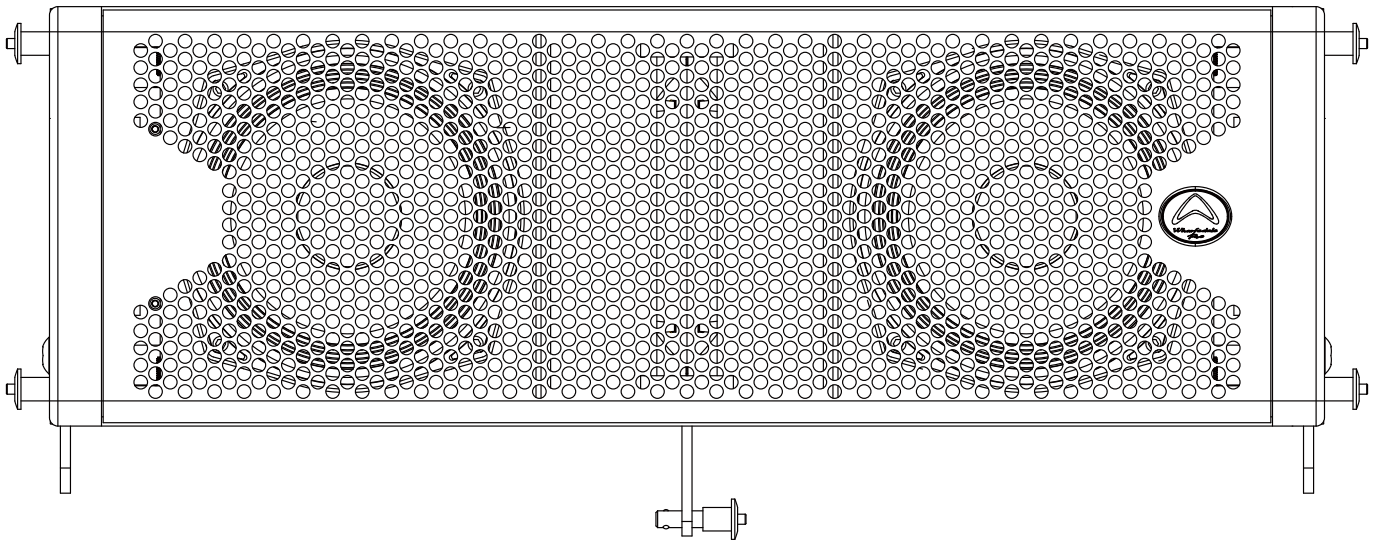


WLA-28X



IMPORTANT SAFETY INSTRUCTIONS

1. READ ALL INSTRUCTIONS - carefully and become familiar with the features and functions of these products before operating them.
2. RETAIN THESE INSTRUCTIONS - for future reference.
3. COMPLY WITH ALL WARNINGS - All warnings and instructions for this product should be adhered to.
4. USE WITH AMPLIFIERS - In order to avoid damage to drivers and other equipment, it is advisable to establish and follow a routine for powering up and powering down a sound system. With all system components connected, turn on source equipment (mixers, signal processors, record and playback units, etc.) BEFORE powering up amplifiers. Transient voltages from powering up source equipment can damage speakers if amplifiers are already turned on. Make sure that amplifier volumes are set to their minimum settings and power up any system amplifiers LAST. It is recommended that all system components be allowed to stabilize for several seconds before any source signals are introduced or level setting adjustments are made. Similarly, when shutting systems down, turn all amplifiers off first, before powering down any other system components.
5. CABLES - Do not use shielded or microphone cables for connection between amplifiers and speakers. Use only approved speaker cables with proper connectors.
6. CAUTION - Professional loudspeaker systems are capable of generating very high sound pressure levels. Use care with placement and operation to avoid exposure to excessive volume levels. Permanent hearing damage can result when operated to extreme levels.
7. SERVICE - There are no user serviceable parts inside this product. Users should not attempt to service this product. Warranty nullification could result if this is attempted.
3. RIGGING - SUSPENDING - MOUNTING - Rigging suspending or mounting of speaker systems can expose members of the public to serious health risks and even death.

UNDER NO CIRCUMSTANCES ATTEMPT TO RIG, SUSPEND OR OTHERWISE MOUNT THESE SPEAKERS UNLESS YOU ARE FULLY QUALIFIED AND CERTIFIED TO DO SO BY RELEVANT LOCAL, STATE AND NATIONAL AUTHORITIES. ALL RELEVANT SAFETY REGULATIONS MUST BE FOLLOWED. IF YOU ARE NOT PROPERLY QUALIFIED OR DO NOT KNOW OF PERTINENT REGULATIONS, CONSULT QUALIFIED PERSONNEL FOR ADVICE.

PRODUCT FEATURES

The original WLA-28 has become a favourite around the world. Dual 8" drivers, extreme SPL capabilities and an impressive price to performance ratio has meant that WLA-28 can be found on stage, on tour and in fixed installations.

The newly updated WLA-28X now takes that power and performance to a new level. With an improved HF compression driver, new flat grille design and improved HF protection circuitry, the WLA-28X is ready to impress.

The new custom designed HF compression driver now delivers more control and more definition to the HF content.

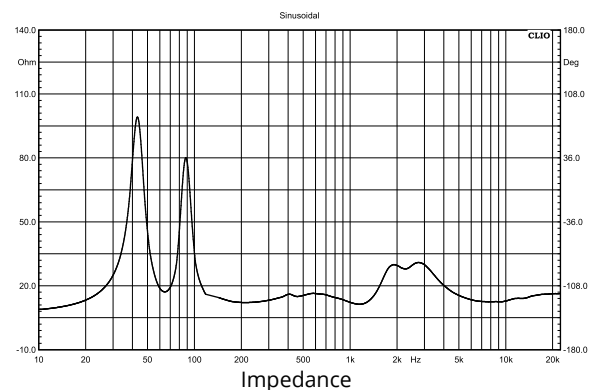
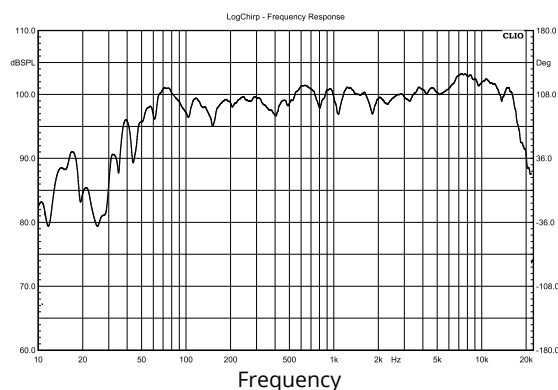
The flat grille face also makes life easier for rental companies and improves long-term durability.

