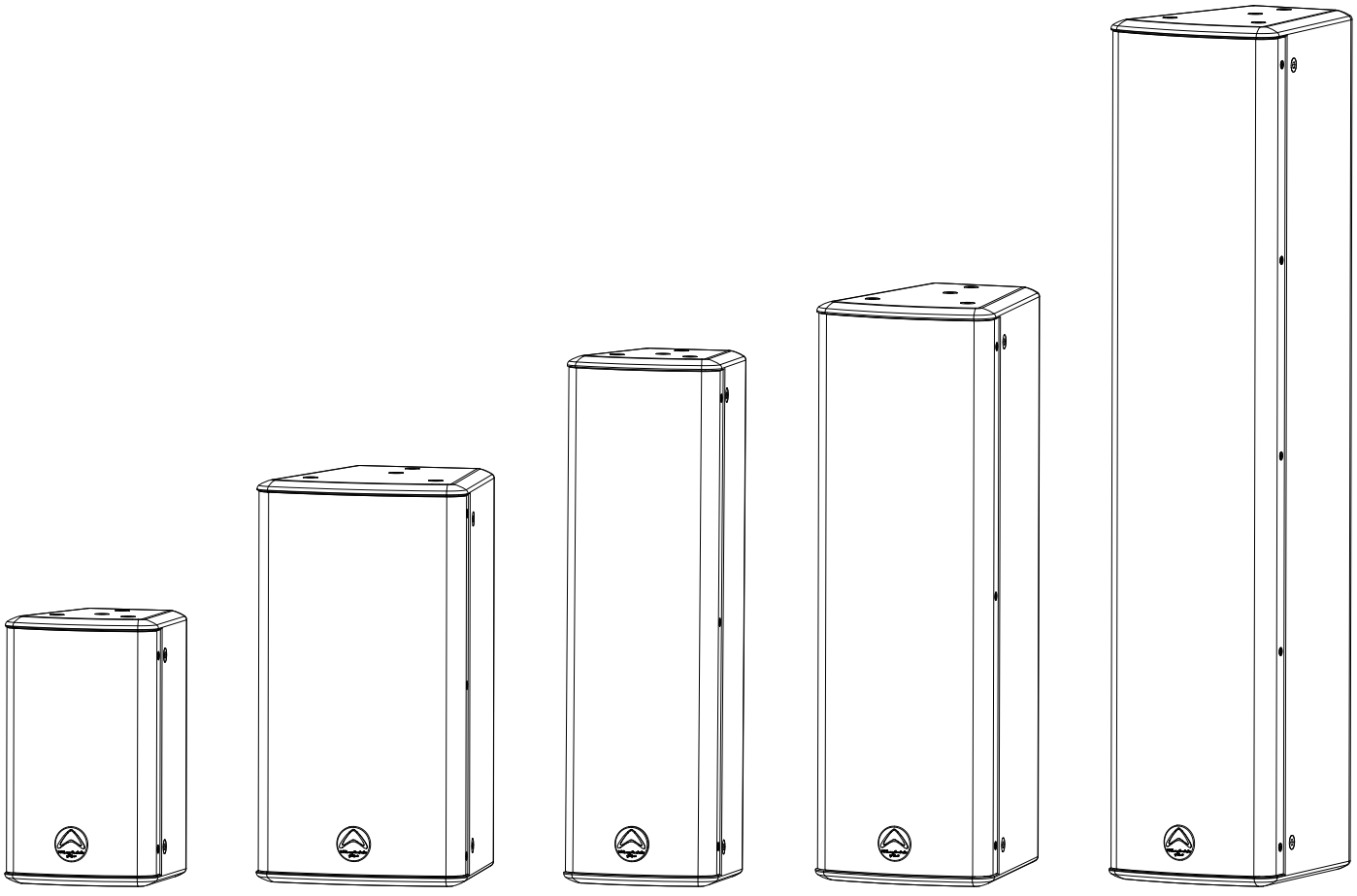
PROFESSIONAL SOUND SYSTEMS

Programme-X Series

USER MANUAL

Programme-X105 / X105T
Programme-X108 / X108T
Programme-X205 / X205T
Programme-X206 / X206T
Programme-X406 / X406T



Wharfedale Pro

WWW.WHARFEDALEPRO.COM

IMPORTANT WARNINGS & SAFETY INSTRUCTIONS

- Read these instructions
- Follow these instructions
- Keep these instructions for future reference
- Heed all warnings
- Do not use this system near moisture or water
- Clean only with a dry cloth
- Install in accordance with these Wharfedale Pro operating instructions
- Follow the manufacturer's operating instructions for all peripheral devices such as amplifiers and processors
- Do not install near heat sources such as radiators, heat registers, stoves or any other apparatus that produces heat (for example lighting systems and amplifiers)
- Use only accessories specified or supplied by Wharfedale Pro
- Do not use shielded microphone/instrument cables to connect amplifiers and speakers, use only approved speaker cables with proper connectors
- Use caution with placement and operation of this speaker system, permanent hearing damage can be caused by prolonged exposure to excessive sound pressure levels
- Refer all servicing to qualified professionals. Servicing is required when the loudspeaker has been damaged in any way, such as impact damage, liquid ingress or foreign object damage. In addition the loudspeaker should be referred to qualified service personnel if there is any kind of malfunction.



- Rigging, suspending and mounting should only be attempted by experience qualified professionals. Incorrect usage can result in damage to equipment and property, injury and even death. Under no circumstances should you attempt to rig, suspend or mount these speakers unless you are fully qualified and certified to do so by relevant local, state and national authorities. If you are not properly qualified or do not know of pertinent regulations consult qualified personnel for advice. Consult a structural engineer before suspending a speaker system and ensure that the total weight of your system can be held by the truss or mounting surface.



- Inspect all mounting hardware before rigging, suspending or mounting. If there is any damage or distortion to any mounting hardware do not proceed until any damaged hardware is repaired or replaced.

UNPACKING

- All Wharfedale Pro products are fully checked before leaving our factory. After unpacking please inspect the cabinets for any physical damage Please retain the shipping carton if possible and internal packing material incase the unit ever needs to be returned. Please check as soon as possible that the unit is functioning. In the event of any damage please contact your dealer immediately so that a written claim for damage can be made.

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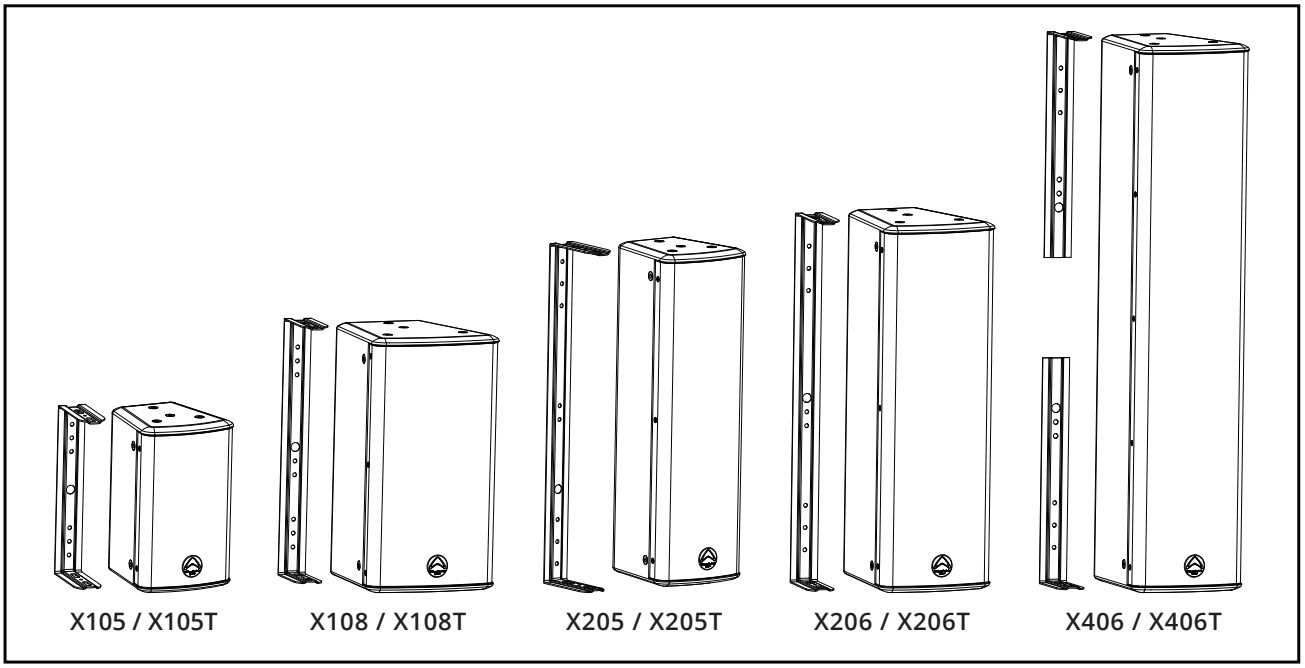
ABOUT PROGRAMME-X SERIES

In a constant quest for performance improvements, our R&D Team have done it again.

The original Programme series have been a main-stay of installation business for over a decade, but..... it's time for improvements.

Programme-X series brings increased SPL's, new drivers, higher than normal quality 70 V / 100 V transformer options and new physical dimensions to aid any installation configuration. Every feature has been meticulously considered to suit the fixed installation market.
Five new models, plus with the improved high impedance 70 V / 100 V (T) options using specifically selected low distortion transformers. Available in black or white paint finish and supplied with U brackets to make the installation easy!

A Programme-X fits almost anywhere.



INTRODUCTION

Wharfedale Programme-X Series loudspeakers are the result of many years of experience in the use, design and manufacturing of professional loudspeaker products. We take great pride in engineering and building every Wharfedale Pro loudspeaker and wish to thank you for entrusting us with your sound.

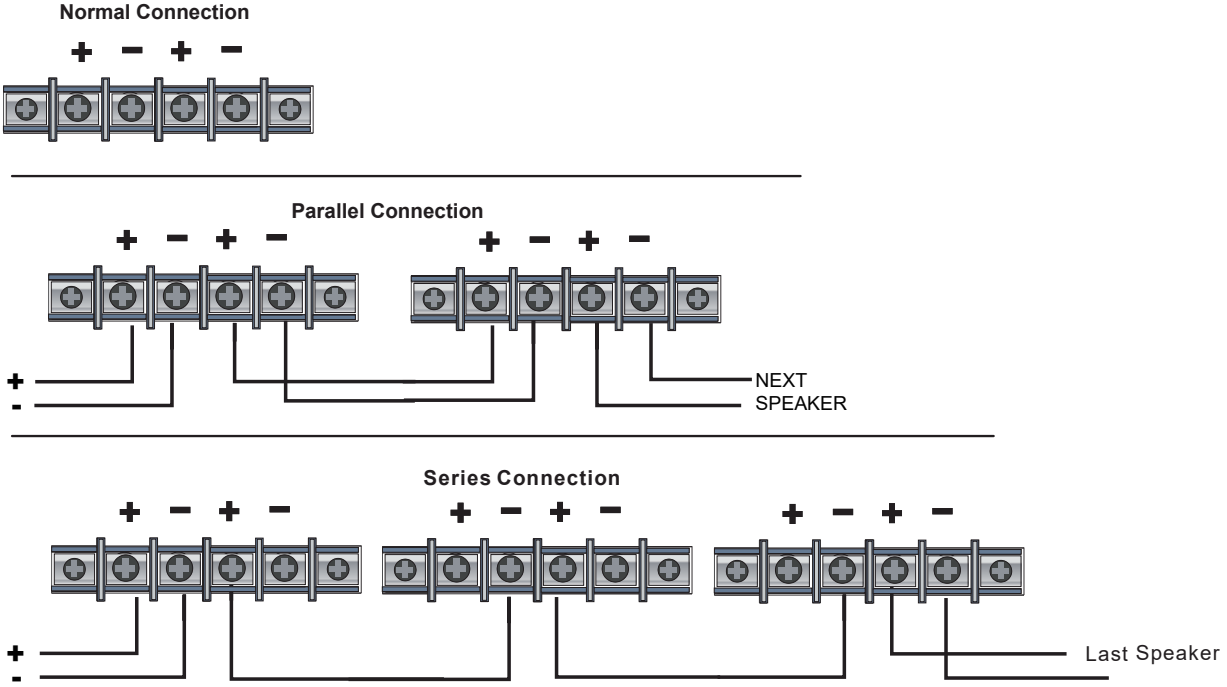
Please take a few minutes to read this manual completely in order to ensure that you get the most out of your Programme-X Series Loudspeaker system.

