Digitally Steerable Array Loudspeaker System

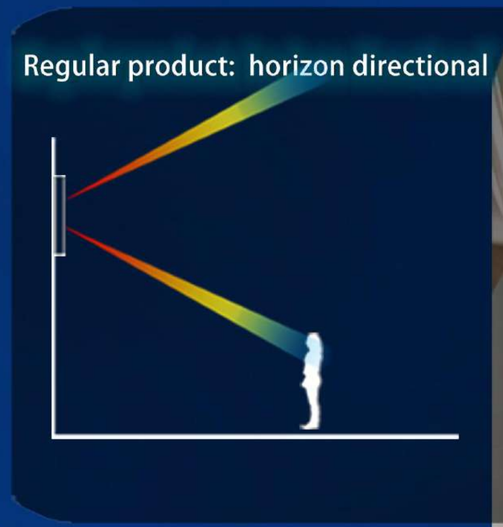
Three Sound Beams & Web Control

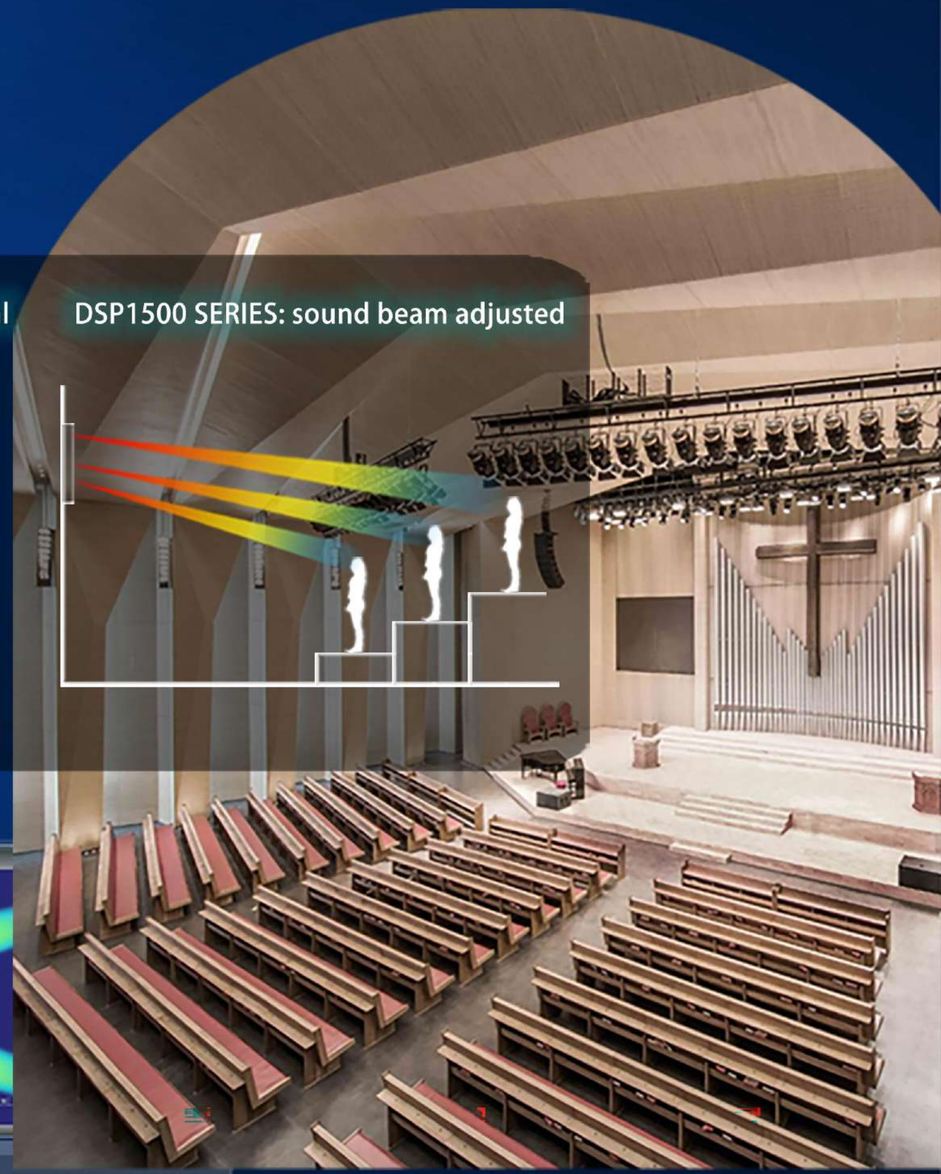
Sub

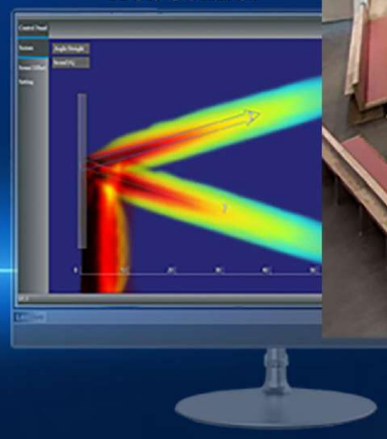
Main

DSP1500
Main Speaker

DSP1500S
Subwoofer







DSP Technology

DDC Steering

DIgital Amplifier

Active Speaker

Web

Directional output

EQ

3 audience areas

DSP

Sub Speaker

Customized

Easy to install

Family Acoustic Solutions

Set of main and sub speaker
powered subwoofer

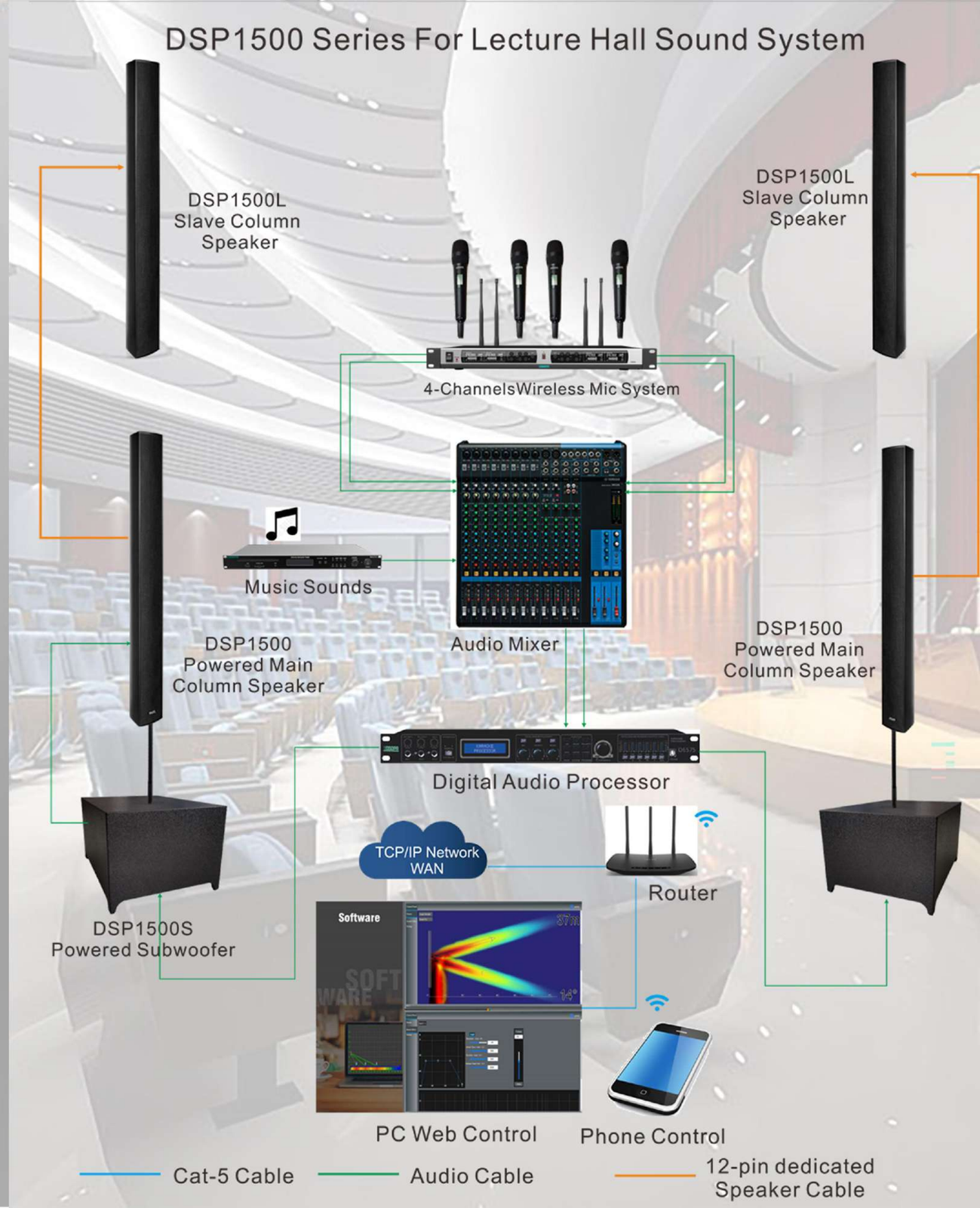
Both available in black and white

Sub

Main

Powered Subwoofer

DSP1500 Series For Lecture Hall Sound System



Conference Room

D7321
5GWiFi Chairman
Microphone

D7322
5GWiFi Delegate
Microphone

X10

D7322
5GWiFi Delegate
Microphone

D7322
5GWiFi Delegate
Microphone

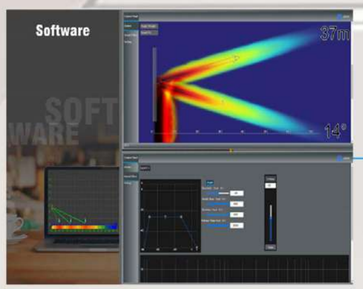
