



User's Manual

Quantum series

*Q-3-T / Q-23-T / Q-43-T
Q-10 / Q-10A*



Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

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Quantum series

Q-3-T / Q-23-T / Q-43-T / Q-10

Cajas acústicas pasivas / Passive loudspeaker enclosures

Precauciones de Seguridad Safety Precautions



Conserve y lea todas estas instrucciones.

Siga todas las advertencias.

El signo de exclamación dentro de un triángulo indica la existencia de componentes internos cuyo reemplazo puede afectar a la seguridad.



Keep these instructions.

Heed all warnings. Follow all instructions.

The exclamation point inside an equilateral triangle indicates the existence of internal components whose substitution may affect safety.

El doble cuadrado indica equipo de Clase II.



The double square indicates Class II device.

Las especificaciones se encuentran en la etiqueta de la parte posterior del producto.

The specifications can be found on the rear label of the product.

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado.

The appliance should be flown only from the rigging points and by qualified personnel.

No exponga este equipo a la lluvia o humedad. No exponga el equipo a salpicaduras ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas.

Do not expose this device to rain or moisture. Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.



This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Equipo diseñado para funcionar entre 15°C y 45°C con una humedad relativa máxima del 95%.

Working temperature ranges from 15°C to 45°C with a relative humidity of 95%.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida.

The outer wiring connected to the device requires installation by an instructed person.

El equipo cuenta con un terminal de entrada tipo regleta de tornillo para facilitar la conexión.

Device with terminal strip input to provide an easy connection.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.



Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el aparato se haya dañado de alguna forma, tal como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente o haya recibido un golpe.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Limpie con un paño seco. No use limpiadores con disolventes.

Clean only with a dry cloth. Do not use any solvent based cleaners.

Quantum series

Q-10A

Cajas acústicas activas / Self-powered loudspeaker enclosures



Precauciones de Seguridad Safety Precautions

El signo de exclamación dentro de un triángulo indica la existencia de importantes instrucciones de operación y mantenimiento en la documentación que acompaña al producto.

Conserve y lea todas estas instrucciones. Siga las advertencias.

ATENCIÓN: Es un producto clase A, por lo que en entornos domésticos puede causar radio-interferencias, en cuyo caso el usuario tendrá que tomar las medidas oportunas.

De acuerdo con EN55103-2, usar el equipo sólo en entornos E1, E2, E3 ó E4.



The exclamation point inside an equilateral triangle is intended to alert the users to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. Heed all warnings. Follow all instructions. Keep these instructions.

WARNING: This is a class A product. In a domestic environment this product may cause radio interferences in which case the user may be required to take adequate measures.

Use this product only in E1, E2, E3 or E4 environments according to EN55103-2.

No desconecte la tierra en el conector de alimentación pues es peligroso e ilegal. Equipo de Clase I. El producto debe ser conectado a un enchufe con toma de tierra. Sólo use este equipo con el cable de red de alimentación adecuado para su país.

El signo del rayo con la punta de flecha, alerta contra la presencia de voltajes peligrosos no aislados. Para reducir el riesgo de choque eléctrico, no retire la cubierta.



Do not remove mains connector ground, it is dangerous and illegal. Class I device. The product must be connected to a mains socket outlet with protective earth connection. Only use this equipment with an appropriate mains cord for your country.

The lightning and arrowhead symbol warns about the presence of uninsulated dangerous voltage. To reduce the risk of electric shock, do not remove the cover.

No instale el aparato cerca de ninguna fuente de calor como radiadores, estufas u otros aparatos que produzcan calor. Debe instalarse siempre sin bloquear la libre circulación de aire por las aletas del radiador.

No exponga este equipo a la lluvia o humedad sin el protector de lluvia recomendado. No exponga el equipo a salpicaduras sin el protector de lluvia recomendado, ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus that produce heat. The circulation of air through the heatsink must not be blocked.

Do not expose this device to rain or moisture without the rain protector supplied. Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit without the rain protector supplied.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.



This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Equipo diseñado para funcionar entre 15°C y 45°C con una humedad relativa máxima del 95%, con un rango de $\pm 10\%$ de la tensión nominal de alimentación indicada en la etiqueta trasera (según IEC 60065). Si debe sustituir el fusible preste atención al tipo y rango.

Working temperature ranges from 15°C to 45°C with a relative humidity of 95%, with $\pm 10\%$ of the rated main voltage value indicated on the rear label (according to IEC 60065). If the fuse needs to be replaced, please pay attention to correct type and ratings.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida o el uso de cables flexibles ya preparados.

The outer wiring connected to the device requires installation by an instructed person or the use of a flexible cable already prepared.

Si el aparato es conectado permanentemente, la instalación eléctrica del edificio debe incorporar un interruptor multipolar con separación de contacto de al menos 3mm en cada polo.

If the apparatus is connected permanently, the electrical system of the building must incorporate a multipolar switch with a separation of contact of at least 3mm in each pole.

Para desconectar el dispositivo debe usar el enchufe. Desconecte este aparato durante tormentas eléctricas, terremotos o cuando no se vaya a emplear durante largos periodos.

To disconnect the device, you should use the mains plug. Unplug this apparatus during lightning storms, earthquakes or when unused for long periods of time.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.



Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

No emplace el producto sobre un carro, base, tripode, soporte o mesa inestables. El dispositivo puede caer, causando serias heridas y dañándose gravemente.

Do not place the product on an unstable cart, stand, tripod, bracket or table. The device may fall, causing serious injury, and serious damage to the device itself.

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado. No cuelgue la caja de las asas y respete los valores máximos de carga dados en el manual.

The appliance should be flown only from the rigging points and by qualified personnel. Do not suspend the box from the handles and respect the maximum load values given in the manual.

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el equipo se haya dañado de alguna forma, como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente, haya recibido un golpe o su cable de red esté dañado.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Limpie con un paño seco. No use limpiadores con disolventes.

Clean only with a dry cloth. Do not use any solvent based cleaners.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All our products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.



DECLARACIÓN DE CONFORMIDAD DECLARATION OF CONFORMITY

DAS Audio Group, S.L.

C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España
(Spain).

Declara que la *serie Quantum*:

Declares that *Quantum series*:

Cumple con los objetivos esenciales de las Directivas:

Abide by essential objectives relating Directives:

- | | |
|---------------------------------|------------|
| ● De Baja Tensión / Low Voltage | 2014/35/UE |
| ● EMC | 2014/30/UE |
| ● RoHS | 2011/65/UE |
| ● RAEE (WEEE) | 2012/19/UE |

Y es conforme a las siguientes Normas Armonizadas Europeas:

In accordance with Harmonized European Norms:

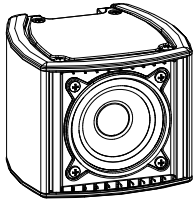
- EN 60065:2014.- Audio, video and similar electronic apparatus. Safety requirements.
- EN 55032:2012.- Electromagnetic compatibility of multimedia equipment. Emission requirements.
- EN 55103-2:2009.- Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2:Immunity.
- EN 50581:2012.- Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

INTRODUCTION

The systems of the *Quantum series* have been developed as installation systems with high intelligibility and configurable response, ideal for spaces with complex acoustic conditions and immersive experiences. The Quantum full-range systems can be ordered in any RAL color to discretely combine with the venue decor.

It is an ideal series for applications including foreground systems in worship center facilities, museums, hotels, conference centers, shopping centers, stations, airports and music halls of medium or small size, as well as a background systems in theaters and auditoriums.

Features



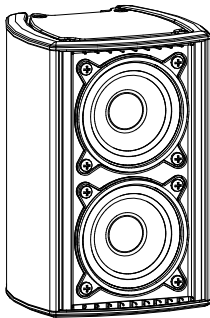
Q-3-T

- Passive system
- Aluminum enclosure
- 1 x 3", 3P full-range speaker
- Dispersion HxV: 120° x 120°
- SPL peak: 106 dB
- Multi-tap 100/70V transformer included
- Low and high impedance operation
- Available in all RAL colors

Q-3-T

The Q-3-T is a highly compact and discrete system ideal for short distances, for creating ambience, and for frontfill and under-balcony sound reinforcement. Like the other systems in the series, the Q-3-T has two operating modes (voice and music) that guarantee outstanding speech intelligibility and excellent music reproduction in any acoustic environment.

The aluminum enclosure and the IP-66 kit make this a highly reliable and durable choice.



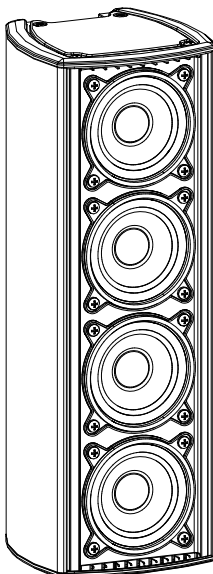
Q-23-T

- Passive system
- Aluminum enclosure
- 2 x 3", 3P16 full-range speaker
- Dispersion HxV: 120° x 70° / 90°
- SPL peak: 112 dB
- Multi-tap 100/70V transformer included
- Low- and high-impedance operation
- Available in all RAL colors

Q-23-T

The Q-23-T is a highly compact and discrete system ideal for short distances, for creating ambience, and for frontfill and under-balcony sound reinforcement. The vertical dispersion can be varied by means of the system-integrated filter (70°/90°) making it possible to control the system's dispersion lobe in the vertical plane reducing reflections and improving intelligibility in spaces such as cultural centers, museums, conference rooms...all while delivering superb music reproduction.

The aluminum enclosure and the IP-66 kit make this a highly reliable and durable choice.



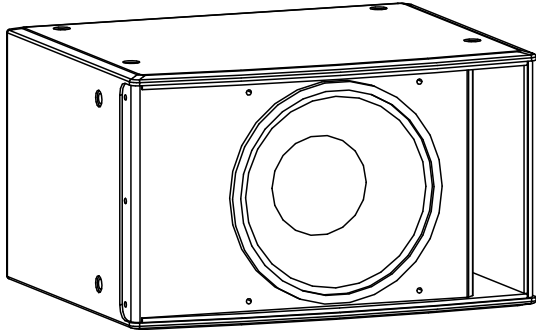
Q-43-T

- Passive system
- Aluminum enclosure
- 4 x 3", 3P16 full-range speaker
- Dispersion H x V: 120° x 30° / 45°
- SPL peak: 118 dB
- Multi-tap 100/70V transformer included
- Low and high impedance operation
- Available in all RAL colors

Q-43-T

This system is designed for small- and mid-sized venues. The vertical dispersion can be varied by means of the system-integrated filter (30°/45°) making it possible to control the system's dispersion lobe in the vertical plane reducing reflections and improving intelligibility in spaces such as cultural centers, museums, conference rooms...all while delivering superb music reproduction.

The aluminum structure and the IP-66 kit make it a highly reliable and resistant choice.



Q-10/Q-10A

Q-10

- Ultra compact passive subwoofer system
- Birch plywood enclosure
- 1x10", **10MG** Loudspeaker
- Frequency range 40 Hz – 200 Hz

This ultra compact, low-profile subwoofer is ideal for small and medium-sized installations. Low frequency clarity and reproduction make this an unbeatable system for delivering outstanding music reproduction. The perfect match for the *Quantum Series* tops.