FEATURES

- **Improved SPL (almost double of original Programme series)**
- **New drivers**
- **Refined dimensions**
- **Improved horizontal coverage**
- **Available in Black or White**
- **Supplied with U brackets for easy installation**
- **Downloadable EASE .gll files**
- **Downloadable FIR preset files**
- **70 V / 100 V 'T' Models**

CONNECTIONS / WIRING

LOW IMPEDANCE BARRIER STRIP CONNECTIONS

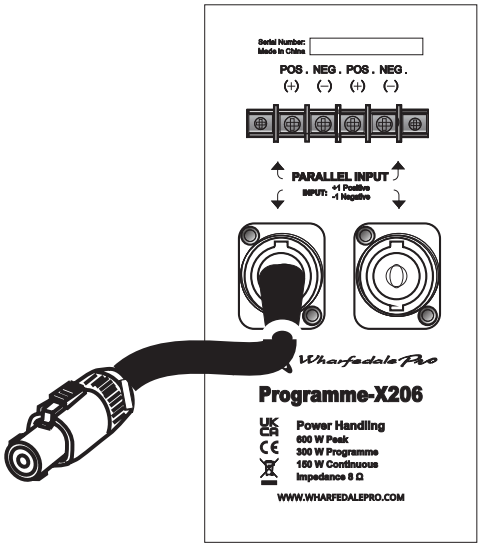


CONNECTIONS/ WIRING

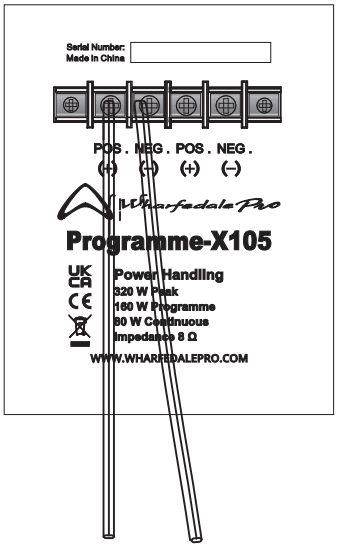
Connecting the Programme-X Series to your system is easy. The rear panel includes two (2) parallel NL4 and a barrier strip connector. Use the correct gauge of stranded insulated speaker cable according to the power handling ability of your Programme-X Series cabinet.

It is always advisable to use heavier gauge (lower number) cables on longer runs. Be sure to connect your speakers in proper polarity (what many refer to erroneously, as phase). This means that in normal operation, connect one end of the same wire to the + or Red terminal on the amplifier and the other end to the +1 or '+' terminal of the barrier strip on the speaker. The other wire is connected to the –1 pin on the NL4 or the '–' (negative) terminal on the barrier strip.

LOW IMPEDANCE CONNECTIONS



speakON compatible connection



Barrier strip connection, (T) models

HIGH-IMPEDANCE/CONSTANT-VOLTAGE SYSTEM:

The Programme-X Series features an internal line-matching transformer with four power/impedance selections for 70/100-volt line. In speaker systems, anything over 32Ω is considered high impedance. Smaller wire can be used without excessive power loss. The four power taps vary for each model.

- Programme-X105: 7.5/15/30/60 Watts
- Programme-X108/X206/X406: 15/30/60/120 Watts

If you are using these models, wiring is just as easy - with a few more steps. You connect your speaker cable from the 70 V or 100 V output of your amplifier (or through an external transformer) to the input terminals of the speaker. You will then have to adjust the wattage of the transformer to the correct setting.

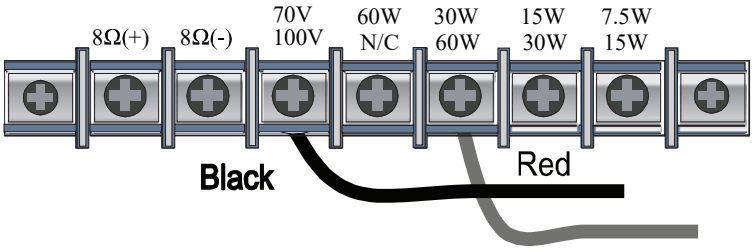
As you would with any audio system, you will need to figure out how many speakers that you want to use and then divide that into the wattage of your power amplifier - you should not exceed that load, otherwise, you will encounter distortion.

Total amplifier power for the system should be a minimum of 1.5 times the total transformer tapped wattage of the speakers connected.,

$$\text{Transformer tap (W)} \Rightarrow \frac{\text{Amplifier Power}}{\text{Number of Speakers}}$$

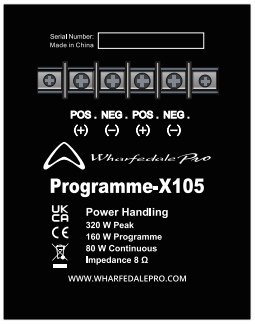
Because of the low wattage limitations of the individual speakers, this set up is normally used in sound systems and areas where you only want to hear background music, or occasional messages to everyone within a facility.

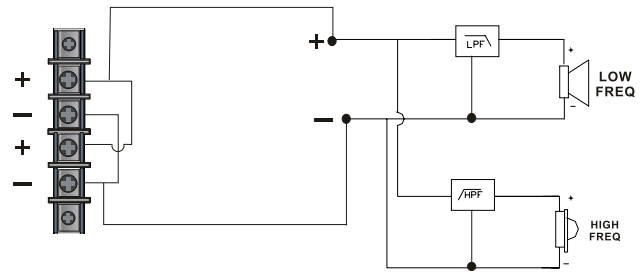
You connect the + (positive) side to the connector labeled with the power rating and the – (negative) to the ground (70 V / 100 V) connector. If you are adding more speakers, connect your speaker wire from the Red to Red and Black to Black.

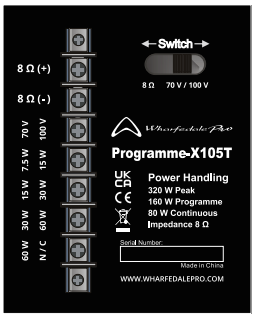


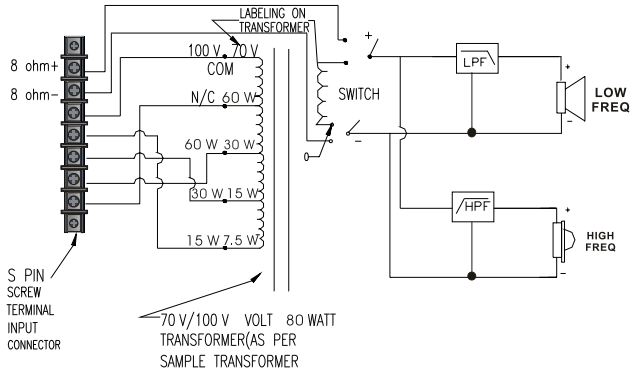
BLOCK DIAGRAM

Programme-X105 / X105T



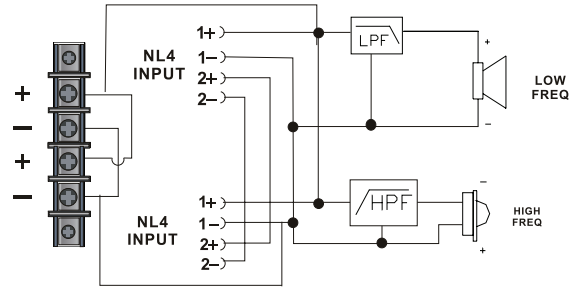


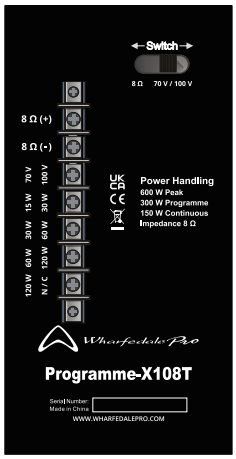


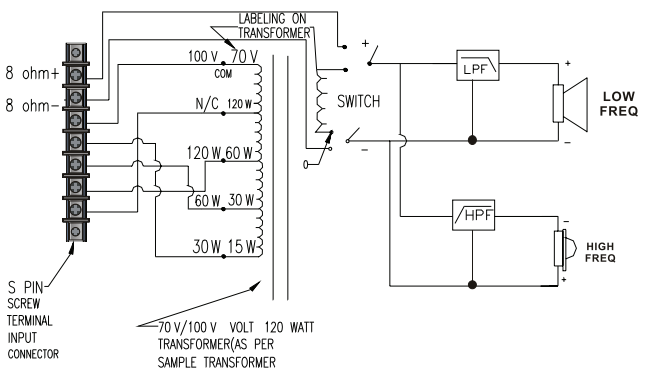


Programme-X108 / X108T



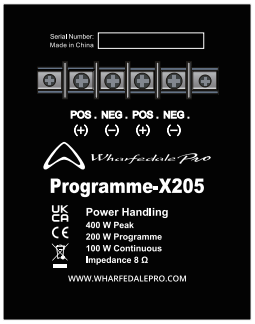


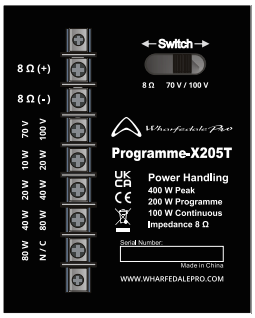


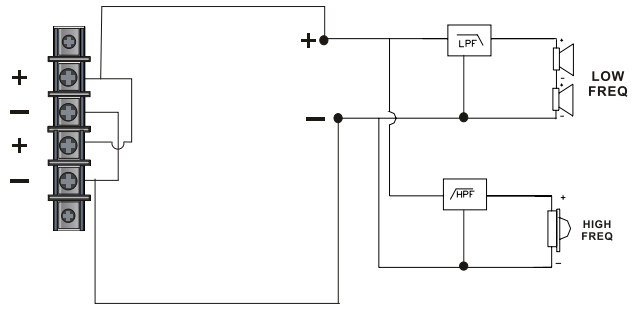


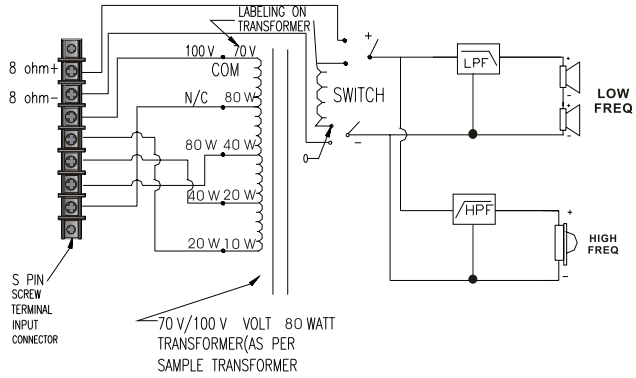
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Programme-X205 / X205T



