



Archon

Permanent Installation Loudspeaker

Designed, Engineered
and Manufactured in ITALY

Operating Manual



FBT elettronica

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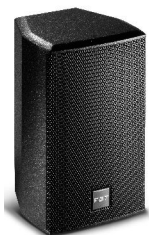
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THE ARCHON SERIES

The new ARCHON series includes a vast range of 2-way passive speakers for permanent installations: three models with possibility of full-range or bi-amp configuration; three compact models with full-range configuration, two 2x8" and 2x15" subwoofers.

Beyond the classic black and white, availability of a vast range of colours and finishes: gloss, matt, rough texture, etc.

The elegant speaker design, the high sound quality and extremely clear voice play perfectly suit any type of environment: restaurants, shopping malls, pubs, theatres, conference rooms, museums, etc. with the possibility, upon demand, to be adjusted for open-air installations as well.



105

200W - 8 Ohm



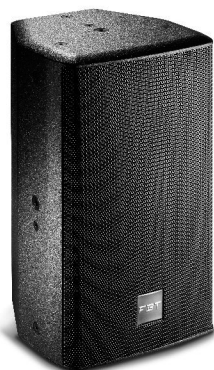
106

300W - 8 Ohm



108

350W - 8 Ohm



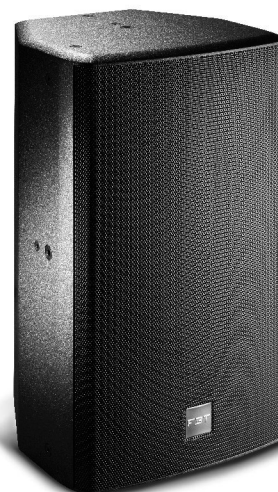
110

700W - 8 Ohm



112

1000W - 8 Ohm



115

1000W - 8 Ohm



208S

600W - 8 Ohm



215S

2000W - 4 Ohm



Where marked, this symbol indicates important usage and maintenance instructions in the enclosed documents. Please refer to the manual.

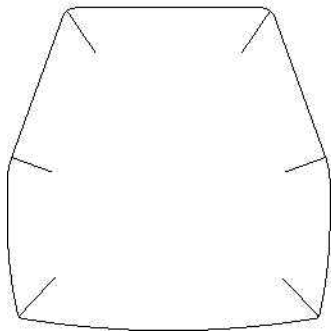
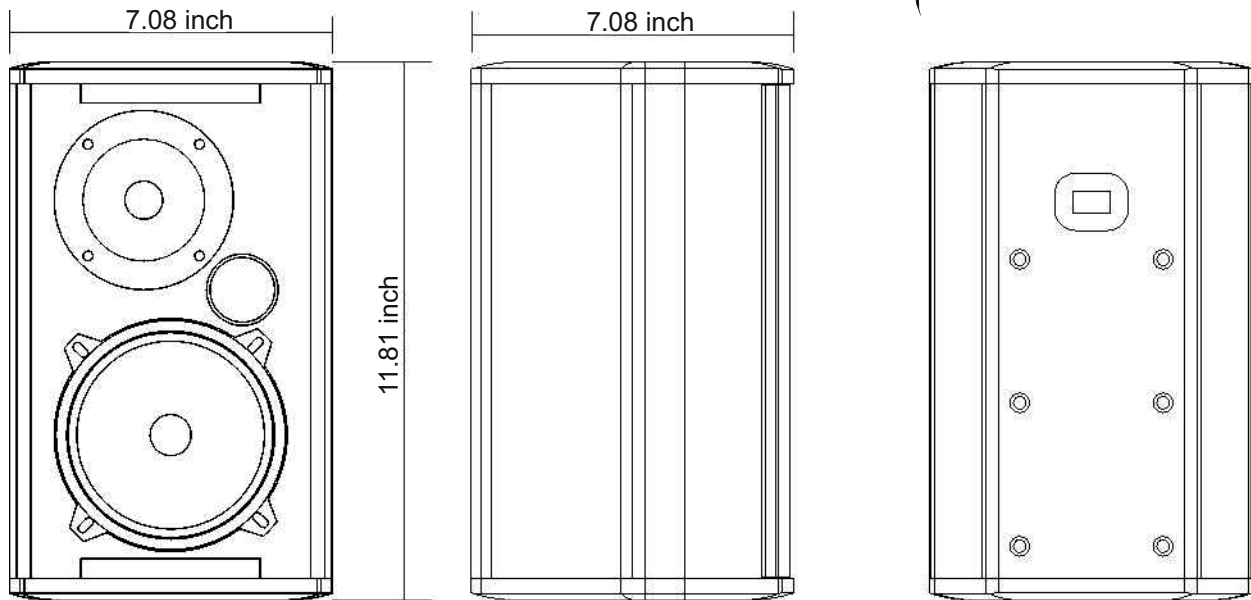
**ATTENTION**

To reduce the risk of fire or electric shock do not expose this equipment to rain or moisture.

IMPORTANT SAFETY WARNINGS

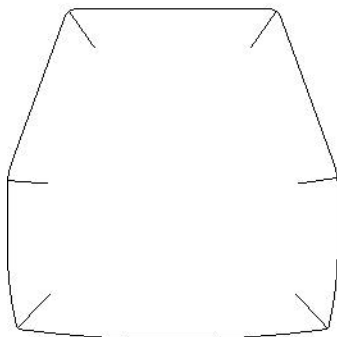
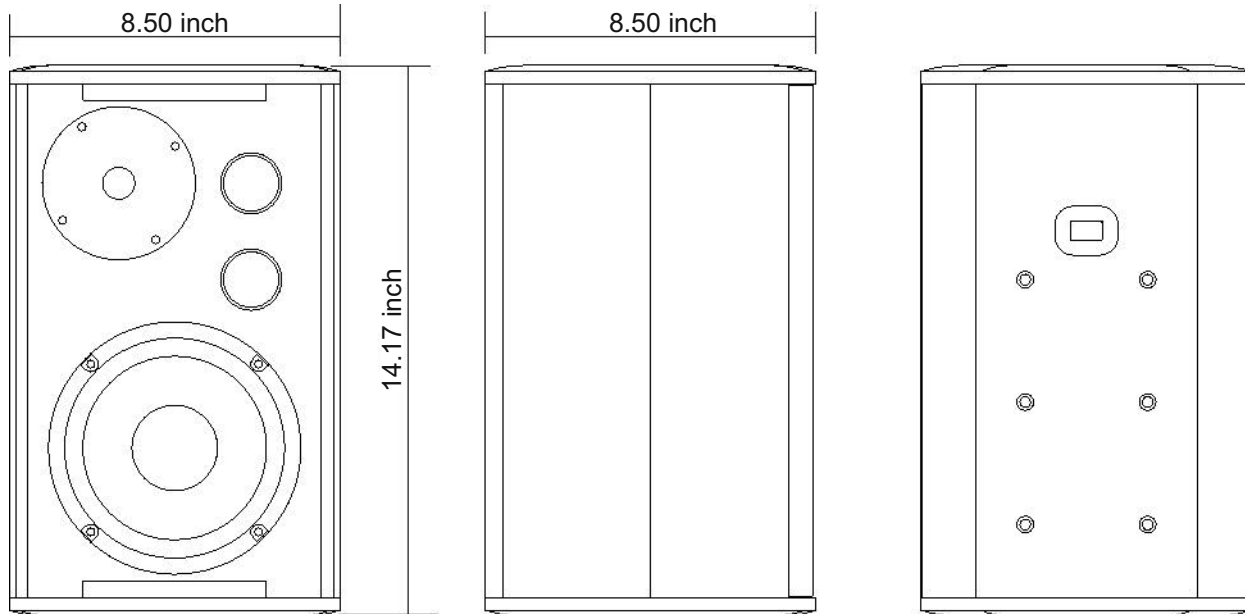
- The speaker line can have sufficiently high voltage (e.g. 100V) constituting an electrocution risk for individuals; **never connect the speaker when the line is powered.**
- Make sure that all the connections are correct and that the input voltage (in a constant voltage system) or the speaker impedance is compatible with the output features of the amplifier.
- Keep the device away from water springs and splashes and do not place any objects containing liquids on the device.
- Use only the optional devices /accessories specified by the manufacturer.
- To prevent inductive phenomena causing humming or disturbances, the speaker lines must not be channelled together with electric power lines, microphone cables or low level signal lines (amplifiers)
- Seek qualified personnel for technical assistance. Technical assistance is necessary should the unit be damaged, for example liquid spilling or objects falling inside the appliance, operating faults or dropping of the appliance.
- FBT Elettronica SpA will not be held liable for damage or injuries caused by supports or structures which are not sufficiently sturdy or by incorrect installation.

DESCRIPTION



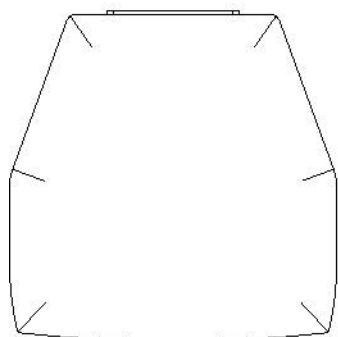
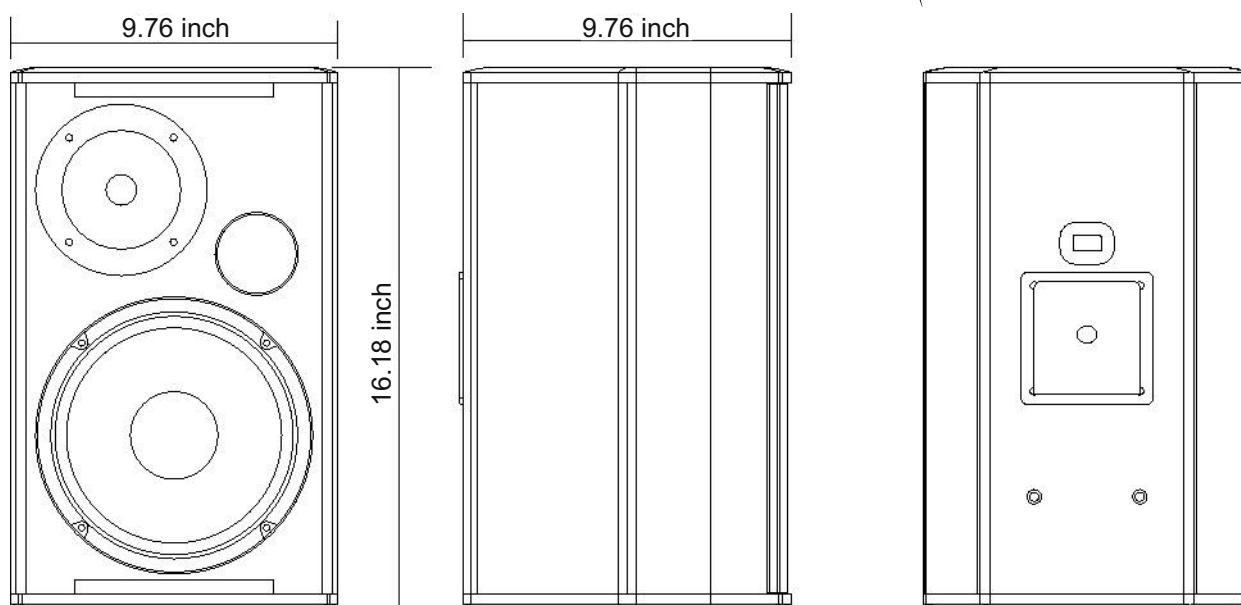
- > 2-way passive sound reinforcement system
- > 0.47" baltic birch plywood cabinet
- > Custom designed LF woofer, made in Italy
- > Custom designed HF dome tweeter, made in Italy
- > 4 x Euroblock speaker terminals
- > Multiple M5 threaded rigging points
- > Acoustically transparent steel grille and antidust protection cloth
- > New FBT rotatable logo badge following vertical or horizontal installation
- > Optional mounting hardware
- > 50W optional line transformer

CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	200W RMS
SYSTEM LONG TERM POWER	100W
SYSTEM SHORT TERM POWER (IEC 268-5)	400W
TRANSFORMER (optional)	100V / 50W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	70Hz - 22kHz (@-6dB)
LOW FREQUENCY WOOFER	5" - coil 1.25"
AES POWER	70W
HIGH FREQUENCY DRIVER	1" - coil 1"
AES POWER	20W
SENSITIVITY	89dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	112dB / 115dB
DISPERSION	110° (H x V)
CROSSOVER FREQUENCY	3kHz
RECOMMENDED HP FILTER	60Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	-----
INPUT CONNECTORS	4 x euroblock
NET DIMENSIONS	7.08 inch x 11.81 inch x 7.08 inch (W x H x D)
NET WEIGHT	8,8 lb
TRANSPORT DIMENSIONS	10.23 inch x 14.96 inch x 10.23 inch (W x H x D)
TRANSPORT WEIGHT	13,2 lb



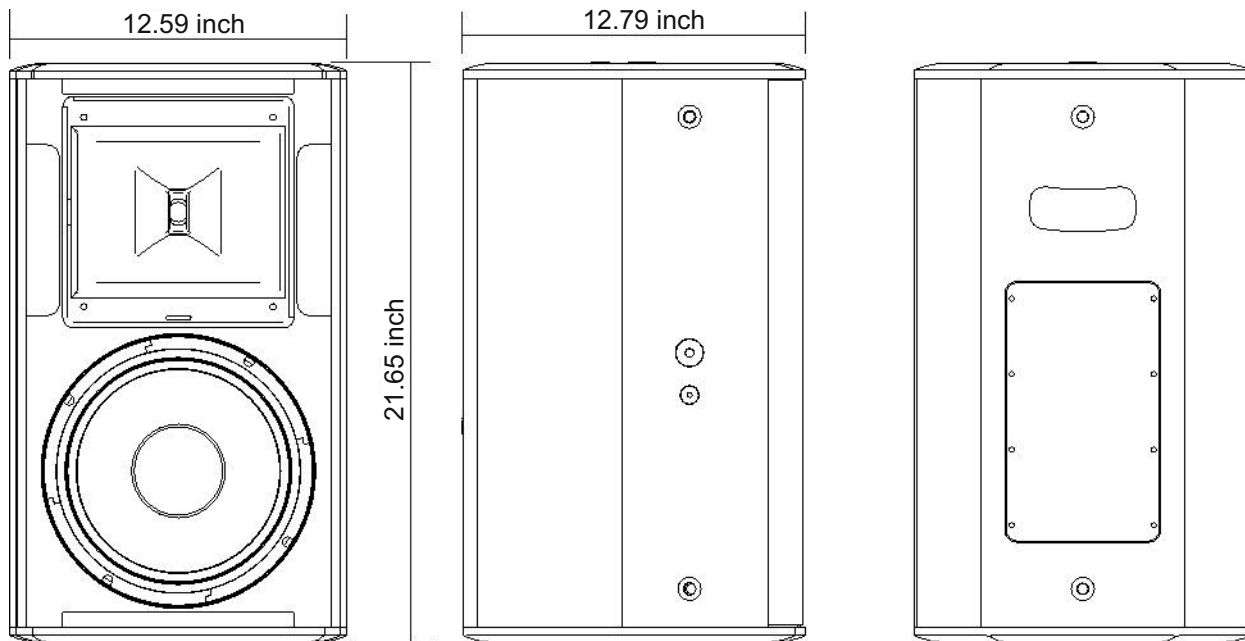
- > 2-way passive sound reinforcement system
- > 0.47 baltic birch plywood cabinet
- > Custom designed LF woofer, made in Italy
- > Custom designed HF dome tweeter, made in Italy
- > 4 x Euroblock speaker terminals
- > Multiple M5 threaded rigging points
- > Acoustically transparent steel grille and antidust protection cloth
- > New FBT rotatable logo badge following vertical or horizontal installation
- > Optional mounting hardware
- > 100W optional line transformer

CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	300W RMS
SYSTEM LONG TERM POWER	150W
SYSTEM SHORT TERM POWER (IEC 268-5)	600W
TRANSFORMER (optional)	100V / 100W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	60Hz - 22kHz (@-6dB)
LOW FREQUENCY WOOFER	6.5" - coil 1.5"
AES POWER	120W
HIGH FREQUENCY DRIVER	1" - coil 1"
AES POWER	20W
SENSITIVITY	91dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	116dB / 119dB
DISPERSION	100° (H x V)
CROSSOVER FREQUENCY	2.5kHz
RECOMMENDED HP FILTER	45Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	-----
INPUT CONNECTORS	4 x euroblock
NET DIMENSIONS	8.50 inch x 14.17 inch x 8.50 inch (W x H x D)
NET WEIGHT	12,1 lb
TRANSPORT DIMENSIONS	11.81 inch x 17.32 inch x 11.81 inch (W xH x D)
TRANSPORT WEIGHT	16,5 lb



- > 2-way passive sound reinforcement system
- > 0.47 baltic birch plywood cabinet
- > Custom designed LF woofer, made in Italy
- > Custom designed HF dome tweeter, made in Italy
- > 4 x Euroblock speaker terminals
- > Multiple M5 threaded rigging points
- > Acoustically transparent steel grille and antidust protection cloth
- > New FBT rotatable logo badge following vertical or horizontal installation
- > Optional mounting hardware
- > 100W optional line transformer

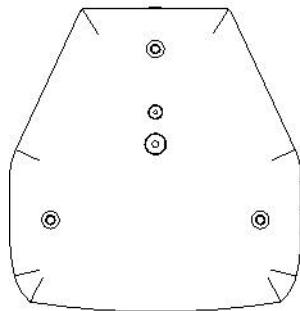
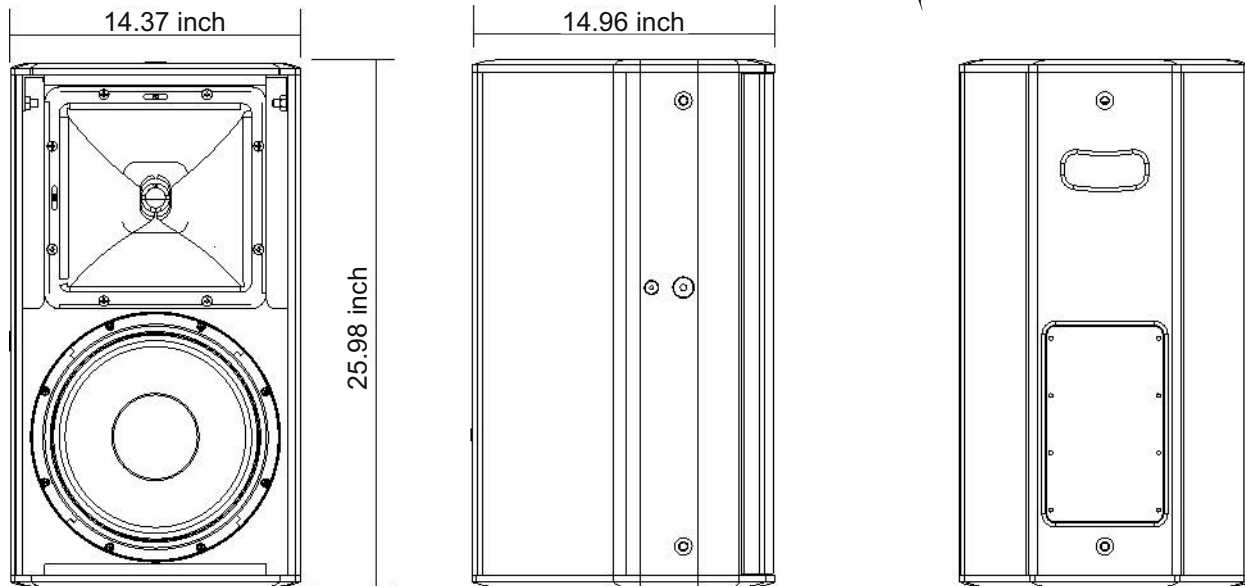
CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	350W RMS
SYSTEM LONG TERM POWER	175W
SYSTEM SHORT TERM POWER (IEC 268-5)	700W
TRANSFORMER (optional)	100V / 100W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	55Hz - 22kHz (@-6dB)
LOW FREQUENCY WOOFER	8" - coil 1.5"
AES POWER	150W
HIGH FREQUENCY DRIVER	1.5" - coil 1.5"
AES POWER	35W
SENSITIVITY	92.5dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	118dB / 121dB
DISPERSION	90° (H x V)
CROSSOVER FREQUENCY	2kHz
RECOMMENDED HP FILTER	40Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	-----
INPUT CONNECTORS	4 x euroblock
NET DIMENSIONS	9.76 inch x 16.18 inch x 9.76 inch (W x H x D)
NET WEIGHT	14,3 lb
TRANSPORT DIMENSIONS	12.99 inch x 19.33 inch x 12.99 inch (W x H x D)
TRANSPORT WEIGHT	18,7 lb



- > 2-way passive sound reinforcement system
- > 0.6" baltic birch plywood cabinet
- > B&C custom designed high excursion LF woofer
- > B&C custom designed HF compression driver
- > Full-range / Bi-amp crossover networks with protection
- > 1 x 4 Euroblock terminal speaker connector
- > 2 x Neutrik NL-4 speakon connectors
- > 12 x M10 threaded rigging points
- > 2 x metal flange threads for "U" bracket wall mount
- > Acoustically transparent steel grille and antidust protection cloth
- > Rear pocket handle
- > 35mm top hat for speaker stand
- > New FBT rotatable logo
- > Optional mounting hardware
- > 200W optional line transformer

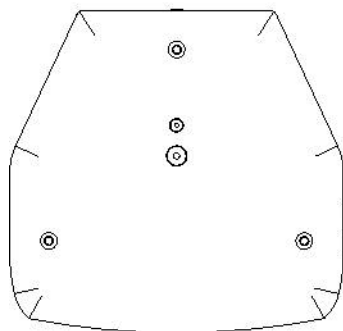
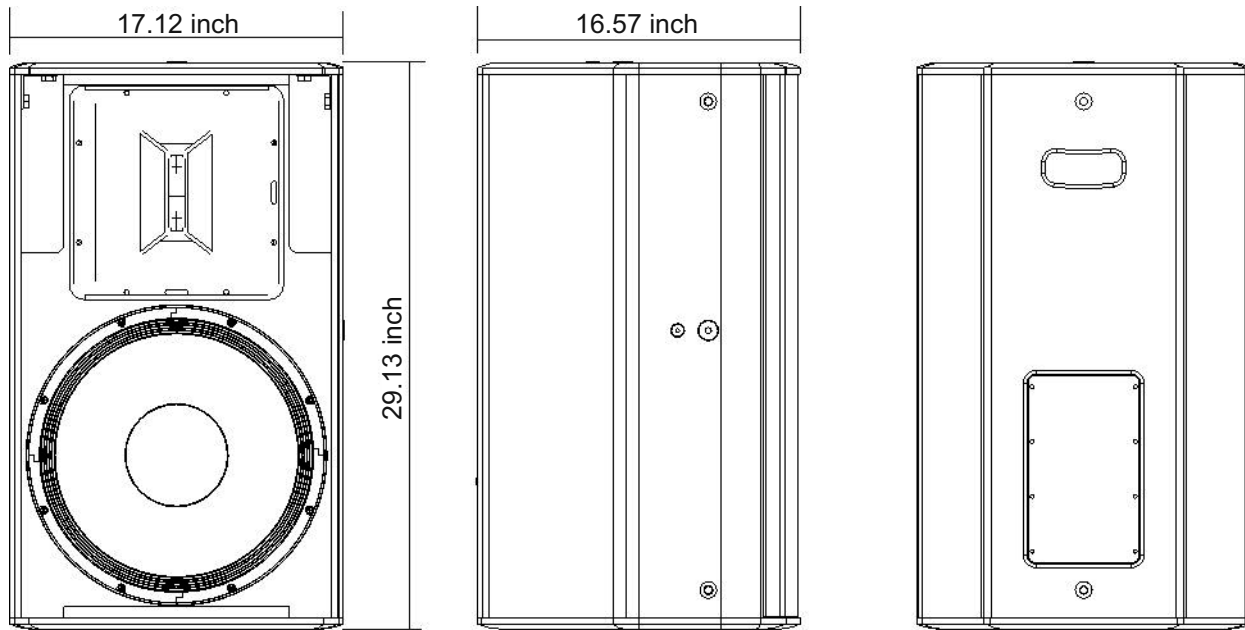
CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	700W RMS
SYSTEM LONG TERM POWER	350W
SYSTEM SHORT TERM POWER (IEC 268-5)	1400W
TRANSFORMER (optional)	100V / 200W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	60Hz - 18kHz (@-6dB)
LOW FREQUENCY WOOFER	10" - coil 2.5"
AES POWER	300W
HIGH FREQUENCY DRIVER	1" - coil 1.7"
AES POWER	50W
SENSITIVITY	97dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	125dB / 129dB
DISPERSION	80° x 50° (H x V)
CROSSOVER FREQUENCY	1.8kHz
RECOMMENDED HP FILTER	45Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	digital with presets
INPUT CONNECTORS	4 x euroblock - 2 x speakon NL4
NET DIMENSIONS	12.59 inch x 21.65 inch x 12.79 inch (W x H x D)
NET WEIGHT	33 lb
TRANSPORT DIMENSIONS	16.53 inch x 25.59 inch x 16.53 inch (W x H x D)
TRANSPORT WEIGHT	37,4 lb

DESCRIPTION



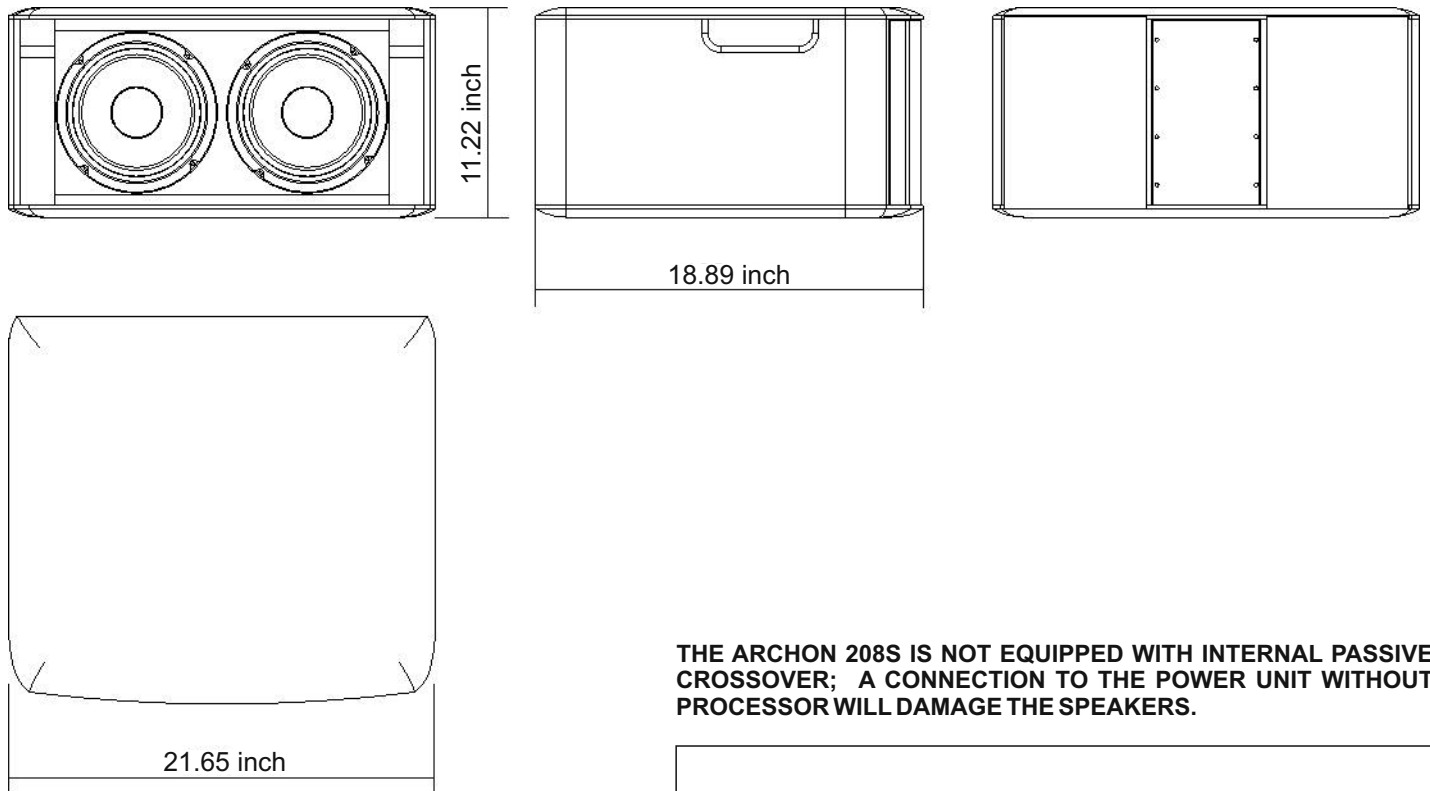
- > 2-way passive sound reinforcement system
- > 0.6" baltic birch plywood cabinet
- > B&C custom designed high excursion LF woofer
- > B&C custom designed HF compression driver
- > Full-range / Bi-amp crossover networks with protection
- > 1 x 4 Euroblock terminal speaker connector
- > 2 x Neutrik NL-4 speakon connectors
- > 12 x M10 threaded rigging points
- > 2 x metal flange threads for "U" bracket wall mount
- > Acoustically transparent steel grille and antidust protection cloth
- > Rear pocket handle
- > 35mm top hat for speaker stand
- > New FBT rotatable logo
- > Optional mounting hardware
- > 300W optional line transformer

CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	1000W RMS
SYSTEM LONG TERM POWER	500W
SYSTEM SHORT TERM POWER (IEC 268-5)	2000W
TRANSFORMER (optional)	100V / 300W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	50Hz - 18kHz (@-6dB)
LOW FREQUENCY WOOFER	12" - coil 3"
AES POWER	400W
HIGH FREQUENCY DRIVER	1.4" - coil 2.5"
AES POWER	80W
SENSITIVITY	99dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	129dB / 133dB
DISPERSION	70° x 50° (H x V)
CROSSOVER FREQUENCY	1.6kHz
RECOMMENDED HP FILTER	40Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	digital with presets
INPUT CONNECTORS	4 x euroblock - 2 x speakon NL4
NET DIMENSIONS	14.37 inch x 25.98 inch x 14.96 inch (W x H x D)
NET WEIGHT	48,5 lb
TRANSPORT DIMENSIONS	20.86 inch x 33.85 inch x 20.86 inch (W x H x D)
TRANSPORT WEIGHT	53 lb