Features

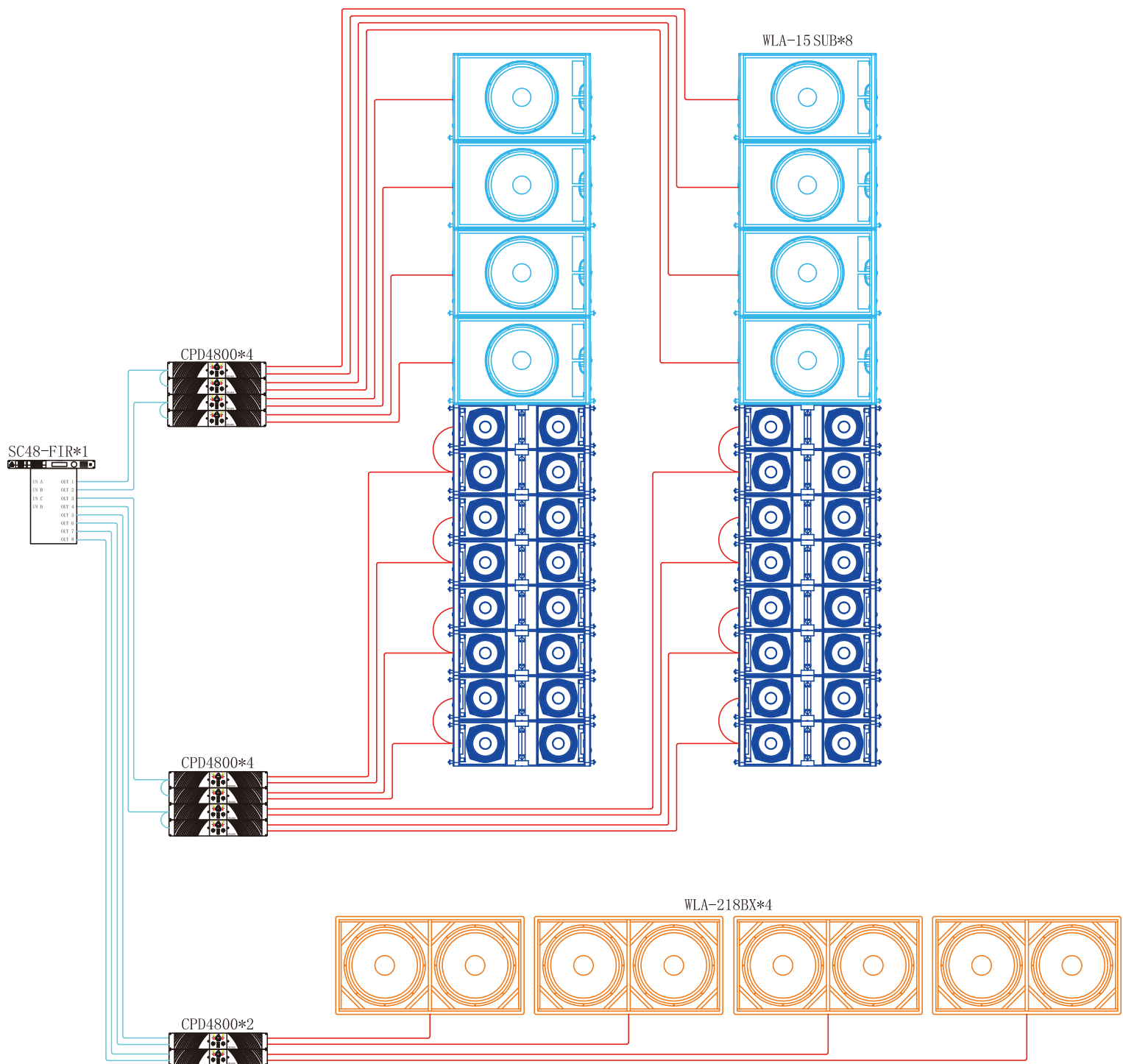
- Re-designed dual 8" Passive line array
- Re-defined HF compression driver
- Improved HF protection circuit
- Bi-amp and Passive mode switching
- System AES (Continuous) LF: 400 W HF: 90 W
- System Programme Power LF: 800 W HF: 180 W
- System Peak Power LF: 1600 W HF: 360 W
- 15 mm / 18 mm Birch Plywood construction

HF COMPRESSION DRIVER

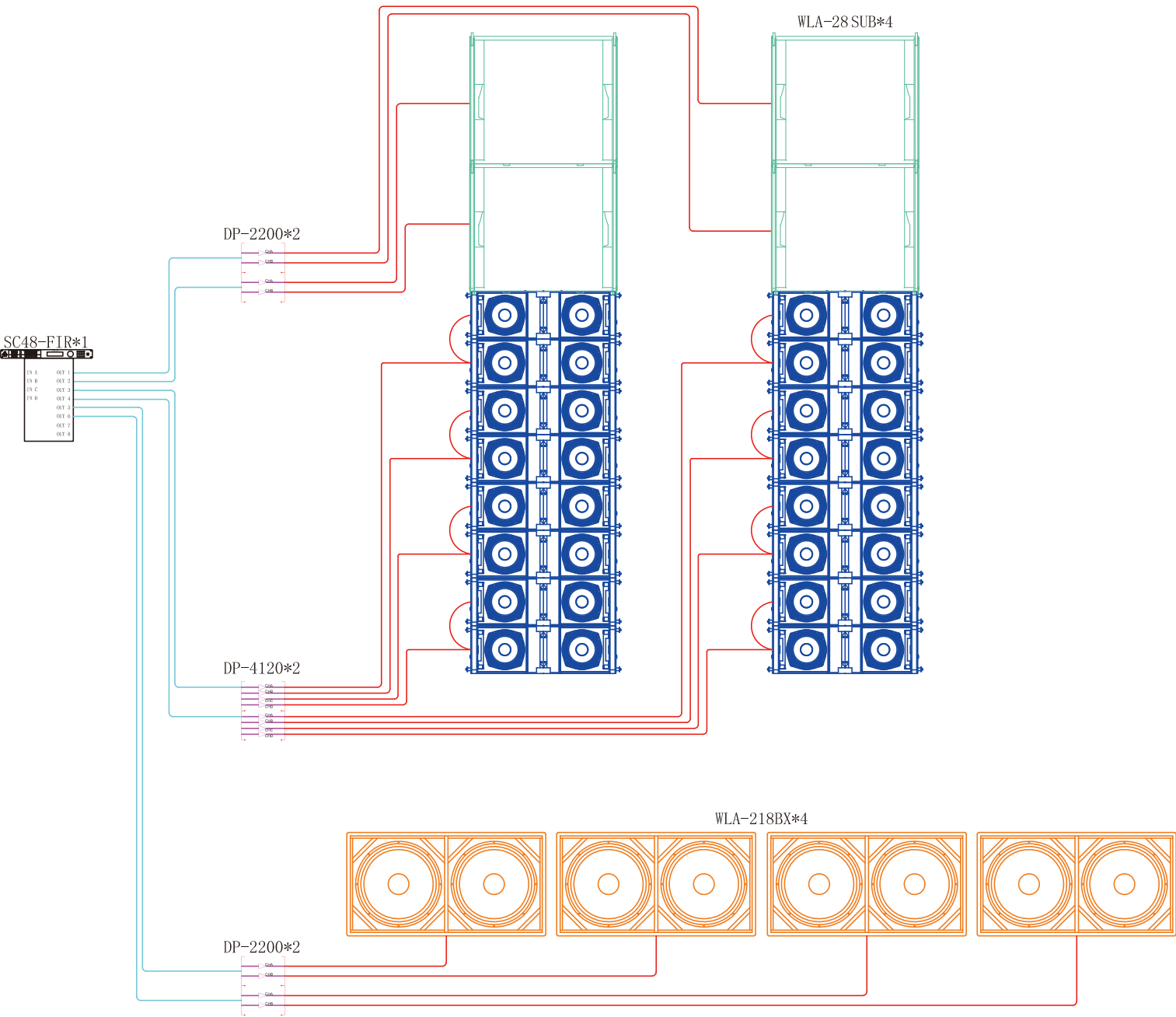
The new neo HF compression driver delivers additional clarity and performance with enhanced definition.



