

OWNER MANUAL

HDL 6-A **HDL 12-AS**

ACTIVE
LINE ARRAY MODULE

ACTIVE SUBWOOFER
ARRAY MODULE



INTRODUCTION

The demands of modern sound reinforcement systems are higher than ever before. Besides pure performance - high sound pressure levels, constant directivity and sound quality other aspects are important for rental and production companies such as reduced weight and ease of use to optimize transport and rigging time.

HDL 6-A is changing the concept of large format arrays, providing primary performances to an extended market of professional users.

GENERAL SAFETY INSTRUCTION AND WARNINGS



IMPORTANT NOTE

Before connecting using or rigging the system, please read this instruction manual carefully and keep it on hand for future reference. The manual is to be considered an integral part of the product and must accompany the system when it changes ownership as a reference for correct installation and use as well as for the safety precautions. RCF S.p.A. will not assume any responsibility for the incorrect installation and/or use of the product.

WARNING



- To prevent the risk of fire or electric shock, never expose this equipment to rain or humidity.
- The system TT+ line arrays should be rigged and flown by professional riggers or trained personnel under professional riggers' supervision.
- Before rigging the system carefully read this manual.



SAFETY PRECAUTIONS

1. All the precautions, in particular the safety ones, must be read with special attention, as they provide important information.
2. Power supply from mains
The mains voltage is sufficiently high to involve a risk of electrocution; install and connect this product before plugging it in. Before powering up, make sure that all the connections have been made correctly and the voltage of your mains corresponds to the voltage shown on the rating plate on the unit, if not, please contact your RCF dealer.
The metallic parts of the unit are earthed through the power cable. An apparatus with CLASS I construction shall be connected to a mains socket outlet with a protective earthing connection.
Protect the power cable from damage; make sure it is positioned in a way that it cannot be stepped on or crushed by objects. To prevent the risk of electric shock, never open this product: there are no parts inside that the user needs to access.
3. Make sure that no objects or liquids can get into this product, as this may cause a short circuit.
This apparatus shall not be exposed to dripping or splashing. No objects filled with liquid, such as vases, shall be placed on this apparatus. No naked sources (such as lighted candles) should be placed on this apparatus.
4. Never attempt to carry out any operations, modifications or repairs that are not expressly described in this manual. Contact your authorized service centre or qualified personnel should any of the following occur:
 - **the product does not function (or functions in an anomalous way).**
 - **The power cable has been damaged.**
 - **Objects or liquids have got in the unit.**
 - **The product has been subject to a heavy impact.**
5. If this product is not used for a long period, disconnect the power cable.
6. If this product begins emitting any strange odours or smoke, switch it off immediately and disconnect the power cable.
7. Do not connect this product to any equipment or accessories not foreseen.
For suspended installation, only use the dedicated anchoring points and do not try to hang this product by using elements that are unsuitable or not specific for this purpose. Also check the suitability of the support surface to which the product is anchored

(wall, ceiling, structure, etc.), and the components used for attachment (screw anchors, screws, brackets not supplied by RCF etc.), which must guarantee the security of the system / installation over time, also considering, for example, the mechanical vibrations normally generated by transducers.

To prevent the risk of falling equipment, do not stack multiple units of this product unless this possibility is specified in the user manual.

8. RCF S.p.A. strongly recommends this product is only installed by professional qualified installers (or specialised firms) who can ensure correct installation and certify it according to the regulations in force.

The entire audio system must comply with the current standards and regulations regarding electrical systems.

9. Supports and trolleys.

The equipment should be only used on trolleys or supports, where necessary, that are recommended by the manufacturer. The equipment / support / trolley assembly must be moved with extreme caution. Sudden stops, excessive pushing force and uneven floors may cause the assembly to overturn.

10. There are numerous mechanical and electrical factors to be considered when installing a professional audio system (in addition to those which are strictly acoustic, such as sound pressure, angles of coverage, frequency response, etc.).

11. Hearing loss.

Exposure to high sound levels can cause permanent hearing loss. The acoustic pressure level that leads to hearing loss is different from person to person and depends on the duration of exposure. To prevent potentially dangerous exposure to high levels of acoustic pressure, anyone who is exposed to these levels should use adequate protection devices. When a transducer capable of producing high sound levels is being used, it is therefore necessary to wear ear plugs or protective earphones. See the manual technical specifications to know the maximum sound pressure level.