- > 2-way passive sound reinforcement system
- > 0.6" baltic birch plywood cabinet
- > B&C custom designed high excursion LF woofer
- > B&C custom designed HF compression driver
- > Full-range / Bi-amp crossover networks with protection
- > 1 x 4 Euroblock terminal speaker connector
- > 2 x Neutrik NL-4 speakon connectors
- > 12 x M10 threaded rigging points
- > 2 x metal flange threads for "U" bracket wall mount
- > Acoustically transparent steel grille and antidust protection cloth
- > Rear pocket handle
- > 35mm top hat for speaker stand
- > New FBT rotatable logo
- > Optional mounting hardware
- > 300W optional line transformer

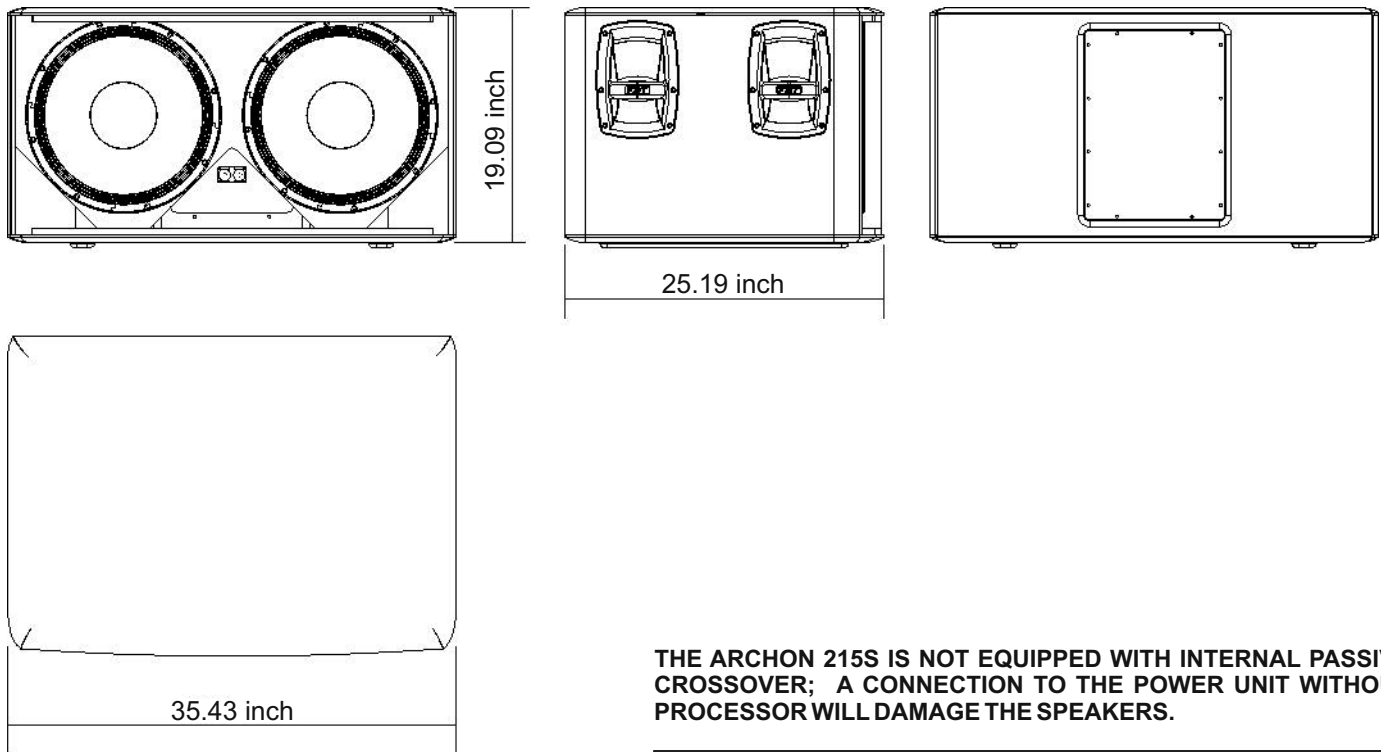
CONFIGURATION	2 way
RECOMMENDED AMPLIFIER	1000W RMS
SYSTEM LONG TERM POWER	500W
SYSTEM SHORT TERM POWER (IEC 268-5)	2000W
TRANSFORMER (optional)	100V / 300W
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	48Hz - 18kHz (@-6dB)
LOW FREQUENCY WOOFER	15" - coil 3"
AES POWER	400W
HIGH FREQUENCY DRIVER	2" - coil 2.5"
AES POWER	80W
SENSITIVITY	100dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	130dB / 134dB
DISPERSION	60° x 40° (H x V)
CROSSOVER FREQUENCY	1.3kHz
RECOMMENDED HP FILTER	35Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	digital with presets
INPUT CONNECTORS	4 x euroblock - 2 x speakon NL4
NET DIMENSIONS	17.12 inch x 29.13 inch x 16.57 inch (W x H x D)
NET WEIGHT	63,9 lb
TRANSPORT DIMENSIONS	20.86 inch x 33.85 inch x 20.86 inch (W x H x D)
TRANSPORT WEIGHT	68,3 lb



THE ARCHON 208S IS NOT EQUIPPED WITH INTERNAL PASSIVE CROSSOVER; A CONNECTION TO THE POWER UNIT WITHOUT PROCESSOR WILL DAMAGE THE SPEAKERS.

- > Passive subwoofer with bass-reflex enclosure
- > 2 x 8" custom made high excursion woofer
- > 5/8 birch plywood enclosure
- > Two pocket handles
- > 2 x Speakon NL-4 connectors

CONFIGURATION	1 way
RECOMMENDED AMPLIFIER	600W RMS
SYSTEM LONG TERM POWER	300W
SYSTEM SHORT TERM POWER (IEC 268-5)	1200W
TRANSFORMER (optional)	-----
NOMINAL IMPEDANCE	8 Ohm
FREQUENCY RESPONSE	50Hz - 500Hz (@-6dB)
LOW FREQUENCY WOOFER	2 x 8" - coil 2"
AES POWER	150W
HIGH FREQUENCY DRIVER	-----
AES POWER	-----
SENSITIVITY	95dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	129dB / 132dB half-space
DISPERSION	omnidirectional
CROSSOVER FREQUENCY	external active
RECOMMENDED HP FILTER	40Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	digital with presets
INPUT CONNECTORS	2 x speakon NL4
NET DIMENSIONS	21.65 inch x 11.22 inch x 18.89 inch (W x H x D)
NET WEIGHT	39,6 lb
TRANSPORT DIMENSIONS	27.16 inch x 14.56 inch x 24.60 inch (W x H x D)
TRANSPORT WEIGHT	44 lb



THE ARCHON 215S IS NOT EQUIPPED WITH INTERNAL PASSIVE CROSSOVER; A CONNECTION TO THE POWER UNIT WITHOUT PROCESSOR WILL DAMAGE THE SPEAKERS.

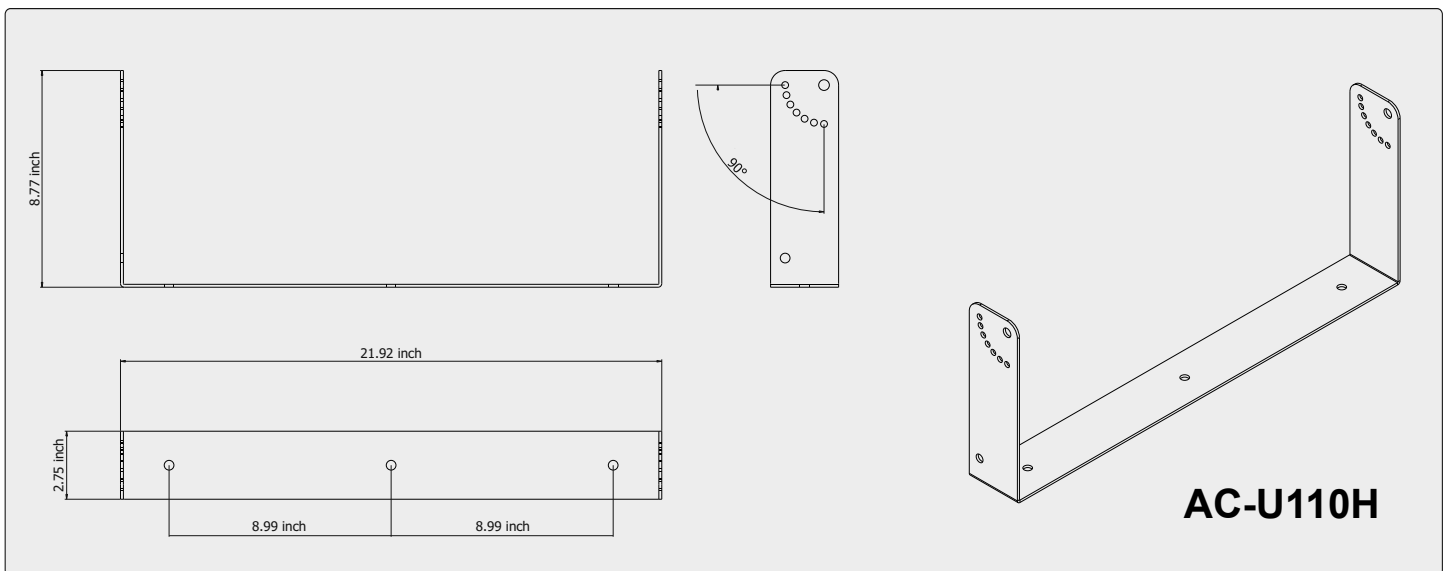
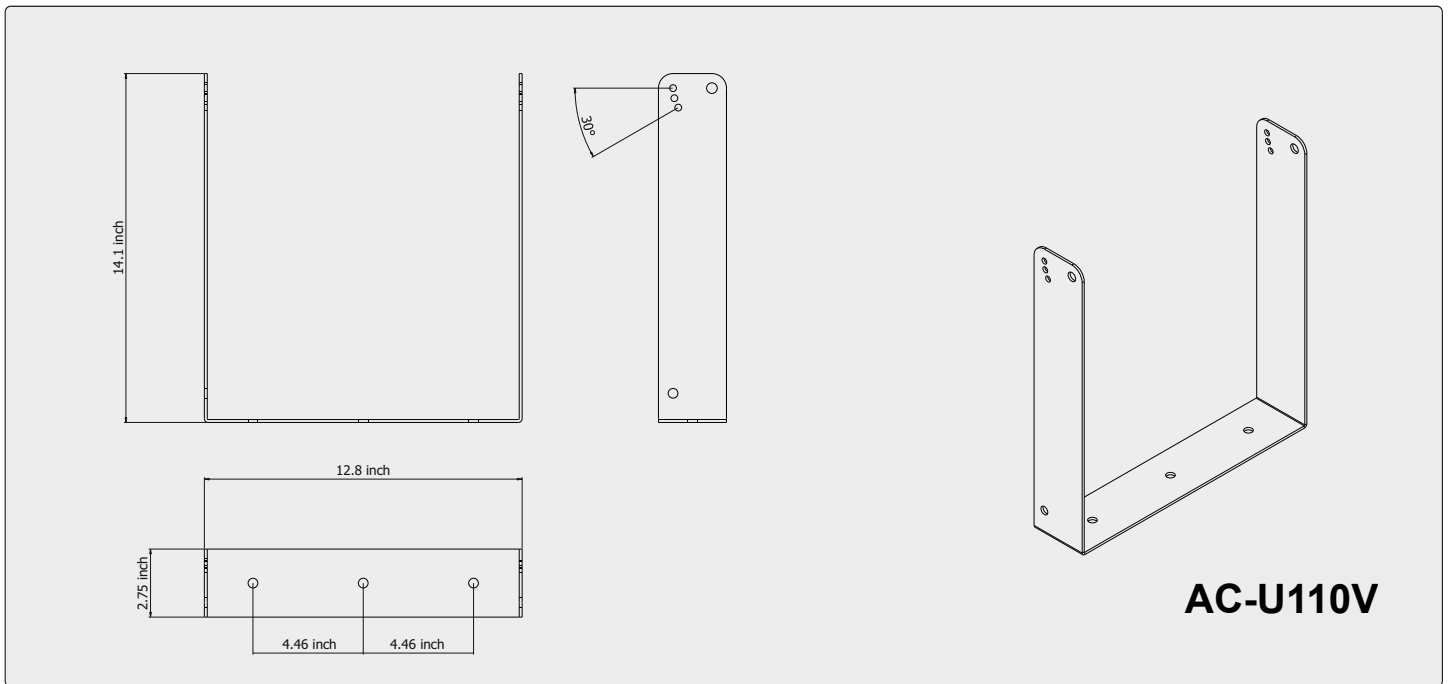
- > Passive subwoofer with bass-reflex enclosure
- > 2 x 15" custom made high excursion woofer
- > 3/4 birch plywood enclosure
- > Four FBT design aluminum handles
- > 2 x Speakon NL-4 connectors