HD Conference Screen

Music Sounds

Audio Mixer

TCP/IP Network
WAN

Router



DSP1500
Powered Main
Column Speaker

DSP1500L
Slave Column
Speaker

Phone Control

Cat-5 Cable
Audio Cable
12-pin dedicated
Speaker Cable
Control Cable
HDMI Cable

Church Sound System

2*4 Channels Antenna Distributor

Directive Antenna

Directive Antenna

DSP1500L
Slave Column
Speaker

4 Channels UHF Wireless
Lavalier Microphone

DSP1500L
Slave Column
Speaker

4 Channels UHF Wireless
Hand-held Microphone

DSP1500
Powered Main
Column Speaker

Audio Mixer

Audio Source Player

DSP1500
Powered Main
Column Speaker

Wried Hand-held Mic

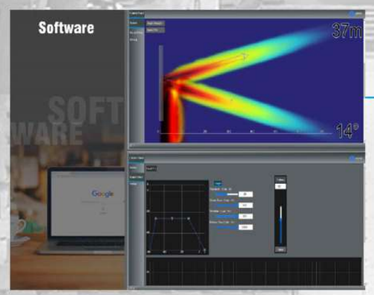
Digital Audio Processor

DSP1500
Powered Main
Column Speaker

DSP1500
Powered Main
Column Speaker

TCP/IP Network
WAN

Router



PC Web Control interface

Phone Control

DSP1500L
Slave Column
Speaker