To prevent the occurrence of noise on line signal cables, use screened cables only and avoid putting them close to:

- **Equipment that produces high-intensity electromagnetic fields.**
- **Power cables**
- **Loudspeaker lines.**

OPERATING PRECAUTIONS

- **Place this product far from any heat sources and always ensure an adequate air circulation around it.**
- **Do not overload this product for a long time.**
- **Never force the control elements (keys, knobs, etc.).**
- **Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product.**

CAUTION

To prevent electric shock hazard, do not connect to mains power supply while grille is removed

GENERAL OPERATING PRECAUTIONS

- Do not obstruct the ventilation grilles of the unit. Situate this product far from any heat sources and always ensure adequate air circulation around the ventilation grilles.
- Do not overload this product for extended periods of time.
- Never force the control elements (keys, knobs, etc.).
- Do not use solvents, alcohol, benzene or other volatile substances for cleaning the external parts of this product.

THE HDL 6-A

The HDL 6-A is a true active high power ready to use touring system for small to medium size events, indoors and outdoors. Equipped with 2 x 6" woofers, and a 1.7" drivers, it offers excellent playback quality and high sound pressure levels with a built in 1400W powerful digital amplifier that delivers superior SPL, while reducing energy requirement.

Each component, from the power supply to the input board with DSP, to the output stages to woofers and drivers, has been consistently and specially developed by RCF's experienced engineering teams for, with all components carefully matched to each other.

This complete integration of all components allows not only superior performance and maximum operational reliability, but also provides users easy handling and plug & play comfort.

Besides this important fact, active speakers offer valuable advantages: while passive speakers often need long cable runs, the energy loss due to the cable resistance is a huge factor. This effect is not seen in powered speakers where the amplifier is just a couple of centimeters away from the transducer.

Using advanced neodymium magnets and a groundbreaking new housing constructed from lightweight plywood and polypropylene, it has a remarkably low weight for easy handling and flying.

The HDL 6-A is the ideal choice when line array performance is needed and a fast and easy set-up a must. The system features state-of-the-art RCF transducers; the high-powered 1.7" voice coil compression driver mounted on a precise 100° x 10° waveguide delivers vocal clarity with high definition and an incredible dynamic.

THE HDL 12-AS

The HDL 12-AS is the companion subwoofer for HDL 6-A. Housing a 12" woofer, the HDL 12-AS, is a very compact active sub enclosure and features a 1400 W powerful digital amplifier. It is the ideal complement to create flown HDL 6-A clusters with outstanding performance. Thanks to its compact size it can easily be carried and is very quick and easy to start using the built-in digital stereo crossover (DSP) with adjustable crossover frequency to connect the line array module.

It features a built-in digital stereo crossover (DSP) with adjustable crossover frequency to connect the HDL 6-A line array module or a satellite.

The integrated mechanics are both fast and reliable. The heavy-duty front grille is power coated. A special transparent-to-sound foam backing inside helps the further protection of the transducers from dust.

POWER REQUIREMENTS AND SET-UP WARNING

- The system is designed to operate in hostile and demanding situations. Nevertheless it is important to take extremely care of the AC power supply and set up a proper power distribution.
- The system is designed to be GROUNDED. Always use a grounded connection.
- PowerCon appliance coupler is a AC mains power disconnection device and must be readily accessible during and after the installation.

CURRENT

The following are the long term and peak current requirement for each HDL 6-A/HDL12-AS module:

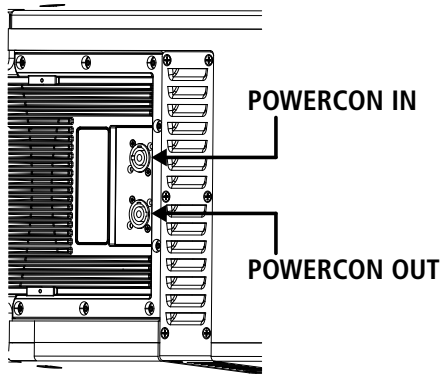
| VOLTAGE | LONG TERM |
|----------|-----------|
| 230 Volt | 3.15 A |
| 115 Volt | 6.3 A |

The total current requirement is obtained multiplying the single current requirement by the number of modules. To obtain the best performances make sure that the total burst current requirement of the system doesn't create a significant voltage drop on the cables.