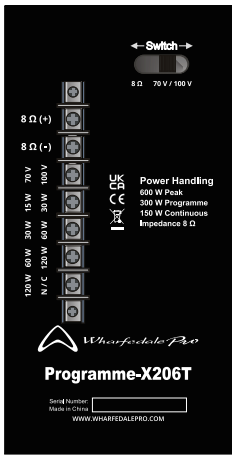


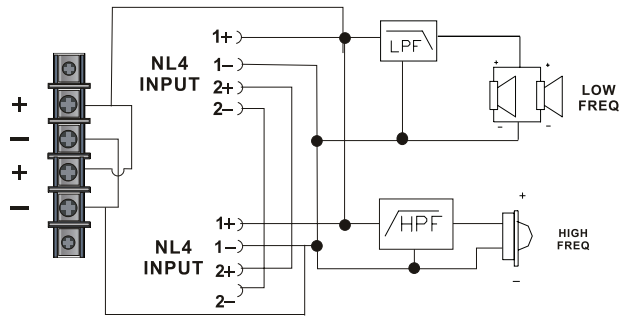


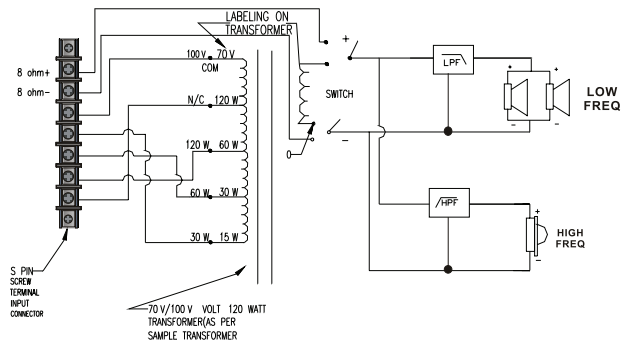


Programme-X206 / X206T





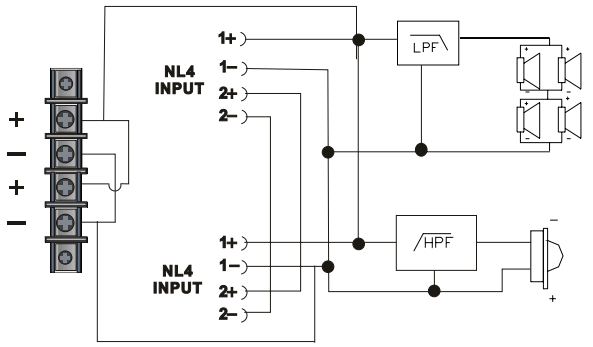


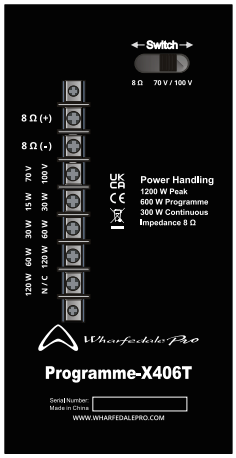


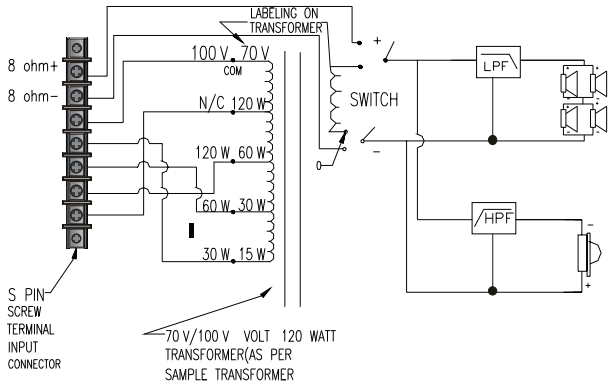
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Programme-X406 / X406T



