

## Evolution Of The AES/EBU Digital, Linear-Phase System

With the advent of digital sound cards, such as LynxAES16 and AES/EBU amplifiers, ICE-PWR from miniDSP, it is now possible to develop a sophisticated digital or hybrid, multi-channel audio systems, starting with a very simple stereo (2.0) system, up to full-capacity 7.2+BBM+CABS system.

**CABS** – Controlled Acoustic Bass System, as described in [http://vbn.aau.dk/files/62729248/LF\\_sound\\_field\\_control.pdf](http://vbn.aau.dk/files/62729248/LF_sound_field_control.pdf)

**BBM** - Binaural Bass Management - AES Preprint 6628

This paper chronicles the evolution of such system, starting from square one – the 2.0 stereo system. This would be the simplest and most cost effective system, still offering the user full capabilities of Ultimate Equalizer Technology. Some systems encourage the AES/EBU amplifiers to be built-into the loudspeaker boxes, while other, more advanced would possibly benefit from combining all amplifier modules into one or two separate enclosures. Also, several systems are based on single sound card –LynxAES16, while more advanced system require addition of Delta1010LT sound card. All 2.X systems are designed to be used with the PC as an audio server. All systems are time aligned and time synchronized to single clock source.

All systems are depicted as block diagrams, and are not intended to be a detailed construction details. For more complete description of one of the systems, please consult

[http://www.bodziosoftware.com.au/AES\\_EBU\\_24Bit\\_96kHz\\_System.pdf](http://www.bodziosoftware.com.au/AES_EBU_24Bit_96kHz_System.pdf) ,  
[http://www.bodziosoftware.com.au/Hybrid%20AES\\_EBU\\_Analogue\\_System.pdf](http://www.bodziosoftware.com.au/Hybrid%20AES_EBU_Analogue_System.pdf) and  
[http://www.bodziosoftware.com.au/AES\\_EBU\\_Amplifier\\_Construction.pdf](http://www.bodziosoftware.com.au/AES_EBU_Amplifier_Construction.pdf) papers.

One important aspect is perhaps worth emphasizing – **scalability of the systems**. Simply by adding more ICE-PWR amplifiers and building more loudspeakers, you will be able to expand your system into acoustical realm not readily achievable with other audio equipment. If your loudspeaker building skills allow for it - you will end-up with aesthetically pleasing, visually coordinated, and acoustically outstanding audio system.

Thank you for reading.

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## 2.0 System

Single LynxAES16 sound card, two (2in/2out) ICE-PWR amplifier modules.

2-way Front Left



HP Wireless  
mini keyboard

Audio Server + DSP  
Loudspeaker Management  
System + LynxAES16 soundcard  
+Delta1010LT soundcard



2-way Front Right



2.1 System

Single LynxAES16 sound card, two (2in/2out) and one (1in/2out) ICE-PWR amplifier modules.

2-way Front Left



HP Wireless mini keyboard

Audio Server + DSP  
Loudspeaker Management  
System + LynxAES16 soundcard  
+Delta1010LT soundcrad