GROUNDING

Make sure that all the system is properly grounded. All the grounding points shall be connected to the same ground node. This will improve reducing hums in the audio system.

AC CABLES DAISY CHAINS



Each HDL 6-A/HDL12-AS module is provided with a Powercon outlet to daisy chain other modules. The maximum number of modules that is possible to daisy chain is:

230 VOLT: 6 modules total

115 VOLT: 3 modules total

WARNING - RISK OF FIRE

A superior number of modules in daisy chain will exceed the Powercon connector maximum ratings and create a potentially dangerous situation.

POWERING FROM THREE PHASE

When the system is powered from a three phase power distribution it is very important to keep a good balance in the load of each phase of the AC power. It is very important to include subwoofers and satellites in power distribution calculation: both subwoofers and satellites shall be distributed between the three phases.

RIGGING THE SYSTEM

RCF has developed a complete procedure to set up and hang an HDL 6-A line array system starting from software data, enclosures, rigging, accessories, cables, until the final installation.

GENERAL RIGGING WARNINGS AND SAFETY PRECAUTIONS

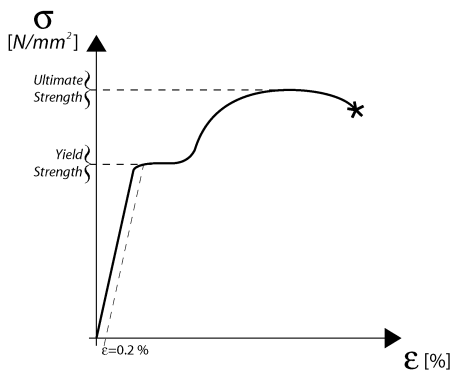
- Suspending loads should be done with extreme caution.
- When deploying a system always wear protective helmets and footwear.
- Never allow people to pass under the system during the installation process.
- Never leave the system unattended during the installation process.
- Never install the system over areas of public access.
- Never attach other loads to the array system.
- Never climb the system during or after the installation.
- Never expose the system to extra loads created from the wind or snow.

WARNING

- The system must be rigged in accordance with the laws and regulations of the Country where the system is used. It is responsibility of the owner or rigger to make sure that the system is properly rigged in accordance with Country and local laws and regulations.
- Always check that all the parts of the rigging system that are not provided from RCF are:
 - appropriate for the application
 - approved, certified and marked
 - properly rated
 - in perfect condition
- Each cabinet support the full load of the part of the system below. It is very important that each single cabinet of the system is properly checked.

"RCF SHAPE DESIGNER" SOFTWARE AND SAFETY FACTOR

The suspension system is designed to have a proper safety factor (configuration dependent). Using the "HDL50 Shape Designer" software it is very easy to understand safety factors and limits for each specific configuration. To better comprehend in which safety range the mechanics are working a simple introduction is needed: HDL 6-A arrays' mechanics are built with certified UNI EN 10025 Steel. RCF prediction software calculates forces on every single stressed part of the assembly and shows the minimum safety factor for every link. Structural steel has a stress-strain (or equivalent Force-Deformation) curve as in the following:

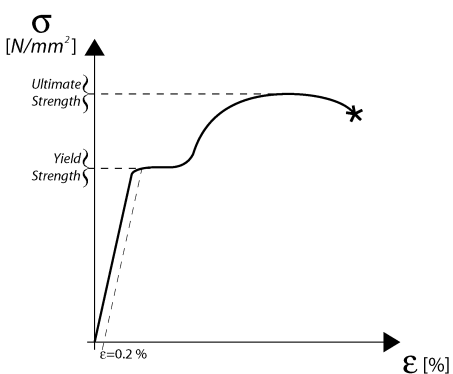


The curve is characterized by two critical points: the **Break Point** and the **Yield Point**. The tensile ultimate stress is simply the maximum stress attained. Ultimate tensile stress is commonly used as a criterion of the strength of the material for structural design, but it should be recognized that other strength properties may often be more important. One of these is certainly the Yield Strength. Stress-strain diagram of structural steel exhibit a sharp break at a stress below the ultimate strength. At this critical stress, the material elongates considerably with no apparent change in stress. The stress at which this occurs is referred to as the Yield Point. Permanent deformation may be detrimental, and the industry adopted 0.2% plastic strain as an arbitrary limit that is considered acceptable by all regulatory agencies. For tension and compression, the corresponding stress at this offset strain is defined as the yield.

