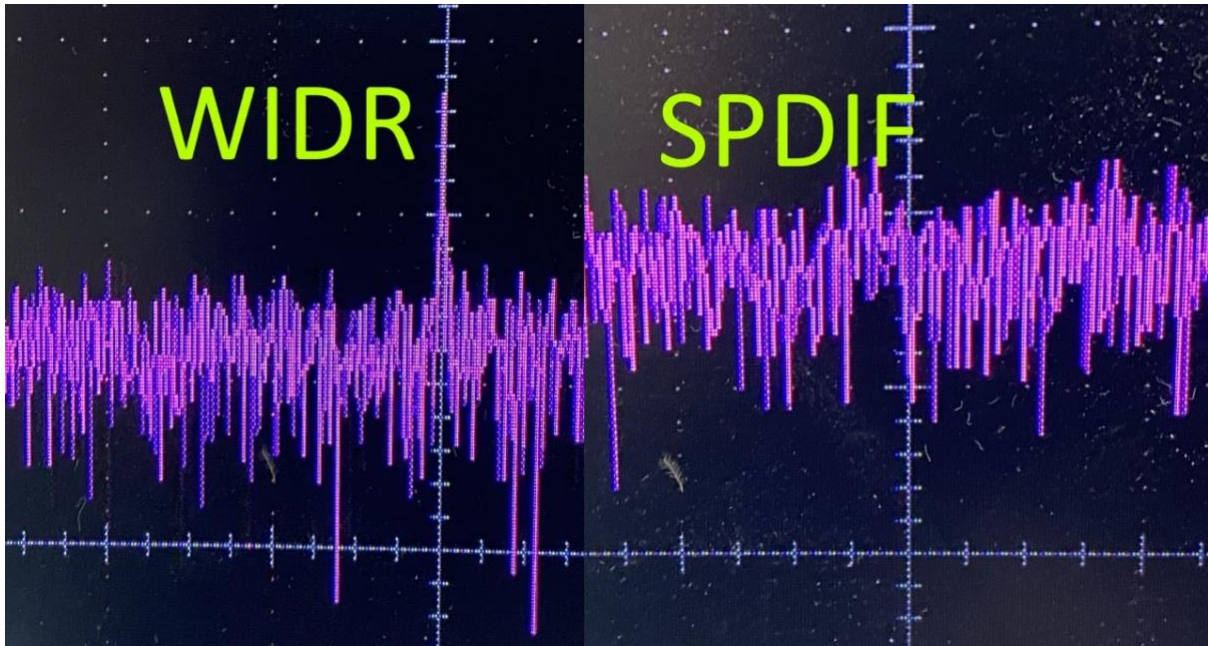
Noise flow in WIDR and SPDIF
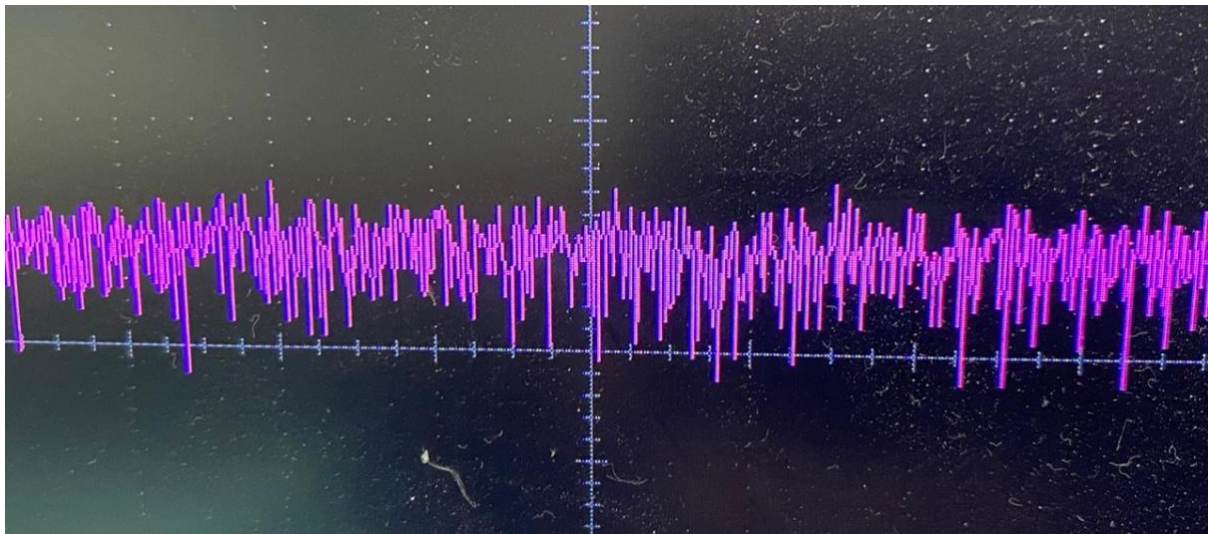
Noise flow with nothing connected