Q-10A

- Ultra compact powered subwoofer system
- Birch plywood enclosure
- 1x10", **10MG** Loudspeaker
- Frequency range 40 Hz – 200 Hz
- 500 W peak Class D amplifier

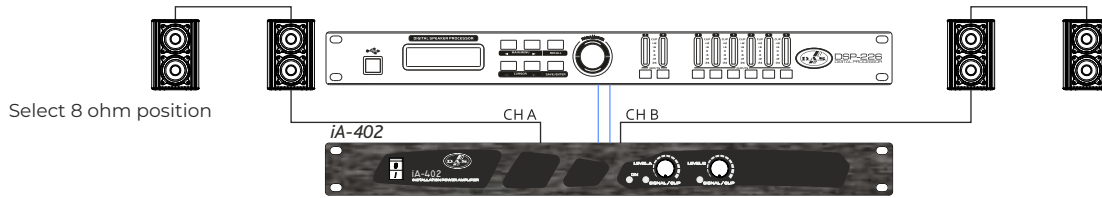
This powered, ultra compact, low-profile subwoofer is ideal for small- and medium-sized installations. Low frequency clarity and reproduction make this an unbeatable system for delivering outstanding music reproduction. The perfect match for the *Quantum Series* tops.

The system is equipped with a class D switched-mode amplifier, with two signal inputs, variable low-pass filter, and EQ adjustment (deep/loud) with DAScontrol technology.

CONFIGURATIONS

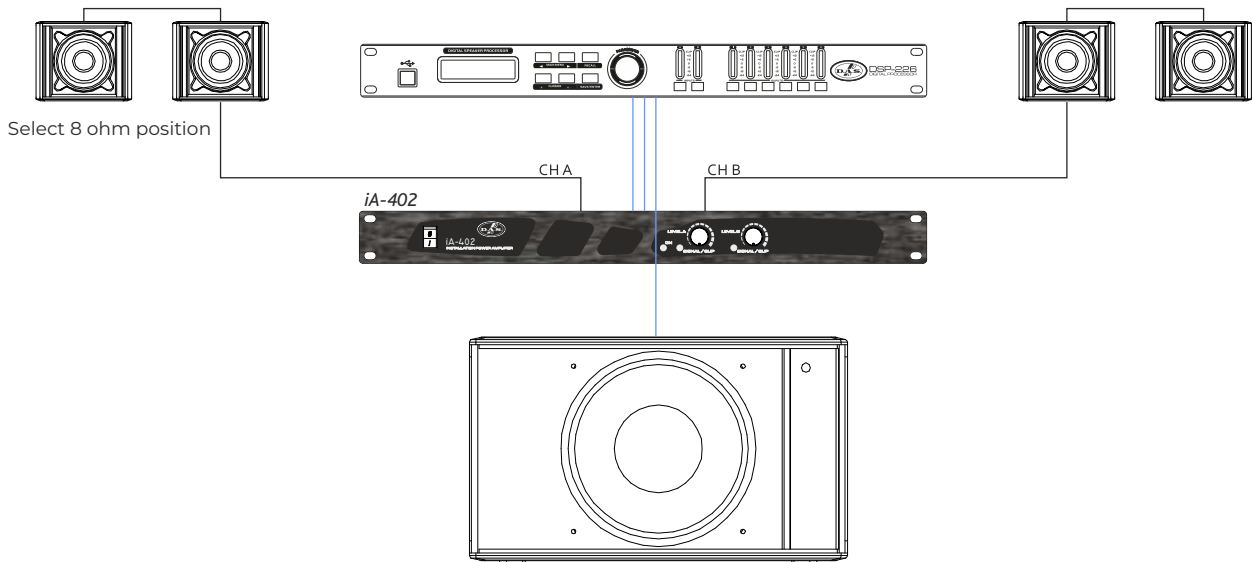
Quantum Q-3-T/Q-23-T

All Amplifier Channels in Stereo Mode for low impedance operation



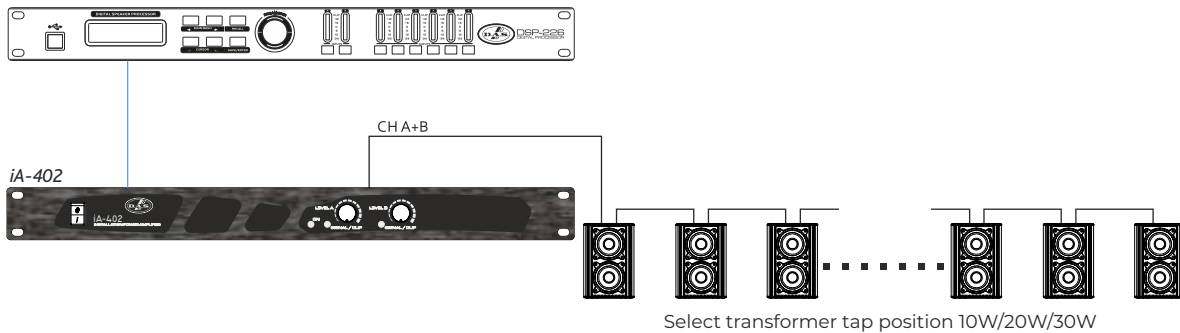
Quantum Q-3-T + Q-10A

All Amplifier Channels in Stereo Mode for low impedance operation



Quantum Q-23-T

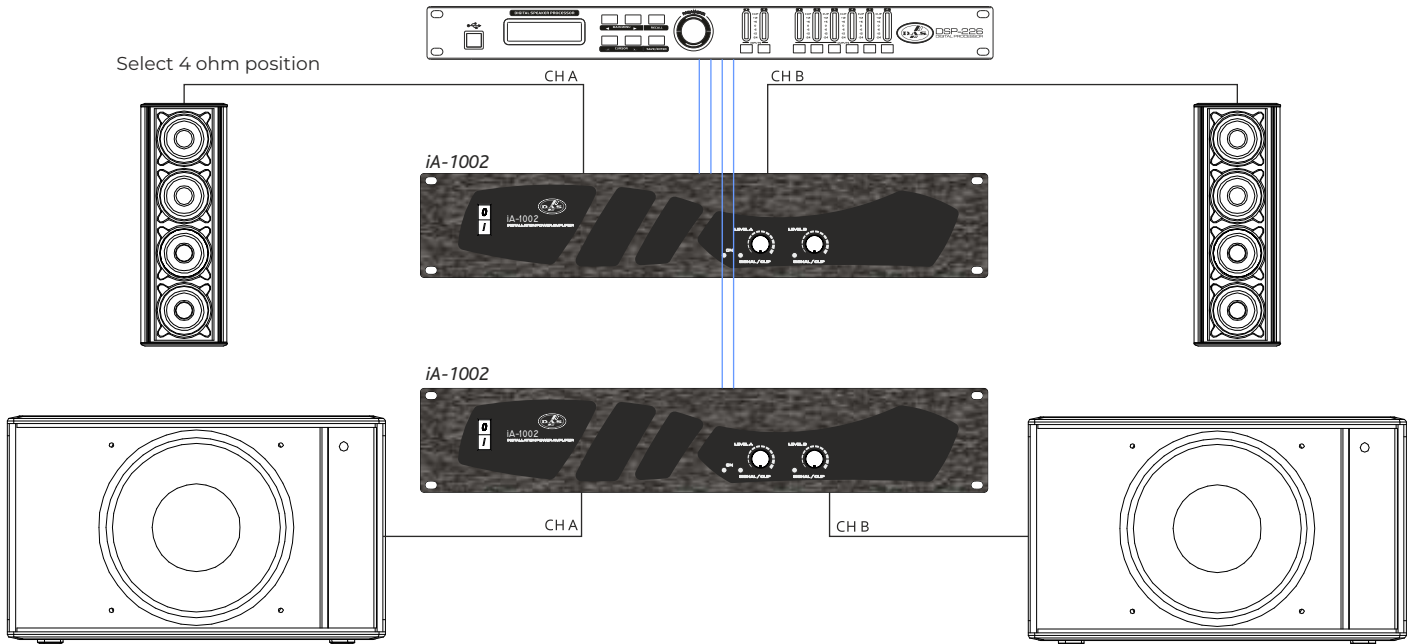
All Amplifier Channels in Bridge Mode for high impedance operation
Max power available 400W per channel (20 x Q-23-T at 20W)



CONFIGURATIONS (cont'd)

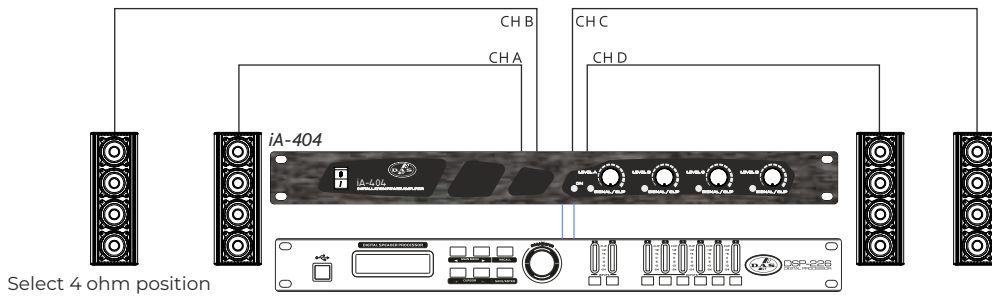
Quantum Q-43-T + Q-10

All Amplifier Channels in Stereo Mode for low impedance operation



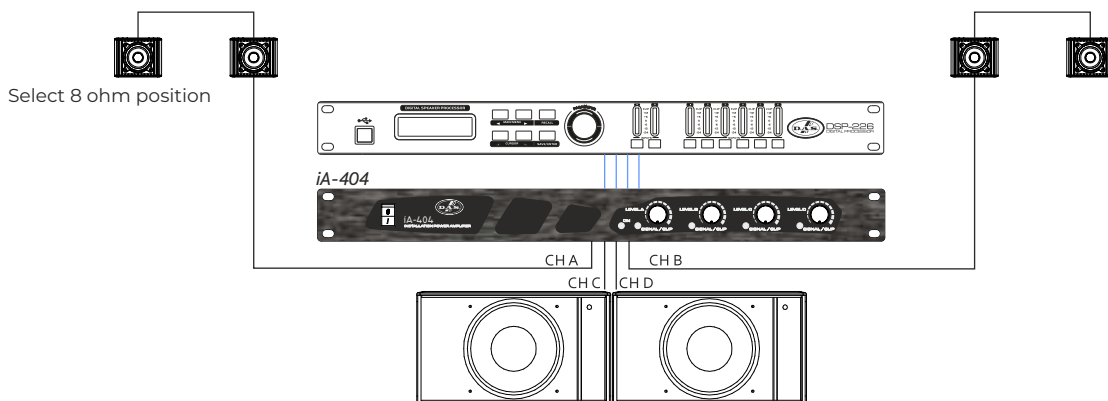
Quantum Q-43-T

All Amplifier Channels in Stereo Mode for low impedance operation



Quantum Q-3-T + Q-10

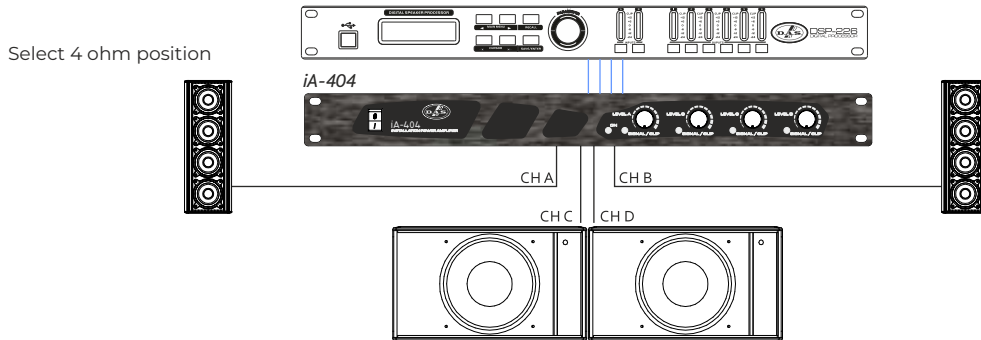
All Amplifier Channels in Stereo Mode for low impedance operation