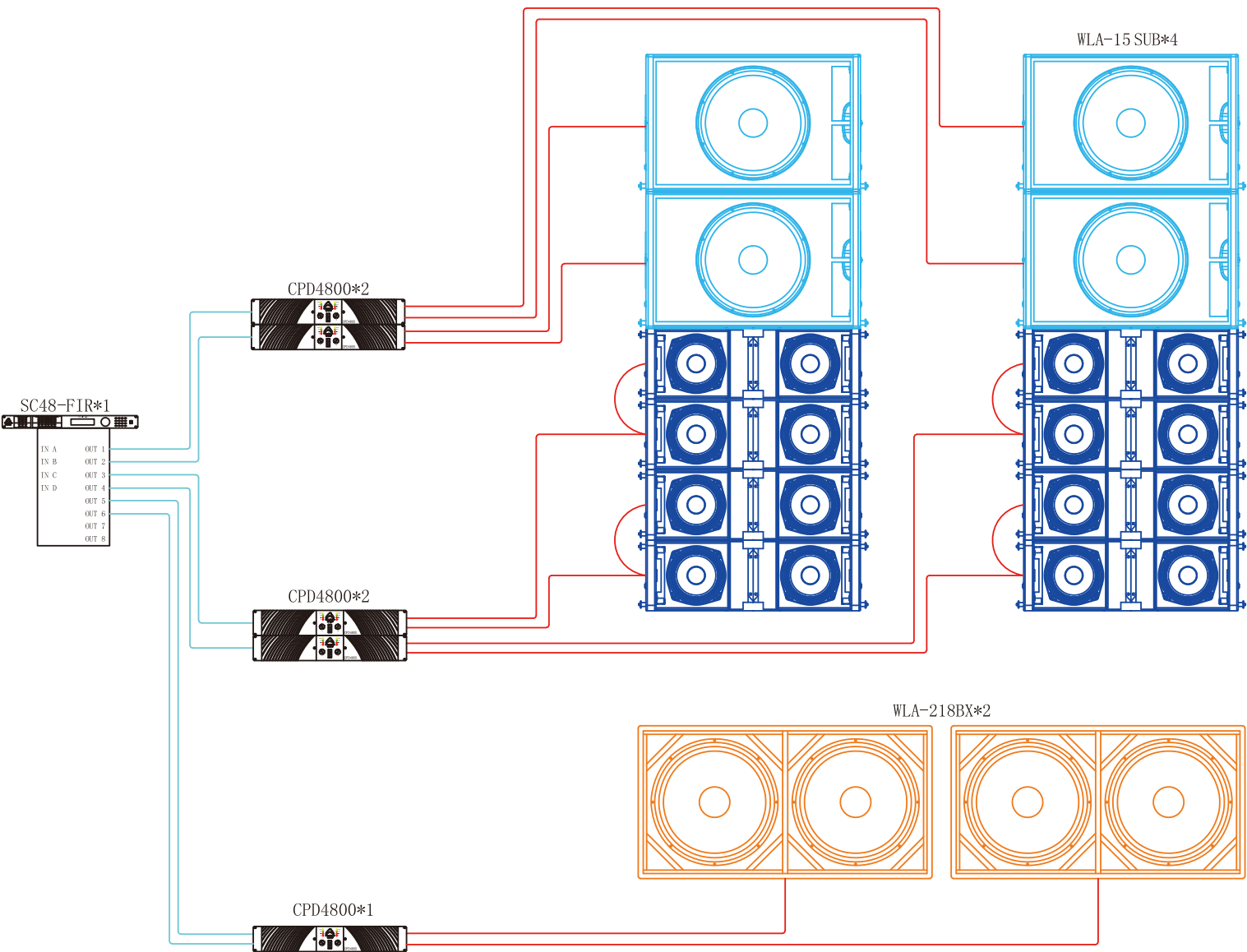
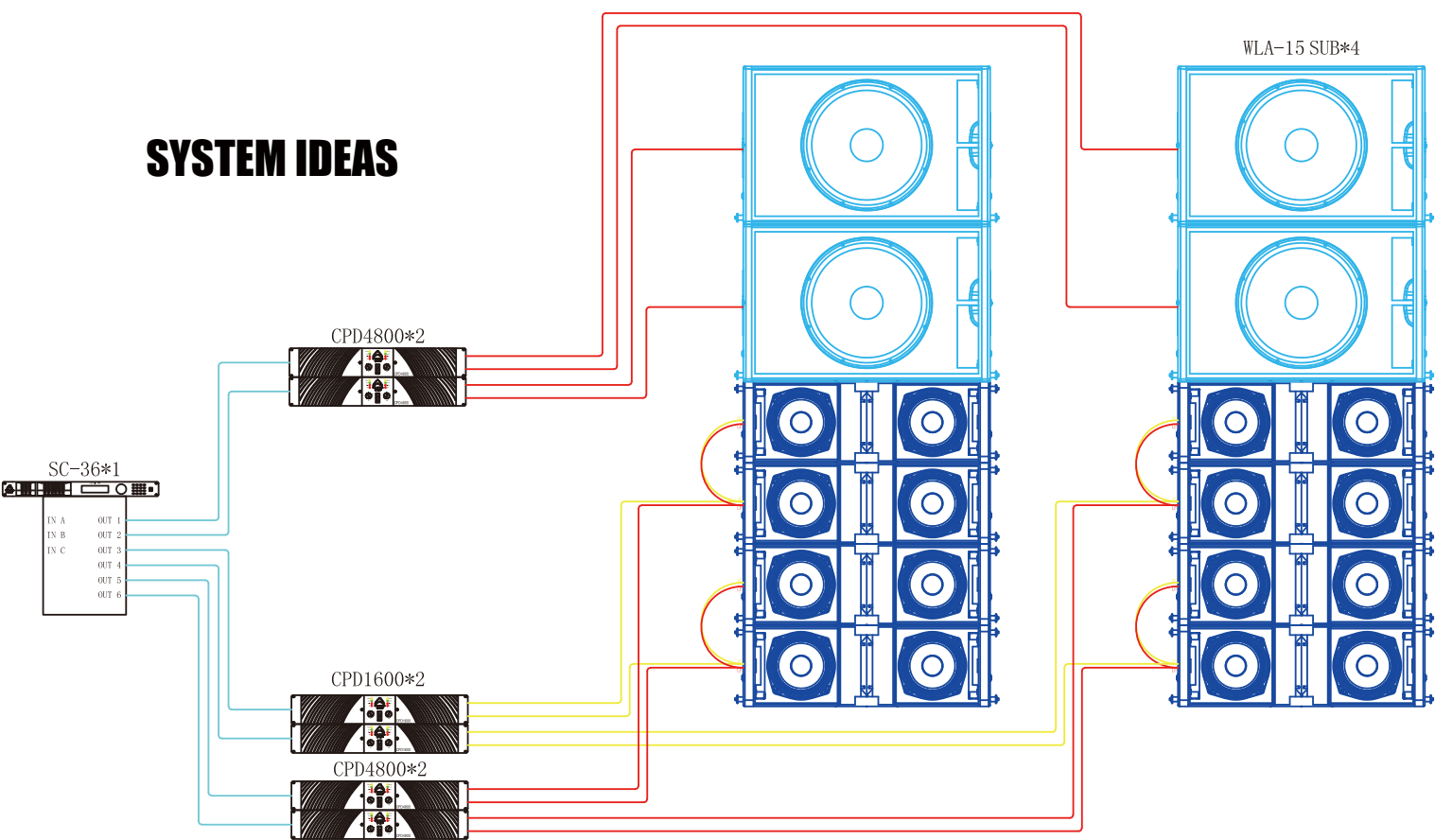
SYSTEM IDEAS