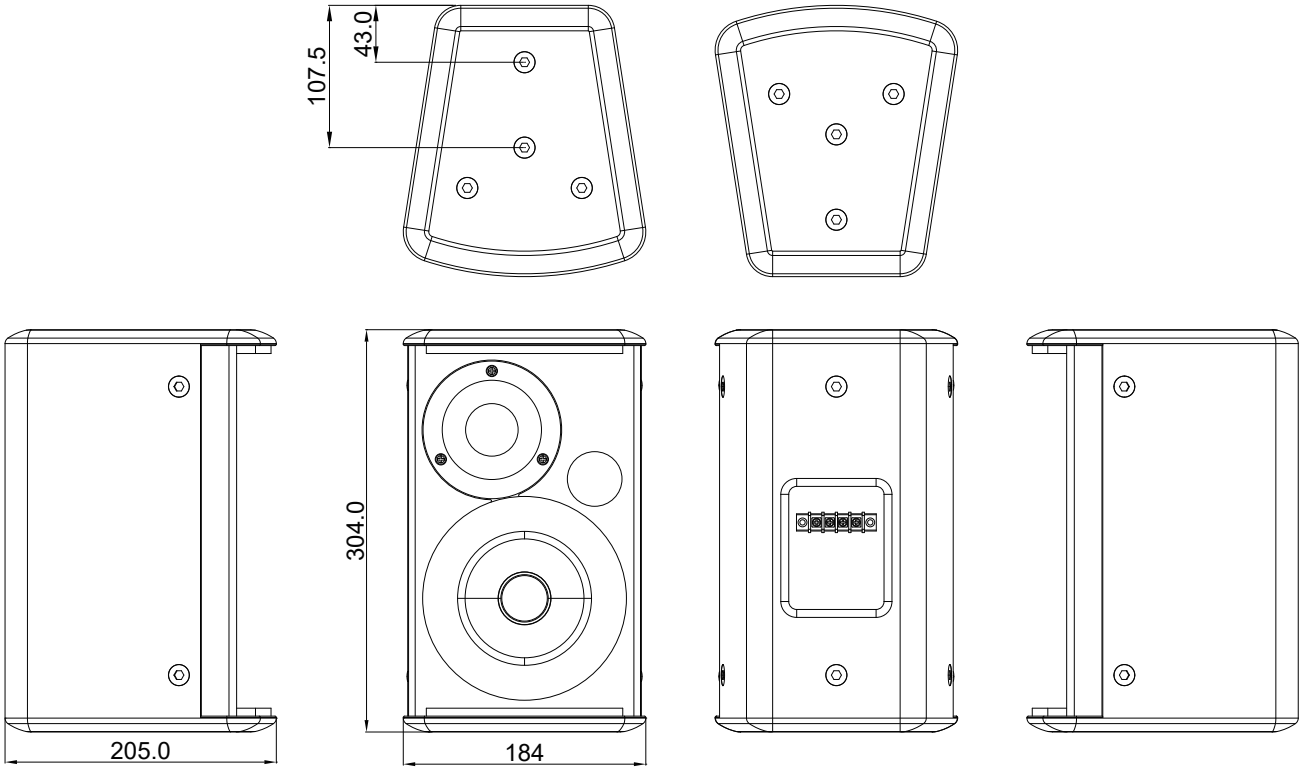




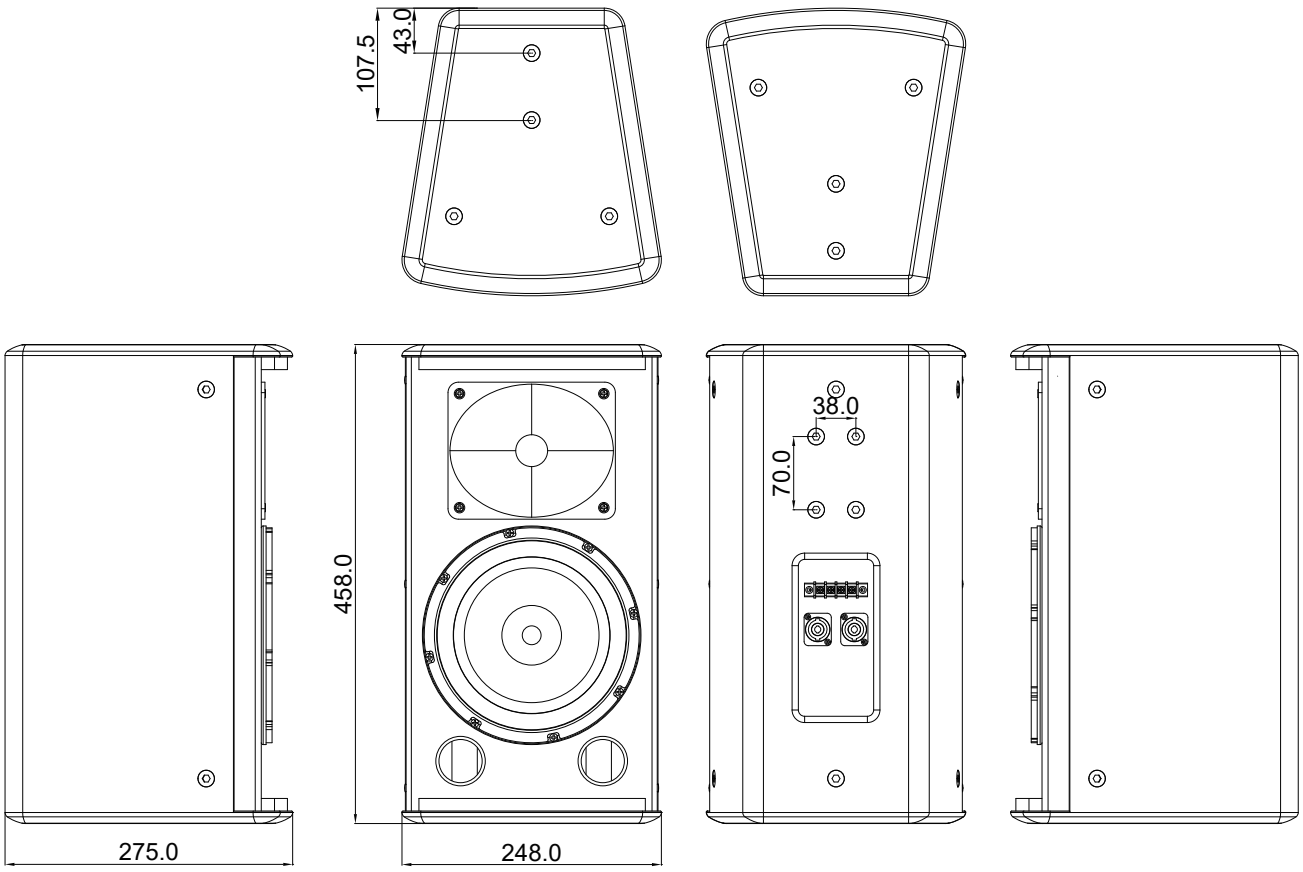


DIMENSIONAL DRAWINGS

Programme-X105 / X105T

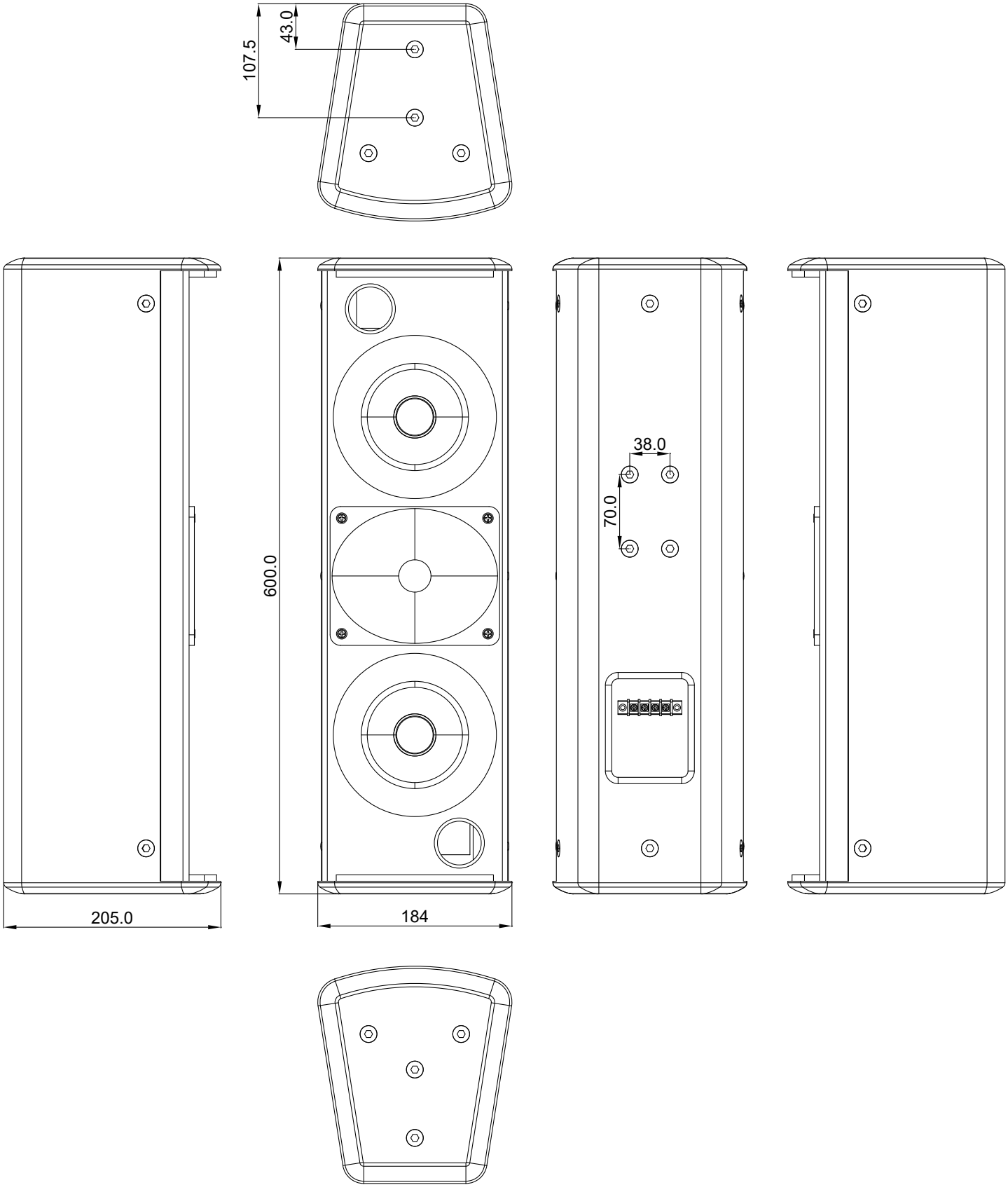


Programme-X108 / X108T



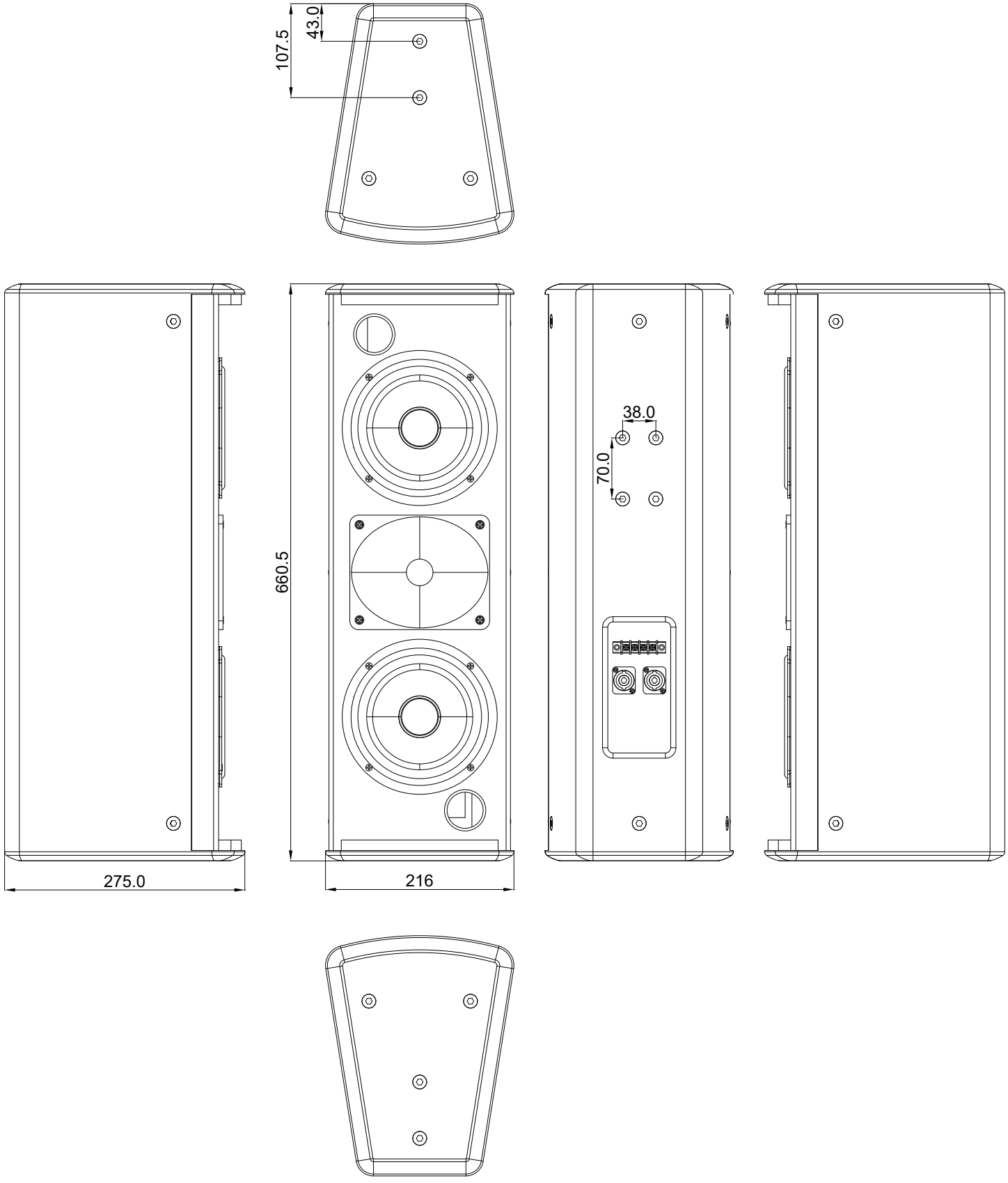
DIMENSIONAL DRAWINGS

Programme-X205 / X205T



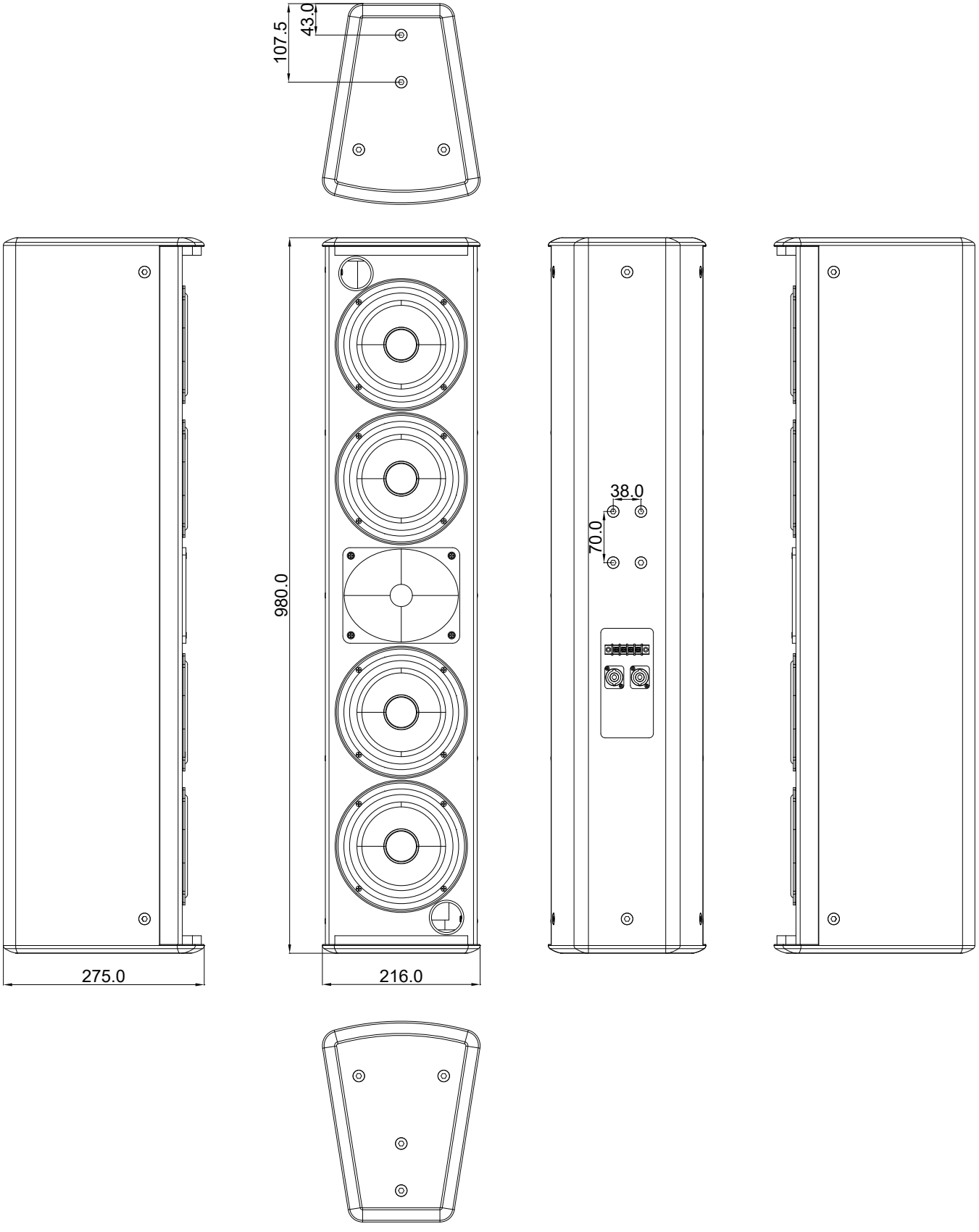
DIMENSIONAL DRAWINGS

Programme-X206 / X206T



DIMENSIONAL DRAWINGS

Programme-X406 / X406T

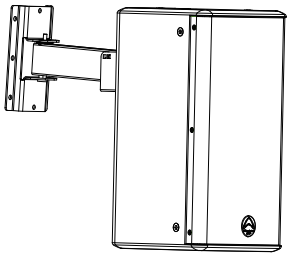


WPB-BRACKET INSTALLATION

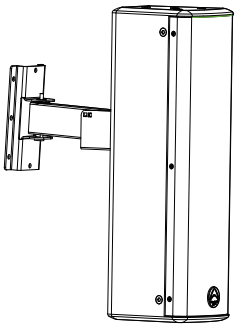
Programme-X models are supplied with U brackets, but for more adjustment (including tilt) the optional WPB-4 and WPB-5 wall brackets can be used.