CONFIGURATIONS (cont'd)

Quantum Q-43-T + Q-10

All Amplifier Channels in Stereo Mode for low impedance operation

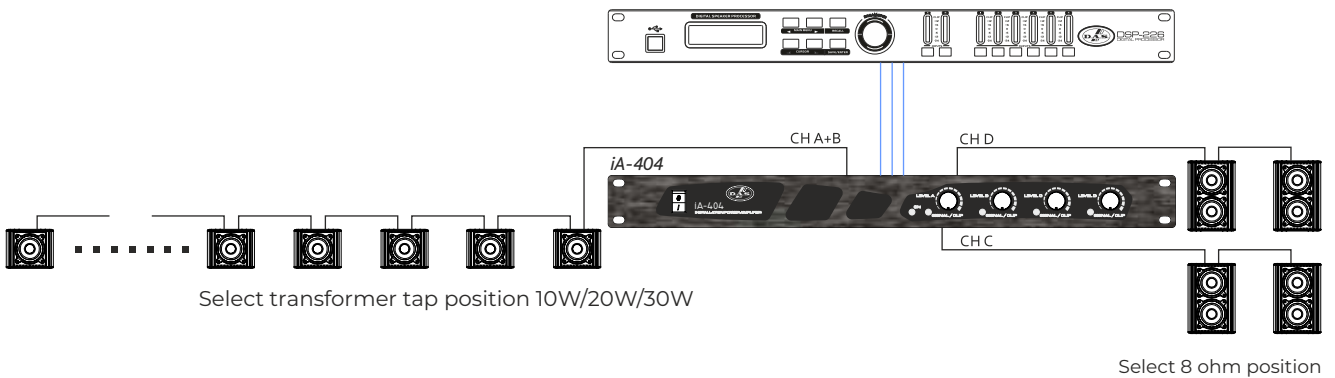


Quantum Q-3-T + Q-23-T

A&B Channels in Bridge Mode for high impedance operation

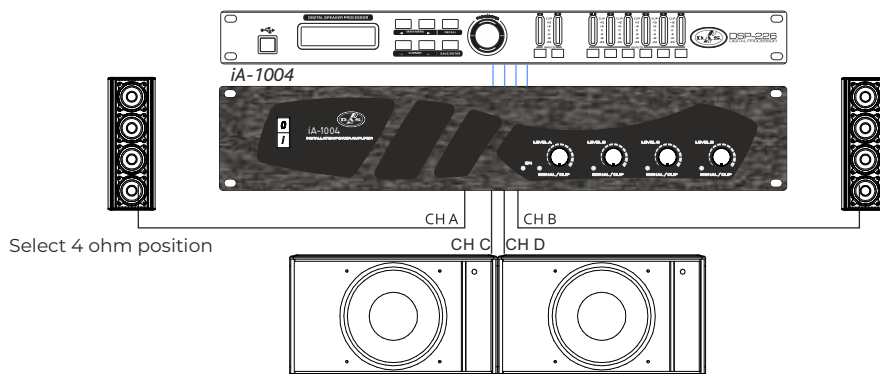
C&D Channels in Stereo Mode for low impedance operation

Max power available 200W at high impedance channel (10 x Q-3-T at 20W)



Quantum Q-43-T + Q-10

All Amplifier Channels in Stereo Mode for low impedance operation



SPECIFICATIONS

Model	Q-3-T	Q-23-T	Q-43-T	Q-10
RMS Power Handling	20 W	40 W	80 W	250 W
Peak Power Handling	80 W	160 W	320 W	1000 W
Frequency Range (-10 dB)	150 Hz - 20 kHz	150 Hz - 20 kHz	150 Hz - 20 kHz	40 Hz - 200 Hz
On-axis Sensitivity 1 W / 1 m	87 dB SPL	90 dB SPL	93 dB SPL	94 dB SPL
Rated Peak SPL at 1 m	106 dB	112 dB	118 dB	121 dB
Horizontal Coverage (-6 dB)	120°	120°	120°	-
Vertical Coverage (-6dB)	120°	Switchable: 90° -70°	Switchable: 45° -30°	-
Nominal Impedance	8 ohms	8 ohms	4 ohms	8 ohms
Transformer Taps 100V	7.5 W - 15 W - 20 W	10 W - 20 W - 30 W	15 W - 30 W - 50 W	-
Transformer Taps 70V	3.5 W - 7.5 W - 10 W	5 W - 10 W - 15 W	7.5 W - 15 W - 25 W	-
Connectors	2-way Phoenix 2.54 mm	2-way Phoenix 2.54 mm	2-way Phoenix 2.54 mm	2 x NL4 Speakon
IP Rating	IP66	IP66	IP66	-
Transducers / Replacement parts	1x 3P / 3P	2x 3P16 / 3P16	4x 3P16 / 3P16	1x 10MG / GM-10MG
Enclosure Material	Aluminum	Aluminum	Aluminum	Birch Plywood
Finish	Paint	Paint	Paint	Paint
Color	Black,White	Black,White	Black,White	Black,White
Dimensions (H x W x D) [mm]	105 x 126 x 125	188 x 126 x 125	354 x 126 x 125	300 x 500 x 415
Dimensions (H x W x D) [in]	4.1 x 5 x 4.9	7.4 x 5 x 4.9	13.9 x 5 x 4.9	11.8 x 19.7 x 16.3
Weight [kg]	1.6	2.8	5.3	16
Weight [lb]	3.52	6.16	11.66	35.2
Accessories	AXW-4 AXW-5 JP-Q KIT-IP-Q	AXW-4 AXW-5 JP-Q KIT-IP-Q AXS-Q	AXW-4 AXW-5 JP-Q KIT-IP-Q	ANL-2

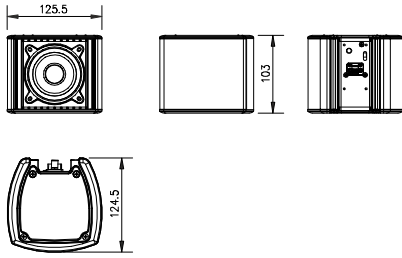
Model	Q-10A
Nominal Amplifier Power	250 W Continuous
Nominal Amplifier Power	500 W Peak
Input type	Balanced Differential Line
Frequency Range (-10 dB)	40Hz - 200Hz
Sensitivity	Line: 1.92V (+8dBu)
Rated Maximum Peak at 1m	121 dB
AC Power Requirements 1/3 Power (Pink Noise)	115V, 2.8A, 50 Hz / 60 Hz 230V, 1.4A, 50 Hz / 60 Hz
Input Impedance	20 kohms
Connectors	Audio INPUT: 2x Female XLR
Transducers/Replacement Parts	10MG / GM-10MG
Enclosure Material	Birch Plywood
Finish	Paint
Color	Black,White
Dimensions (H x W x D) [mm]	300 x 500 x 415
Dimensions (H x W x D) [in]	11.8 x 19.7 x 16.3
Weight [kg]	17
Weight [lb]	37.4
Accessories	ANL-2

DAS Audio Group, S.L. continuously strives to enhance its products through investigation and development. All specifications are subject to change without prior notice.

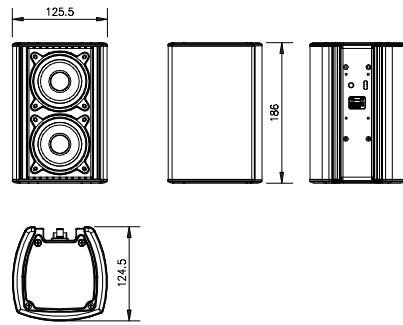
LINE DRAWINGS

ALL DIMENSIONS IN MILLIMETERS

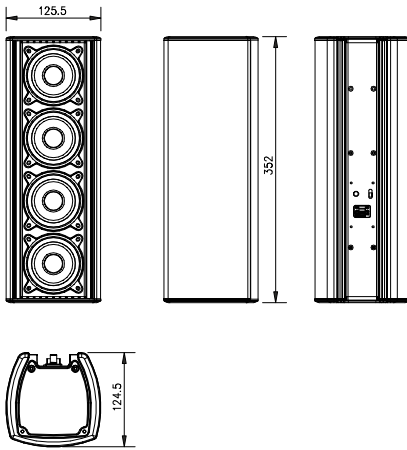
Q-3-T



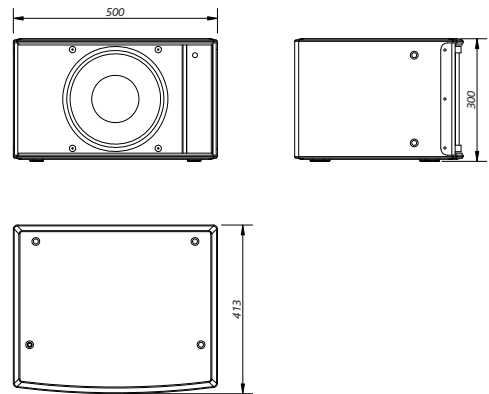
Q-23-T



Q-43-T



Q-10 / Q-10A



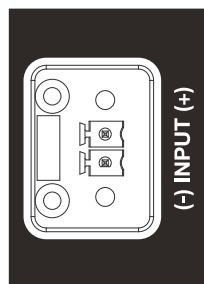
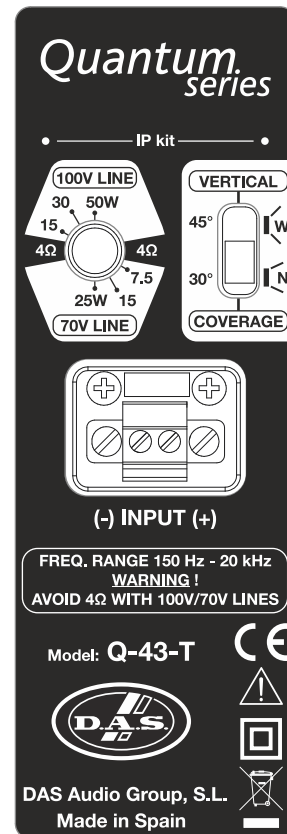
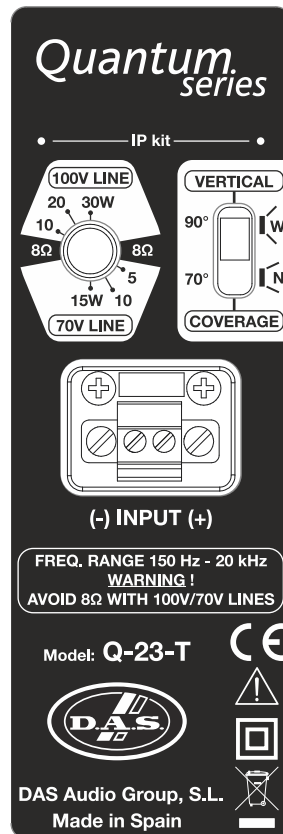
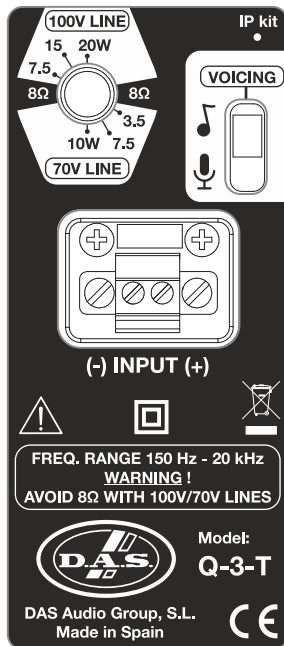
INSTALLATION & ACCESSORIES

Connectors

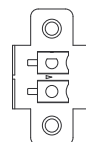
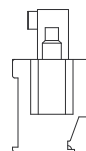
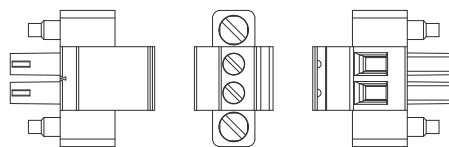
The *Quantum series* models of DAS have been designed for an easy connection.