In our prediction software the **Safety Factors** are calculated considering the **Maximum Stress Limit** equal to the **Yield Strength**, according with many international standards and rules.

The resulting Safety Factor is the minimum of all the calculated safety factors, for each link or pin.

This is where you are working with a **SF=7**



Depending on local safety regulations and on the situation, the required safety factor can vary. It is responsibility of the owner or rigger to make sure that the system is properly rigged in accordance with Country and local laws and regulations.

The "RCF Shape Designer" software gives detailed information of the safety factor for each specific configuration.

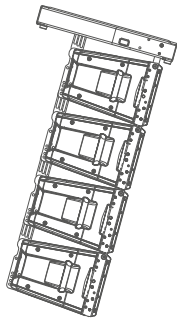
The results are classified in four classes:

| | | | | |
|---------|-------|----------------------|-----------------|-----------------------|
| -GREEN: | | SAFETY FACTOR | > 7 | SUGGESTED |
| -YELLOW | 4 > | SAFETY FACTOR | > 7 | |
| -ORANGE | 1.5 > | SAFETY FACTOR | > 4 | |
| -RED | | SAFETY FACTOR | < 1.5 | NEVER ADMITTED |

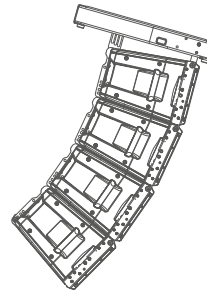


WARNING

- The safety factor is the result of the forces acting on fly bar's and system's front and rear links and pins and depends on many variables:
 - number of cabinets
 - fly bar angles
 - angles from cabinets to cabinets. If one of the cited variables change the safety factor MUST BE recalculated using the software before rigging the system.
- In case the fly bar is picked up from 2 motors make sure that the fly bar angle is correct. An angle different from the angle used in the prediction software can be potentially dangerous. Never allow persons to stay or pass under the system during the installation process.
- When the fly bar is particularly tilted or the array is very curved the centre of gravity can move out from the rear links. In this case the front links are in compression and the rear links are supporting the total weight of the system plus the front compression. Always check very carefully with the "HDL 6-A Shape Designer" software all this kind of situations (even with a small number of cabinets).



System particularly tilted



System very curved

PREDICTION SOFTWARE – SHAPE DESIGNER

HDL 6-A Shape Designer is a temporary software, useful for the setup of the array, for mechanics and for proper preset suggestions.

The optimal setting of a loudspeaker array cannot ignore the basics of acoustics and the awareness that many factors contribute to a sonic result that matches expectations. RCF provides the user with simple instruments that help the setting of the system in an easy and reliable way.

This software will soon be replaced by a more complete software for multiple arrays and complex venue simulation with maps and graphs of the results.