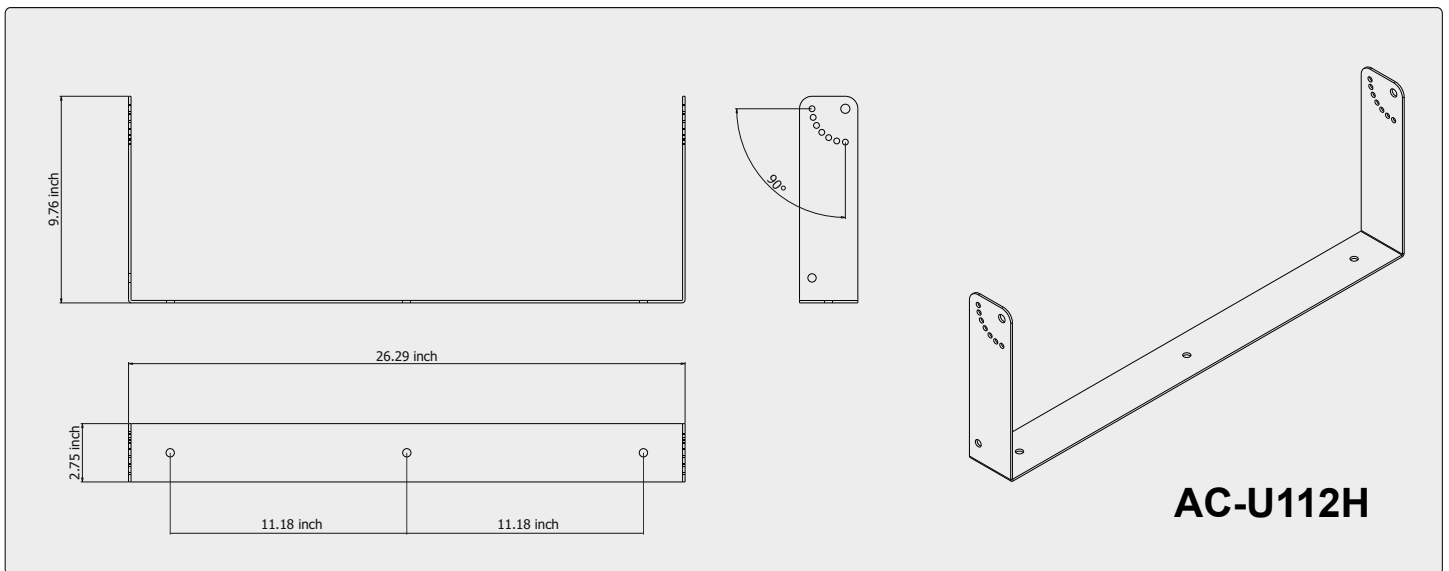
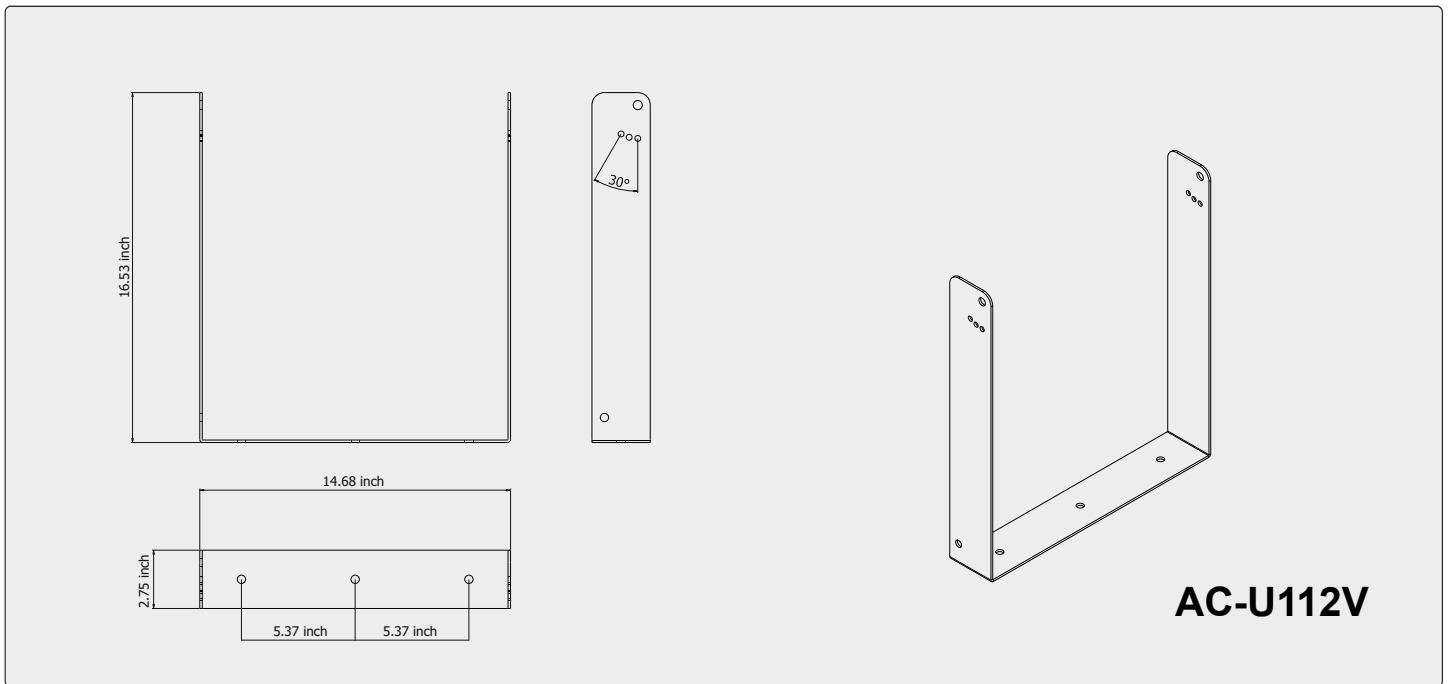
CONFIGURATION	1 way
RECOMMENDED AMPLIFIER	2000W RMS
SYSTEM LONG TERM POWER	1000W
SYSTEM SHORT TERM POWER (IEC 268-5)	4000W
TRANSFORMER (optional)	-----
NOMINAL IMPEDANCE	4 Ohm
FREQUENCY RESPONSE	35Hz - 500Hz (@-6dB)
LOW FREQUENCY WOOFER	2 x 15" - coil 3"
AES POWER	500W
HIGH FREQUENCY DRIVER	-----
AES POWER	-----
SENSITIVITY	101dB (@1W, 1m)
MAXIMUM SPL (cont / peak) (bi-amp)	139dB / 142dB half-space
DISPERSION	omnidirectional
CROSSOVER FREQUENCY	external active
RECOMMENDED HP FILTER	28Hz - 24dB oct
RECOMMENDED EXTERNAL FILTER	digital with presets
INPUT CONNECTORS	2 x speakon NL4
NET DIMENSIONS	35.43 inch x 19.09 inch x 25.19 inch (W x H x D)
NET WEIGHT	110,2 lb
TRANSPORT DIMENSIONS	39.4 inch x 20.8 inch x 31.5 inch (W x H x D)
TRANSPORT WEIGHT	132,3 lb

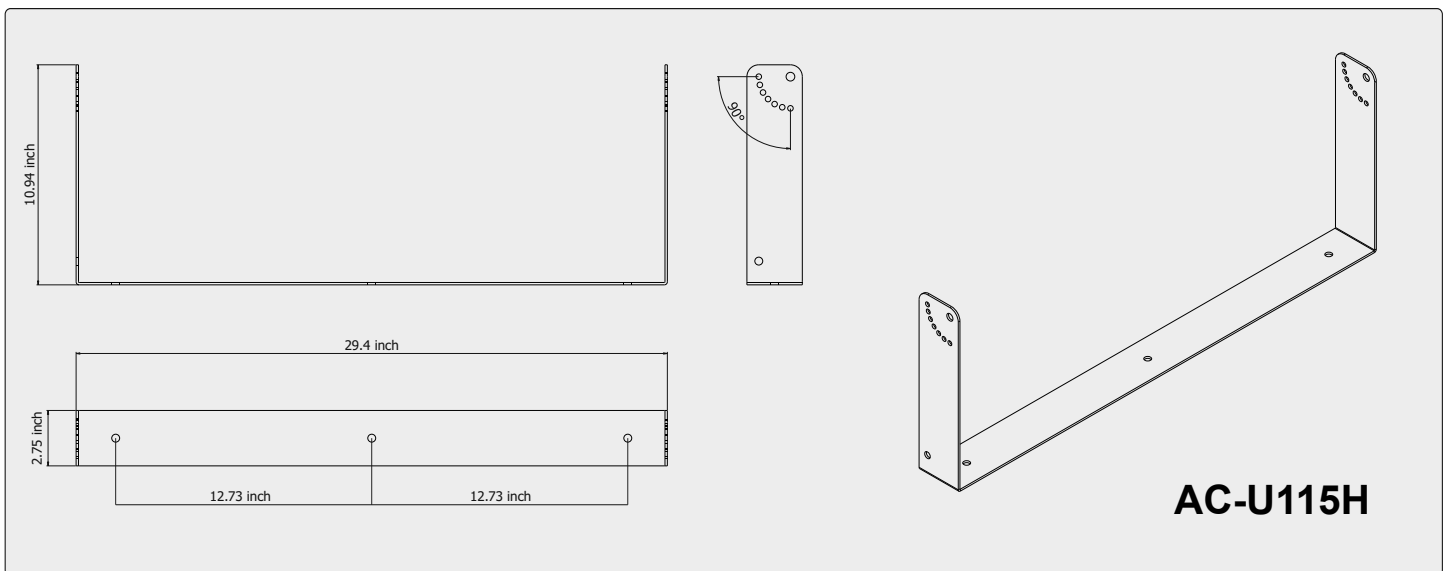
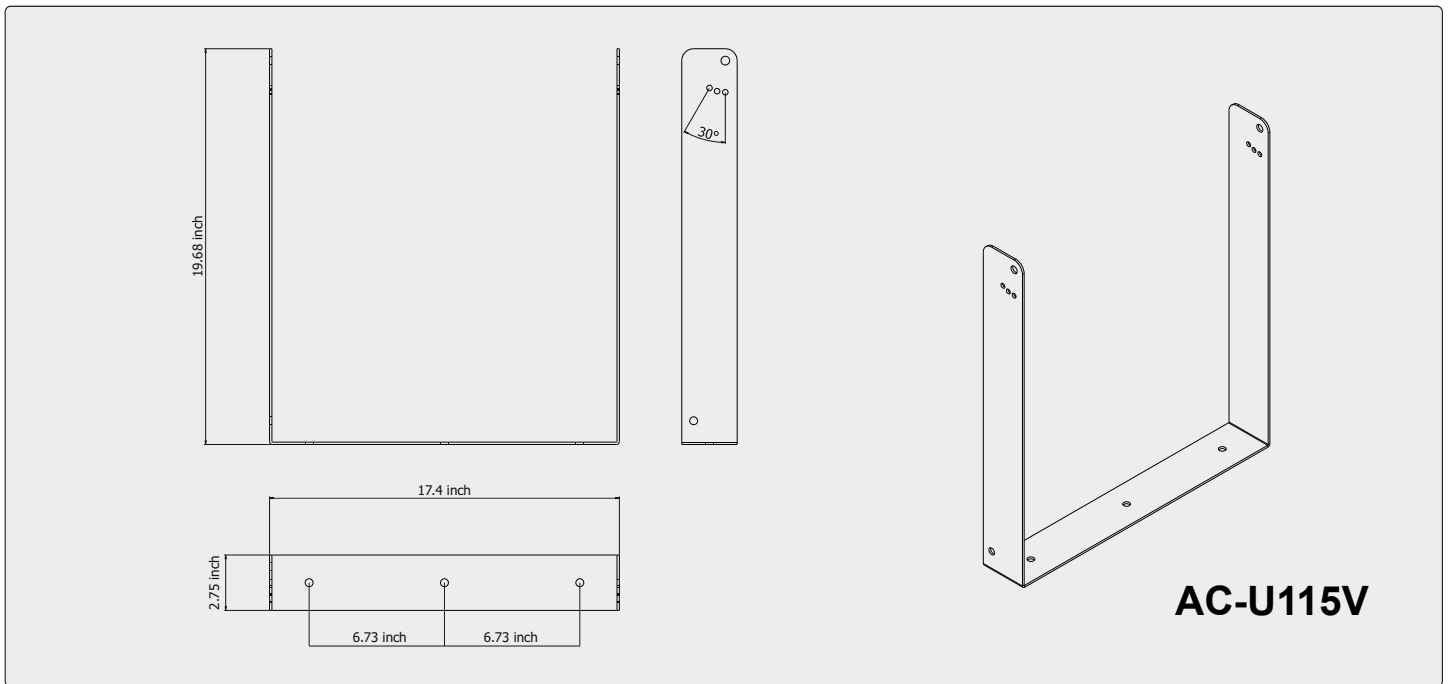
- ARCHON speakers can be installed as follow:
- > Suspension by wall bracket (110 / 112 / 115 / 208S)
 - > Installation on tripod stand (110 / 112 / 115)
 - > Installation with adjustable wall support (105 / 106 / 108)
 - > Simple stack installation (208S / 215S)

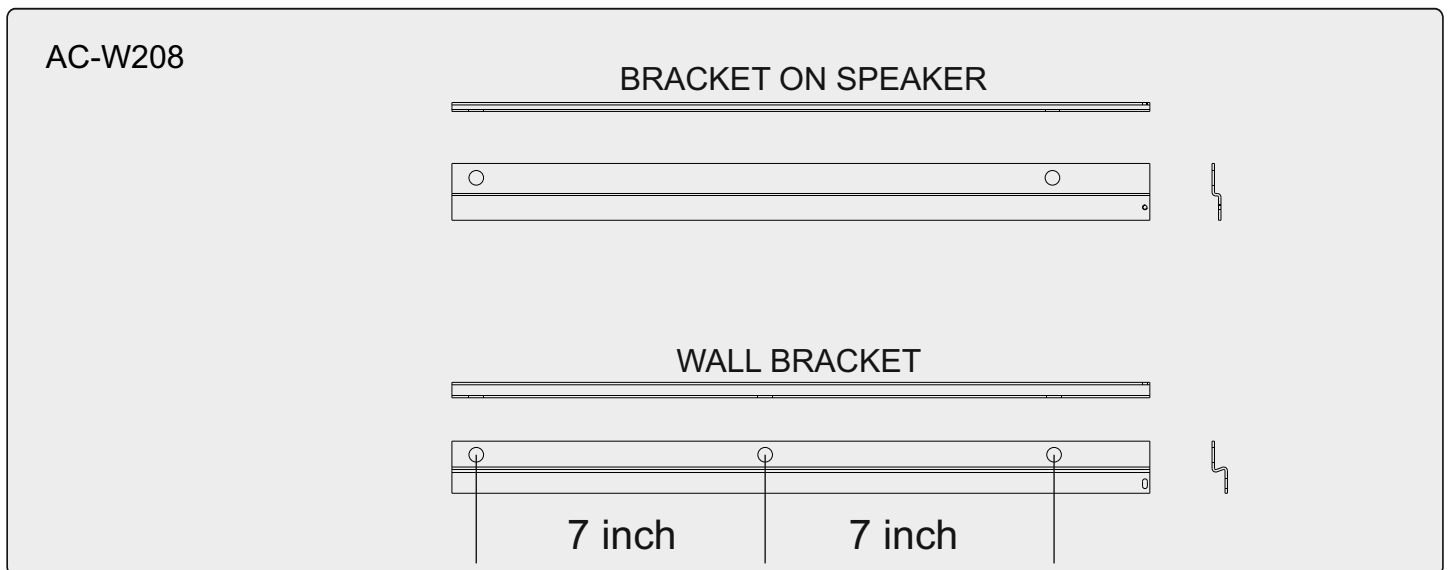
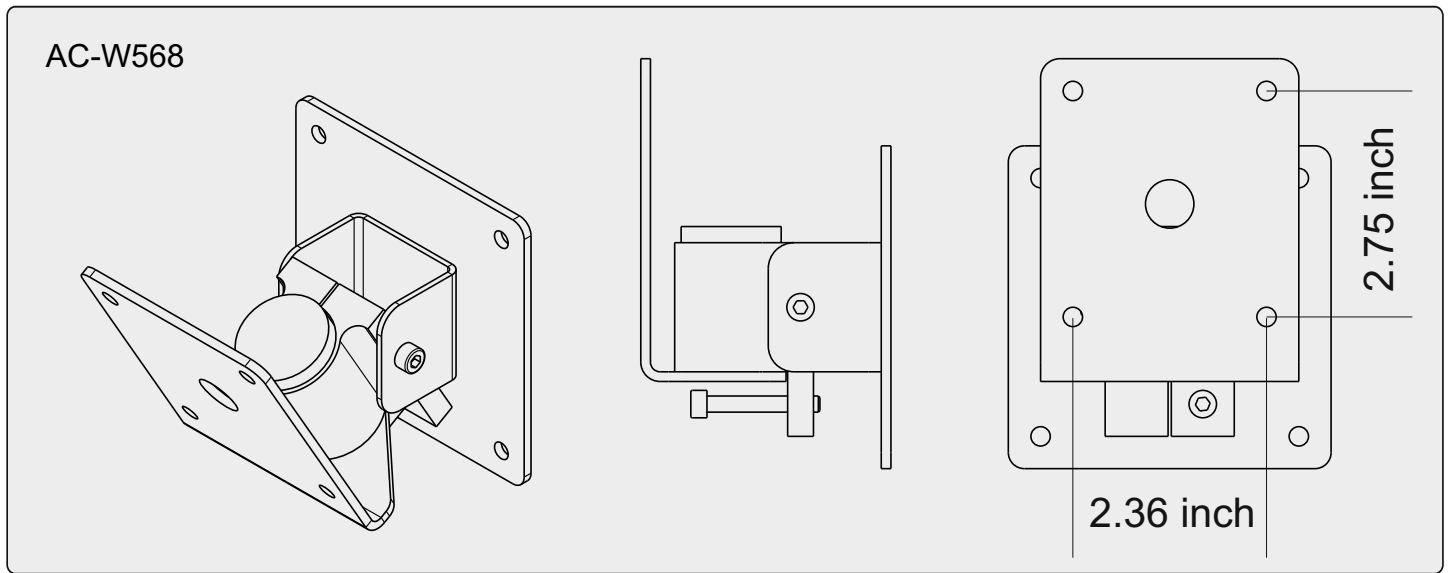
The ARCHON speakers use only with FBT mount for wall installation.