The Q-3-T, Q-23-T and Q-43-T models offer connectors with screws to be easily fixed and to use in the most installations.

The polarity of the contacts, as well as other important indications for their correct connection, are indicated on the labels (see below).



Connector detail of the device with the indications of the polarity.

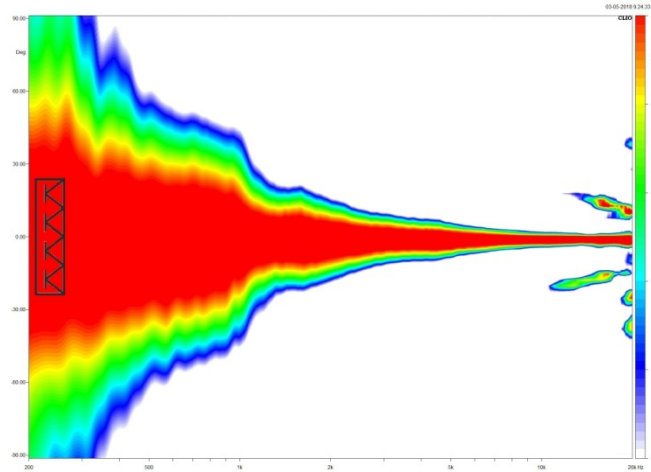


Connector included in the device for easy connection. Pay attention to the polarity indicated on the label when screwing the connection cable.

A complex crossover network provides the needed attenuation and phase shift to the Q-23-T / Q-43-T speakers in order to modify the vertical radiation pattern of the system.

A switch allows the user to choose between Narrow and Wide modes depending on the acoustical environment, the application and the voicing preferences.

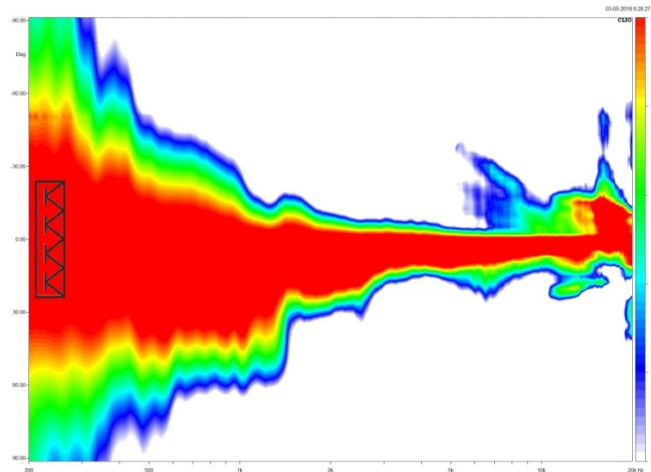
The Narrow mode drives all drivers with the same signal in parallel to get a narrow pattern and a mid-high enhanced response, to be used in reverberant spaces where good intelligibility is needed.



Q-43-T Isobar plot: Narrow mode.

As mentioned before, in Narrow mode, the coverage narrows as frequency increases, following the array behaviour. This also produces a mid-high reinforcement in the response.

The Wide mode applies appropriate shading and phase shift from top to bottom drivers to widen the coverage in the vertical plane and tilt down the lobe.

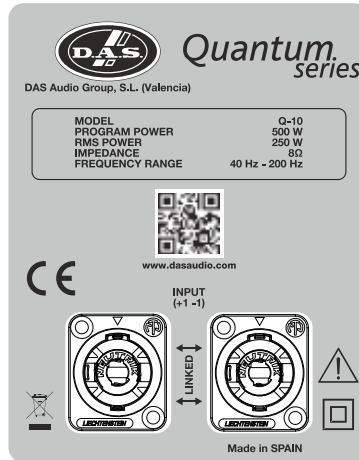


Q-43-T Isobar plot: Wide mode.

The Wide mode keeps the -6dB down angle at around 20° at mid-high frequencies, avoiding the natural narrowing effect of the array and providing a total 45° beam-width (1 kHz to 8 kHz avg.).

The Q-10 model is provided of a pair connectors NL4 in parallel, to ease the link of devices.

The polarity of the contacts, as well as other important indications for their correct connection, are indicated on the labels (see below).



The Q-10A model is a self powered subwoofer. Refer to the label:

1) MASTER VOLUMEN AND DSP CONTROL:

Use the encoder (1) to select the desired output volume and push/hold it to access to the different DSP and cabinet settings.

2) MAIN SCREEN:

In the main screen all selected settings are shown. Besides this, there are two input level indicators on the left, one output level indicator on the right and the center area is reserved to display messages as Input Clip or Limit.

3) INPUT CONNECTORS:

1/4" Jack+XLR combined socket-type input signal connectors. This is a balanced connector just like the OUTPUT connectors with the following pin assignments:

- 1 or S=GND (ground).
- 2 or T=(+) Non inverted input.
- 3 or R=(-) Inverted input.

4) OUTPUT CONNECTORS:

XLR-type output signal connectors for connecting several units together and sending them all the same signal.

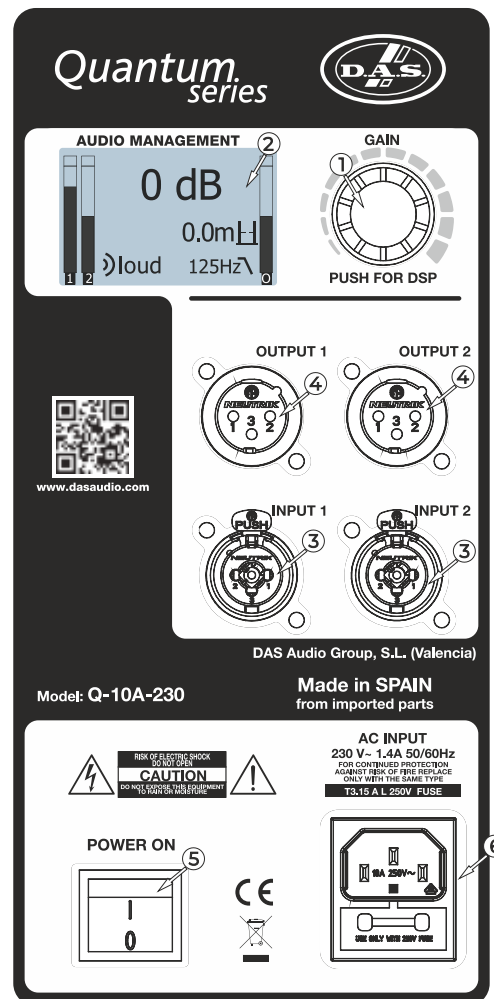
5) POWER ON:

Mainsswitch.

6) AC INPUT:

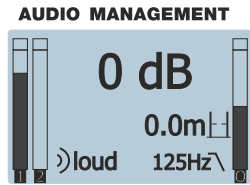
IEC type mains connector which incorporates a fuse holder. **Note: If the fuse is blown, replace the fuse with another of the same type and size.**

Use this equipment with an appropriate mains cord for your country.



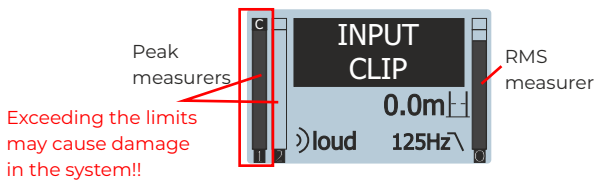
DISPLAY (only Q-10A)

By default the state of the screen is the following:

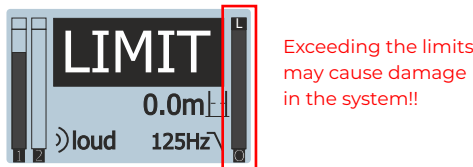


Once the input source has been connected to the amplifier's cabinet, the user has to check the gain structure of the system.

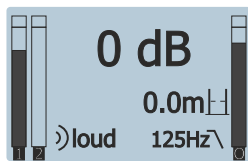
Adjust level output from your processor and/or mixing console in order to prevent INPUT CLIP (left signal meter), as shown below in the channel 1:



After having set the input volume values under the maximum level, user has to adjust output volume with the master control. The level is shown in the right meter in the screen. As with the inputs be careful not to exceed the limit (LIMIT shown):

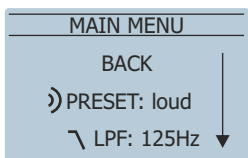


After these two volume adjustments the screen will show something like this (when having the input sources ON):

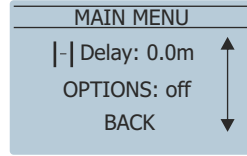


MAIN MENU:

As stated previously by pushing the encoder the user can access the following options in the MENU:

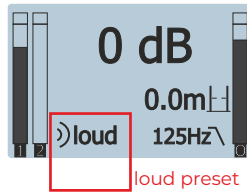


By scrolling down the encoder more options appear:

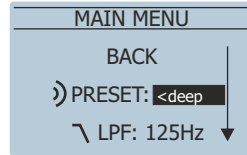
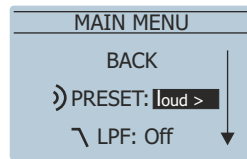
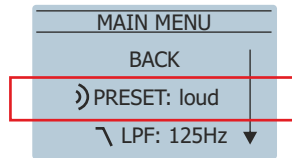


PRESETS:

Two factory settings (loud and deep) depending on the type of music/use has been configured by default:

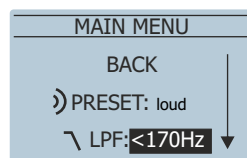
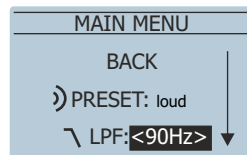
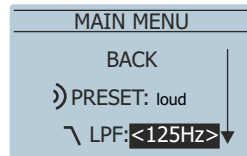


With the encoder go to Preset Sub-menu and press the knob to access the different options:



LPF (Low Pass Filter):

There are 3 different options:

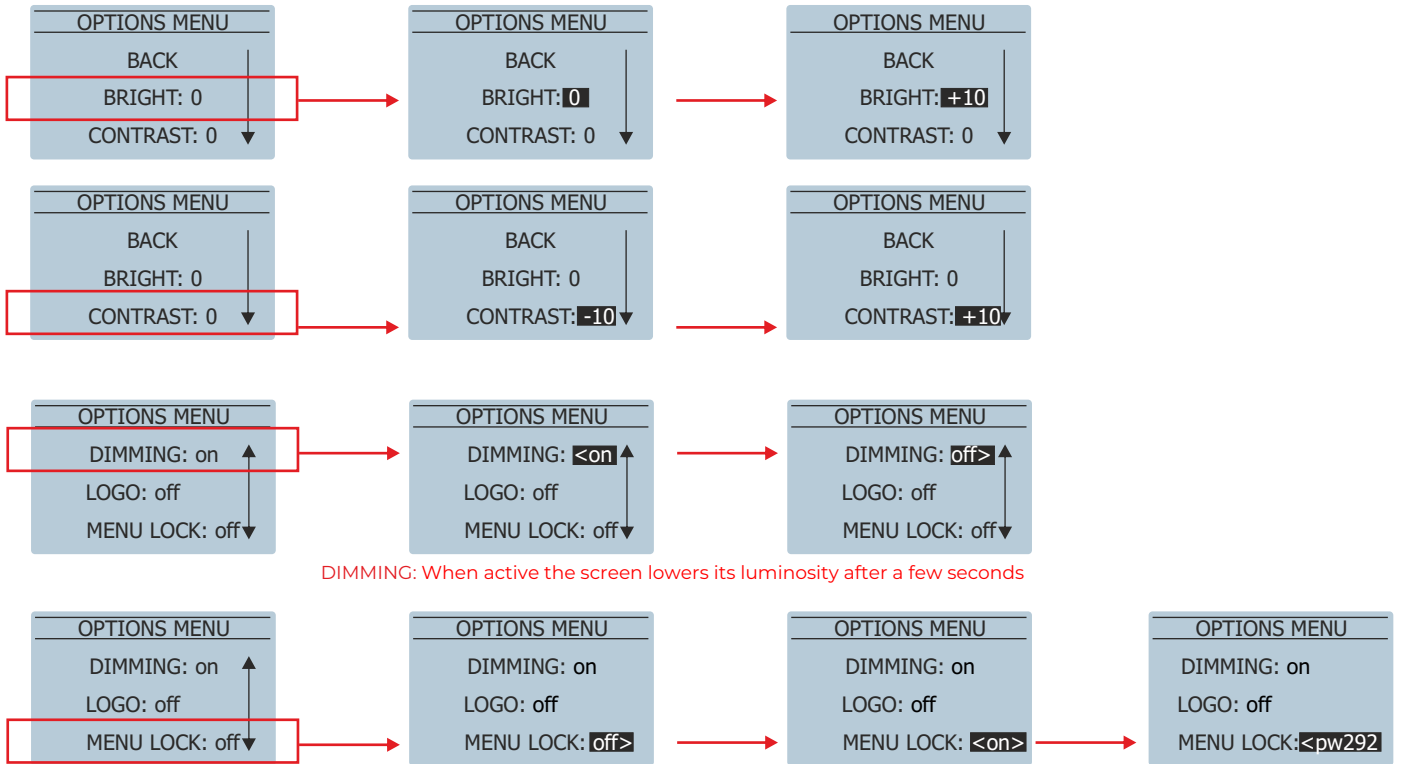


Note: to enter and select an option always push the encoder. For going back in the menu, the user has to select Back in the screen and press the encoder or just pushing the encoder.

After 30 seconds without touching the button, the unit will return to the main screen automatically.

OPTIONS:

In this sub-menu the user can configure all the non-audio related options. Remember that in order to access each parameter it is necessary to push the encoder:



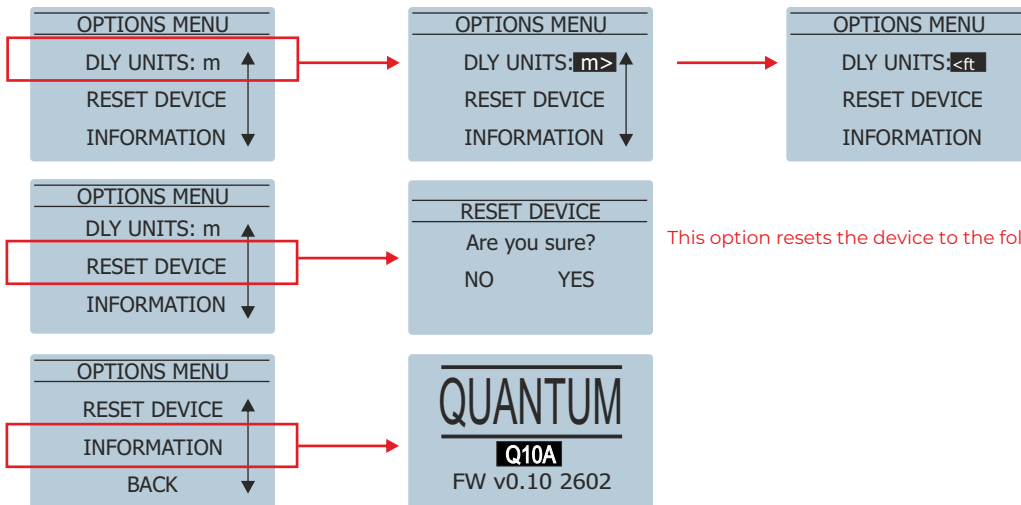
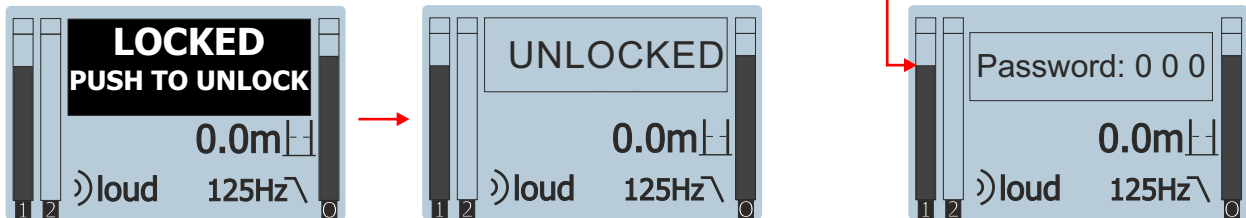
DIMMING: When active the screen lowers its luminosity after a few seconds

A. User can LOCK the Display and Master Volume Control by enabling this option MENU LOCK: ON

B. User can LOCK the Display and the encoder WITH PASSWORD by enabling this option MENU LOCK: pw292

In case A, to unlock just press the encoder:

In case B, to unlock PUSH encoder and enter the 3 digit password (292):



This option resets the device to the following values:

- Preset: loud
- LPF: AiTop
- Dimming: on
- LOGO: on
- MENU LOCK: off

Accessories: JP-Q and ANL-2

To perform any operations related to flying the system, read the present document first, and act on the warnings and advice given.

The goal is to allow the user to become familiar with the mechanical elements required to fly the acoustic system, as well as the safety measures to be taken during set-up and teardown.

Only experienced installers with adequate knowledge of the equipment and local safety regulations should fly speaker boxes.

It is the user's responsibility to ensure that the systems to be flown (including flying accessories) comply with state and local regulations.

The working load limits in this manual are the results of tests by independent laboratories. It is the user's responsibility to stay within safe limits. It is the user's responsibility to follow and comply with safety factors, resistance values, periodical supervisions and warnings given in this manual.

Product improvement by means of research and development is on going at DAS Specifications are subject to change without notice.

It is common practice to apply 5:1 safety factors for enclosures and static elements.

For slings and elements exposed to material fatigue due to friction and load variation the following ratios must be met; 5:1 for steel cable slings, 4:1 for steel chain slings and 7:1 polyester slings.

Thus, an element with a breaking load limit of 1000 kg may be statically loaded with 200 kg (5:1 safety factor) and dynamically loaded with 142 Kg (7:1 safety factor).

The load capacity, of each lift motor, should correspond to a safety factor of 10:1.

When flying a system, the working load must be lower than the resistance of each individual flying point in the enclosure, as well as each box.

Hanging hardware should be regularly inspected and suspect units replaced if in doubt.

This is important to avoid injury and absolutely no risks should be taken in this respect. It is highly recommended that you implement an inspection and maintenance program on flying elements, including reports to be filled out by the personnel that will carry out the inspections.

Local regulations may exist that, in case of accident, may require you to present evidence of inspection reports and corrective actions after defects were found.

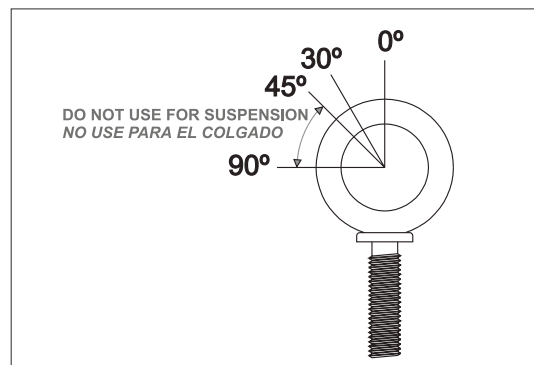
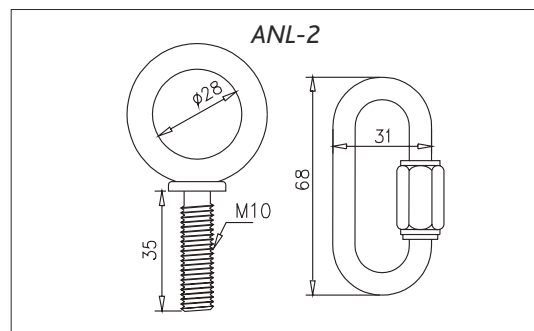
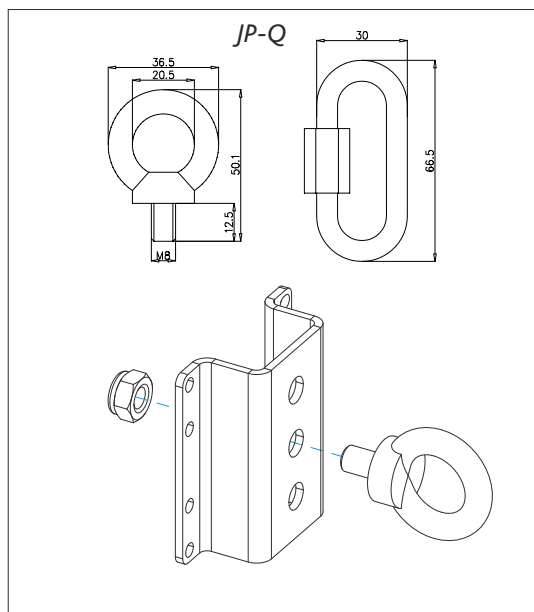
Absolutely no risks should be taken with regards to public safety.

When flying enclosures from ceiling support structures, extreme care should be taken to assure the load bearing capabilities of the structures so that the installation is absolutely safe.

Do not fly enclosures from unsafe structures.

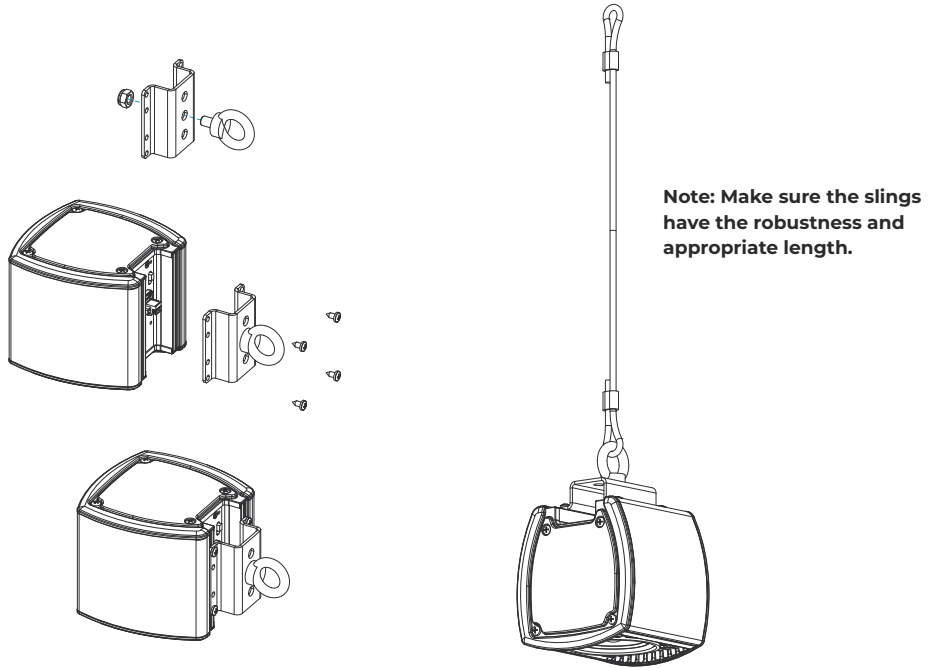
Consult a certified professional if needed.