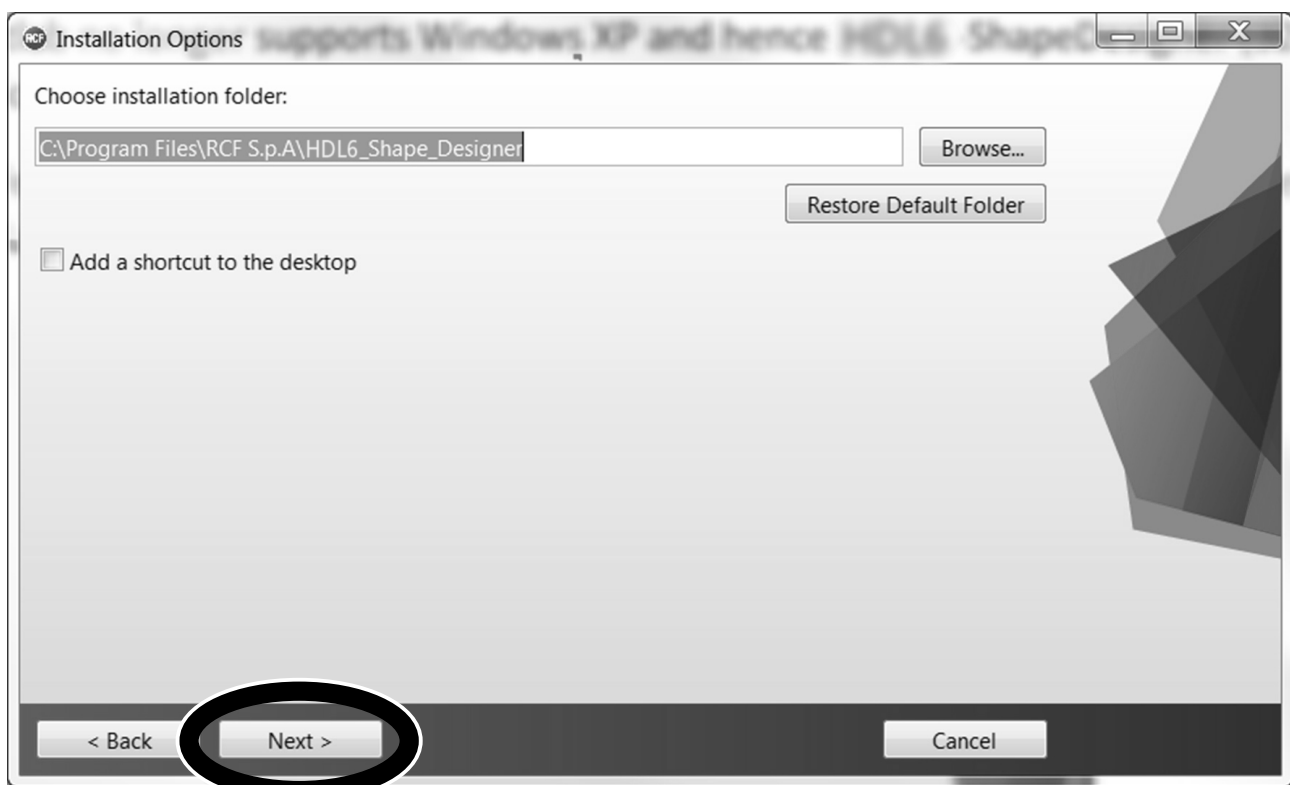
RCF recommends this software to be used for each type of HDL 6-A configuration.