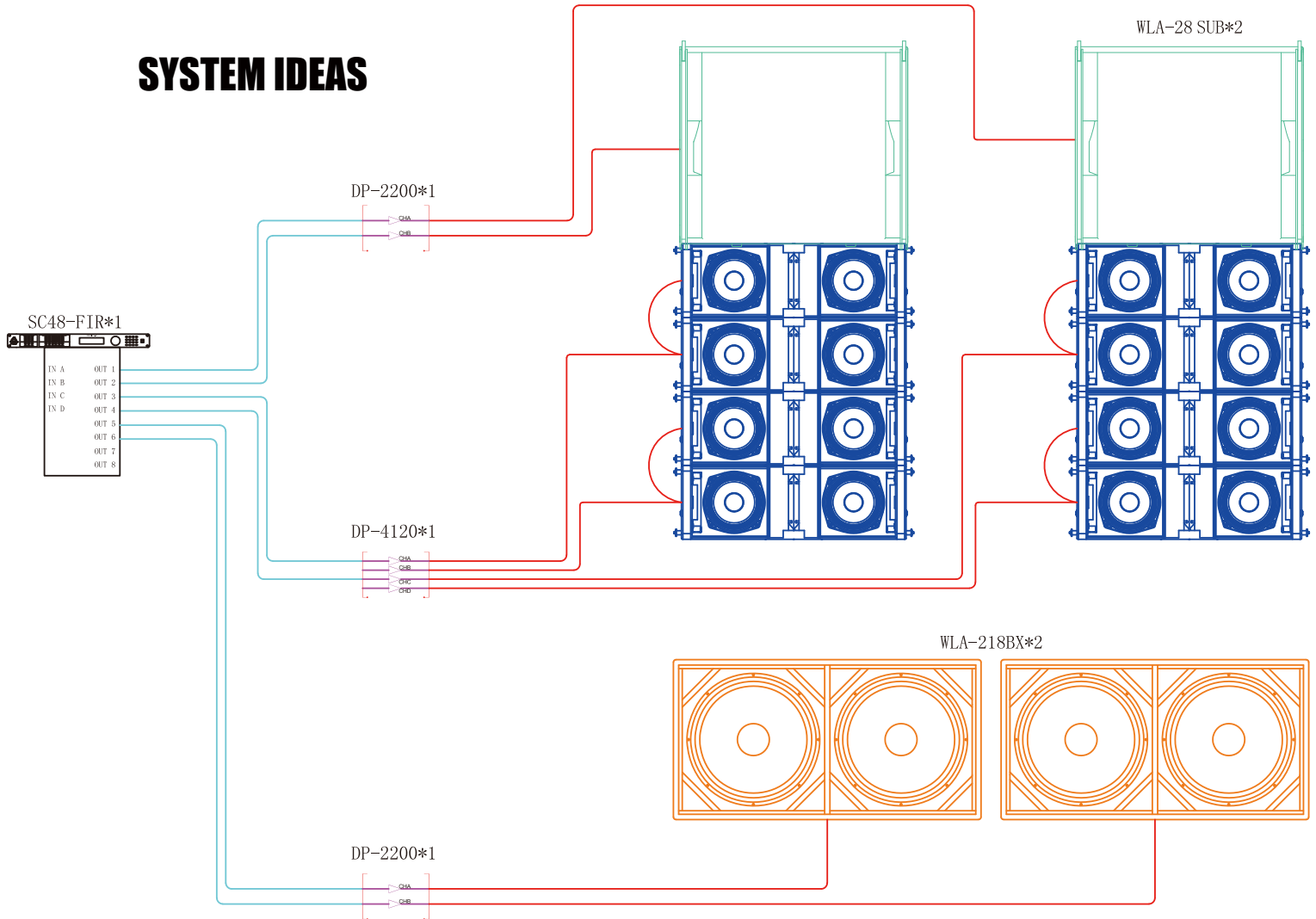
SYSTEM IDEAS



SYSTEM IDEAS

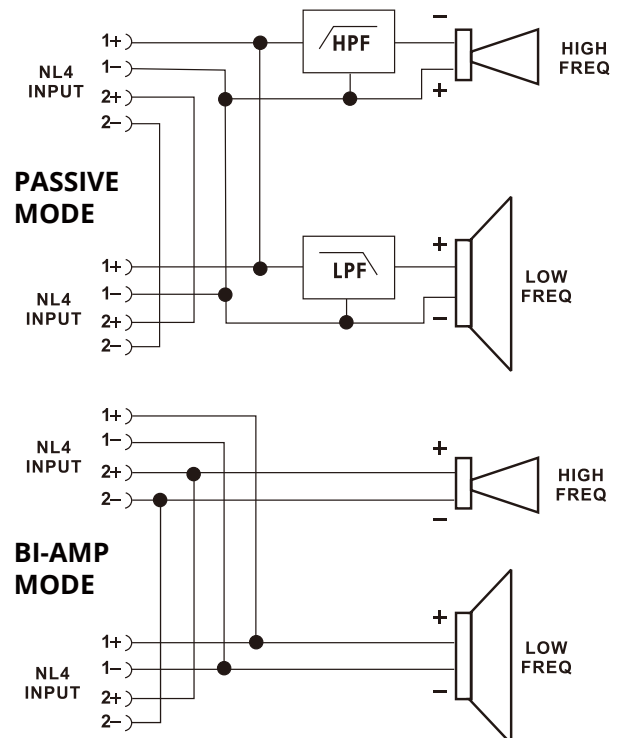
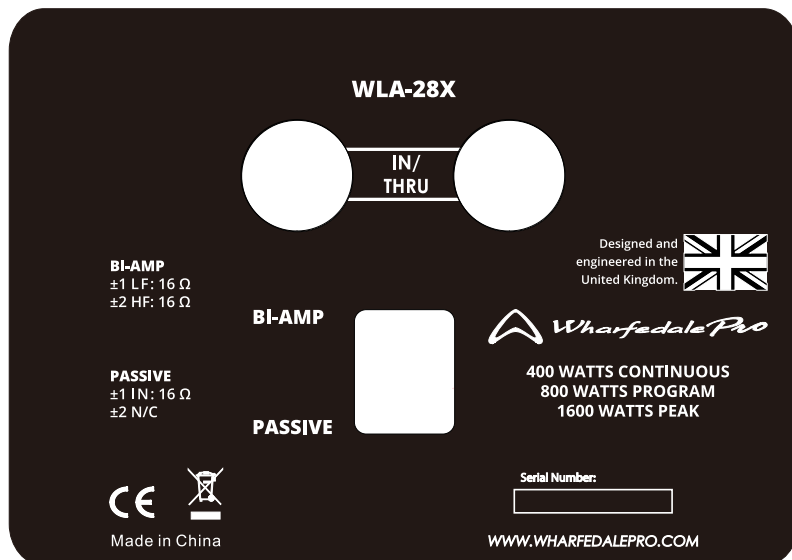