All flying accessories that are not supplied by DAS Audio are the user's responsibility. Use at your own risk.

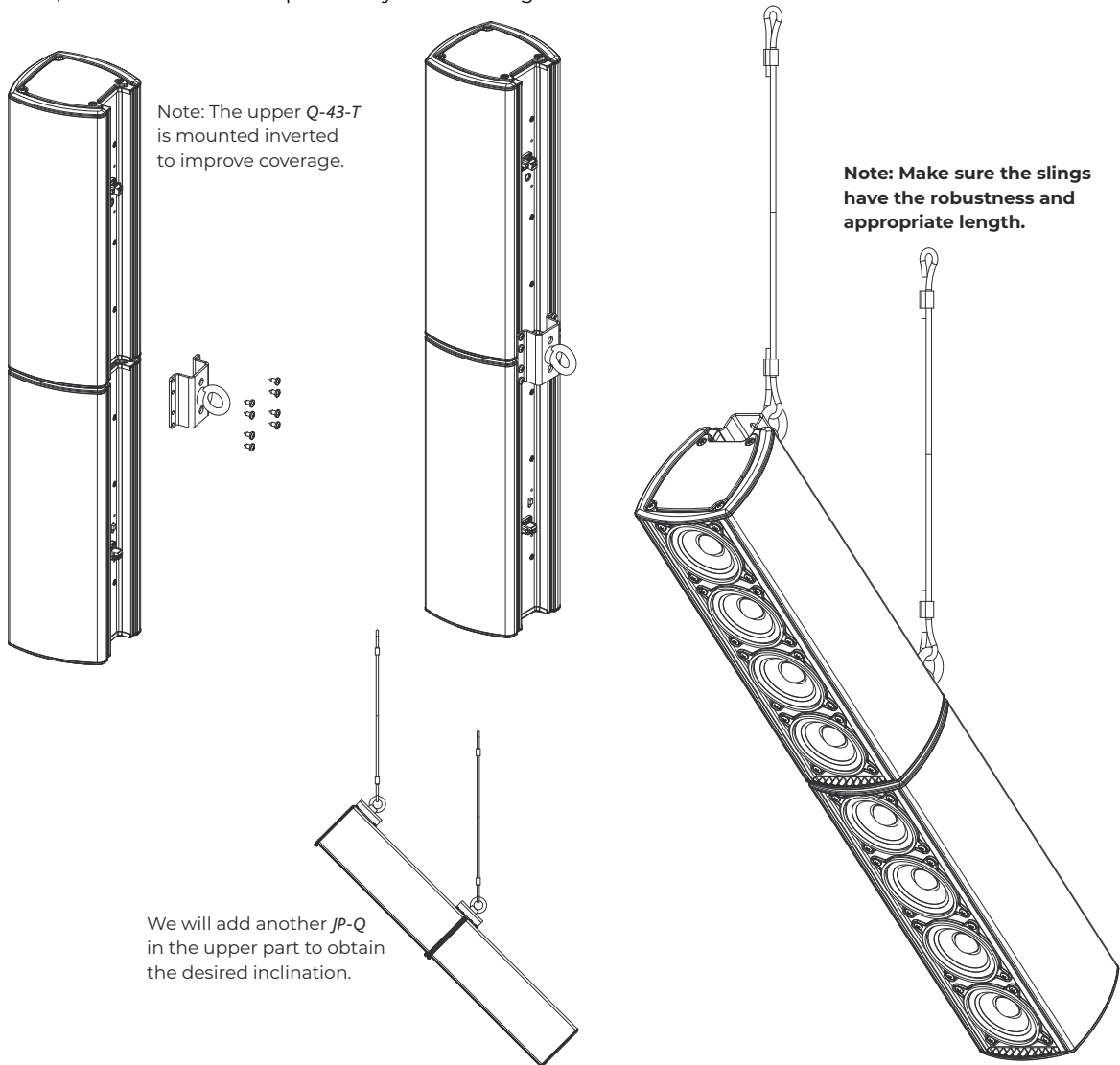


	0 Degrees	30 Degrees	45 Degrees	More than 45 Degrees
% Working Load	100%	65%	30%	25%

The *JP-Q* accessory allows the installation of devices of the Quantum series suspended by means of rings.



Also, the *JP-Q* accessory allows the union of several boxes of the Quantum series (example *Q-43-T*), forming columns, which can then be suspended by means of rings.



To hang the units, *Q-10* or *Q-10A*, the *ANL-2* accessory is needed. To install this accessory, the Allen-head screws must be removed and replaced by M10 eyebolts on one side of the enclosure. Each rigging point has a 200 kg (440 lb) working load limit.

Then choose the slings or chains of a required load resistance and length, bearing in mind that the length difference between the front and back slings or chains will determine the vertical orientation. Alternatively, the back bottom eyebolt points can be used to provide vertical orientation.

The *ANL-2* set is an optional set of four eyebolts and four carabiners. (Dimensions are in millimetres).

Each *ANL-2* eyebolt has a rated working load of 200 kg. (440 lb). Each *ANL-2* carabiner has a working load of 330 kg (726 lb). If using other hardware, make sure it is rated to handle the required load.

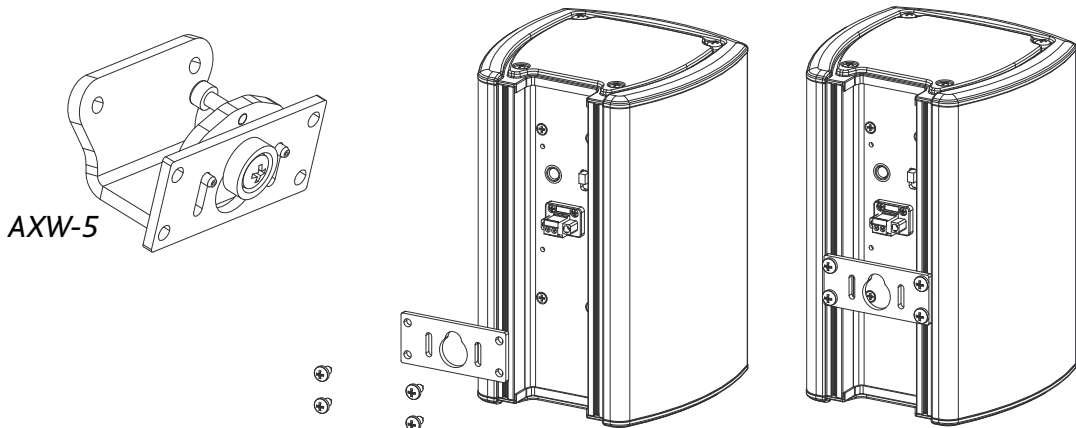
When using eyebolts it is important to bear in mind that the rated working load is only true for a load applied in the plane of the eye, and is significantly reduced for other angles. The drawing above illustrates the concept.

The table shows the variation of the working load as a function of the load angle. In the case of the *ANL-2* eyebolt, this means that the 200 kg working load becomes 60 kg at 45 degrees. Do not use eyebolt flying if the load angle is higher than 45 degrees.

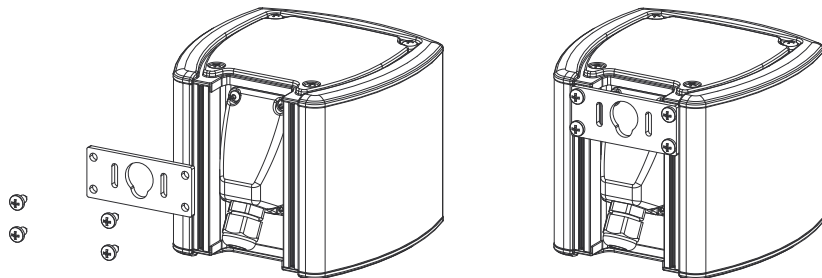
Note: As always, when we handle heavy loads, we should wear appropriate clothing and protective elements such as gloves, safety shoes, etc.

Accessory: AXW-5

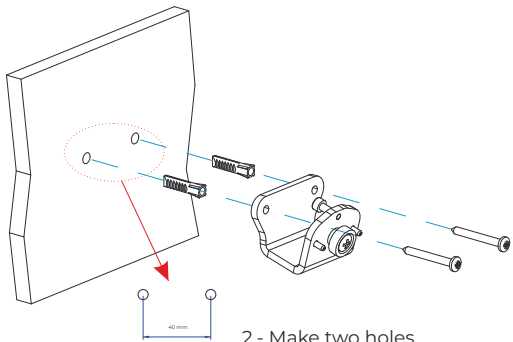
The *AXW-5* accessory is a wall mount bracket that allows the easy installation of Quantum series units (fixed inclination of -15°).



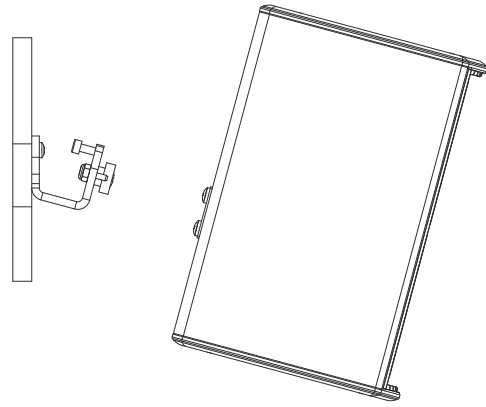
1.- First, we will screw the *AXW-5* plate to the back of the box.



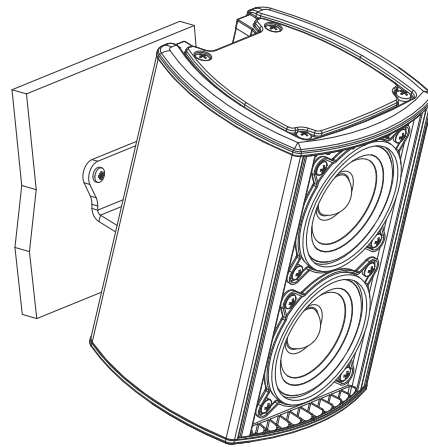
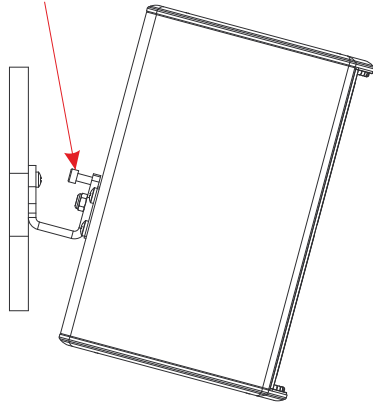
Note: In the case of using the *AXW-5* with a *Q-3-T* with an *KIT-IP-Q* accessory installed, rotate and mount the plate as indicated in the figure, for a correct attachment.



2.- Make two holes in the wall 40 mm apart and screw the body of the AXW-5 that we will then join to the back of the unit.



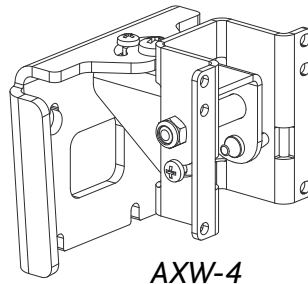
3.- Attach the loudspeaker unit and manually tighten the screw to lock the unit.