Low noise flow: Unlike SPDIF, which always generates a signal continuously in all sections, WIDR transmits a signal at high speed only in the section where there is data and does not send a signal in the rest section. Therefore, it always maintains a low noise level compared to SPDIF, which inevitably has to maintain a high noise flow state.

5V DC Out

• 5V DC Out terminal derived from WLPS linear power technology
• Synergy effect with streamers by eliminating SMPS that causes noise
The WStreamer 2.0 is equipped with a high-performance linear output terminal derived from WLPS technology, and can create synergy in sound quality with other devices that use

5V DC. Most devices that use DC power use a poorly made SMPS adapter, which causes unimaginable noise and adversely affects sound quality. Experience the detail buried within noise with the DC Out jack with clean power supply capability.
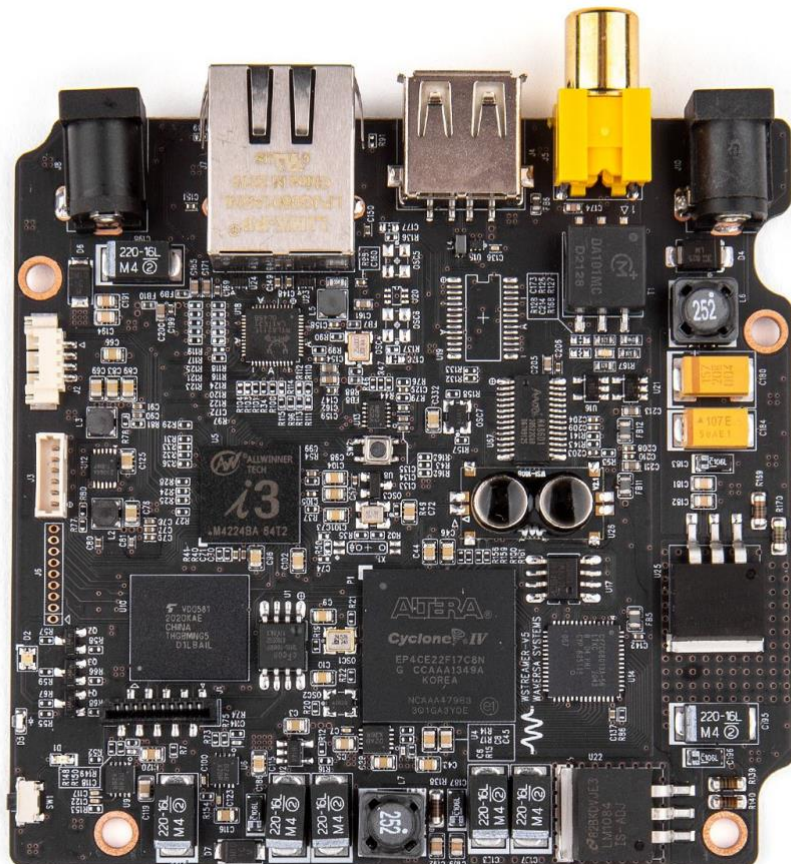
Built-in noise isolator

• Equipped with a custom isolator miniaturised from the hit product EXT Isolator series
• Fundamentally blocks the transfer of generated digital noise

The W Streamer 2.0 is equipped with a noise isolator that is a miniaturisation of the existing EXT series. This is a unique technology used only by Waversa in the world (Patent Pending), and it is a device that dramatically improves sound quality by removing fine noise generated from digital signal transmission.

I/O terminal arrangement

Unlike the previous model, where the input and output sections were located on different sides, all terminals were placed on one side. Therefore, installation is easier than the previous model, and you can enjoy all the performance of WStreamer 2.0 in a more elegant and intuitive way.

Specification	
Input	RJ 45 Ethenet, WNDR Support
Output	USB A Type, SPDIF and WIDR via Coax
Feature	WAP, WAP/X, Airplay, DLNA, Roon Ready, WNDR
DC In / Out	7~9V, 3A / 5V linear
Dimension	W 95 x H 22 x D 100 (mm)