USE WITH OTHER MOUNTS IS CAPABLE OF RESULTING IN INSTABILITY CAUSING POSSIBLE INJURY.









ARCHON sound speakers must be installed using the flying accessories described in this manual and following the special assembly instructions by qualified staff only, strictly complying with the current regulations and safety standards in force in the country of installation.

FBT flying accessories are manufactured for their exclusive use with ARCHON systems and have not been designed for being used with any other speaker or device.

Any possible elements of the ceiling, floor or further supports where ARCHON systems are to be installed shall be able to safely bear the load.

The flying accessories in use are to be coupled and secured safely to both the sound speaker and the ceiling (or the other support).

When components are fitted to ceilings, floors or beams, always make sure that all couplers and fixing elements are properly sized and have an adequate load capacity.

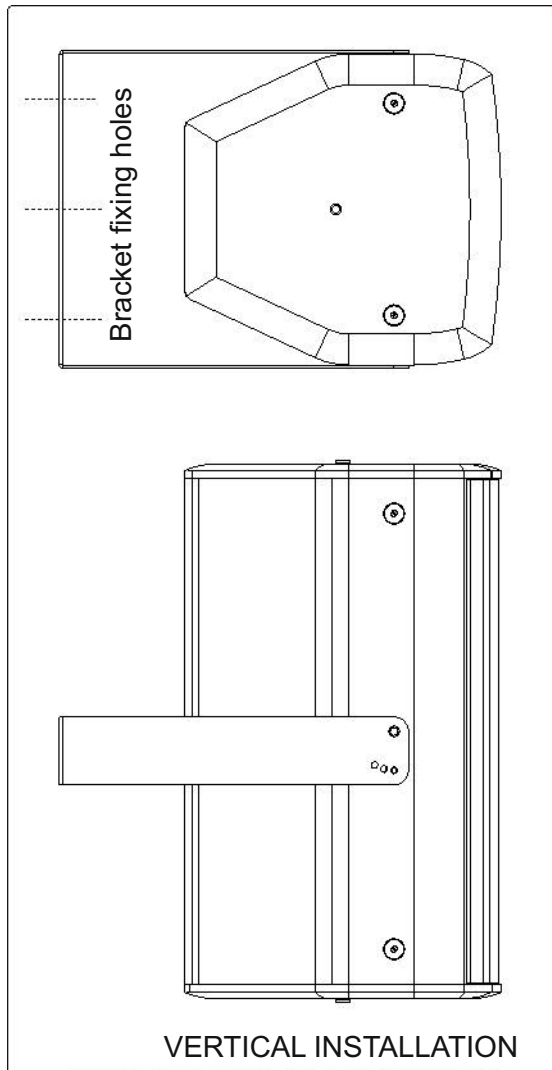
Besides the main suspension system, all flying speakers in theatres, indoor stadiums or in several other work and/or leisure facilities shall be provided with an additional independent safety system with the adequate load capacity. Only steel cables and chains with certified load capacity can be used as an additional safety device.



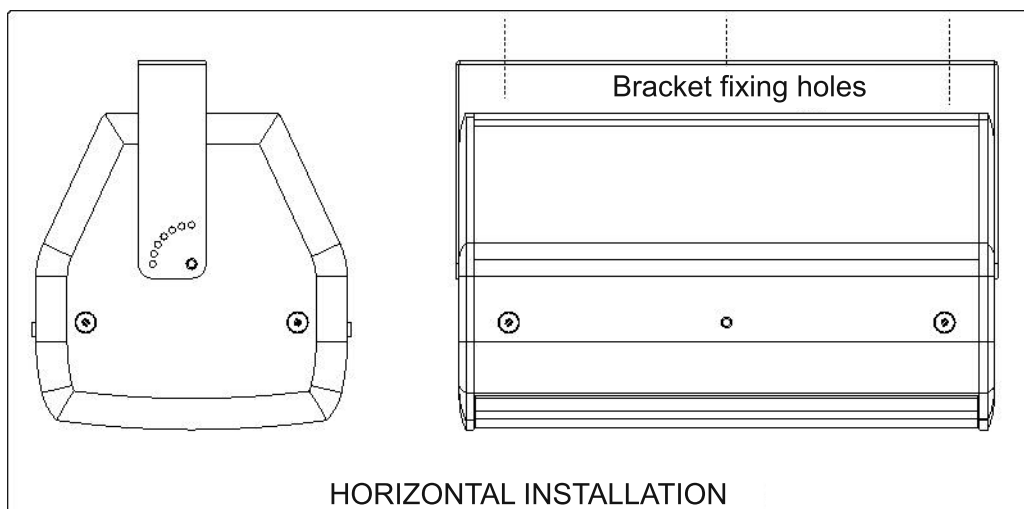
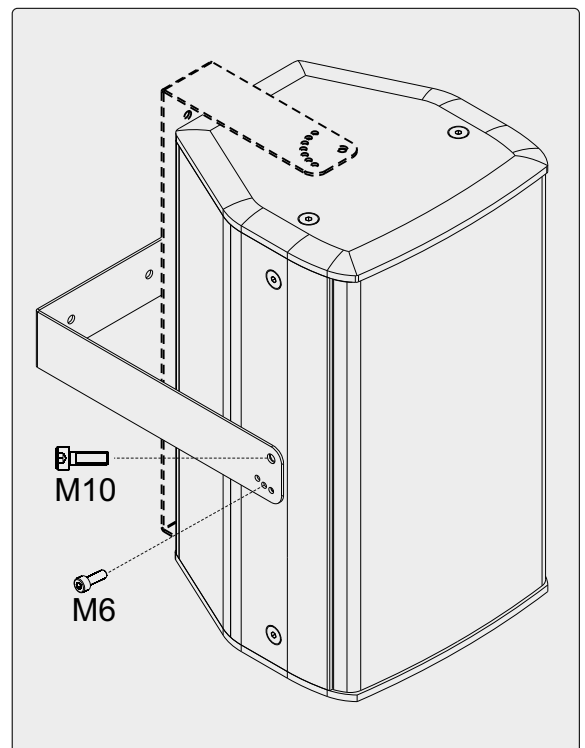
- > Hang ARCHON speakers using only original accessories
- > When choosing the place of installation, the suspension cable and the mounting supports make sure they are able to bear speaker and flying accessories weight with the proper safety factor
- > As for fixed installations, always schedule and carry out special inspections on a regular basis in order to check all the parts that have to guarantee system safety over time
- > Do not hang the system by the handles: handles have been designed for speaker transport, and are not suitable for its suspension
- > Never lean on/hang from the flying speaker

FBT Elettronica SpA will not be held liable for damage or injuries caused by supports or structures which are not sufficiently sturdy or by incorrect installation.

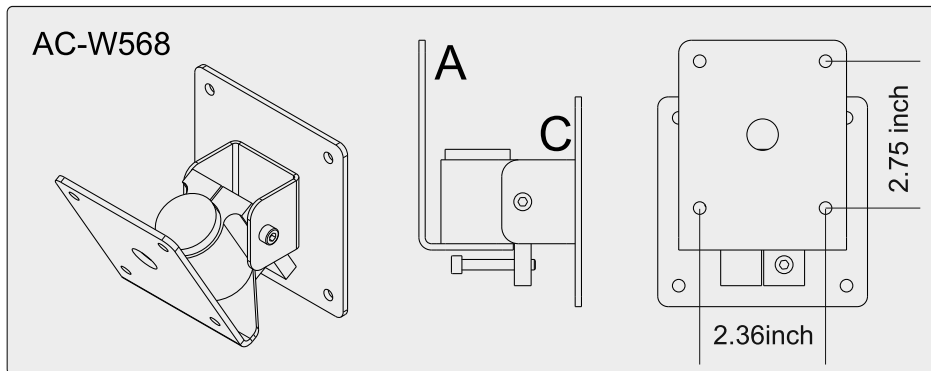
SUSPENSION BY WALL BRACKET



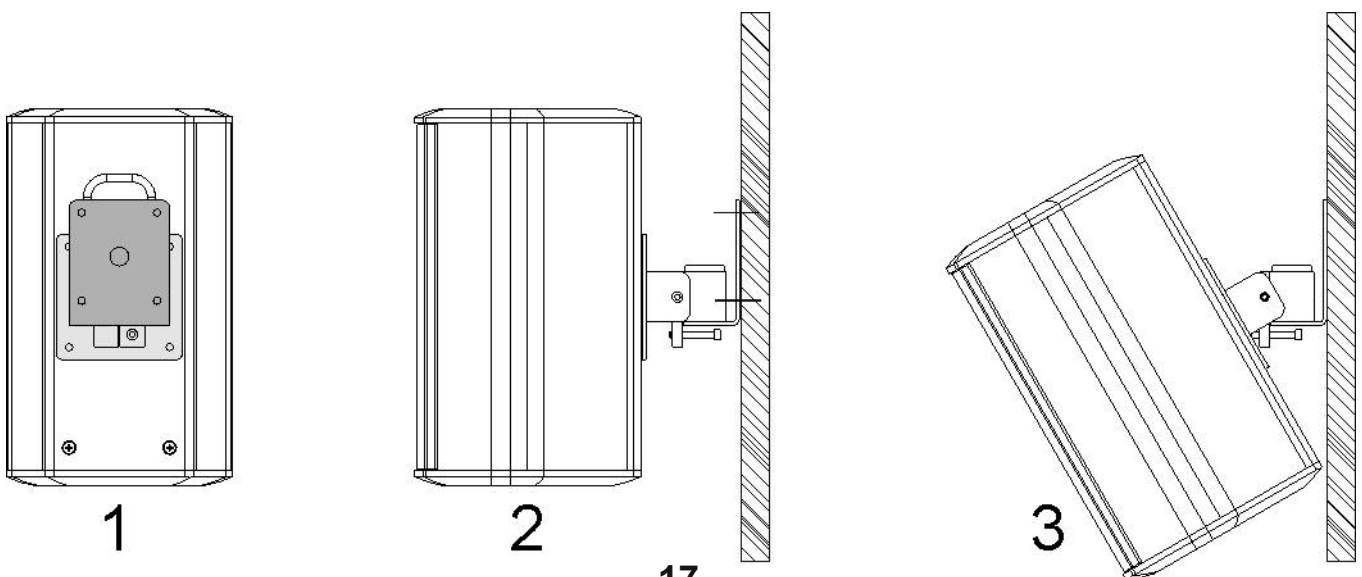
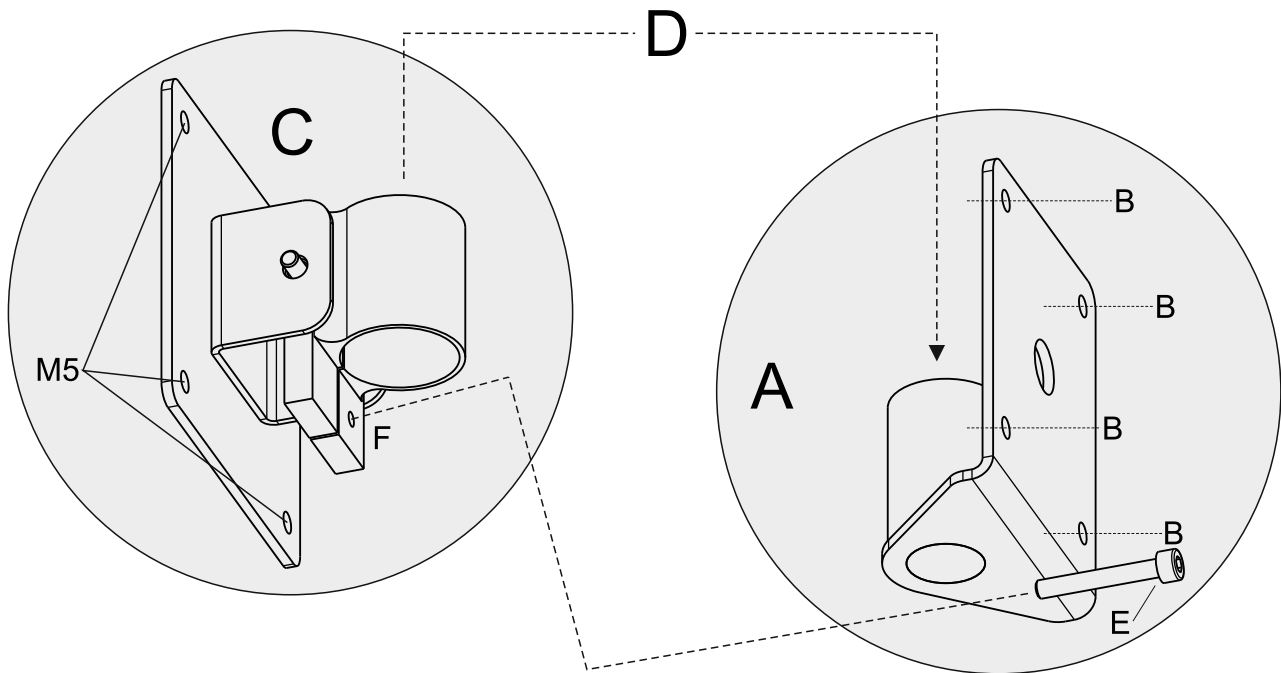
- > Carefully choose the area to install the speakers and make sure the structure is adequate to support the weight of the box.
- > Fasten the bracket to the wall with the appropriate screws using all its fixing holes.
- > Position the speaker between the two bracket arms and fasten it with the two bolts M10.
- > Turn the speaker the way you want and secure it with the specific pins M6.