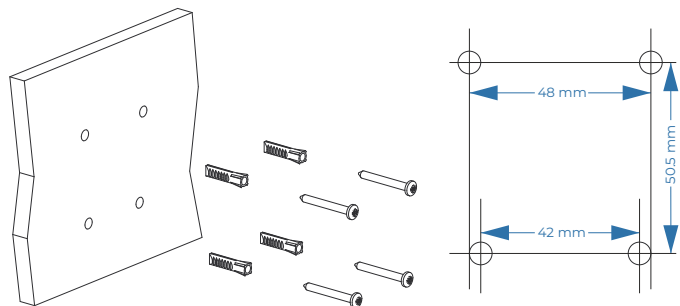
Note: The AXW-5 gives a fixed inclination of -15° to the unit.

Accessory: AXW-4

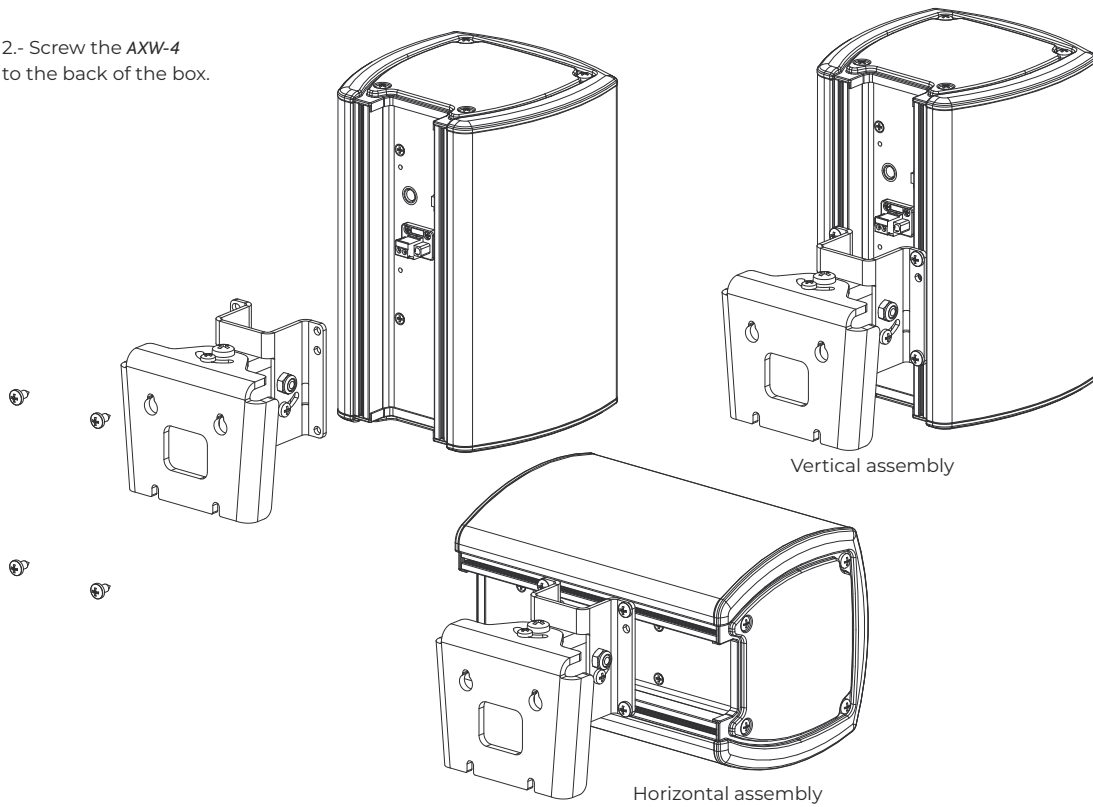
The AXW-4 accessory is a wall mount bracket that permits variable angle inclination of a *Quantum series* unit.



1.- First, make four holes in the wall separated according to the figure, we will place the wall plugs and partially screw the 4 screws.

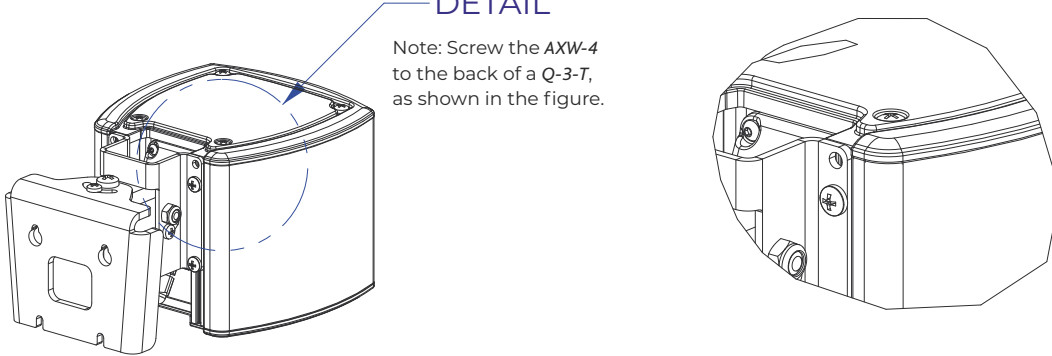


2.- Screw the AXW-4 to the back of the box.

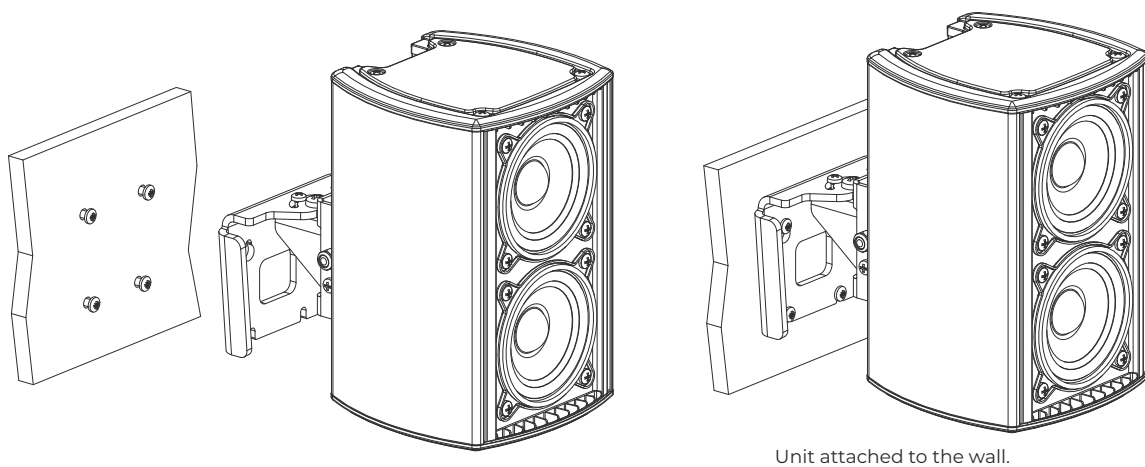


DETAIL

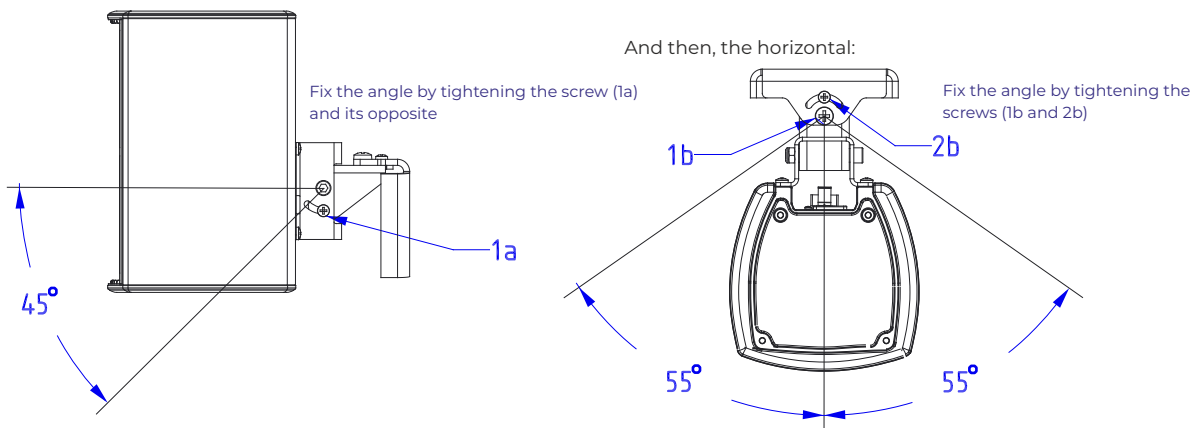
Note: Screw the AXW-4 to the back of a Q-3-T, as shown in the figure.



3.- Match the holes with the screws and tighten them firmly.

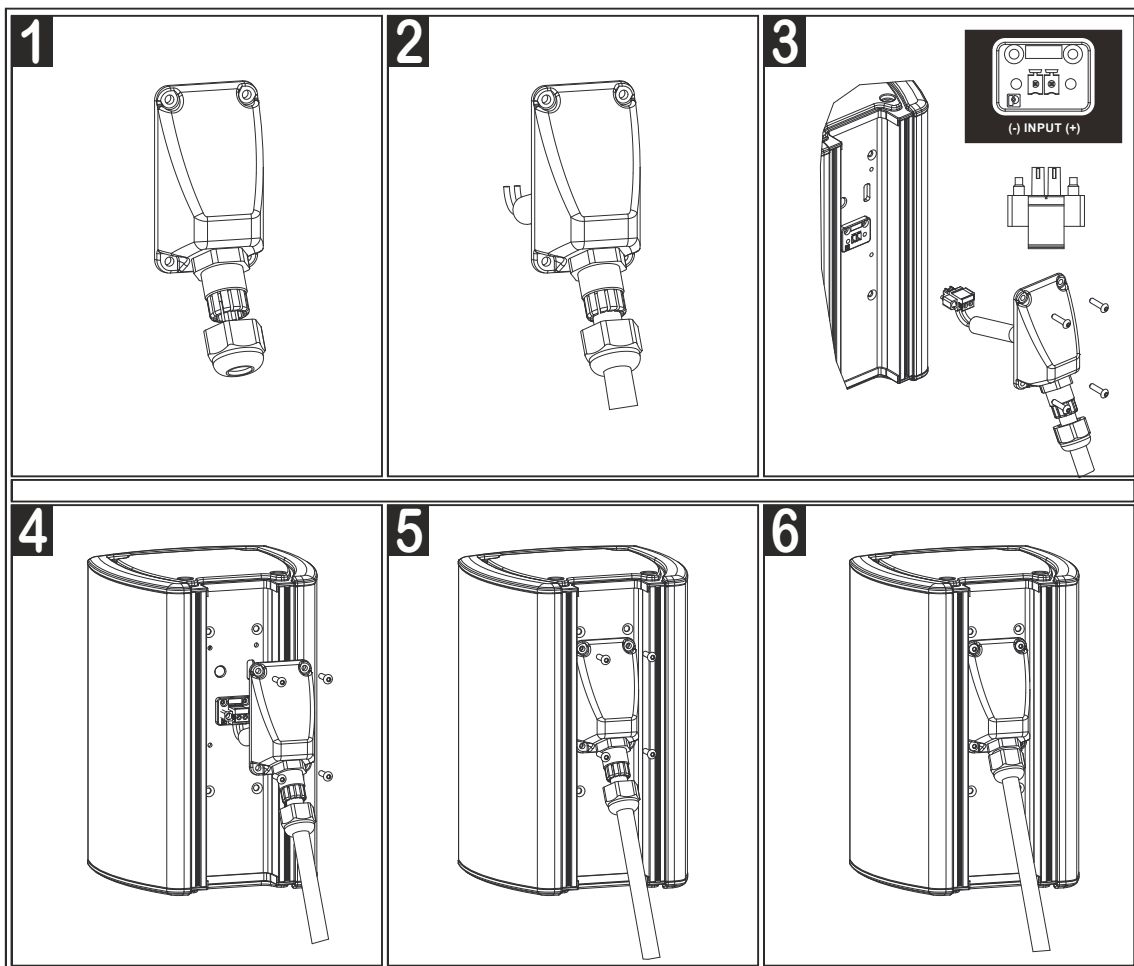


4.- Finally, select the angles for the box, first the vertical



Accessory: KIT-IP-Q

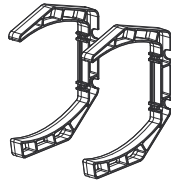
The *KIT-IP-Q* accessory allows a *Quantum series* unit to acquire a degree of protection IP-66 according to IEC-60529. In the attached figures the steps for their assembly are shown:



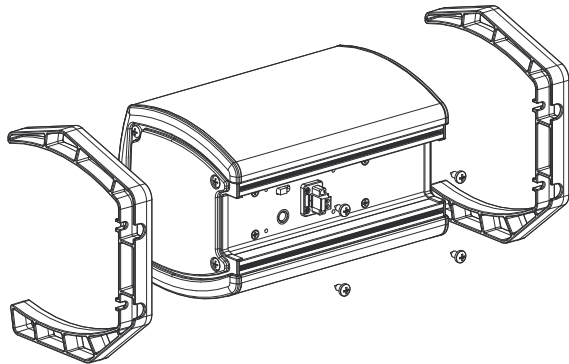
- 1.- Loosen the nut of the cable gland to insert the cable.
- 2.- Insert the cable through the cable gland.
- 3.- Remove the connector from the cabinet and screw the cable attach paying attention to the polarity indicated on the cabinet label.
- 4.- Connect the cable to the cabinet using the connector and fix it with its screws.
- 5.- Position the cover according to the label and fix it to the cabinet with the supplied screws.
- 6.- Pull the cable so that it is not too long and secure the rubber seal to the cable before tightening the nut of the cable gland.

Accessory: AXS-Q

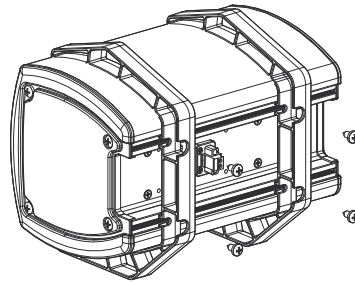
The AXS-Q accessory allows to place a Q-23-T on a flat surface, giving it an angle of -15° , 0° , 20° or 40° , as shown below.



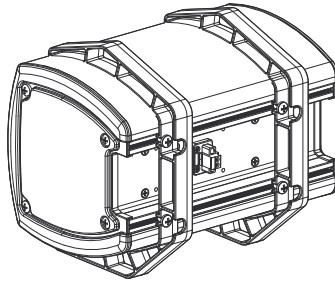
AXS-Q
(4x 4.2x9.5 DIN 7981 included)



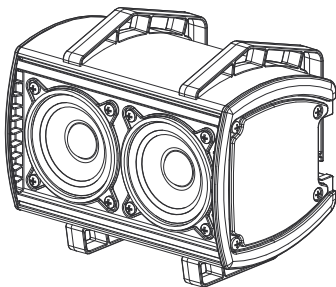
1.- First, place the pieces the upper and lower ends



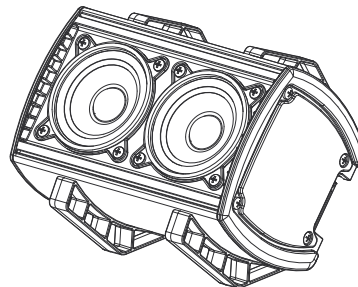
2.- Screw the pieces to the unit by means of the supplied screws



3.- Now we can place the unit on the flat surface, with the desired angle

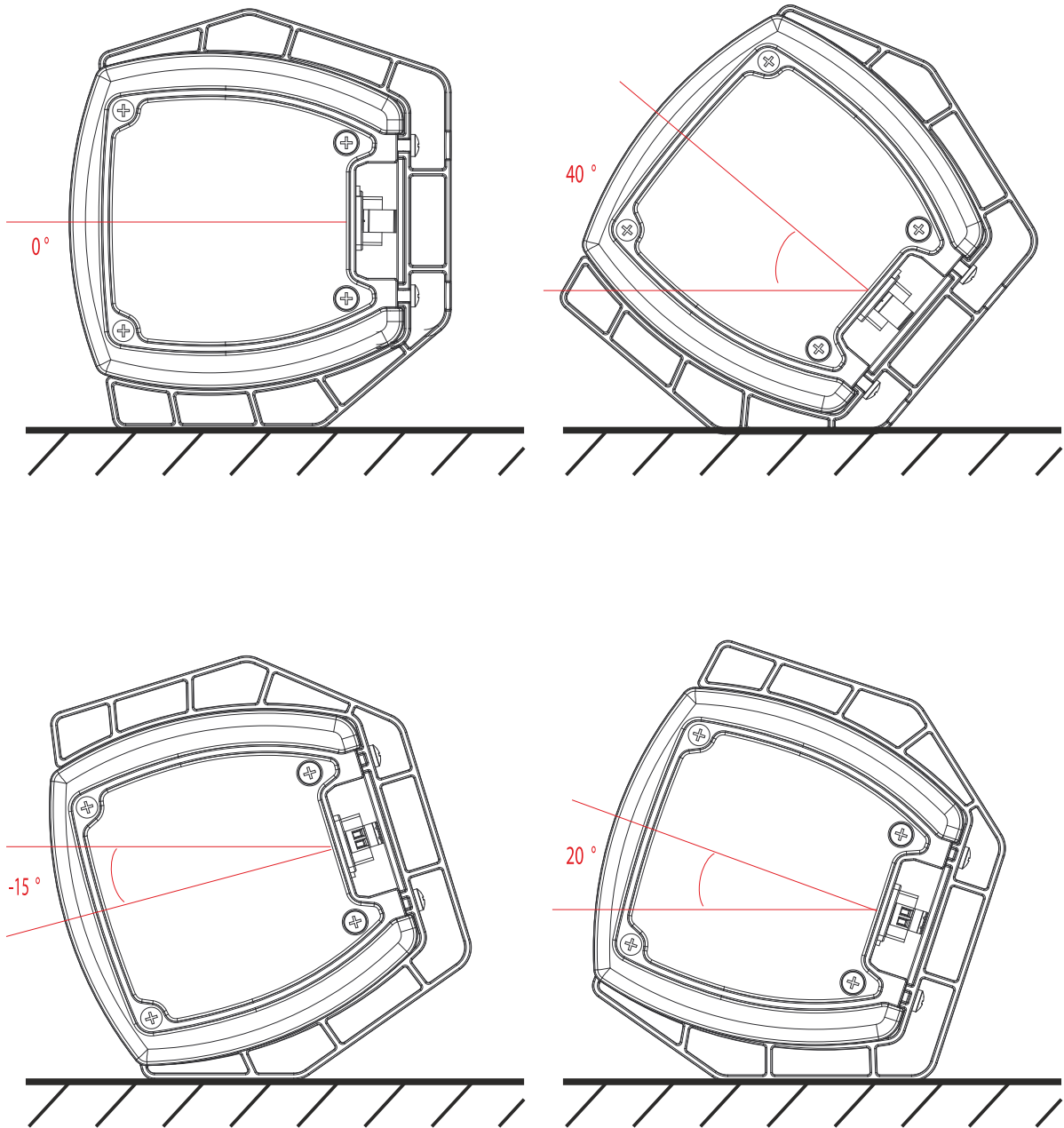


Q-23-T with 0° of inclination



Q-23-T with 40° of inclination

In summary, with this accessory a Q-23-T can have the following angles:



ANNEX : Table for cable selection

This table shows the power loss in % and dB, for different cable lengths and sections shown. It is recommended that the losses do not exceed 30% in any case (around 3dB). Although it is recommended minimizing losses, the maximum acceptable losses are usually around 15% (approximately 1.4dB).

Longitud / Length		Calibre	Area	R	Perdida de potencia / Power Loss			
m	ft	AWG	mm2	Ohms	% @ 8 ohms	% @ 4 ohms	dB @ 8 ohms	dB @ 4 ohms
5	16,4	18	0,8	0,2250	2,74	5,33	-0,241	-0,475
		16	1,31	0,1374	1,69	3,32	-0,148	-0,293
		14	2,1	0,0857	1,06	2,10	-0,093	-0,184
		12	3,3	0,0545	0,68	1,35	-0,059	-0,118
		10	5,3	0,0340	0,42	0,84	-0,037	-0,073
		8	8,35	0,0216	0,27	0,54	-0,023	-0,047
10	33	18	0,8	0,4500	5,33	10,11	-0,475	-0,926
		16	1,31	0,2748	3,32	6,43	-0,293	-0,577
		14	2,1	0,1714	2,10	4,11	-0,184	-0,364
		12	3,3	0,1091	1,35	2,65	-0,118	-0,234
		10	5,3	0,0679	0,84	1,67	-0,073	-0,146
		8	8,35	0,0431	0,54	1,07	-0,047	-0,093
15	49	18	0,8	0,6750	7,78	14,44	-0,704	-1,354
		16	1,31	0,4122	4,90	9,34	-0,436	-0,852
		14	2,1	0,2571	3,11	6,04	-0,275	-0,541
		12	3,3	0,1636	2,00	3,93	-0,176	-0,348
		10	5,3	0,1019	1,26	2,48	-0,110	-0,218
		8	8,35	0,0647	0,80	1,59	-0,070	-0,139
25	82	18	0,8	1,1250	12,33	21,95	-1,143	-2,153
		16	1,31	0,6870	7,91	14,66	-0,716	-1,377
		14	2,1	0,4286	5,08	9,68	-0,453	-0,884
		12	3,3	0,2727	3,30	6,38	-0,291	-0,573
		10	5,3	0,1698	2,08	4,07	-0,182	-0,361
		8	8,35	0,1078	1,33	2,62	-0,116	-0,231
50	164	18	0,8	2,2500	21,95	36,00	-2,153	-3,876
		16	1,31	1,3740	14,66	25,57	-1,377	-2,565
		14	2,1	0,8571	9,68	17,65	-0,884	-1,686
		12	3,3	0,5455	6,38	12,00	-0,573	-1,110
		10	5,3	0,3396	4,07	7,83	-0,361	-0,708
		8	8,35	0,2156	2,62	5,11	-0,231	-0,456
75	246	18	0,8	3,3750	29,67	45,76	-3,057	-5,314
		16	1,31	2,0611	20,49	34,01	-1,991	-3,610
		14	2,1	1,2857	13,85	24,32	-1,295	-2,421
		12	3,3	0,8182	9,28	16,98	-0,846	-1,616
		10	5,3	0,5094	5,99	11,30	-0,536	-1,041
		8	8,35	0,3234	3,88	7,48	-0,344	-0,675
100	328	18	0,8	4,5000	36,00	52,94	-3,876	-6,547
		16	1,31	2,7481	25,57	40,72	-2,565	-4,542
		14	2,1	1,7143	17,65	30,00	-1,686	-3,098
		12	3,3	1,0909	12,00	21,43	-1,110	-2,095
		10	5,3	0,6792	7,83	14,52	-0,708	-1,362
		8	8,35	0,4311	5,11	9,73	-0,456	-0,889



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