WPB-5

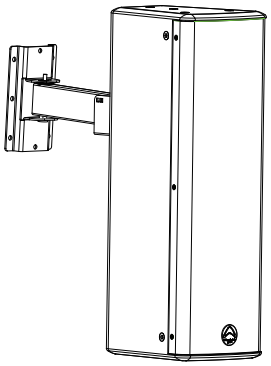
Programme-X108 / X108T



Programme-X205 / X205T

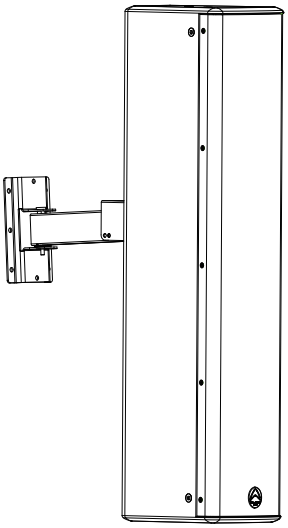


Programme-X206 / X206T



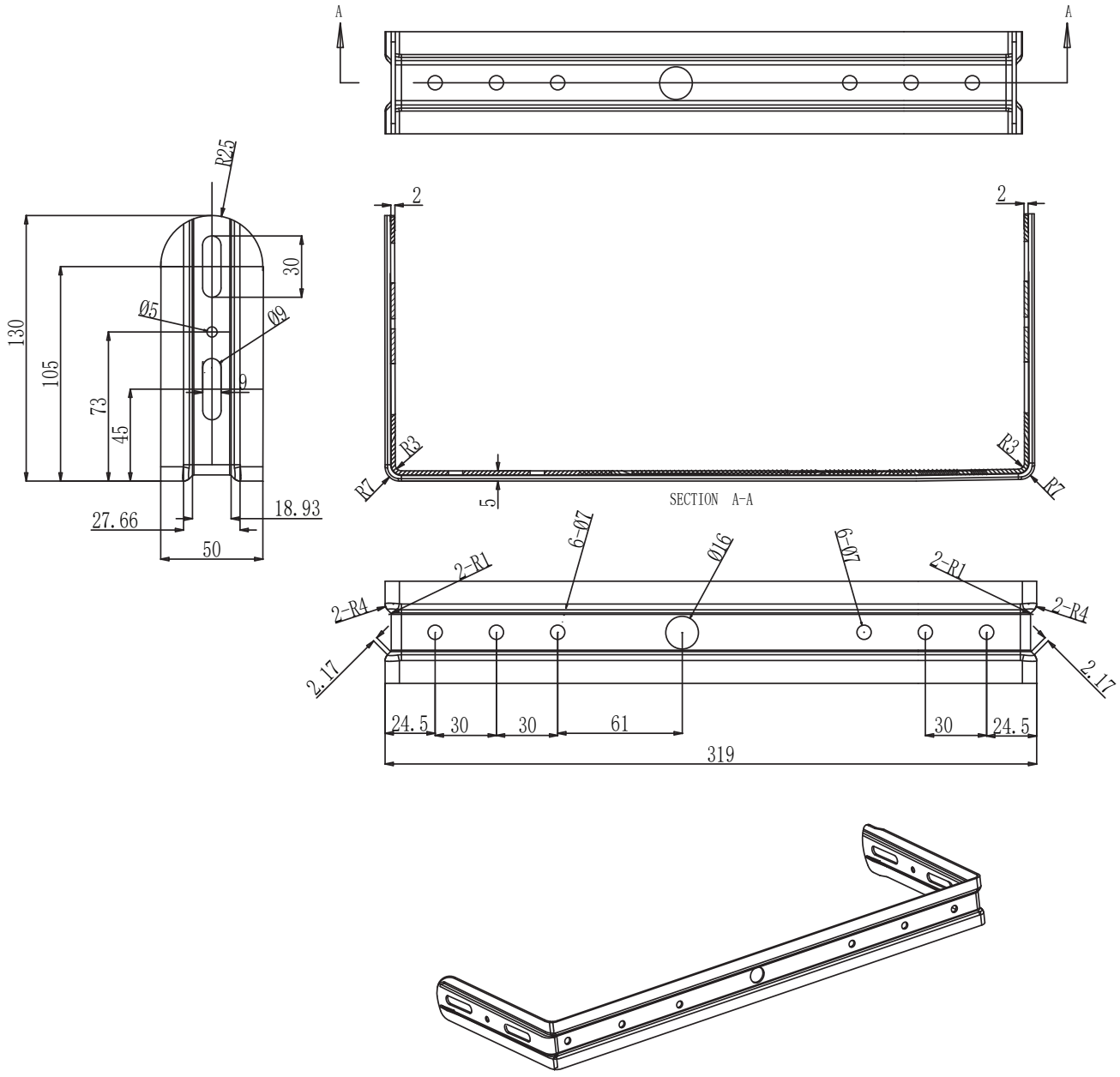
WPB-4

Programme-X406 / X406T



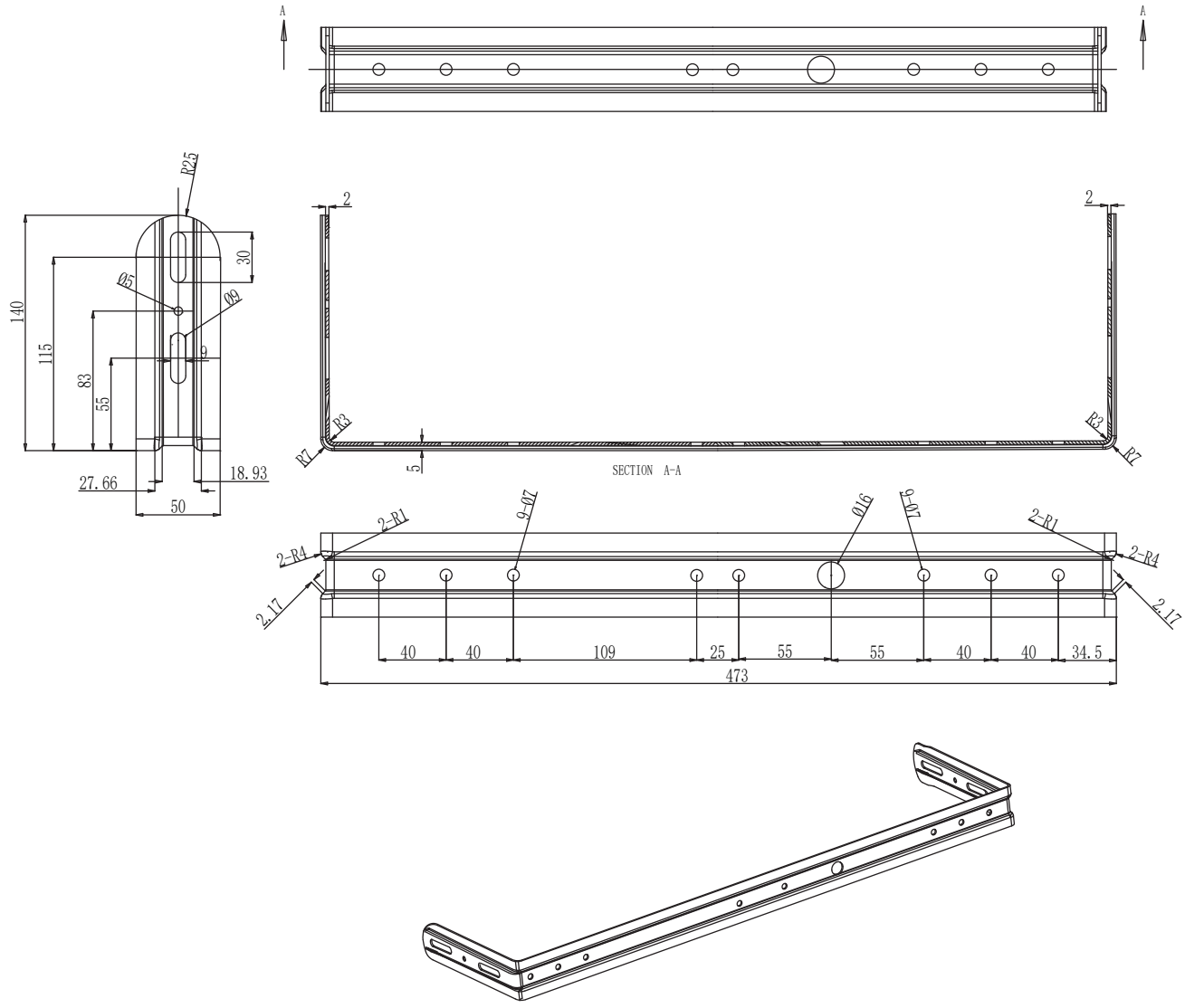
BRACKET

Programme-X105 / X105T



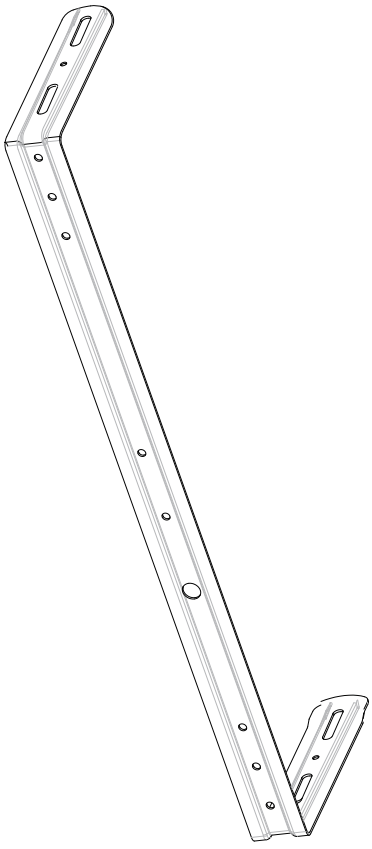
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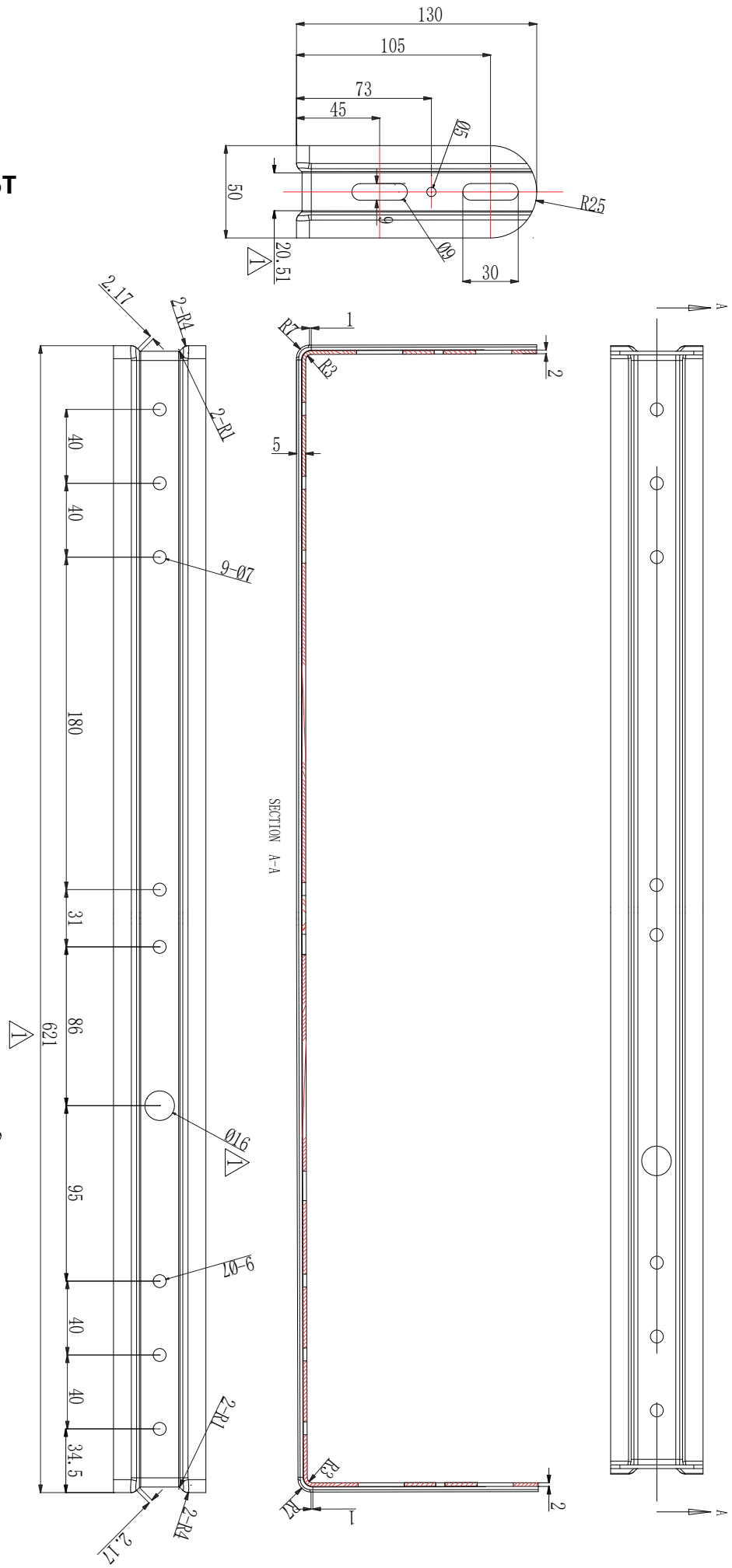
Programme-X108 / X108T