DSP1500L
Slave Column
Speaker

Cat-5 Cable
Audio Cable
Coaxial Cable
12-pin dedicated
Speaker Cable

Highlights of DSP1500 Series Speakers

- Sub speaker design for projects with good sound quality, without time delay, budget cost-reducing for customer


Main

+

Sub


12-pin dedicated speaker cable

VS

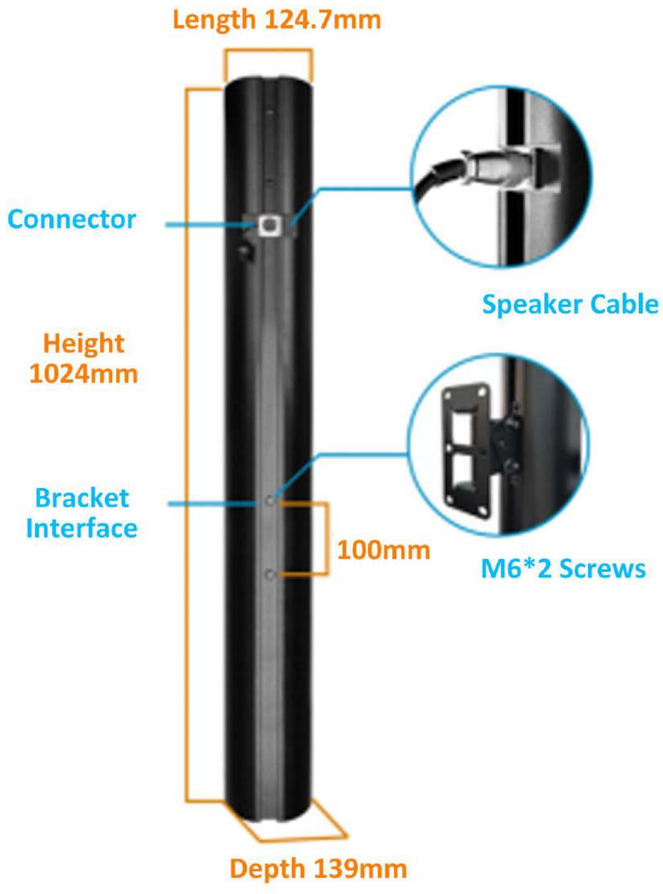

Active

+


Active

Industry

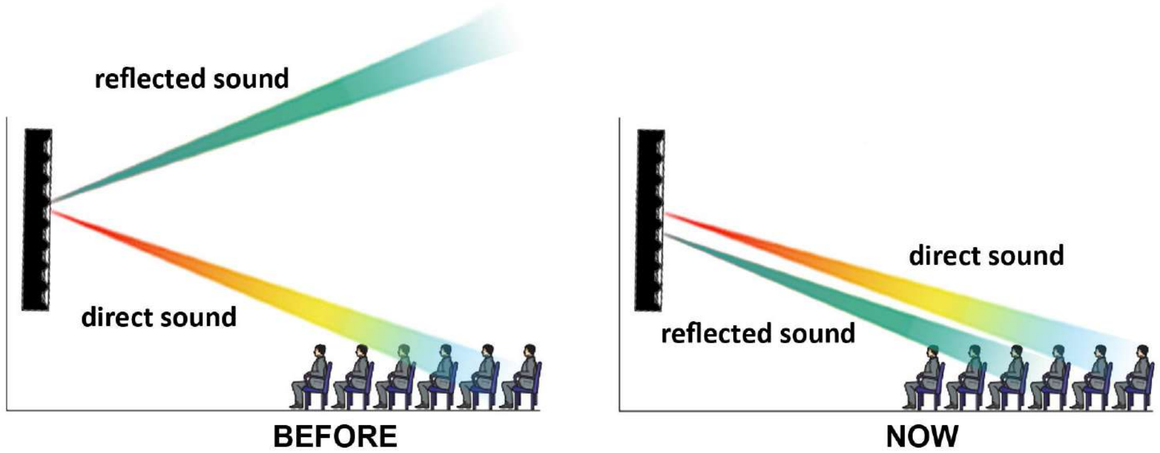
- The active phased array column speaker is composed of 8 built-in 4” full-range speaker units, and driven by a 8-channel digital amplifier module driver, with 35W for each drive unit, and 280W for the total power.
- The passive column speaker is composed of 8 built-in 4” full-range speaker units, with 25W for each drive unit, and 200W for the total power.
- The active woofer is a single 12” speaker unit with a power of 300/4ohm.