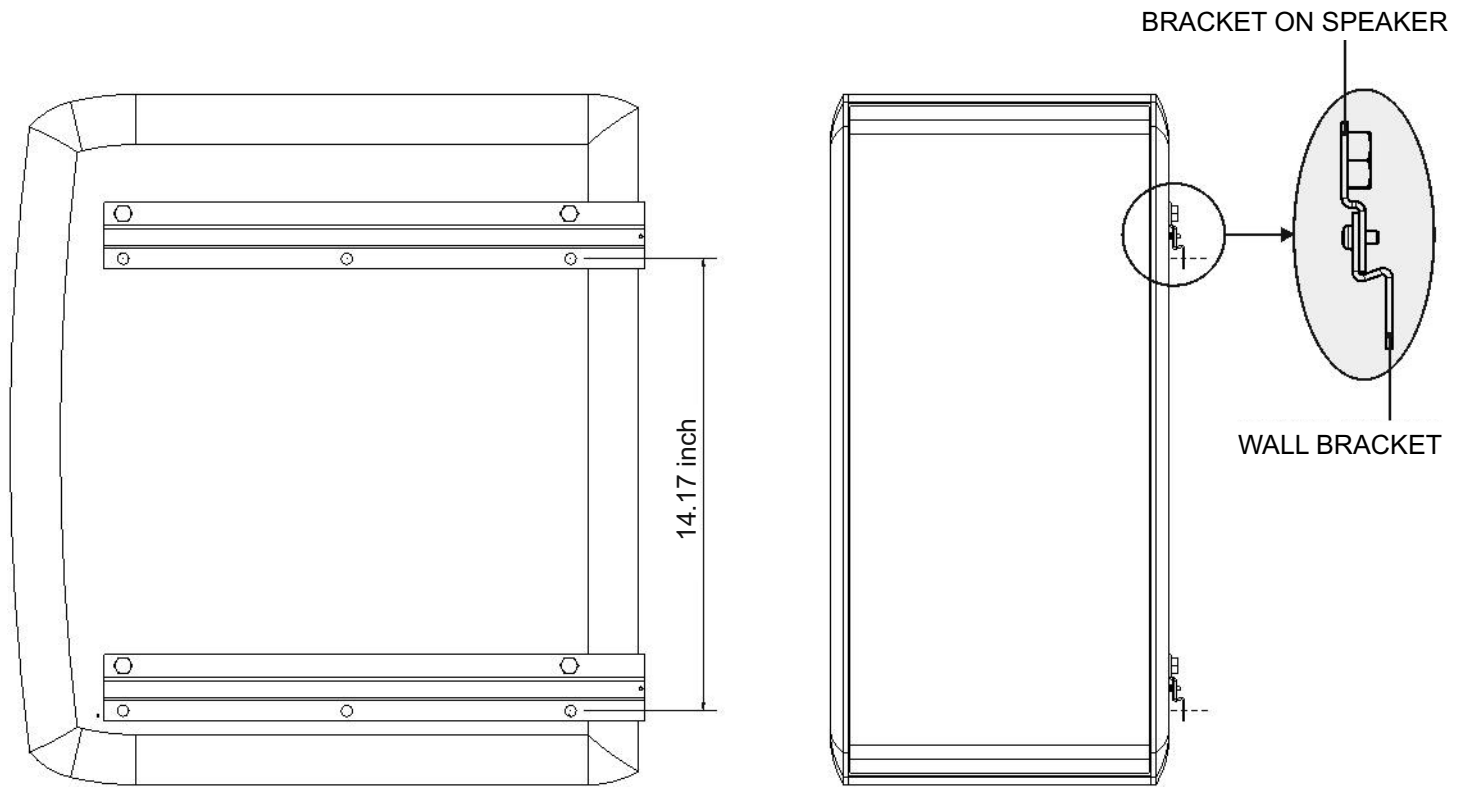
INSTALLATION THROUGH SWINGING WALL SUPPORT



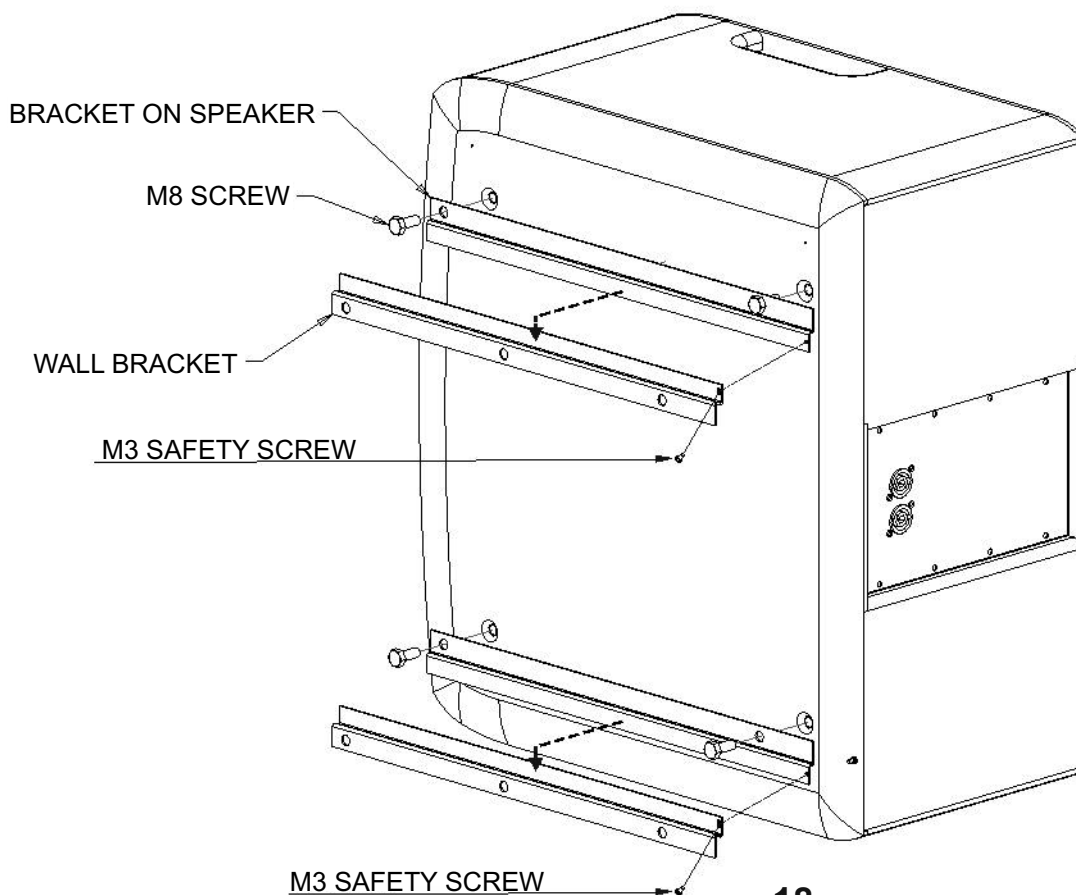
- > Carefully choose the area where speakers will be installed, making sure that the structure can support cabinet's weight.
- > Secure the wall section of the support (A) by using suitable plugs in all its fixing holes (B).
- > Fix the other section of the support (C) to the rear of the speaker using the 4 M5 screws provided.
- > Lock the speaker to the wall support (D)
- > Insert the screw (E) in the relevant hole(F) so to place the speaker to the desired angle and for further safety.



SUSPENDED SUBWOOFER INSTALLATION

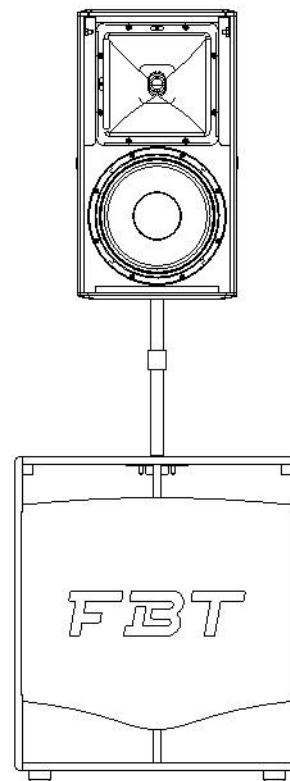
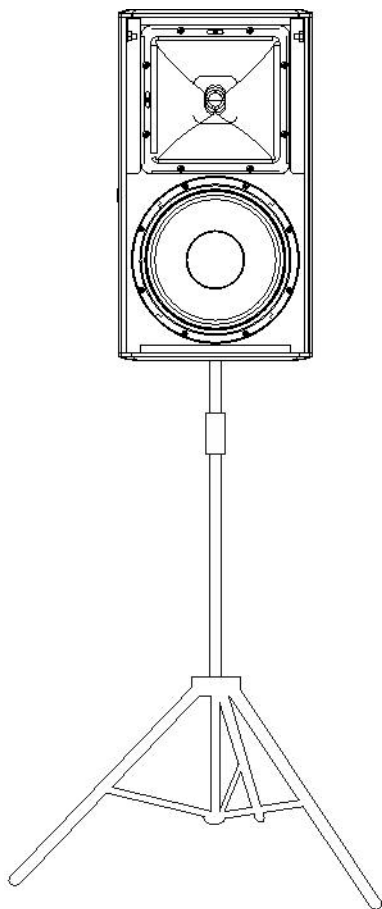


- > Carefully choose the area where speakers will be installed, making sure that the structure can support cabinet's weight.
- > Remove the 4 speaker's feet and fix the two brackets using the 4 M8 screws provided.
- > Secure the 2 brackets to the wall using all the fixing holes available.
- > Lock the two speaker's brackets to the two wall brackets and tighten the M3 safety screw.



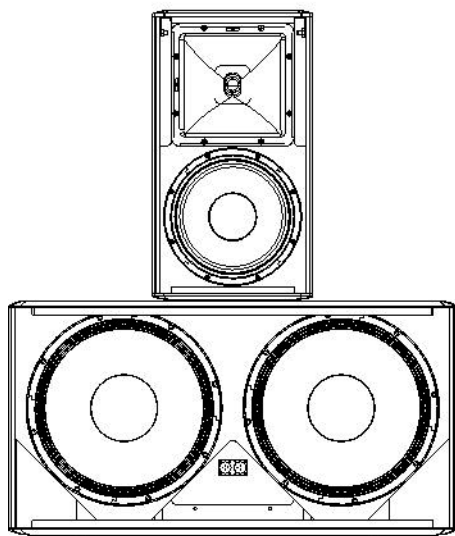
INSTALLATION ON TRIPOD STAND

- > Make sure that the stand can bear speaker's weight
- > Place the stand on a flat and antislip surface
- > Widen stand base as much as possible to increase its stability



STACK INSTALLATION

Subwoofer on the ground and the relevant satellite on it.





ATTENTION

- > Seek qualified personnel to connect the speaker.
- > Do not connect the speaker with the amplifier on to avoid the risk of electrical shock.
- > Check all connections several times before switching the system on, making sure there are no short-circuits.
- < Implement the system in compliance with standards in force concerning electric installations.
- > If the speaker is installed outdoors, therefore with an IP55 protective degree, wiring must be done inside watertight protective boxes.
- > Use cables with conductors having an appropriate cross-section considering their length and the power of the speakers.
- > To prevent humming or disturbances which could cause the system to malfunction, do not channel electric lines together with the speaker cables.
- > **DO NOT CONNECT LOW IMPEDANCE SPEAKER INPUTS (e.g. 8 Ohm) TO A CONSTANT 100V VOLTAGE LINE.**

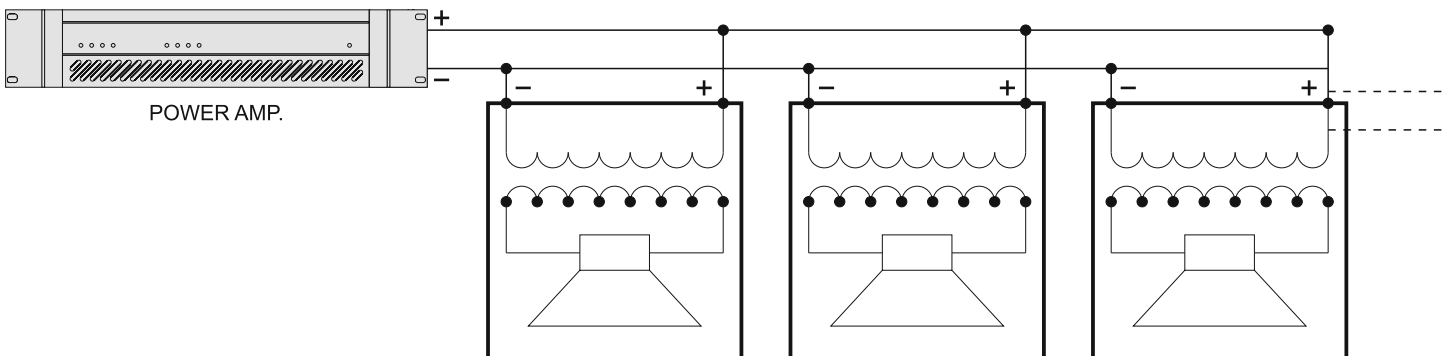
CONSTANT VOLTAGE SPEAKER SYSTEMS

This connection system entails each speaker being equipped with its own line transformer. The amplifier must be supplied with 100V or 70V constant voltage outputs.

The loudspeakers, connected in parallel to the amplifier output, will make it easy to amplify the system deriving from any of the speakers installed previously, if necessary; in the same manner loudspeakers which are no longer necessary can be eliminated.

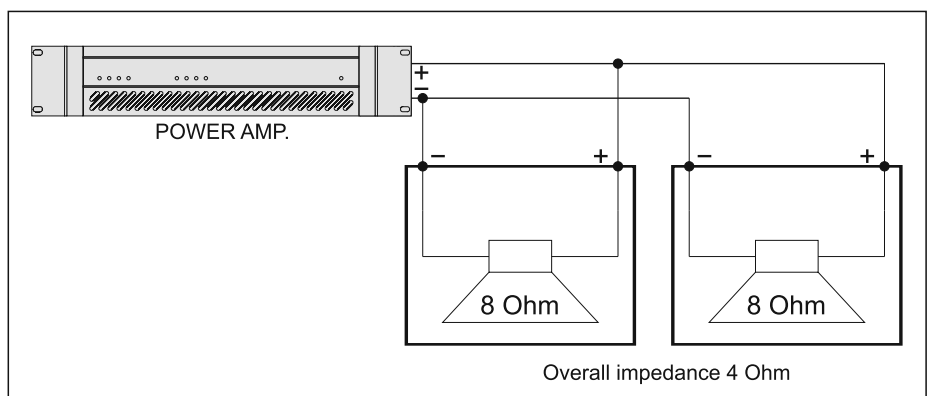
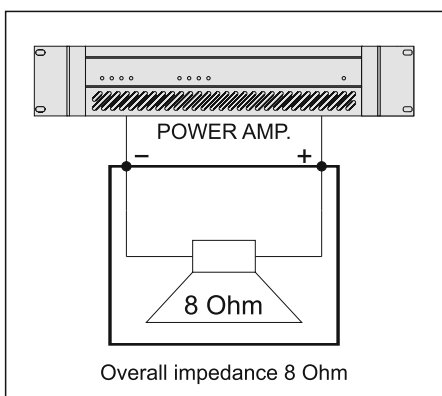
In the connections, the "phase" both of the individual speaker to its transformer and the in-parallel connection of speakers must be respected.