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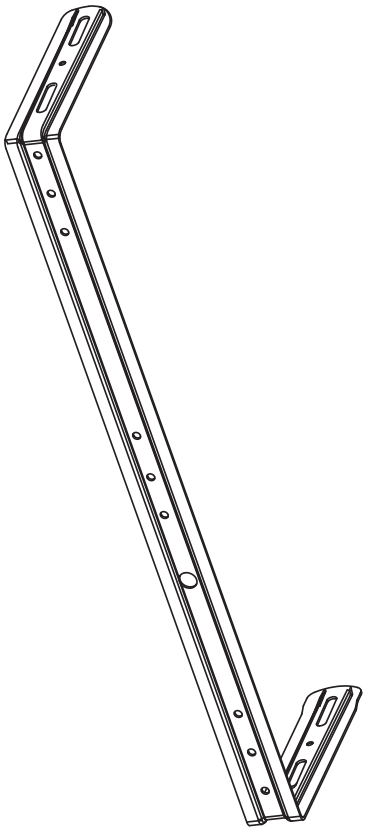
Programme-X205 / X205T

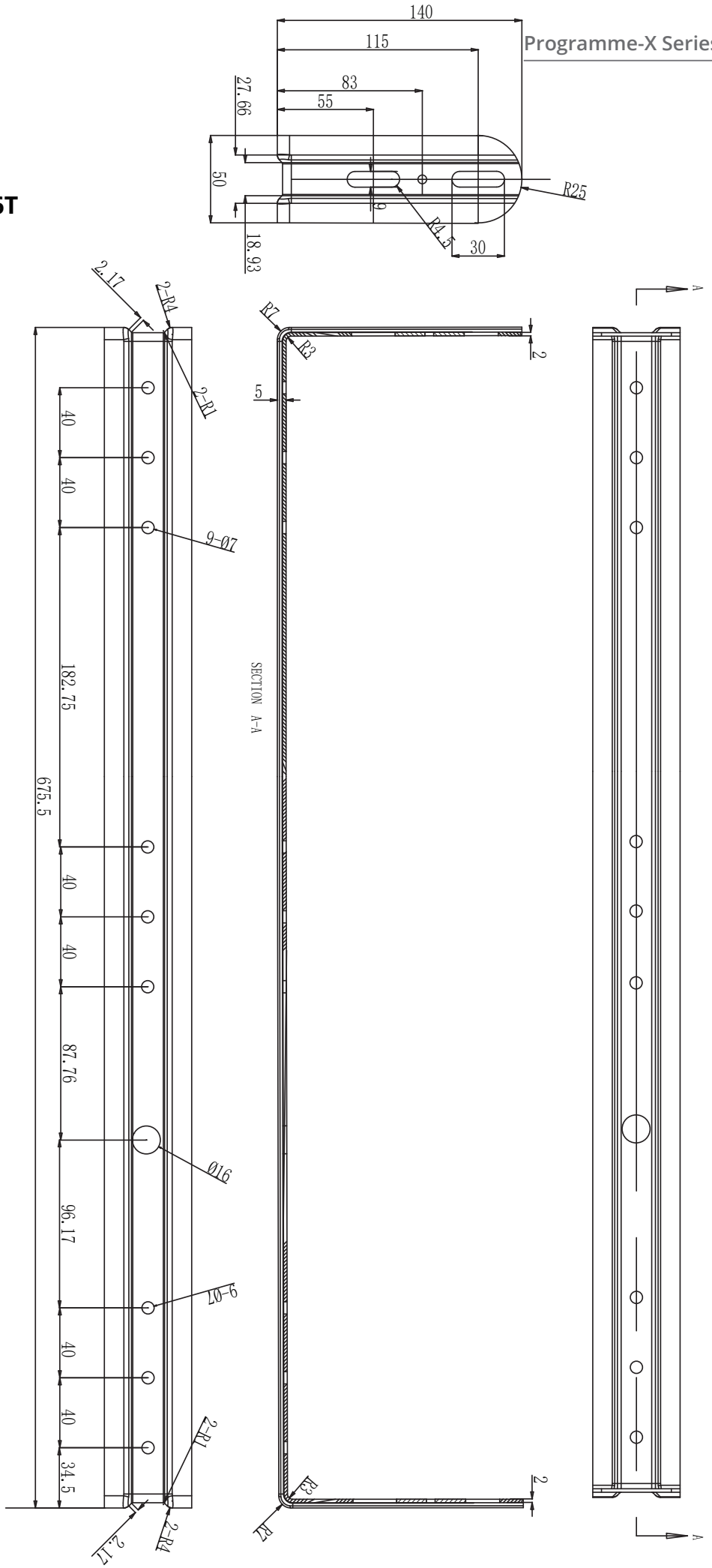




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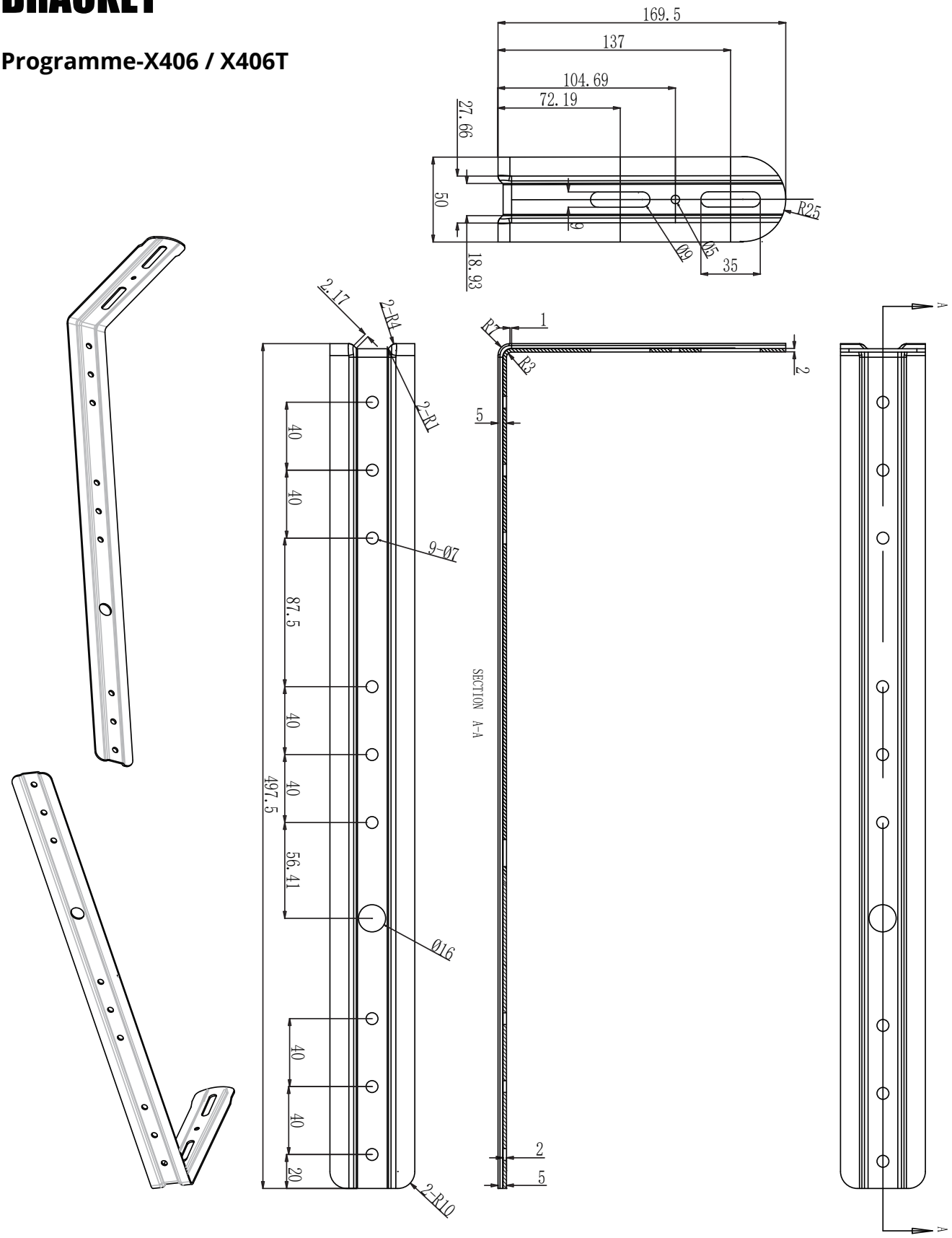
Programme-X206 / X206T





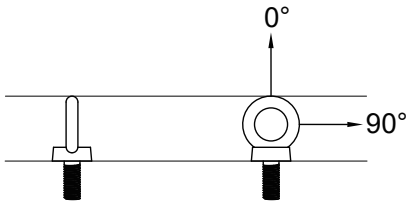
BRACKET

Programme-X406 / X406T



PROGRAMME-X SERIES RIGGING

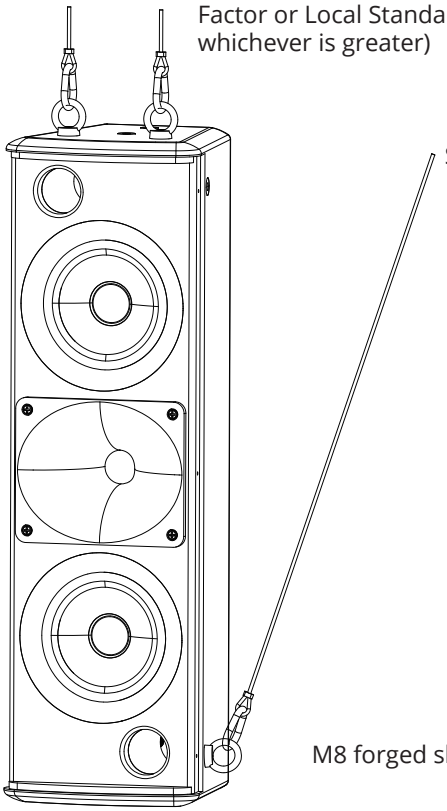
- Any installation should be inpected at regularly. Wear and corrosion may lead to deterioration.
- Always ensure that the suspension wires and mounting hardware are strong enough to support the weight of the speaker / s.
- Always ensure rigging hardware (eye bolts / suspension wires) conform to the safety standards and regulations in your area.
- For long term installation use a thread-locking compound.
- Do not attempt to bend or otherwise deform any rigging hardware.
- Never exceed 90 degrees from a right angle with suspension wires
- Wharfedale Pro cannot be held responsible for injury or damage caused by improper installation.



Programme-X series can use M8 forged shoulder eye bolt ONLY. Be aware that lifting eye bolts at an angle reduces the safe load. Always ensure the rigging hardware conforms to the safety standards and regulations in your area.