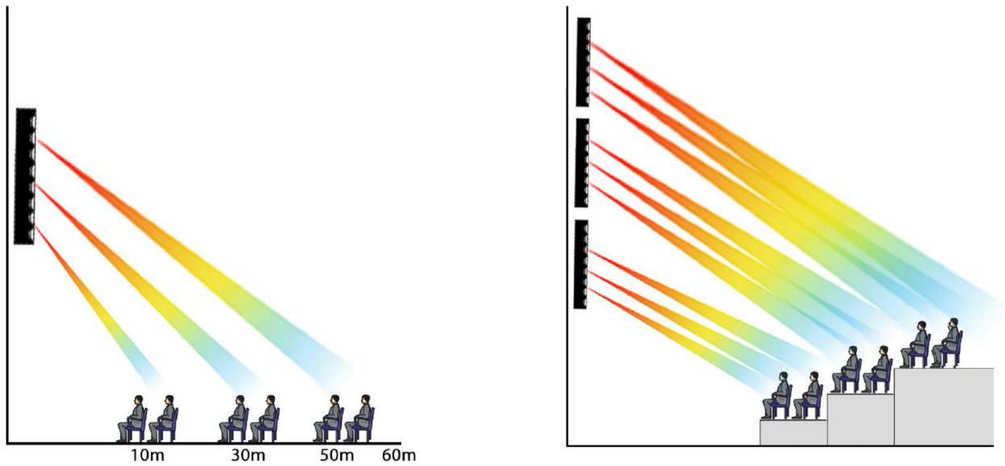

DSP1500L Sub speaker

DSP1500L can be used as a traditional column speaker with a “4Ω adapter cable”, equivalent to serve as a 4Ω column speaker; and can be used as a phased array column speaker when connected to DSP1500 phased array column speaker with a “D5M connecting cable”.