SYSTEM IDEAS



BI-AMP MODE

For complete system versatility the WLA-28X can be configured in either Bi-amp or Passive mode



SYSTEM TUNING

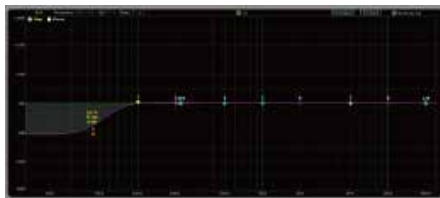
To get the most from any line array, it needs setting up correctly. Without tuning and refining, the system will not deliver to its full potential.

The system not only needs to be tuned to the room or venue, but the individual elements of the array need to be tuned to work perfectly in relation to each other. By following the 4 'Tuning Tips' you can improve the overall performance of your line array.

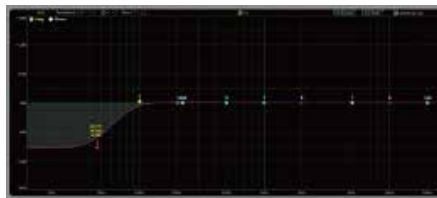
1. ARRAY SCALING

As elements are combined, the lower frequencies are proportionally increased. Therefore, when more elements are used, more LF reduction is needed.

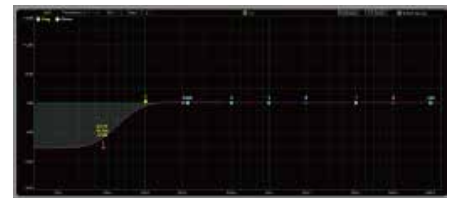
2 to 4 elements



5 to 8 elements



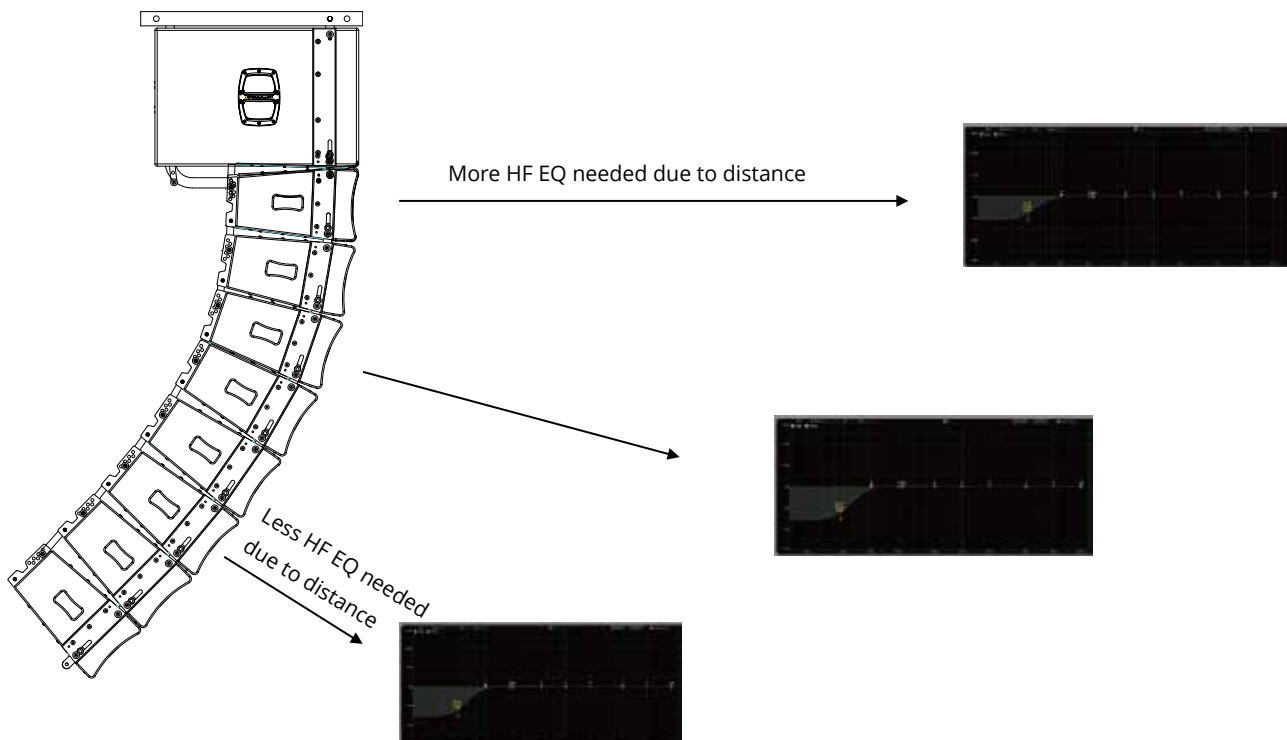
8 elements or more



2. RANGE EQ

Higher frequencies are reduced in energy by distance. This is as a result of air absorption. To compensate for this energy loss over distance, Peaking or Bell filters should be used.

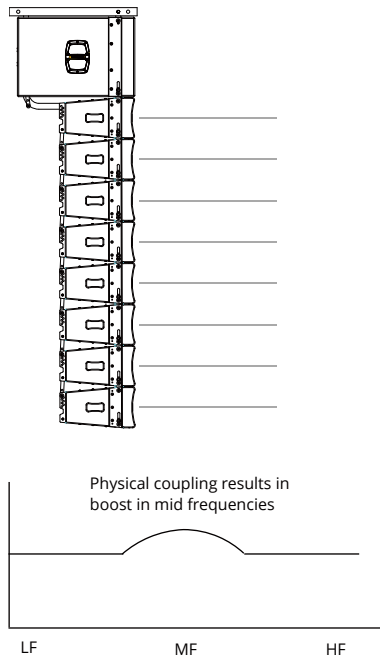
The amount of energy absorbed by air also changes as a result of humidity. So always think about this constantly variable loss (or comparative gain) of HF energy.