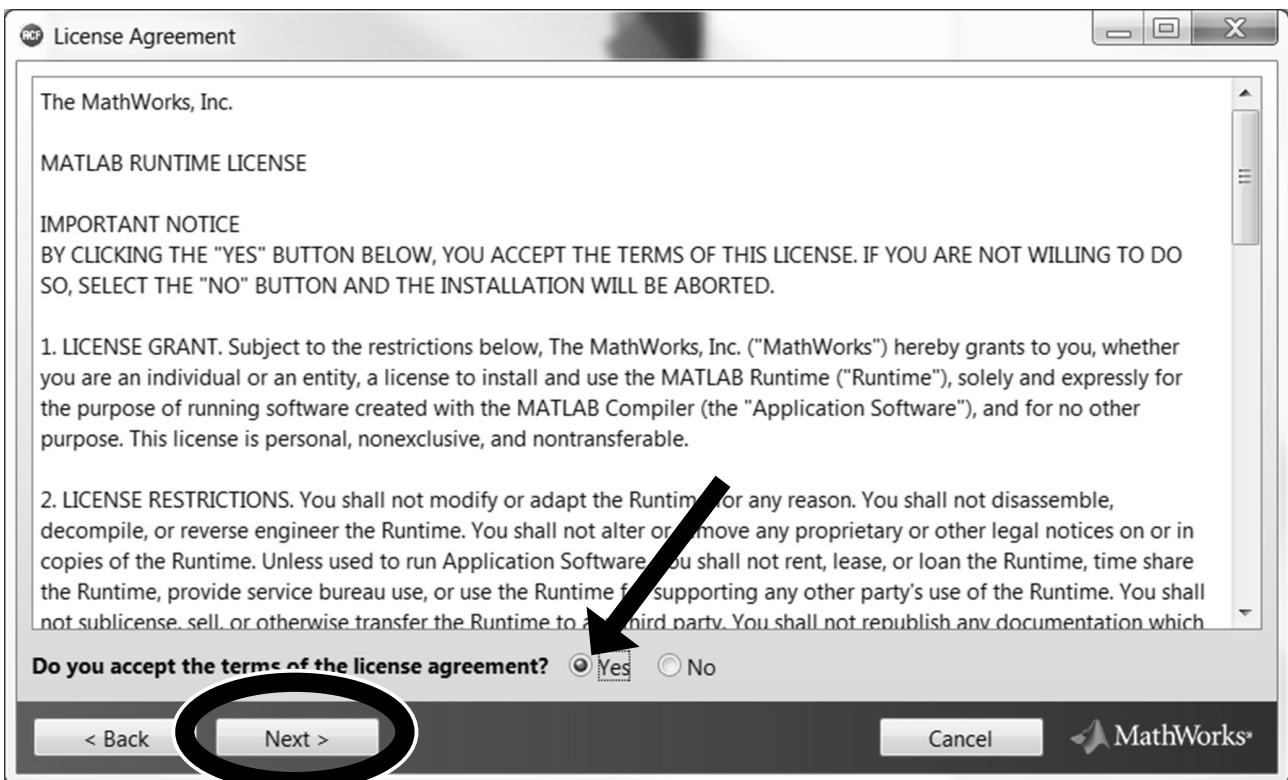
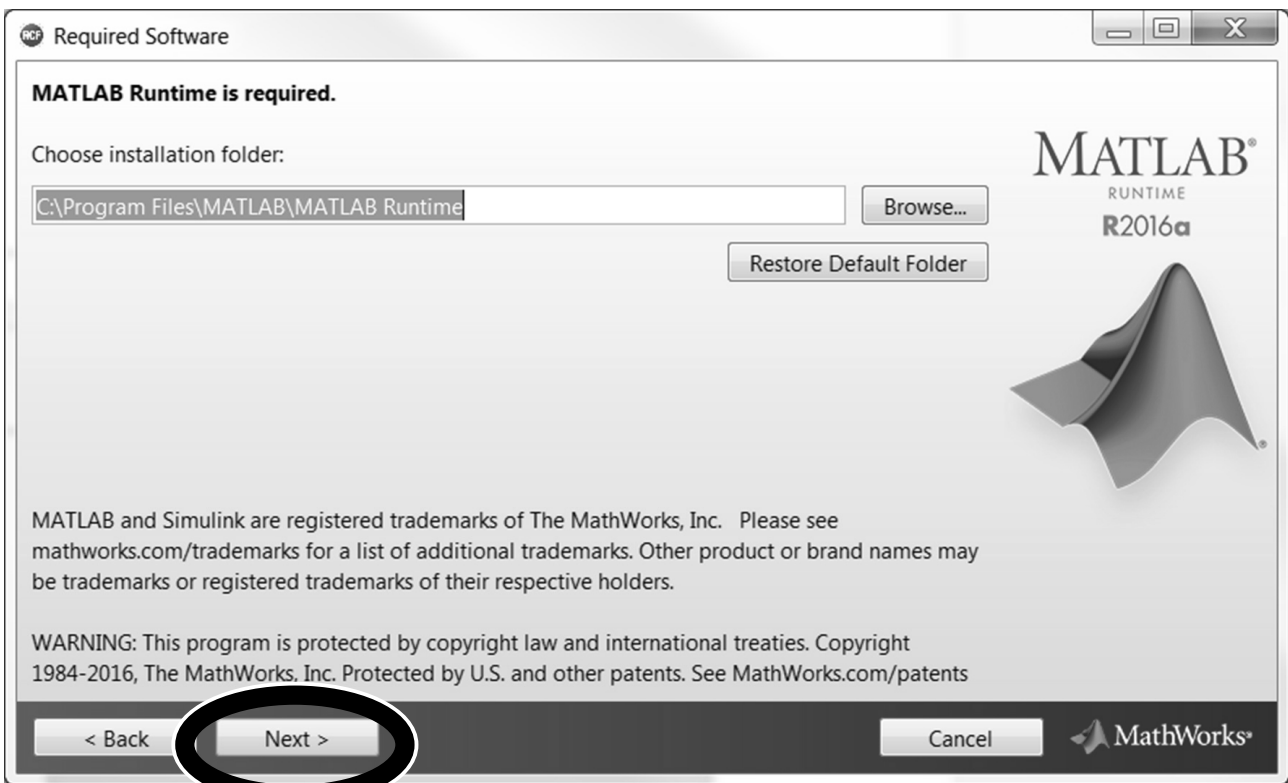
SOFTWARE INSTALLATION