The input voltage of the speaker must correspond to the output voltage of the amplifier; the sum total of the rated power outputs of all the speakers connected to the line must not exceed that of the amplifier.



CONSTANT IMPEDANCE SPEAKER SYSTEMS

Constant impedance outputs are generally used for lines with a reduced number of speakers of a certain power output placed at a short distance from the amplifier. Connection between speakers is a mixture between in series/parallel, in order to re-conduct the overall impedance of the loudspeakers to a value which is not critical for the amplifier. Constant impedance connections require that the total impedance of the speakers in the same or greater than that of the amplifier. The sum total of speaker power outputs must be appropriate to the maximum power output of the amplifier.



The ARCHON series 105 / 106 / 108 models can be setup in constant impedance or constant voltage mode thanks to an optional line transformer.

CONSTANT VOLTAGE LINE

Connect a conductor from the speaker terminal marked with “COM” to the 100V line in the amplifier terminal marked with “-“, “0“, “COM”.

Connect the other conductor, choosing between “HI” and “LO” depending on the desired power, to the 100V line in the amplifier terminal marked with “100V“, “+”.



ARCHON 105	COM	HI	50W
	COM	LO	25W

ARCHON 106	COM	HI	100W
	COM	LO	50W

ARCHON 108	COM	HI	100W
	COM	LO	50W

CONSTANT IMPEDANCE CONNECTION

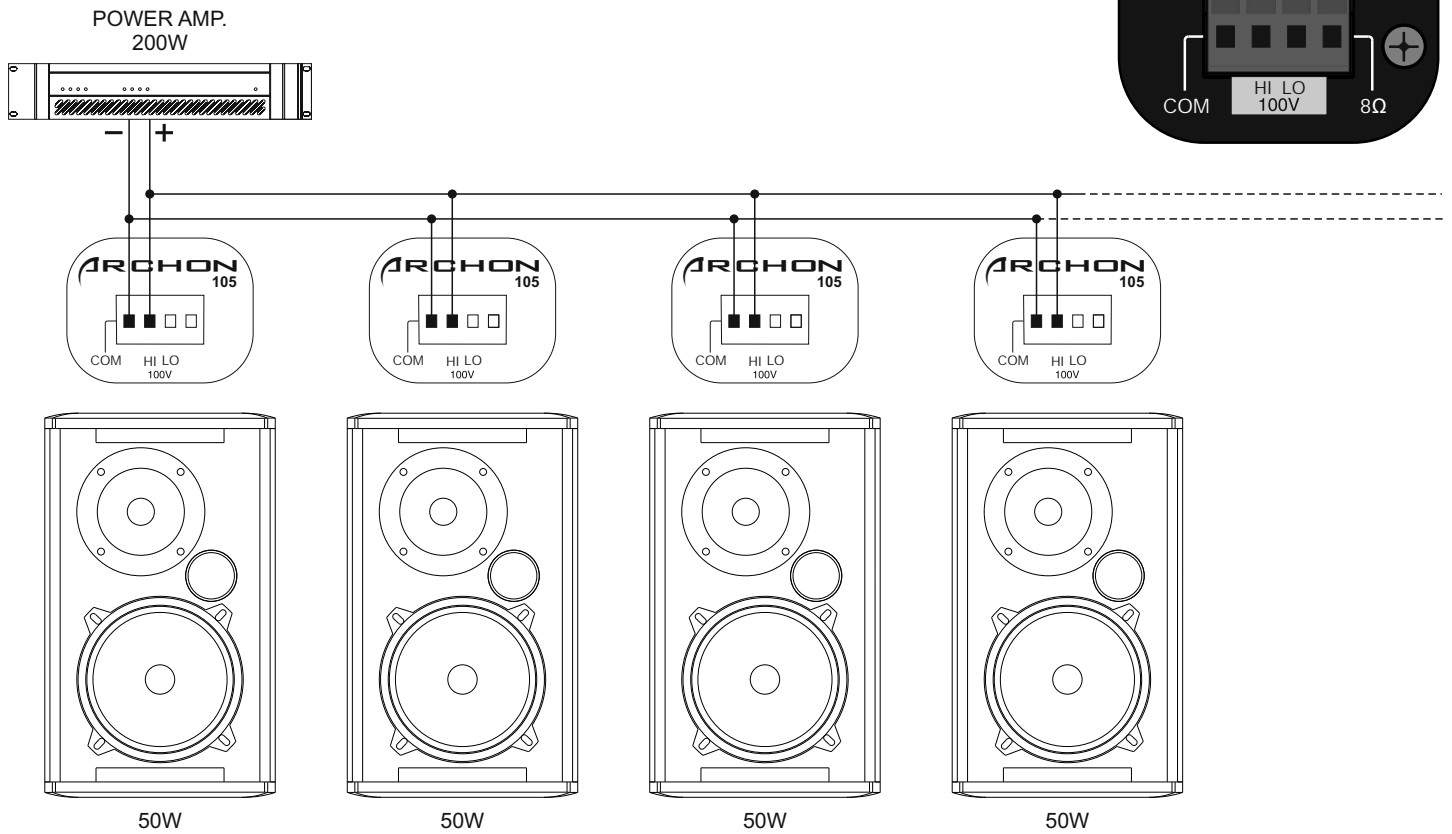
NOT ALLOWED on 100V lines.

Connect a conductor from the speaker terminal marked with “COM” to the amplifier terminal marked with “-”.

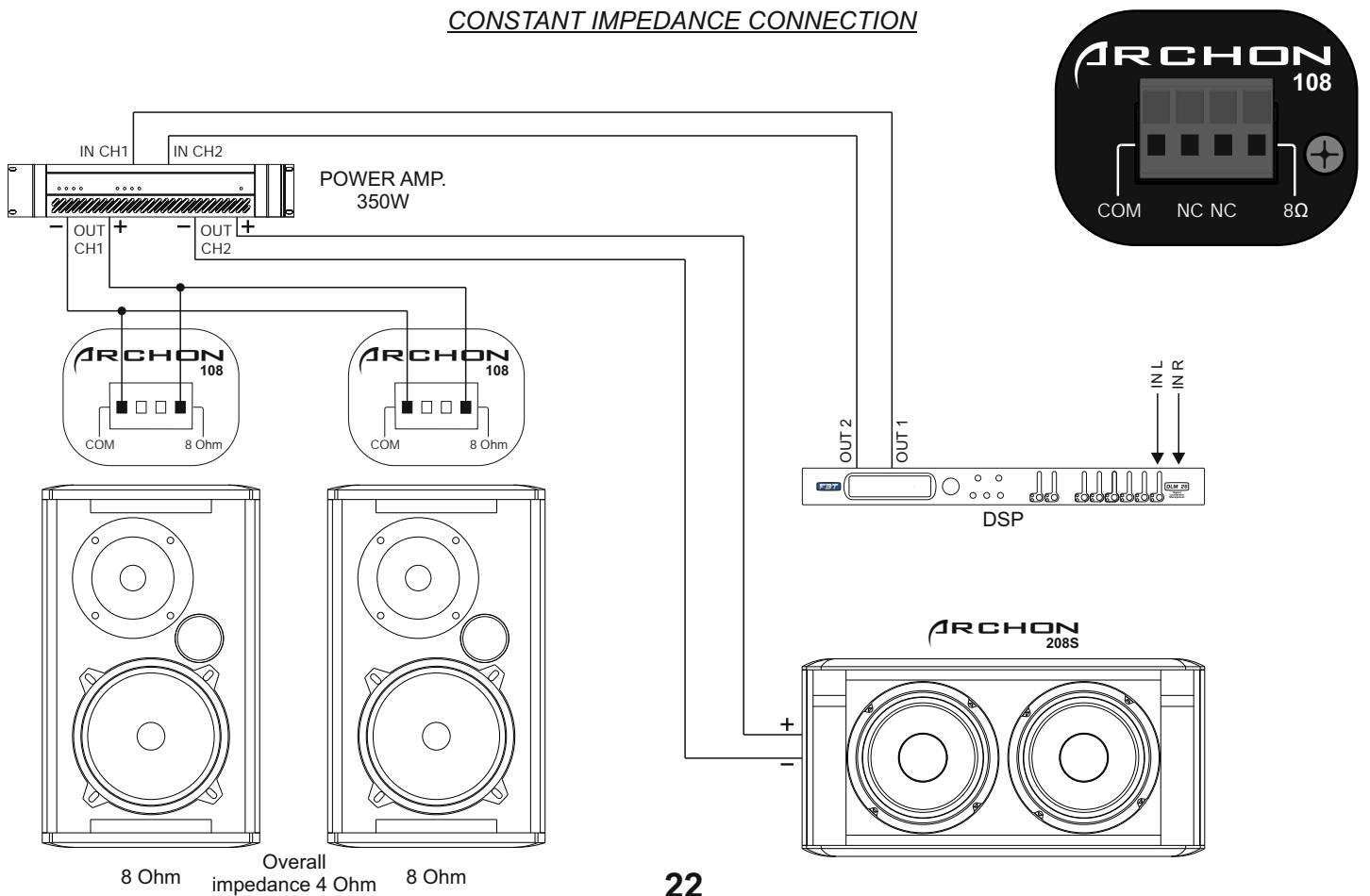
Connect a conductor from the speaker terminal marked with “8 Ohm” to the amplifier terminal marked with “+”.

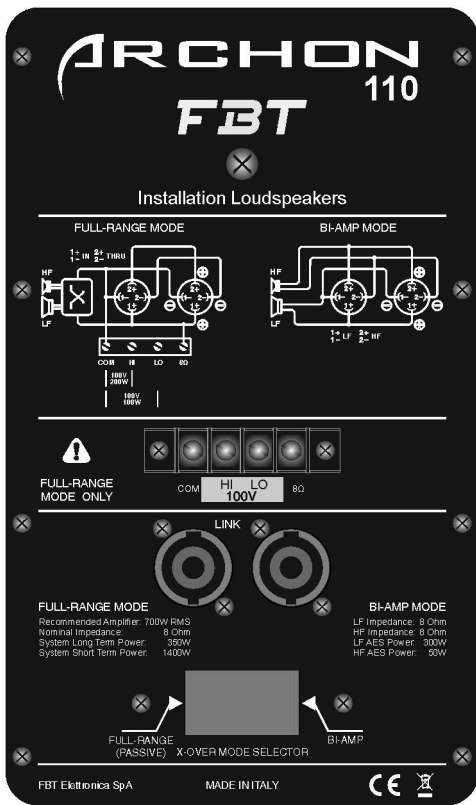


CONSTANT VOLTAGE LINE



CONSTANT IMPEDANCE CONNECTION





The ARCHON series 110 / 112 / 115 models can be setup in FULL-RANGE or BI-AMP mode.

For work mode selection refer to page 51.

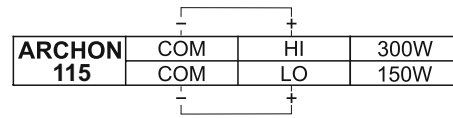
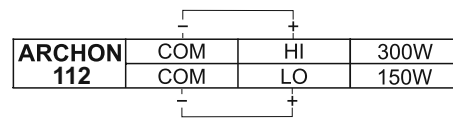
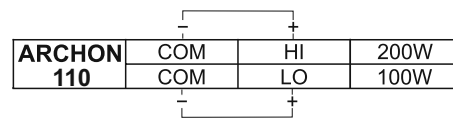
The FULL-RANGE mode allows connection through Speakon connectors (1+ / 1-) or terminal board with constant impedance (8Ohm) and 100V voltage.

BI-AMP mode only allows to use Speakon connectors (1+ / 1- LF) (2+ / 2- HF)

CONSTANT VOLTAGE LINE

Connect a conductor from the speaker terminal marked with "COM" to the 100V line in the amplifier terminal marked with "-", "0", "COM".

Connect the other conductor, choosing between "HI" and "LO" depending on the desired power, to the 100V line in the amplifier terminal marked with "100V", "+".

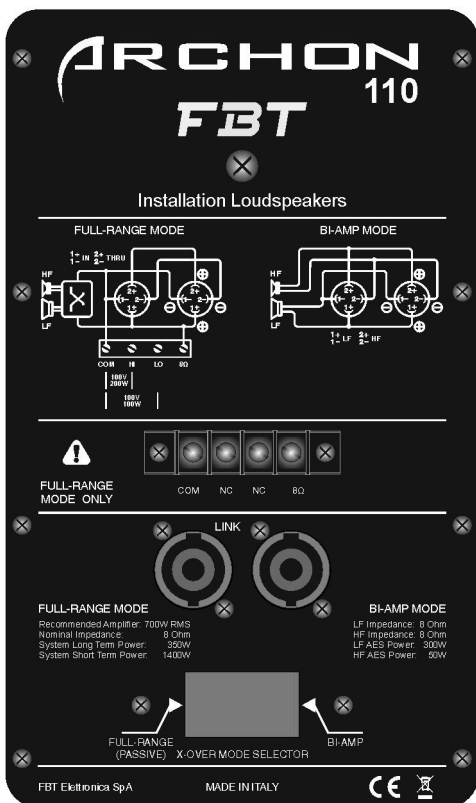


CONSTANT IMPEDANCE CONNECTION

NOT ALLOWED on 100V lines.

Connect a conductor from the speaker terminal marked with "COM" to the amplifier terminal marked with "-".

Connect a conductor from the speaker terminal marked with "8 Ohm" to the amplifier terminal marked with "+".



Speakon connectors are connected in parallel mode. One connector can be used to connect the box to the output of a power amplifier, the other to connect to a second box.

Loudspeaker cables shall have the adequate diameter, depending on the overall length of the connection. The resistance introduced by an inadequate wiring towards the loudspeakers would reduce both the power output and the damping factor of the loudspeaker.

ARCHON 110 / 112 / 115 loudspeakers are equipped with a crossover operating mode selector (X-OVER MODE SELECTOR). The crossover models are either FULL-RANGE or BI-AMP. In FULL-RANGE mode the loudspeaker is driven by a single amplifier and the internal crossover splits the audio frequency spectrum into two bands, feeding lower frequencies to the woofer and higher frequencies to the HF unit.

Using BI-AMP mode makes it possible to obtain the maximum performance from the drivers by using two amplifiers, one for the woofer and one for the HF unit. In this case the internal crossover is inhibited so that all filtration and, if necessary, equalisation of the drivers must be performed externally.

WARNING: the drivers are not protected in this mode so, to avoid the risk of damaging the drivers, it is essential to comply with the prescription concerning maximum power, cut-off frequencies and the slopes of the external electronic filter.

To obtain the maximum performance in BI-AMP mode we recommend using a speaker system digital processor with appropriate settings for the crossover, limiter, equalizer and delay to achieve temporal alignment between woofer and HF unit.

* 2 hours, pink noise with crest factor 2, applied RMS voltage corresponding to the power on the minimum of the module of the impedance of the speaker in full range mode, or of the driver in bi-amp mode.