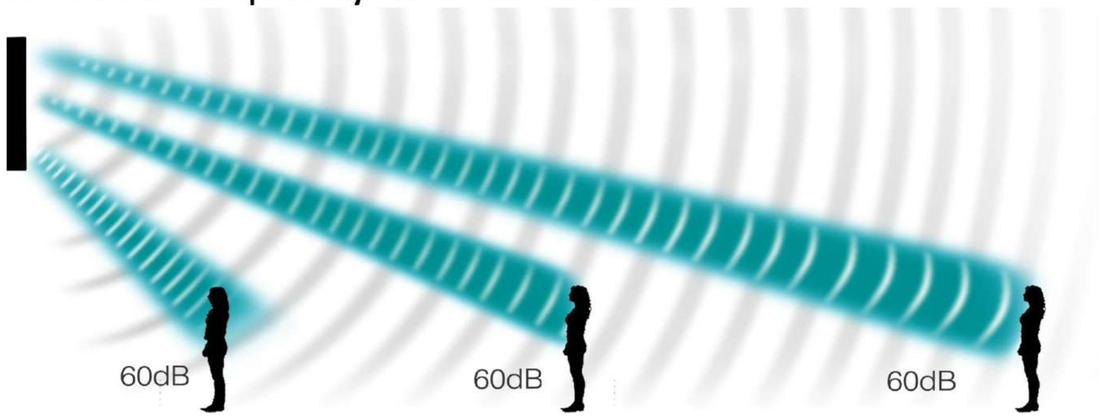
INDUSTRY CONTRAST



- 3-band sound beams, 3 directions, excellent directivity



- The same sound quality of 3 directions

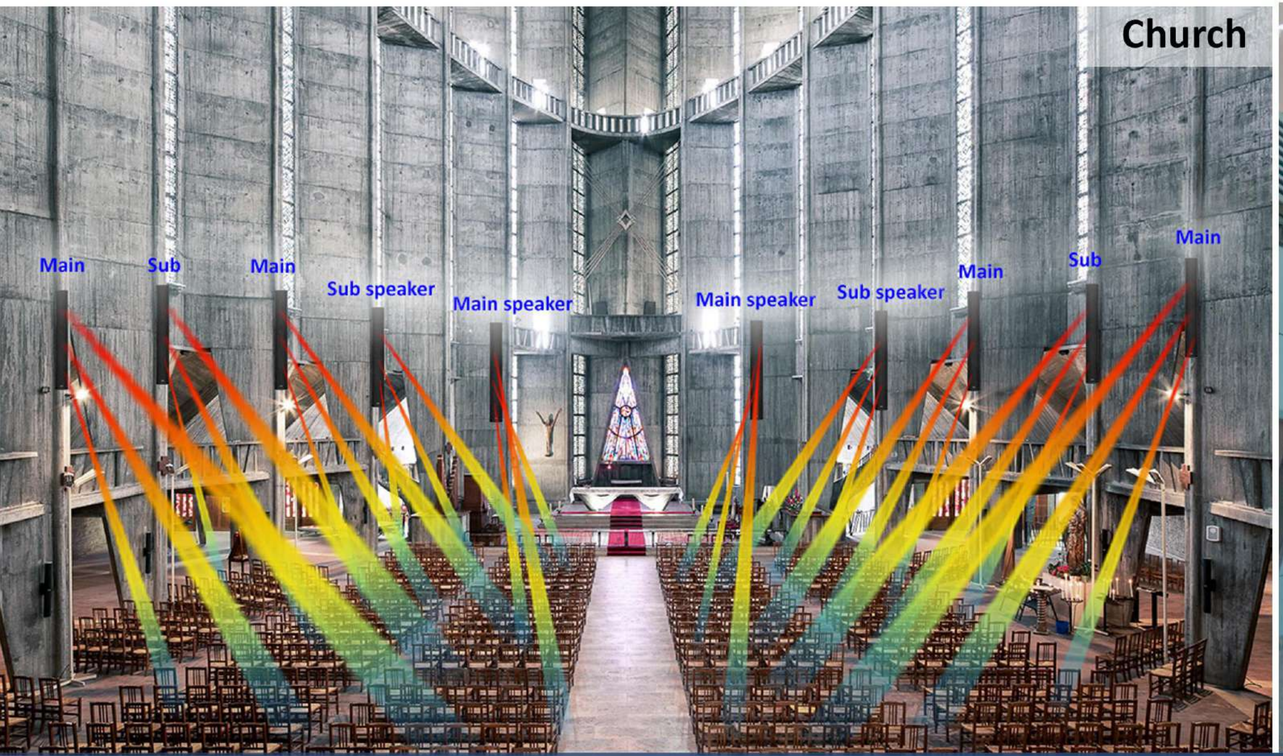


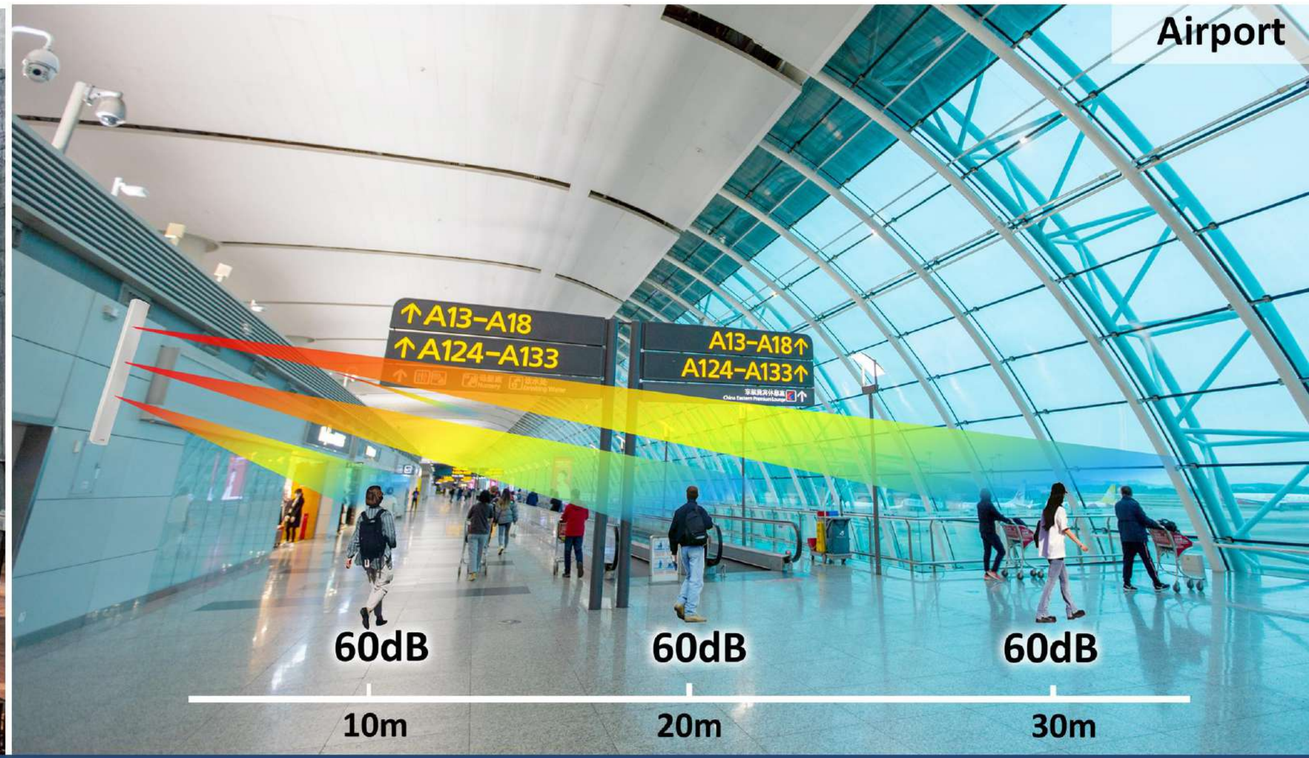
Web Controls Angle & Intensity of 3-Band Sound Beams

Throught the control interface, you can control the vertical directivity to aim the sound at the required position. The speaker can support 2 channels of audio inputs, one of which can be divided into 2-band sound beams, and combined with the other channel to output 3-band sound beams at the same time. The directivity, distance, volume decibel, and EQ value of each band of sound beam can be directly adjusted on the web interface through a PC and mobile phone.