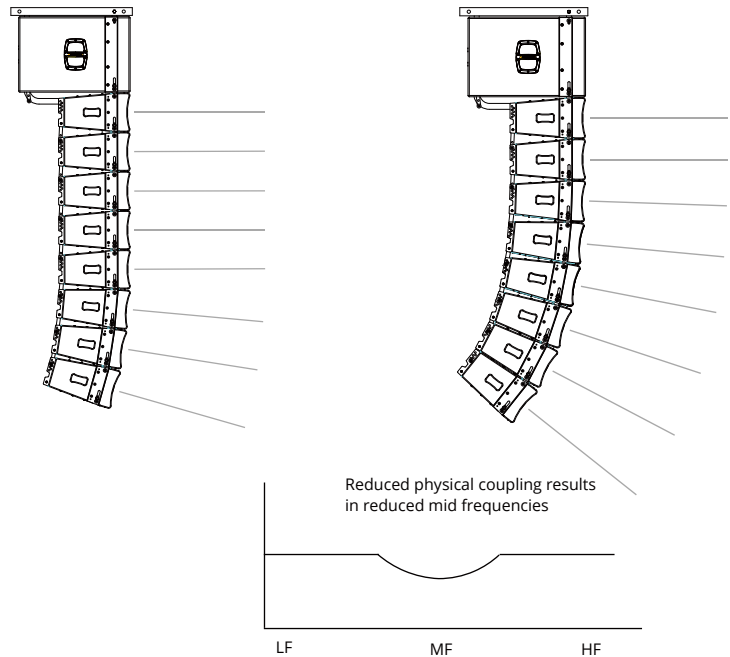
3. SHAPE EQ

The physical shape of the array has a profound impact on its sonic performance. These physical considerations should be compensated for within the DSP EQ to ensure a smooth frequency response.

a) A flat array using minimum splay angles between the elements will naturally have a boost in the mid frequency (around 630 Hz – 2 KHz)



b) A curved array will have a reduction in mid frequency bands (around 630 Hz – 2 KHz)



4. SUB PLACEMENT

Having the subwoofers physically aligned in the same plane as the array elements is the ideal scenario. However, this is not always possible. In situations where the subwoofers and the array elements cannot be physically aligned, a DSP delay should be used.

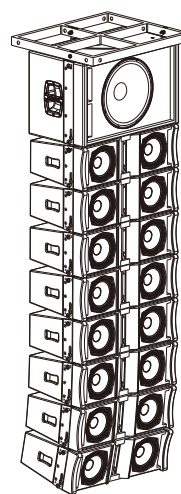
1 ms (milliseconds) delay for every 0.34 m (@15° C) can get you an acceptable result.

It is highly recommended that further fine-tuning should be done by using one of the many industry standard measurement software systems, reference microphones and soundcards.



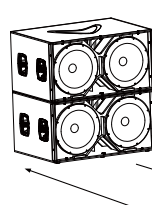
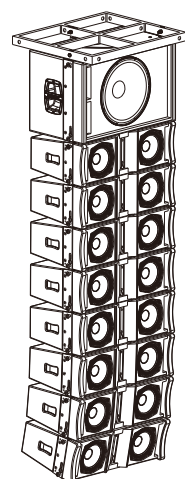
Subs are behind array.

The array needs the delay.

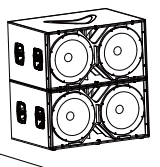


Subs in front of the array.

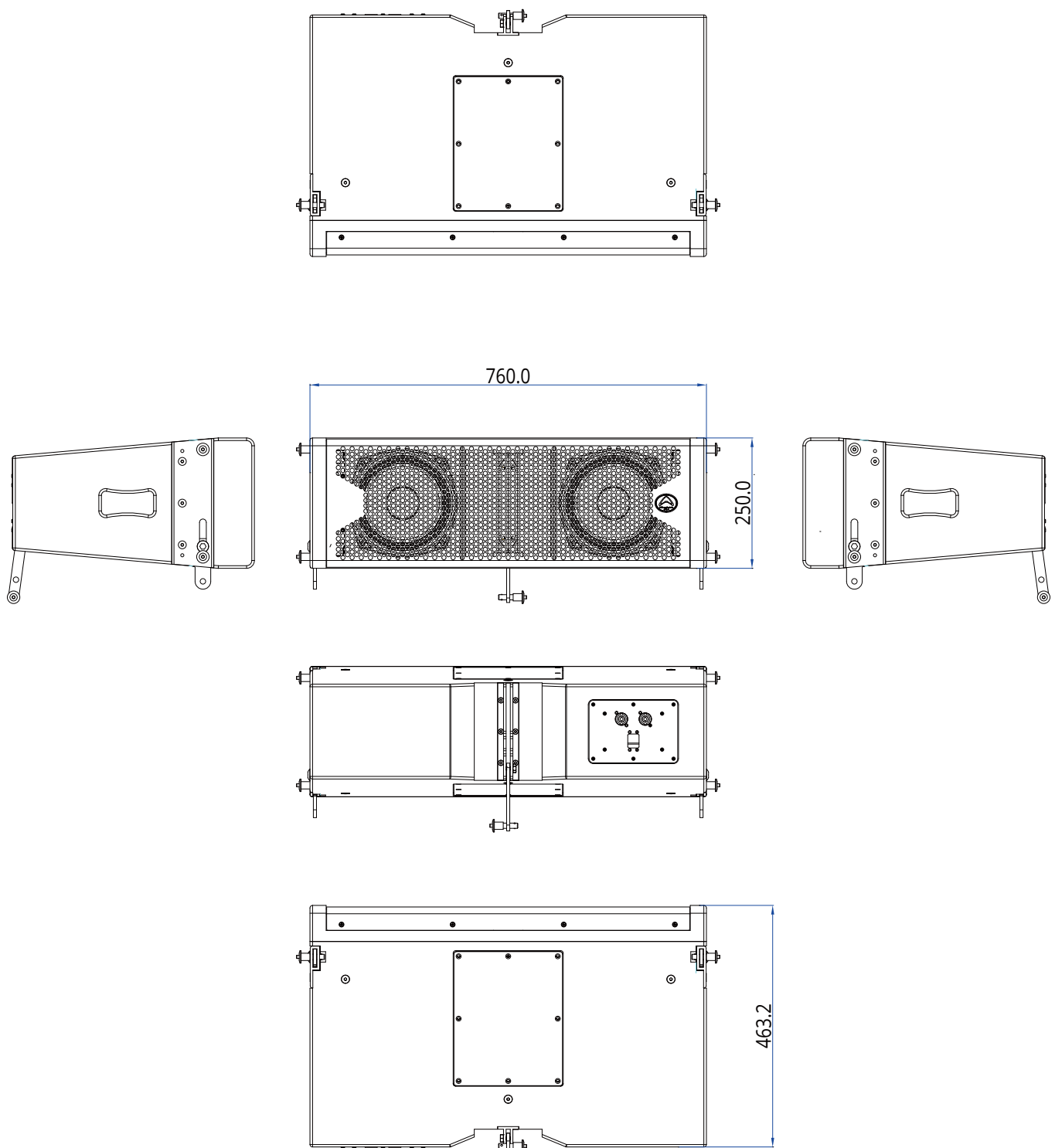
The subs need the delay.