2-way Front Right



McCauley 18" 6174 subwoofer



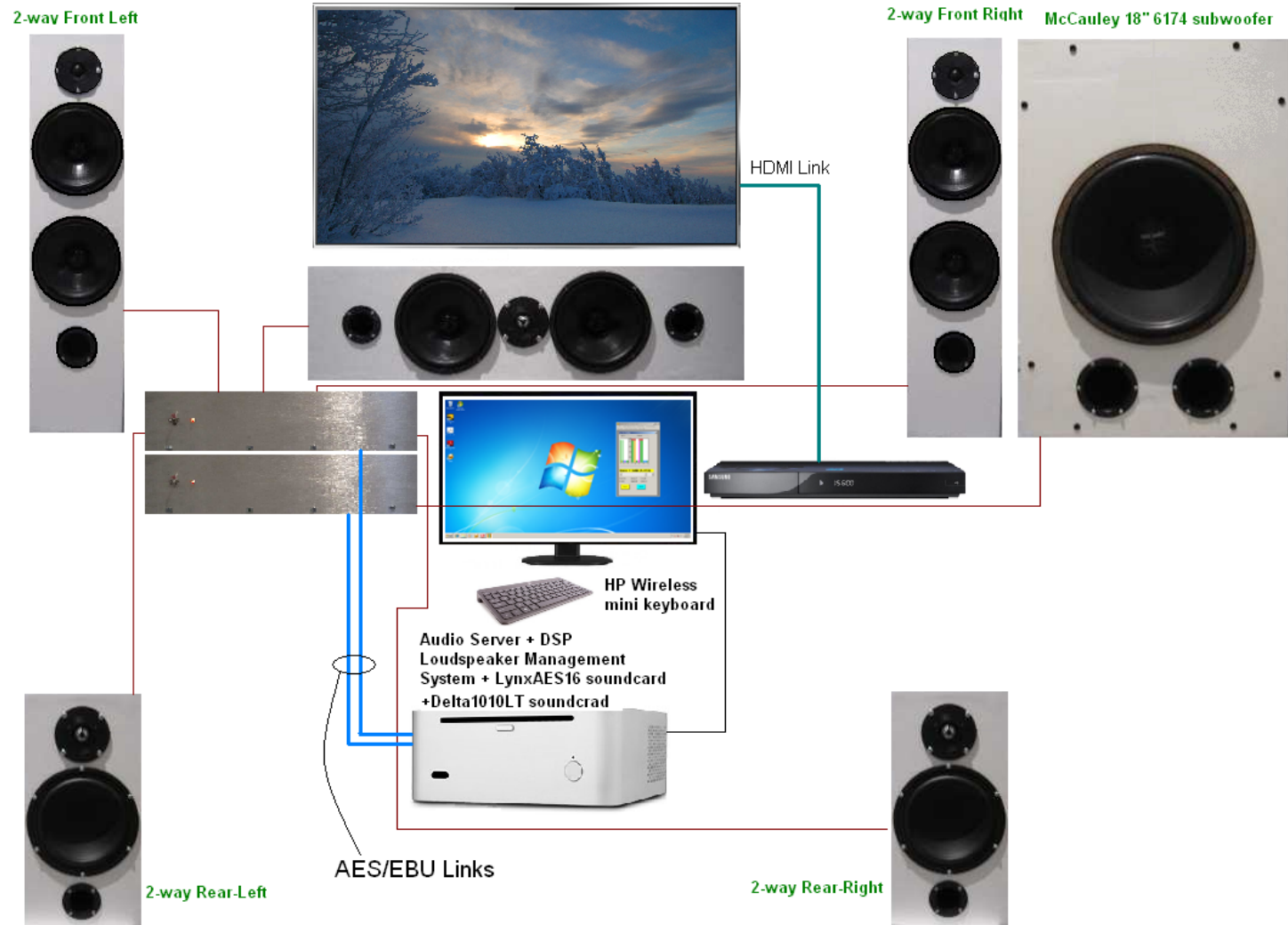
## 2.2 (BBM) System

Single LynxAES16 sound card, two (2in/2out) and two (1in/2out) ICE-PWR amplifier modules.



## 5.1 HT System

One LynxAES16 sound card and one Delta1010LT sound card, five (2in/2out) and one (1in/2out) ICE-PWR amplifier modules.



## 5.2 HT (BBM) System

One LynxAES16 sound card and one Delta1010LT sound card, five (2in/2out) and two (1in/2out) ICE-PWR amplifier modules.



## 7.2 HT (BBM) System

One LynxAES16 sound card and one Delta1010LT sound card, seven (2in/2out) and two (1in/2out) ICE-PWR amplifier modules.



## 7.2 HT ( BBM + CABS ) System

One LynxAES16 sound card and one Delta1010LT sound card, six (2in/2out) and four (1in/2out) ICE-PWR amplifier modules.