FREE SOFTWARE

Sample Distribution of Speakers Used in Church and Airport





High-performance DSP processor, multi-band FIR+IIR equalizer, DDC patented algorithm for sidelobe suppression

Industry Problem of the speakers:

Speech intelligibility is in the top priority in all indexes requirement for sound reinforcement system desgin of auditorium and stadium. The designer should take into account the reverberation casued by the architectural layout of the auditorium and the sound reinforcement system. Therefore, how to deal with the relationship between the reverberation time and the sound reinforcement system will have some direct impact on the listening experience of the audience.

In response to this problem, DSP1500 series has unique advantages in such sound reinforcement occasions with long reverberation time: it adopts a high-performance DSP processor and a multi-band FIR+IIR equalizer, as well as a high-performance DDC patented algorithm for sidelobe suppression and other digital audio processing technologies, to adjust various parameters on the web control interface with a PC/tablet/mobile phone on the spot, such as adjusting the Q value of the column speaker to control the coverage area of the sound beam, effectively reducing the loss of consonant intelligibility.

WHY Digital Directivity Control (DDC) ?

• DDC is a multi-channel loudspeaker array technology where the single loudspeaker elements are positioned in space according to a patented algorithm. This **Phased Control TECHNOLOGY** optimizes the shape of the far field main lobe, and enables users to electronically manipulate the vertical dispersion of an DSP1500 array.

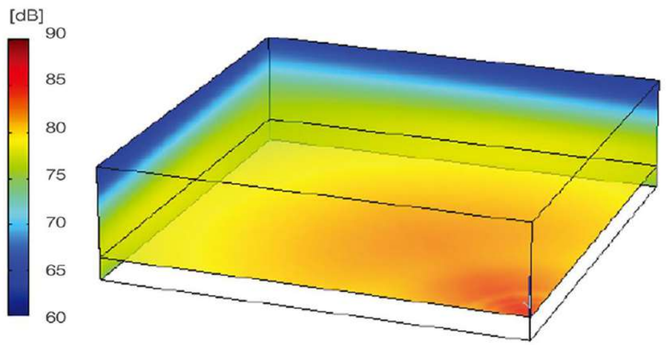
• With adjustable vertical sound directivity, which can evenly emit sound down to the specified direction and greatly reduce the upward emission of sound, and **attenuate** the acoustic reflection of the ceiling.

Benefits of DSP1500 Series

• The sound is digitally aimed at the listener

• There is less sound reflected from walls and ceilings therefore you hear less reflections.

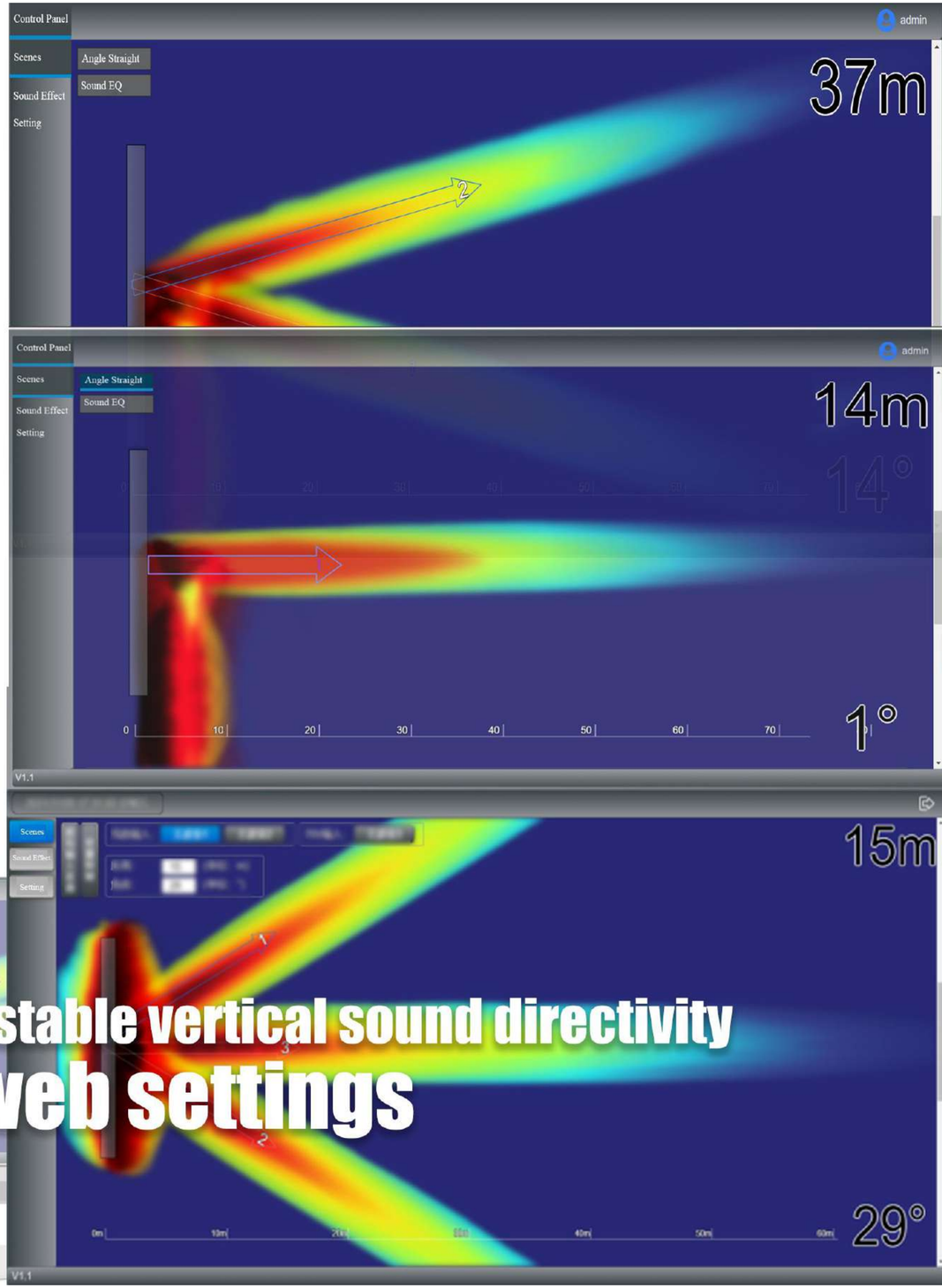
• It is highly efficient at distributing the available power from the loudspeaker