Each primary load bearing suspension point shall be rated for the total load. (A minimum 5:1 Design Factor or Local Standard should be observed - whichever is greater)

M8 forged shoulder eye bolt (User supplied, overhead suspension rated and certified)



Secondary suspension point

Working load limits:
No more than four (4) high (vertical)

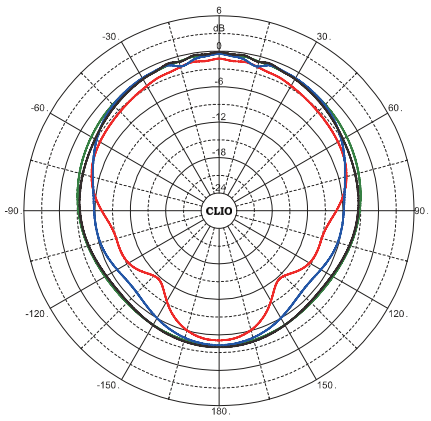
The four (4) high vertical specification represents a static ratio of 7:1

M8 forged shoulder eye bolt

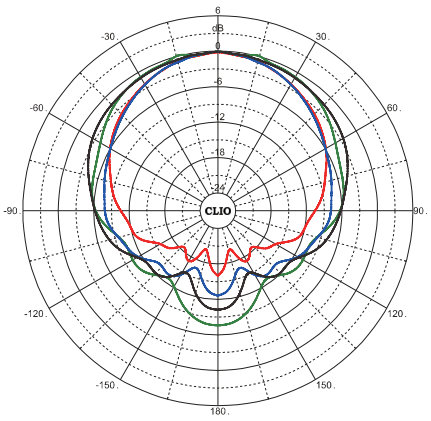
POLAR PLOTS

Programme-X105 / X105T

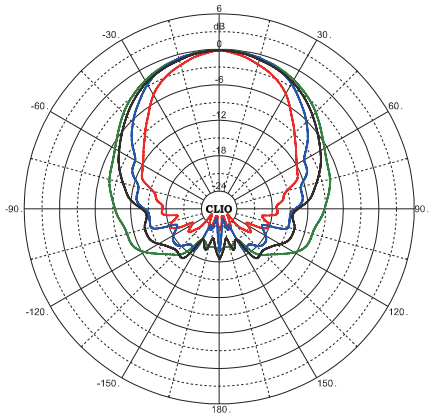
200Hz
250Hz
315Hz
400Hz



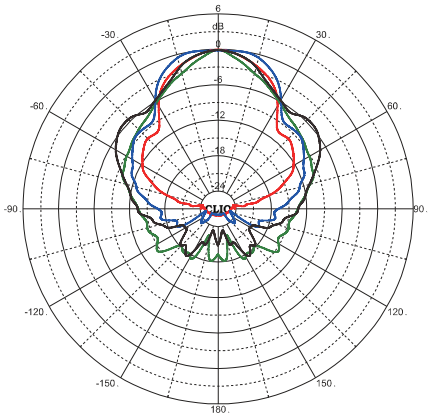
500Hz
630Hz
800Hz
1000Hz



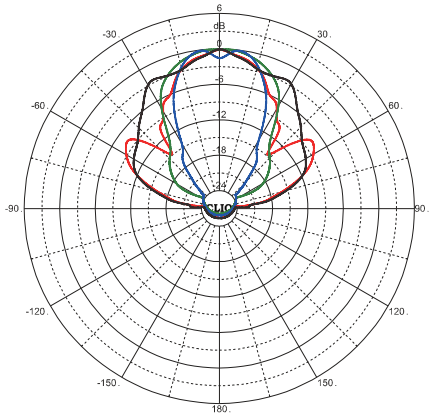
1250Hz
1600Hz
2000Hz
2500Hz



3150Hz
4000Hz
5000Hz
6300Hz



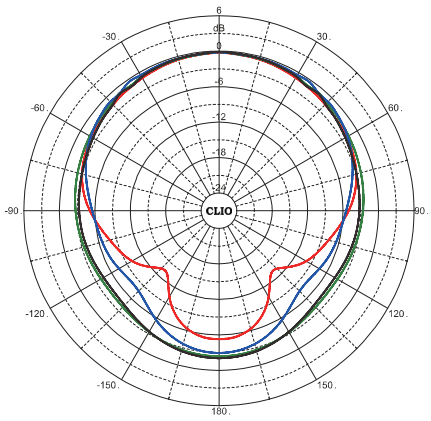
8000Hz
10000Hz
12500Hz
16000Hz



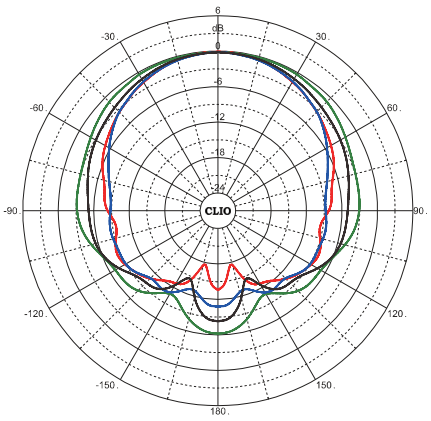
POLAR PLOTS

Programme-X108 / X108T

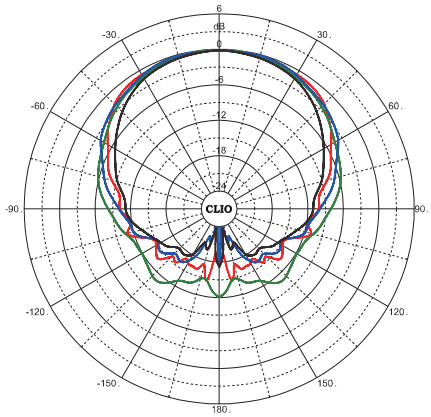
200Hz
250Hz
315Hz
400Hz



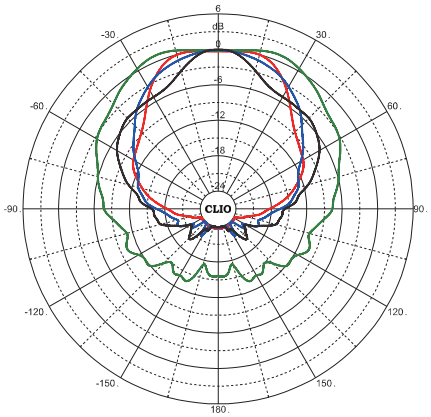
500Hz
630Hz
800Hz
1000Hz



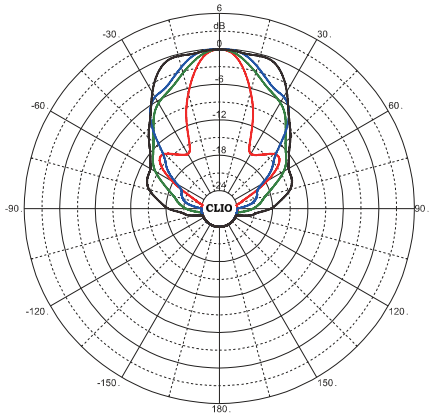
1250Hz
1600Hz
2000Hz
2500Hz



3150Hz
4000Hz
5000Hz
6300Hz



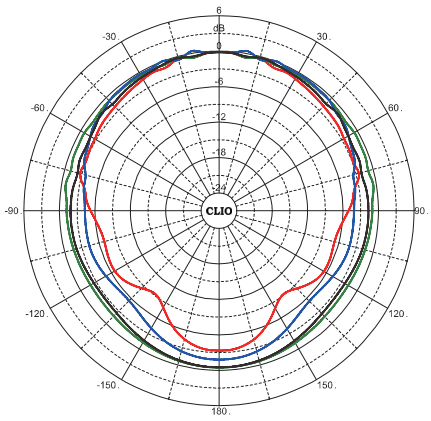
8000Hz
10000Hz
12500Hz
16000Hz



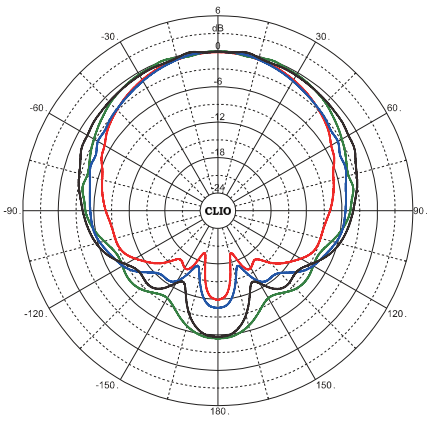
POLAR PLOTS

Programme-X205 / X205T

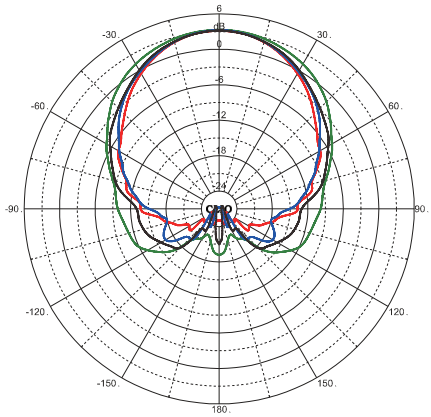
200Hz
250Hz
315Hz
400Hz



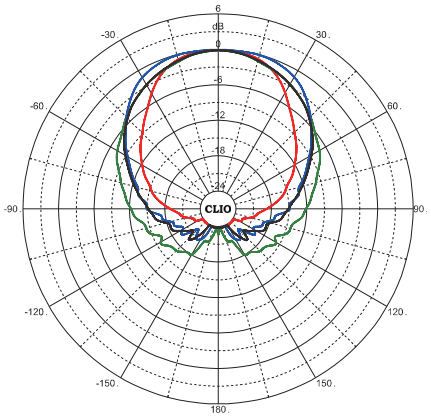
500Hz
630Hz
800Hz
1000Hz



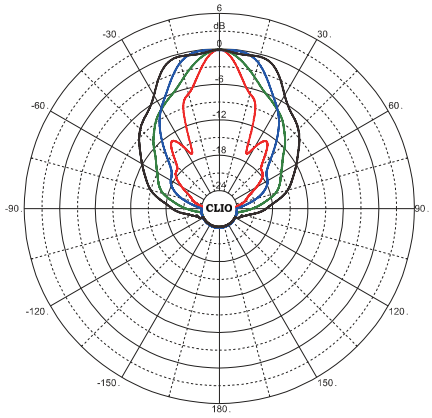
1250Hz
1600Hz
2000Hz
2500Hz



3150Hz
4000Hz
5000Hz
6300Hz



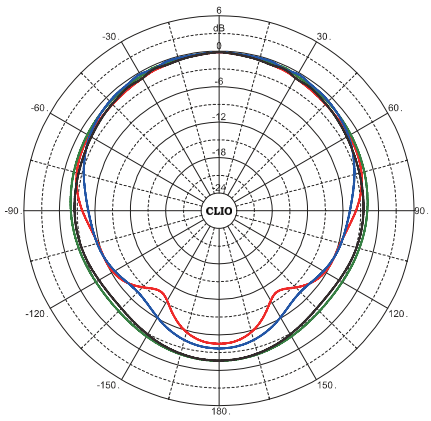
8000Hz
10000Hz
12500Hz
16000Hz



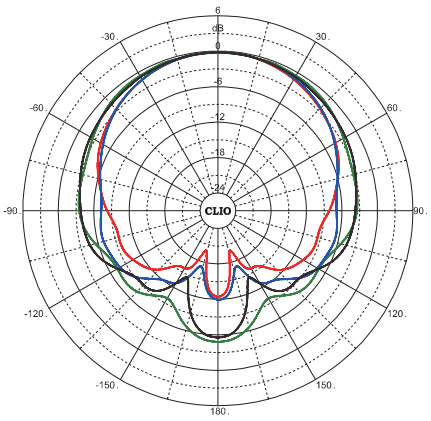
POLAR PLOTS

Programme-X206 / X206T

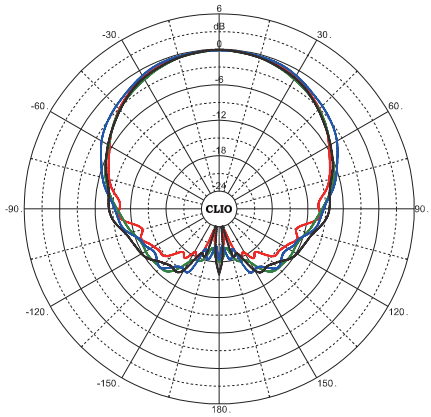
200Hz
250Hz
315Hz
400Hz



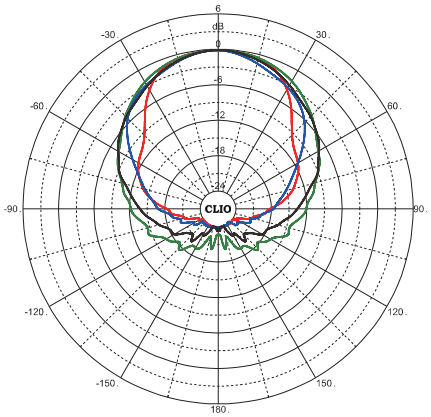
500Hz
630Hz
800Hz
1000Hz



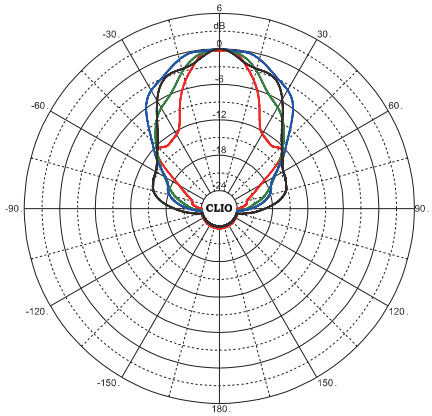
1250Hz
1600Hz
2000Hz
2500Hz



3150Hz
4000Hz
5000Hz
6300Hz



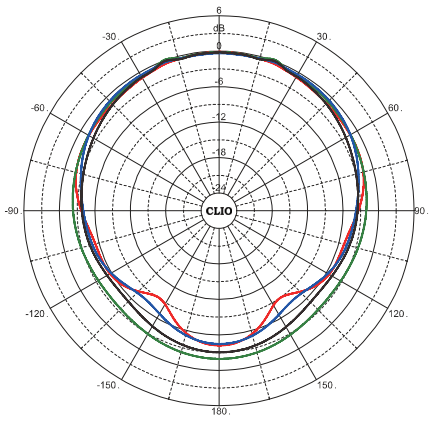
8000Hz
10000Hz
12500Hz
16000Hz



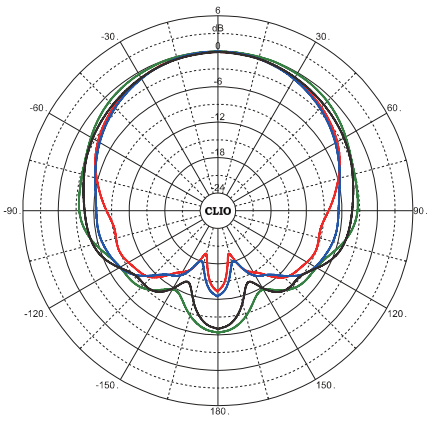
POLAR PLOTS

Programme-X406 / X406T

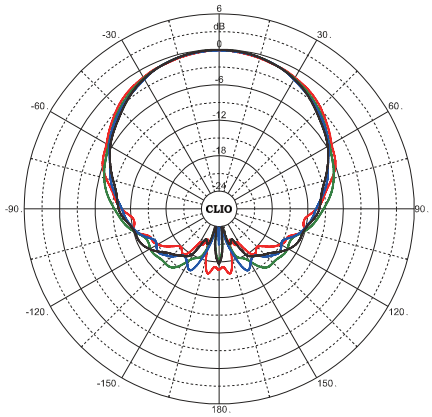
200Hz
250Hz
315Hz
400Hz



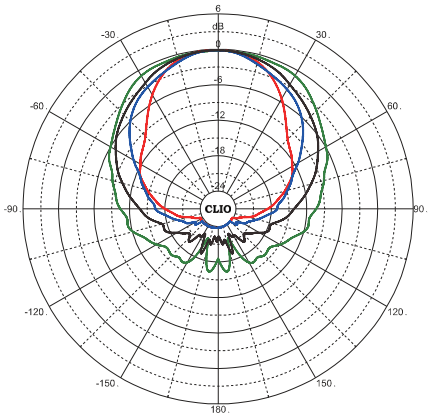
500Hz
630Hz
800Hz
1000Hz



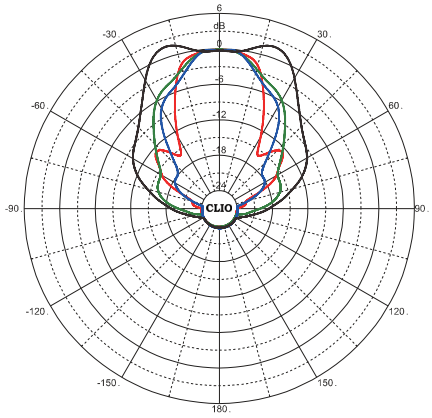
1250Hz
1600Hz
2000Hz
2500Hz



3150Hz
4000Hz
5000Hz
6300Hz



8000Hz
10000Hz
12500Hz
16000Hz



SPECIFICATIONS

Model Name	Programme-X105 / X105T	Programme-X108 / X108T	Programme-X205 / X205T
System Type	5" Passive	8" Passive	2 x 5" Passive
Configuration	Two-way	Two-way	Two-way
Frequency Response (+/-3 dB)	75 Hz - 20 KHz	60 Hz - 20 KHz	70 Hz - 20 KHz
Frequency Range (- 10 dB)	70 Hz - 20 KHz	55 Hz - 20 KHz	65 Hz - 20 KHz
Sensitivity (2.83 v/1 m)	91 dB	94 dB	94 dB
Calculated Maximum SPL @1 m	116 dB	122 dB	120 dB
System Rated Impedance	8 Ω	8 Ω	8 Ω
Low Frequency Transducer			
Size	127 mm / 5"	203.2 mm / 8"	2 x 127 mm / 2 x 5"
Voice Coil Size	25.5 mm / 1"	51.5 mm / 2"	25.5 mm / 1"
Rated Impedance	8 Ω	8 Ω	8 Ω
LF Power (re:AES2-2012)	60 W	150 W	2 x 50 W
High Frequency Transducer			
HF Driver Type			
Voice Coil Size	25.4 mm / 1"	25.4 mm / 1"	25.4 mm / 1"
Exit Size	25.4 mm / 1"	25.4 mm / 1"	25.4 mm / 1"
Diaphragm Material	1" Titanium dome	1" compression driver	1" compression driver
Rated Impedance	8 Ω	8 Ω	8 Ω
HF Power (re:AES2-2012)	15 W	20 W	20 W
Nominal Coverage (H x V)	60˚ x 60˚	90° x 60°	90° x 60°
Power			
System Continuous Power	80 W	150 W	100 W
System Programme Power	160 W	300 W	200 W
System Peak Power	320 W	600 W	400 W
Crossover frequency	2.3 KHz	2.0 KHz	2.0 KHz
Recommended HPF = BW 18 dB/oct.	58 Hz	38 Hz	55 Hz