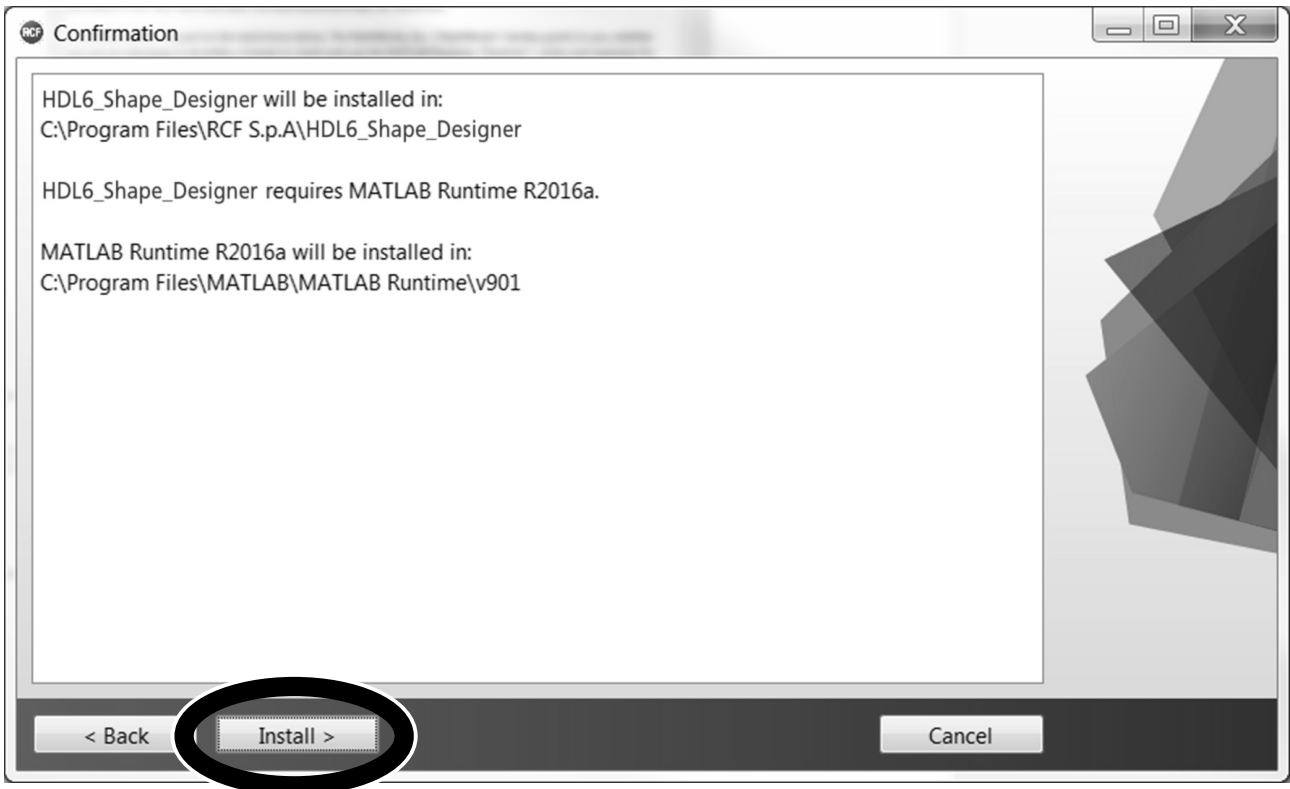
The software was developed with Matlab 2015b and requires Matlab programming libraries. At the very first installation user should refer to the installation package, available from the RCF website, containing the Matlab Runtime (ver. 9) or the installation package that will download the Runtime from the web. Once the libraries are correctly installed, for all the following version of the software the user can directly download the application without the Runtime. Two versions, 32-bit and 64-bit, are available for the download.

IMPORTANT: Matlab no longer supports Windows XP and hence HDL50-ShapeDesigner (32 bit) doesn't work with this OS version.