Sound Field Distribution
of Phased Array
Directional Loudspeaker

3 AUDIENCE AREAS

SAME VOLUME OF SOUND



WHY Digital Signal Processing (DSP) ?

Short overview of digital signal processing (DSP):

DSP uses digital signal processing to convert and analyze signals such as audio, video, voice, light, temperature, pressure or position, and then output usable data.

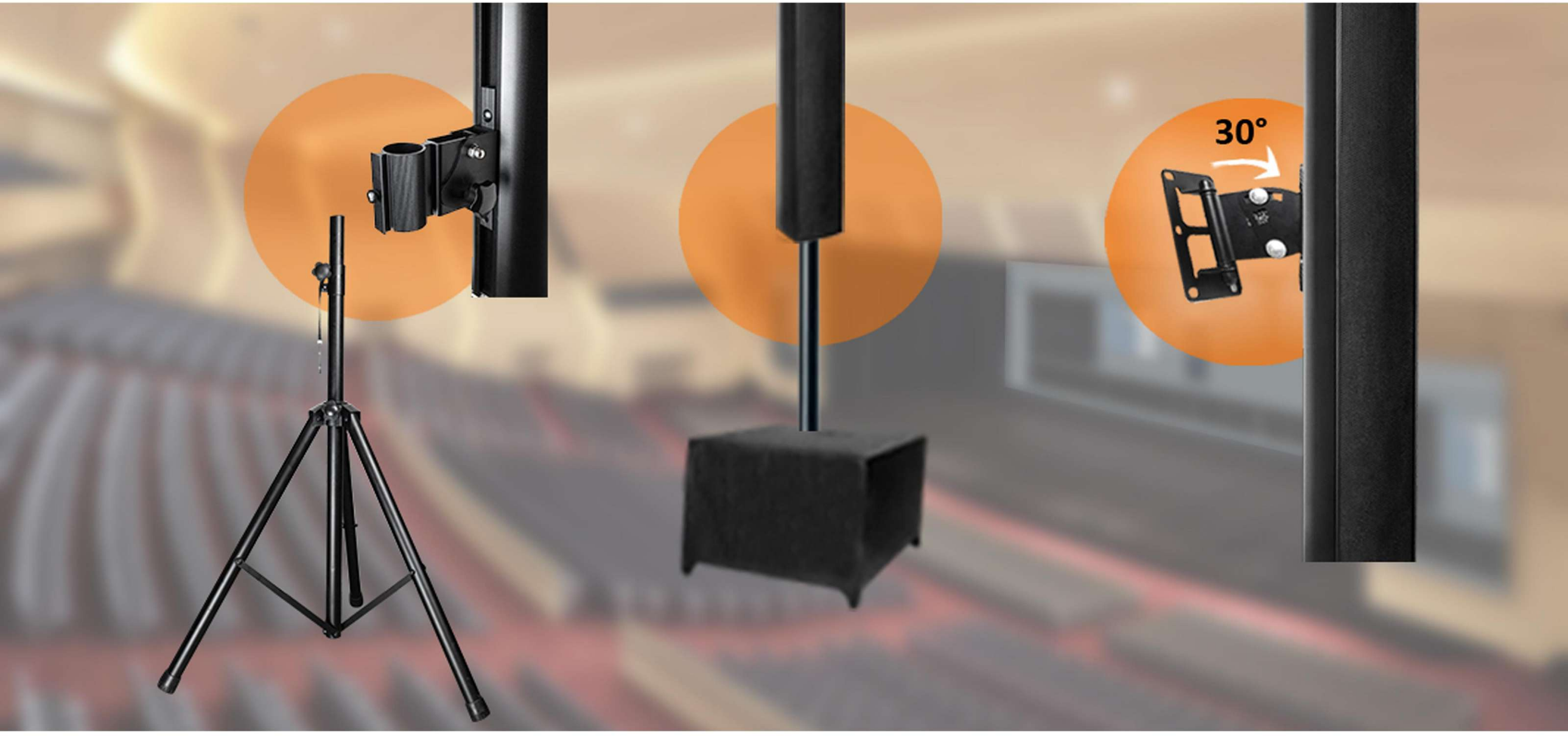
Benefits of DSP technology in DSP1500 series：

A high-performance **DSP Patented Algorithm Sidelobe Suppression** will give the processing power for high-quality effects ranging from on-device EQs to voice recognition, active noise cancellation, and surround sound capabilities.