Input Connector	Barrier Strip	2 x NL4 (speakON Compatible) + Barrier Strip	Barrier Strip
Input Connectors (T)	Barrier Strip	Barrier Strip	Barrier Strip
Transformer (T)	100 V / 70 V	100 V / 70 V	100 V / 70 V
Transformer Taps (70 V)	7.5,15,30,60 W	10,20,40,80 W	15,30,60,120 W
Transformer Taps (100 V)	15,30,60 W	20,40,80 W	30,60,120 W
Hardware			
Rigging	M8 x 14	M8 x 18	M8 x 18
Pole Mount	N/A	N/A	N/A
Enclosure			
Enclosure Material	MDF	MDF	MDF
Finish	Black / White Paint	Black / White Paint	Black / White Paint
Grille Material & Finish	Black / White Full (Steel)	Black / White Full (Steel)	Black / White Full (Steel)
Dimensions - Unpacked			
Height	304 mm / 11.97"	458 mm / 18.03"	600 mm / 19.69"
Width Front	184 mm / 7.24"	248 mm / 9.76"	184 mm / 7.24"
Width Rear	130 mm / 5.12"	173 mm / 6.8 "	130 mm / 7.24"
Depth	205 mm / 8.07"	275 mm / 10.83"	205 mm / 8.07"
Dimensions - Packed			
Height	379 mm / 14.9"	533 mm / 21.0"	675 mm / 26.6"
Width Front	250 mm / 9.8"	324 mm / 12.8"	250 mm / 9.8"
Width Rear	250 mm / 9.8"	324 mm / 12.8"	250 mm / 9.8"
Depth	274 mm / 10.8"	345 mm / 13.6"	274 mm / 10.8"
Weight			
Net Weight : Regular / T-Version	5.22 Kg / 6.3 Kg	10.02 Kg / 12.1 Kg	9.34 Kg / 10.8 Kg
Gross Weight : Regular / T-Version	6.59 Kg / 7.7 Kg	13.66 Kg / 16.16 Kg	12.66 Kg / 15.16 Kg
Included accessory	black / white U bracket	black / white U bracket	black / white U bracket

SPECIFICATIONS

Model Name	Programme-X206 / X206T	Programme-X406 / X406T
System Type	2 x 6.5" Passive	4 x 6.5" Passive
Configuration	Two-way	Two-way
Frequency Response (+/-3 dB)	65 Hz - 20 KHz	60 Hz - 20 KHz
Frequency Range (- 10 dB)	60 Hz - 20 KHz	55 Hz - 20 KHz
Sensitivity (2.83 v/1 m)	96 dB	98 dB
Calculated Maximum SPL @1 m	124 dB	129 dB
System Rated Impedance	8 Ω	8 Ω
Low Frequency Transducer		
Size	2 x 165.1 mm / 2 x 6.5"	4 x 165.1 mm / 4 x 6.5"
Voice Coil Size	25.5 mm / 1"	25.5 mm / 1"
Rated Impedance	8 Ω	8 Ω
LF Power (re:AES2-2012)	2 x 65 W	4 x 65 W
High Frequency Transducer		
HF Driver Type		
Voice Coil Size	25.4 mm / 1"	25.4 mm / 1"
Exit Size	25.4 mm / 1"	25.4 mm / 1"
Diaphragm Material	1" compression driver	1" compression driver
Rated Impedance	8 Ω	8 Ω
HF Power (re:AES2-2012)	20 W	20 W
Nominal Coverage (H x V)	90° x 60°	90° x 60°
Power		
System Continuous Power	150 W	300 W
System Programme Power	300 W	600 W
System Peak Power	600 W	1200 W
Crossover frequency	2.1 KHz	2.1 KHz
Recommended HPF = BW 18 dB/oct.	38 Hz	32 Hz
Input Connector	2 x NL4 (speakON Compatible) + Barrier Strip	2 x NL4 (speakON Compatible) + Barrier Strip
Input Connectors (T)	Barrier Strip	Barrier Strip
Transformer (T)	100 V / 70 V	100 V / 70 V
Transformer Taps (70 V)	15,30,60,120 W	15,30,60,120 W
Transformer Taps (100 V)	30,60,120 W	30,60,120 W
Hardware		
Rigging	M8 x 18	M8 x 18
Pole Mount	N/A	N/A
Enclosure		
Enclosure Material	MDF	MDF
Finish	Black / White Paint	Black / White Paint
Grille Material & Finish	Black / White Full (Steel)	Black / White Full (Steel)
Dimensions - Unpacked		
Height	660.5 mm / 26"	980 mm / 38.58"
Width Front	215 mm / 8.46"	215 mm / 8.46"
Width Rear	140 mm / 5.51"	140 mm / 5.51"
Depth	275 mm / 10.82"	275 mm / 10.82"
Dimensions - Packed		
Height	735 mm / 28.9"	1055 mm / 41.5"
Width Front	291 mm / 11.5"	291 mm / 11.5"
Width Rear	291 mm / 11.5"	291 mm / 11.5"
Depth	345 mm / 13.6"	345 mm / 13.6"
Weight		
Net Weight : Regular / T-Version	11.36 Kg / 13.86 Kg	17.8 Kg / 20.3 Kg
Gross Weight : Regular / T-Version	14.05 Kg / 16.5 Kg	20.95 Kg / 23.45 Kg
Included accessory	black / white U bracket	black / white U bracket

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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January 2024