1 ms (milliseconds) delay for every 0.34 m (@15° C)



LINE DRAWINGS



FLY FRAME OPTIONS

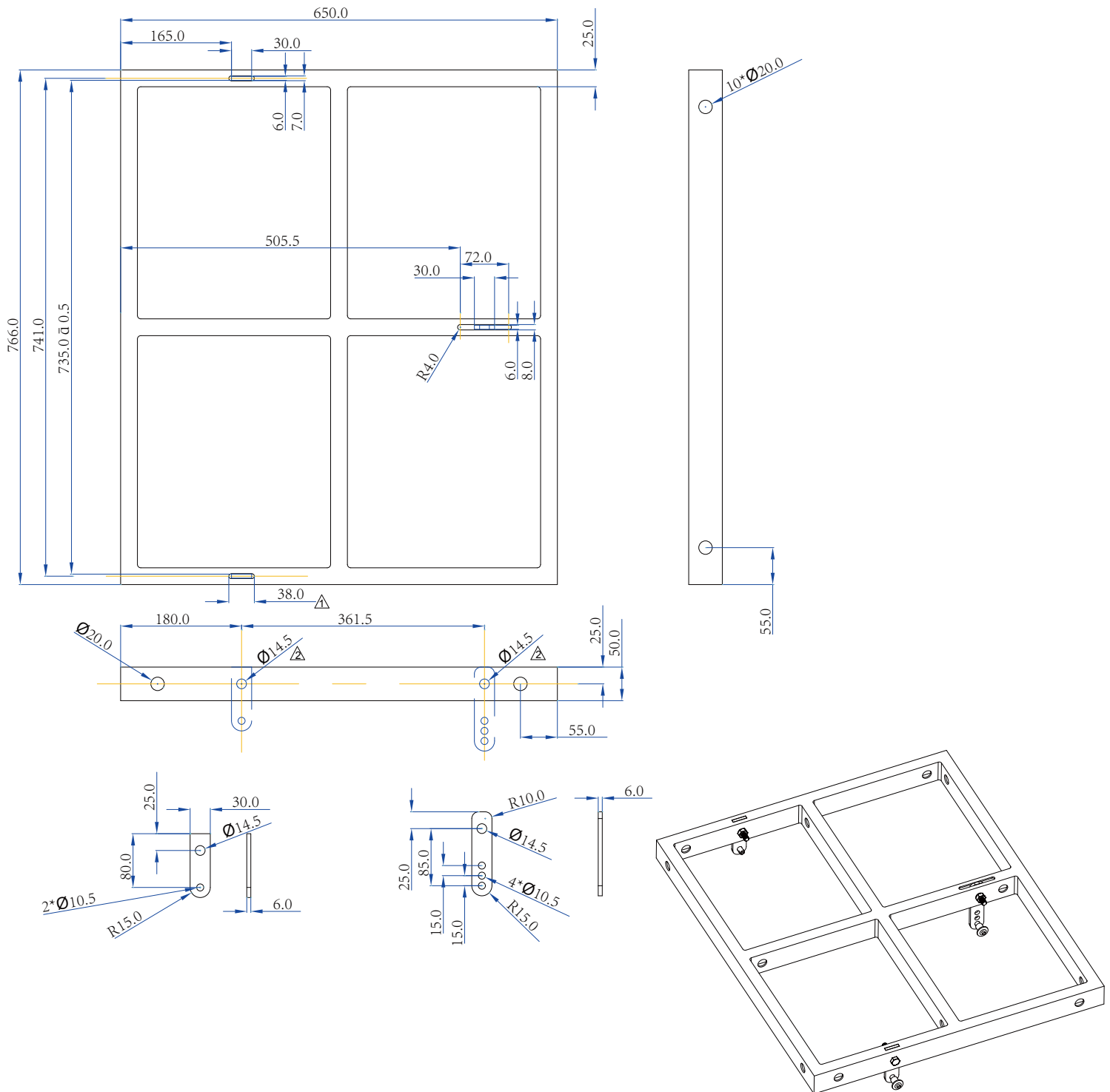
WLA-28 Fly Frame

For flying WLA-28 elements

Up to 12 x WLA-28 elements can be flown with a safety factor of 12.

The WLA-28 Fly Frame is certified to hold a total weight (including third party hardware) of 450 kg.

Net weight : 11.0 kg / 24.2 lbs



FLY FRAME OPTIONS

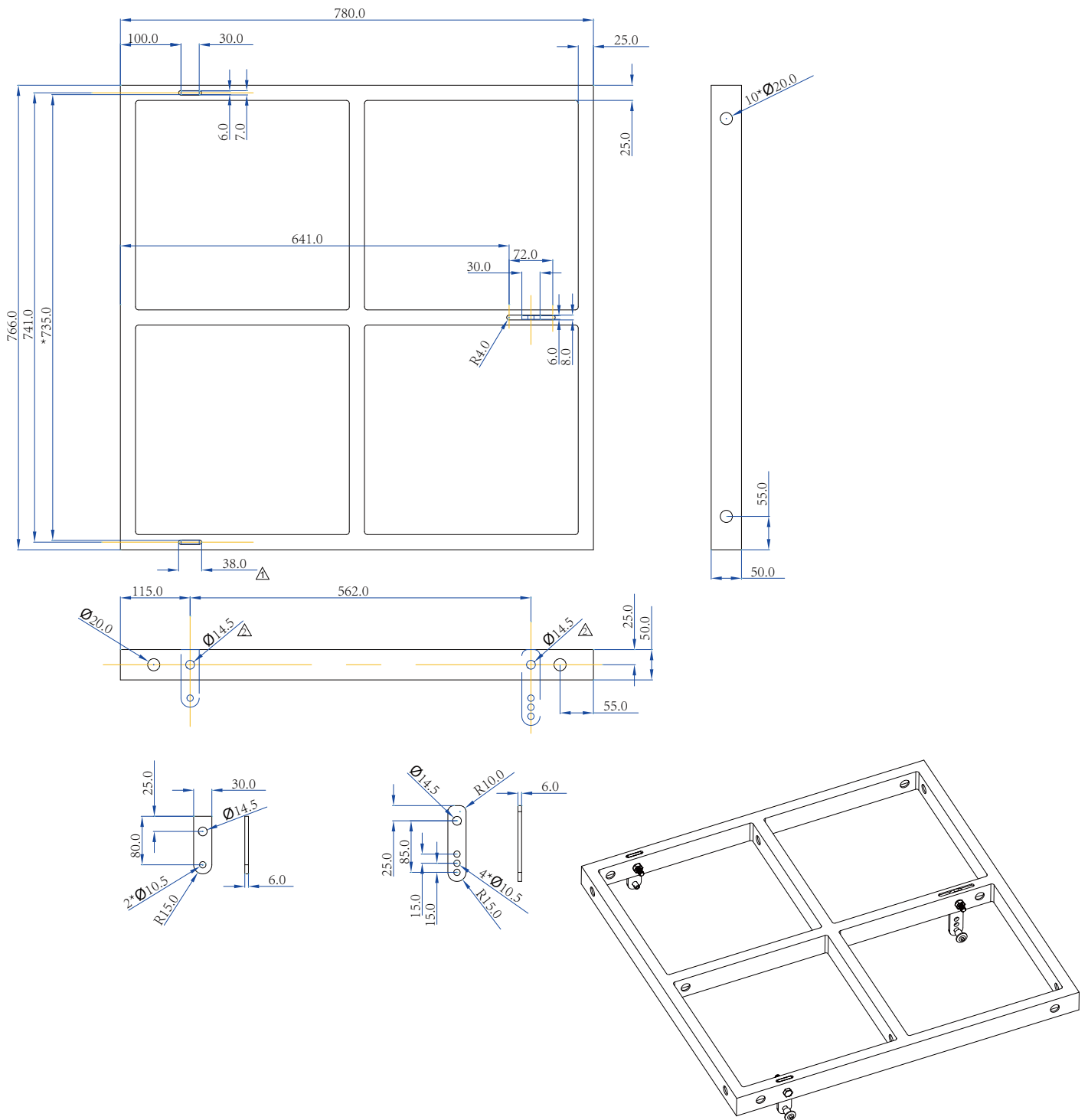
WLA-28SUB Fly Frame

For flying WLA-28 SUB plus WLA-28 elements

12 x WLA-28 and 1 x WLA-15B can be flown with a safety factor of 12.