Modello		FULL-RANGE	BI-AMP (LF)	BI-AMP (HF)
ARCHON 110	* Power →	350W 8 Ohm	300W 8 Ohm	50W 8 Ohm
	X-over freq. 24dB oct. →	-----	HPF 45Hz - LPF 1.8kHz	HPF 1.8kHz
ARCHON 112	* Power →	500W 8 Ohm	400W 8 Ohm	80W 8 Ohm
	X-over freq. 24dB oct. →	-----	HPF 40Hz - LPF 1.6kHz	HPF 1.6kHz
ARCHON 115	* Power →	500W 8 Ohm	400W 8 Ohm	80W 8 Ohm
	X-over freq. 24dB oct. →	-----	HPF 35Hz - LPF 1.3kHz	HPF 1.3kHz

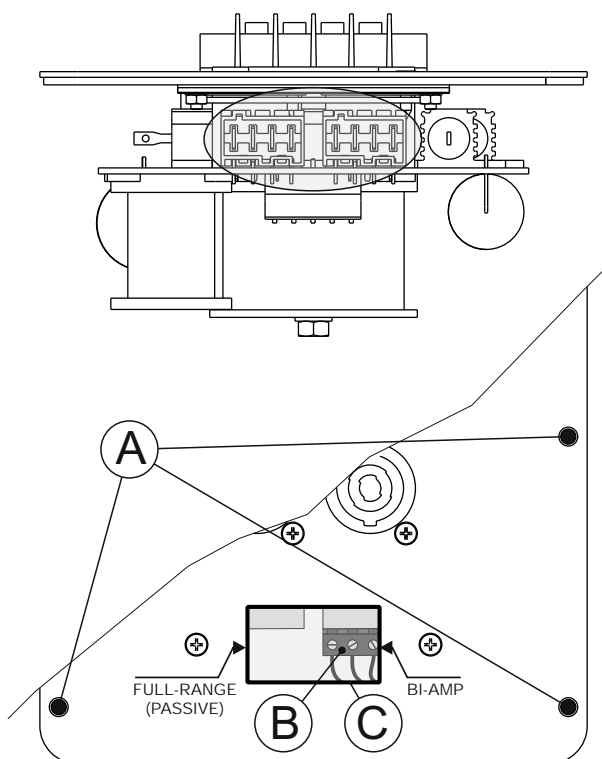
The table shows the power outputs, measured in accordance with the AES standard, that are acceptable by the loudspeaker in FULL-RANGE mode or by the individual drivers in BI-AMP mode.

All the drivers are tested with a crest factor of 2; to obtain this value, equalling a 6dB dynamics between average and peak value, an amplifier with twice the RMS power indicated in the table shall be used. The amplifier recommended by FBT permits obtaining at least a 6dB dynamics in high SPL applications to keep a high sound quality.

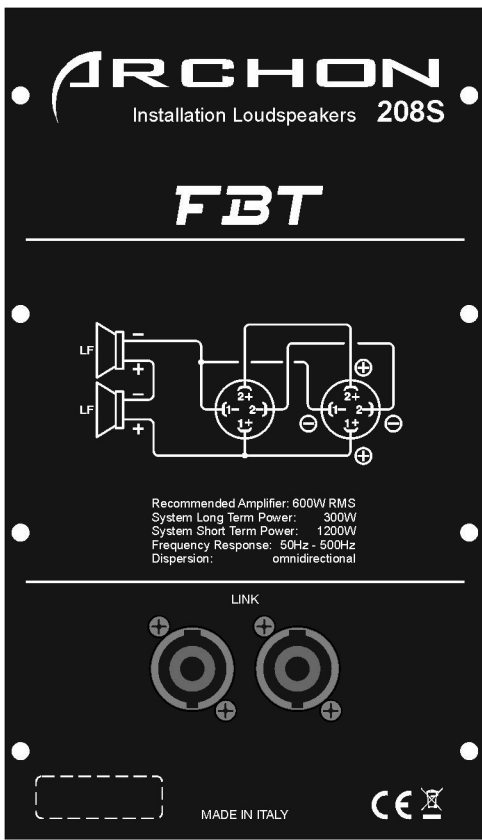
WARNING: the recommended amplifier makes it possible to exploit the full dynamic potential of the loudspeakers to obtain the maximum sound quality and SPL, **but it does not guarantee the protection of the speakers in any condition of use**; in the case of a highly compressed music program or if the amplifier is driven to clipping levels the drivers may be damaged due to overheating or excessive cone excursion.

For music programs with reduced dynamics and pronounced distortion it is advisable to use an amplifier with an RMS output that is equal to or lower than the value given in the table to avoid exceeding the heat dissipation capacity of the drivers. In any event, driving the amplifier in clipping mode results in a substantial rise in the power supplied to the HF unit, which may therefore be damaged despite tripping of the protection in the internal crossover in FULL-RANGE mode.

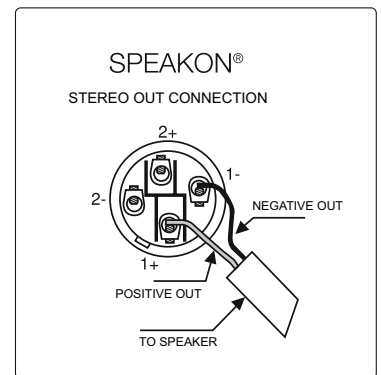
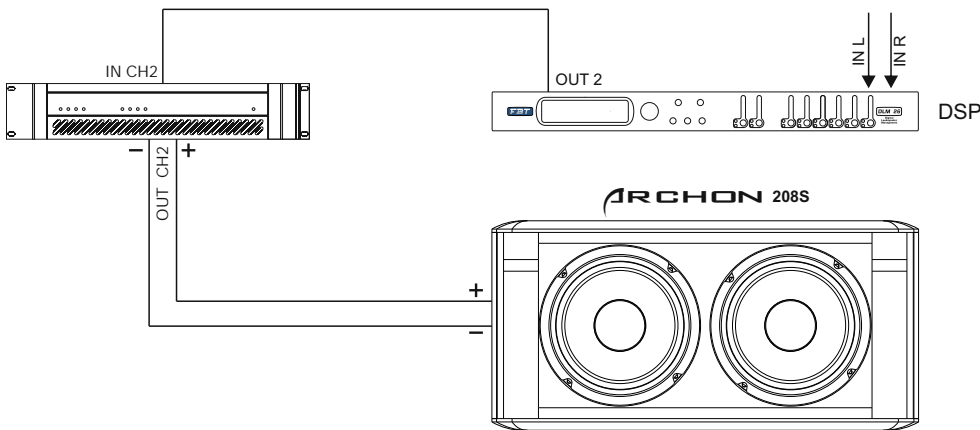
OPERATING MODE SELECTOR



- 1) Remove the eight fixing screws (A) from the connection panel.
- 2) Move the connector (B) to the position of the desired mode
- 3) Push the connector deep down to guarantee safe securing
- 4) Mount the connection panel back again
- 5) Check speaker proper configuration through the opening (C)



THE ARCHON 208S / 215S ARE NOT EQUIPPED WITH INTERNAL PASSIVE CROSSOVER; A CONNECTION TO THE POWER UNIT WITHOUT PROCESSOR WILL DAMAGE THE SPEAKERS.



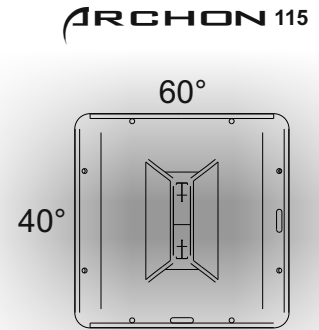
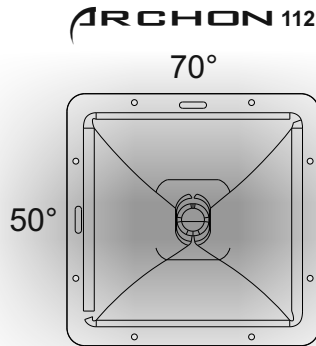
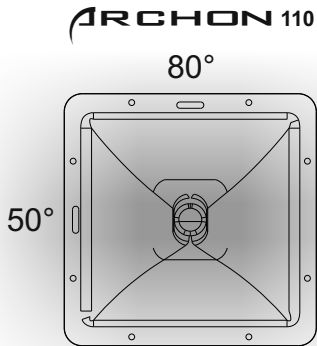
Speakon connectors are connected in parallel mode. One connector can be used to connect the box to the output of a power amplifier, the other to connect to a second box. Loudspeaker cables shall have the adequate diameter, depending on the overall length of the connection. The resistance introduced by an inadequate wiring towards the loudspeakers would reduce both the power output and the damping factor of the loudspeaker.

The ARCHON series 110 / 112 / 115 models feature a constant directivity rotatable horn. The constant directivity horn permits getting a response whose frequency is almost constant in every direction covered by horn operation and a balanced sound timbre emission over the whole coverage angle. Horn rotation changes the dispersion angle so as to use the speakers in horizontal position or when they are aligned in an array.

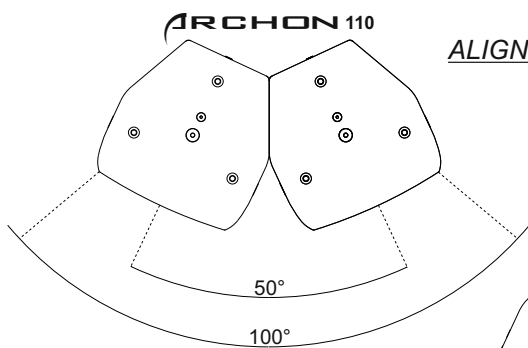
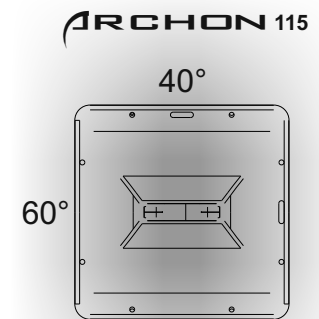
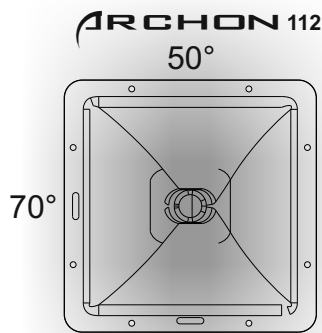
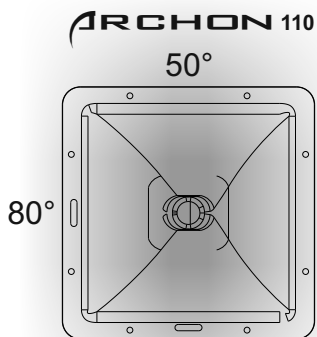
To change horn coverage angle:

- > Remove the 4 screws fixing the front mesh and remove it.
- > Unscrew horn fixing screws and rotate it to the desired position (never extract the horn unit from the speaker).
- > Tighten the horn fixing screws again and place the mesh back.

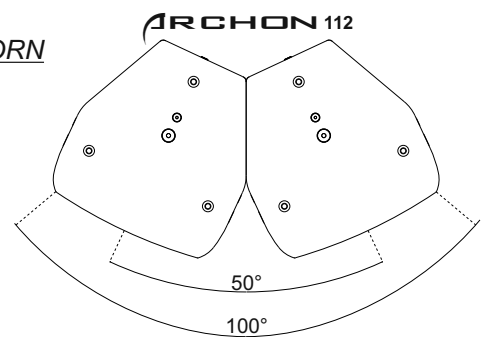
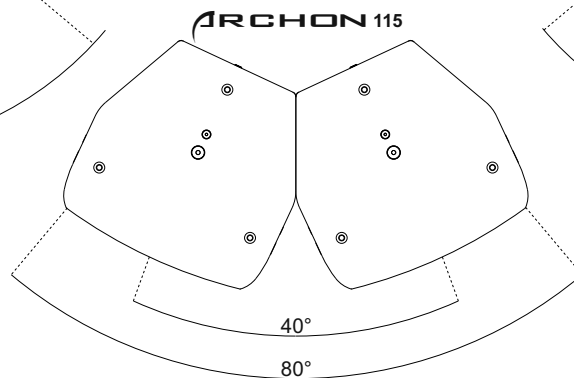
HORN COVERAGE ANGLE



ROTATED HORN COVERAGE ANGLE



DISPERSION ANGLE WITH ALIGNED SPEAKERS AND ROTATED HORN



AMPLIFIER CLASS

Power amplifiers are mainly classified according to the type of output stage. Such classification is based on how long output devices remain active during each cycle. The most common classes of professional sound amplifiers are: AB, AB+B, D, G, H.

CLIPPING

Digital distortion occurring when the amplitude of an input signal to a sampling device exceeds the dynamic range that the same device can manage.

DYNAMICS, dynamic range

The dynamic range of a sound is the ratio between the strong and powerful part of that sound and its soft and light part; it is measured in dB.

DISPERSION

It represents the actual speaker behaviour during operation, indicating how this "dispersed" sound in space. Dispersion is indicated through an angle referred to the speaker's emission centre.

PHASE

Considering given waves with different waveforms and frequencies, they are told to be "in phase" if they cross the time axis with the same slope at the same time. Otherwise, they are told to be "out-of-phase". The phase is a very important element of sound waves since it is essential to establish the result of the addition of several waves; for instance, two identical sounds with opposite phases cancel out.

DAMPING FACTOR

The damping factor is generally conceived of as an indicator of how much "sustained" the sound of a sub speaker dedicated amplifier will be. The speaker main element is a voice coil, mounted in a magnetic field; while the coil moves within the magnetic field, voltage is induced through it; if speaker resonant modes are not properly controlled by the amplifier, speaker output low sounds may be too "reverberating". As far as its measurement is concerned, the damping factor is the ratio between speaker impedance and amplifier output impedance.

HP FILTER, high pass filter

A high pass filter comprises an electric circuit only allowing the passage of frequencies over a given value called "cut-off frequency". It can be either active or passive depending on the presence in the circuit of active elements such as amplifiers or of just passive ones. It is used also to adjust a clear sound for tweeter, middle frequencies, etc.

PINK NOISE

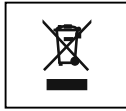
The noise is said to be pink, as opposed to the white noise. It is a non periodic noise, which includes frequencies from the whole acoustic spectrum. However, unlike the white noise, it has higher amplitude at low frequencies and lower amplitude at high frequencies, so to adjust to the human ear sensitivity, that is less sensitive to lower frequencies.

RMS

Root Means Square: it is a value expressing the significant mean of the amplitude values of a sound wave.

SPL

Perceived sound volume or pressure, measured in decibels. The SPL is a function of signal amplitude.



WARNING: where affixed on the equipment or package, the barred waste bin sign indicates that the product must be separated from other waste at the end of its working life for disposal. At the end of use, the user must deliver the product to a suitable recycling centre or return it to the dealer when purchasing a new product. Adequate disposal of the decommissioned equipment for recycling, treatment and environmentally compatible disposal contributes in preventing potentially negative effects on the environment and health and promotes the reuse and/or recycling of equipment materials. Abusive product disposal by the user is punishable by law with administrative sanctions.

CODE 36768#09-2012

All informations included in this operating manual have been scrupulously controlled; however FBT is not responsible for eventual mistakes. FBT Elettronica SpA has the right to amend products and specifications without notice.