Premium DSP also require very little power, DSP1500 series for longer listening.

FIR+IIR EQUALIZER
Sound effect addjustment
by **WEB**

Flexible Mounting Mode

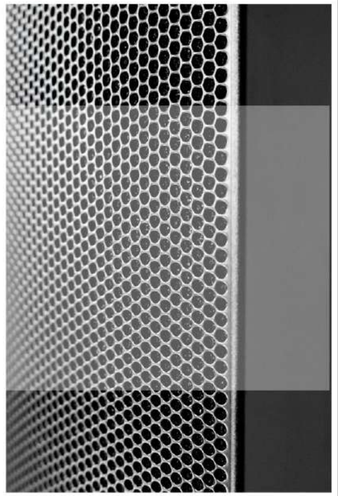


Product Details of DSP1500, DSP1500L, DSP1500S

DSP1500 and DSP1500L

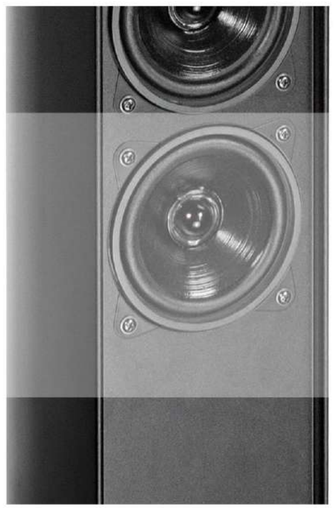
ADVANCED MOUNTING POSSIBILITIES

An included mounting bracket allows easy up or down tilting.



ONLY THE HIGHEST QUALITY MATERIALS

Slim and elegant design, aluminum material.



OPTIMIZED SPEAKER UNITS PLACEMENT

The improved 4" units of the DSP1500 and DSP1500L are repositioned to provide an optimized coverage area.

PLUG-AND-PLAY MULTI-TAPPING

The power tapping switch of DSP1500 has been moved to the back of the speaker, allowing you to easily choose the right power tapping for the right 100V-240V application.

DSP1500S Professional Subwoofer

12" speaker unit x1

High quality box

Built-in amplifier

BETTER SOUND EFFECT

Low frequency

100 - 240Hz

POWER(peak) ≥300W

Back

Product Specifications

- Several full-band speaker units, wide reduction frequency
- 3-band sound beams, 3 audience areas
- Digital speaker with an anti-reverberation system
- Built-in high-performance DSP patented algorithm sidelobe suppression
- Sub speaker design for low cost
- Wireless control via web interface

DSP1500 Active Main Speaker

- Display and edit the 3D emission model synthesized by the speaker array on the user interface
- Digital Directivity Control (DDC)
- Adjustable vertical sound directivity, attenuate the acoustic reflection of the ceiling
- The column speaker shell is made of aluminum, small in size and light in weight, for easy transport and installation
- Built-in multi-band FIR+IIR equalizer
- Built-in ultra-high sensitivity input signal detection function, for flexible start and noise reduction.

Project \ Model		DSP1500
Amplifier Frequency:	Range	100 – 16kHz
Acoustic Frequency	Range	140 – 12kHz
Maximum SPL	dB	115dB
Coverage	Horizontal (Fixed)	130°
	Vertical (Adjustable)	±45°
	Focus Offset	5 – 50m
Dynamic Range		>100dB
Audio Input	Rated Level	- 12dBV (line)
	Type (line)	Balanced/Single (1,3GND; 2 Signal)
	Type (70V)	(2 positive, 3 negative)
	Impedance (balanced)	10KΩ
Power Amplifier	Type	PWM (Class D)
	Peak Power（4Ω）	8× 35Wrms
Voltage		AC 100V–240V 47- 63Hz
Power Consumption	In Idle	12VA (PFC ≥ 0.92)
	Fully Loaded	400VA (PFC ≥ 0.95)
Ambient temperature		0℃ ~ 50℃
Speaker		8×4”
Package Size (mm) (L × W ×H)		270×260×1156
Dimensions (L × W ×H)		124.7×139×1024
Gross Weight（Kg）		15kg
Net Weight (Kg)		12kg

DSP1500L Passive Sub Speaker

Ambient temperature	0℃ ~ 50℃
Speaker	8×4”
DC Resistance	4 OHM±15%
Power	200W
Package Size (mm) (L × W ×H)	256.7×262.5×1154
Dimensions (L × W ×H)	124.7×130.5×1018
Gross Weight （Kg）	13kg
Net Weight (Kg)	10kg

DSP1500S Professional Speaker

- Volume (adjustable)
  110 - 1100mV, suitable
  for audio equipments use
- Built-in digital power amplifier
- Modern and simple appearence
- Built-in low frequency (100Hz to 240Hz)
  signal, positive and negative phase
  adjustable

Item \ Model	DSP1500S
Line input volume	110 - 1100mV
Power (peak)	≥300W
Output	＜3mV
THD	＜0.5％
Frequency Range	100-240Hz
Voltage	AC100-240V /50-60Hz
Size（L×W×H）	505×350×290mm
Gross weight	22kg
Net weight	18.5kg

DSPPA

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