The WLA-28 SUB fly frame is certified to hold a total weight (including third party hardware) of 450 kg.

Net weight : 13.7 kg / 30.2 lbs



FLY FRAME OPTIONS

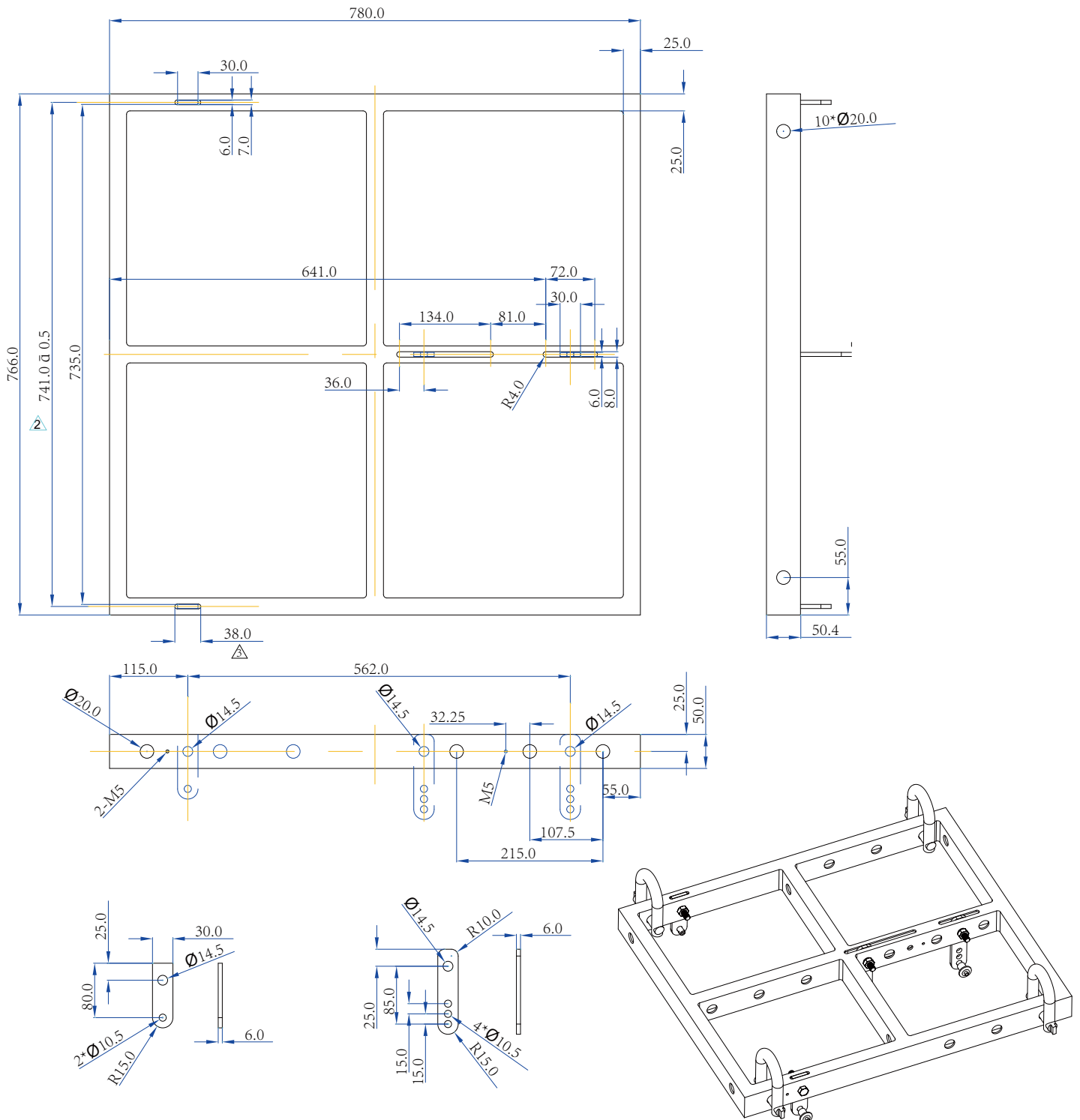
WLA-28 Common Fly Frame

For flying WLA-28SUB plus WLA-28 elements

Certified for 12 pcs of WLA-28 or 12 pieces of WLA-28 plus 1 piece of WLA-28SUB with a safety factor of 12.

The WLA-28 Common fly frame is certified to hold a total weight (including third party hardware) of 450 kg.

Net weight : 15.52 kg / 34.1 lbs



WLA-28 Dolly Frame

Net weight : 31.6 kg / 69.5 lbs



SPECIFICATIONS

Model Name	WLA-28X
System Type	2 x 8" Two-way
Frequency Response (+/-3 dB)	65 Hz-20 KHz
Sensitivity (2.83 v / 1 m)	101 dB
Calculated Maximum SPL @1 m	133 dB
Nominal Coverage (H x V)	100°x10°
Power: Continuous / Programme / Peak	Passive: 400 W / 800 W / 1600 W Bi-amp LF: 400 W / 800 W / 1600 W Bi-amp HF: 90 W / 180 W / 360 W
Rated Impedance (Ω)	Passive: 16 Ω Bi-amp LF: 16 Ω ; Bi-amp HF: 16 Ω
HF Diaphragm Material	Titanium
HF Magnet Material	NdFeB
LF Magnet Material	Ferrite
LF Frame Material	Aluminium
HF Coil Size (inches/mm)	3.0" (75 mm)
LF Coil Size (inches/mm)	2.0" (51.6 mm)
Crossover Frequency	1.7 KHz
Cabinet Type	Trapezoid
Enclosure Material and finish	18 mm / 15 mm Plywood
Enclosure Colour	Black paint
Grille Material & Finish	1.5 mm Steel
Connectors	Neutrik NL4MP
Hardware	Integral side plate adjustable rigging 0°-10°
Cabinet Dimensions HxWxD(mm)	250 x 760 x 463.2 mm
Packed Dimensions HxWxD(mm)	320 x 830 x 534 mm
Net Weight (Kg)	29.5 Kg
Gross Weight (Kg)	32.0 Kg

WHARFEDALE PRO LIMITED WARRANTY

Wharfedale Pro products are warranted of manufacturing or material defects for a period of three years from the original date of purchase. In the event of malfunction, contact your authorised Wharfedale Pro dealer or distributor for information.

Please be aware that the warranty details may differ from country to country. Contact your dealer or distributor for information (available at www.wharfedalepro.com). These terms do not infringe your statutory rights.



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www.wharfedalepro.com

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