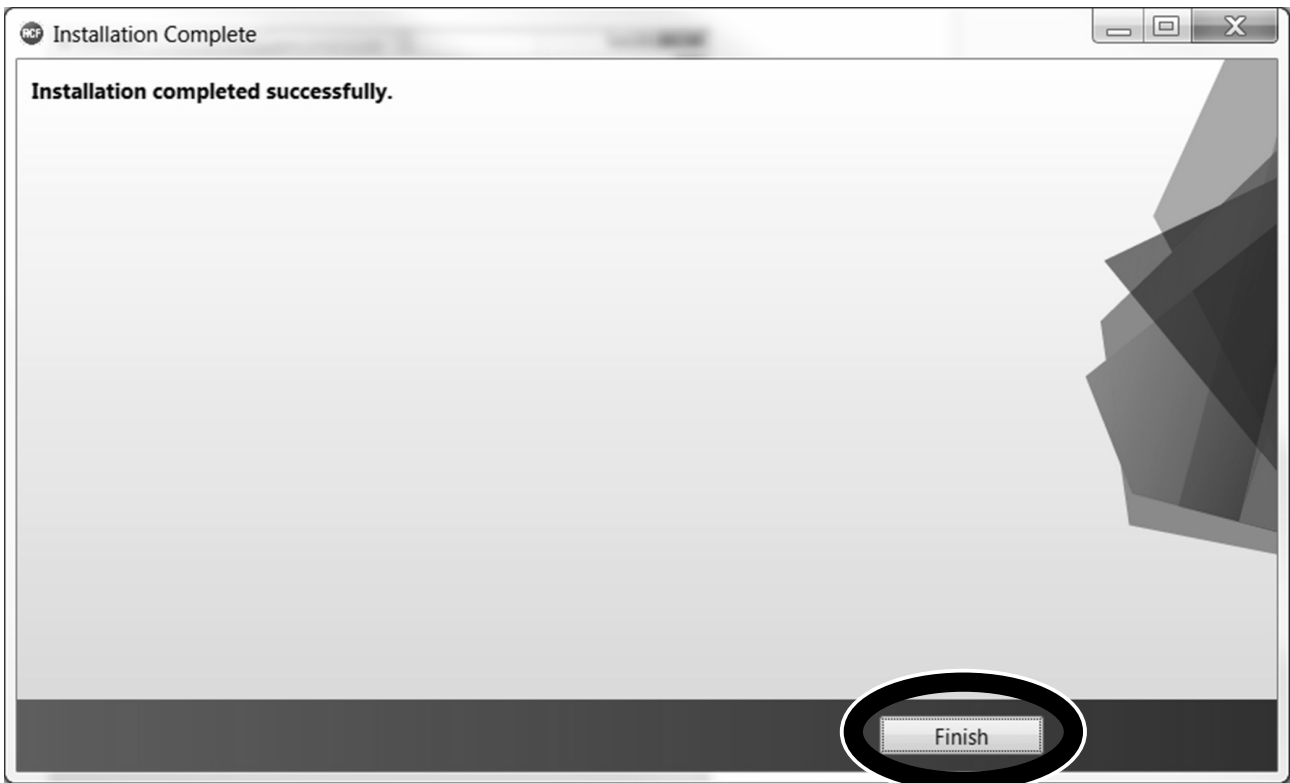
You may wait a few seconds after the double click on the installer because the software checks if Matlab Libraries are available. After this step the installation begins. Double-click the last installer (check for the last release in the download section of our website) and follow the next steps.







After the choice of folders for HDL6-SahpeDesigner software (Figure 2) and Matlab Libraries Runtime the installer takes a couple of minutes for the installation procedure.



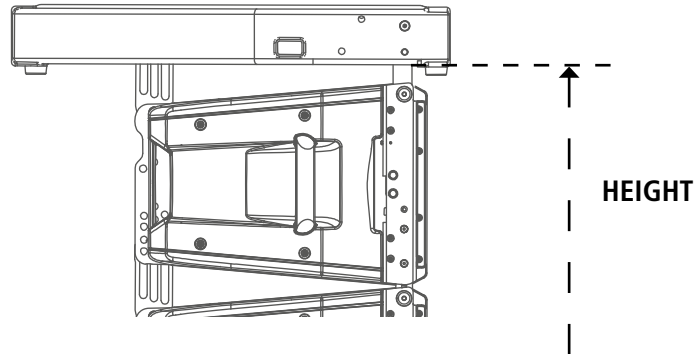
DESIGN THE SYSTEM

The HDL6 Shape Designer software is divided into two macro sections: the left part of the interface is dedicated to project variables and data (size of audiences to cover, height, number of modules, etc.), the right part shows the processing results.

At first the user should introduce the audience data choosing the proper pop-up menu depending on the size of the audience and introducing the geometrical data. It is also possible to define the height of the listener.

The second step is the array definition selecting the number of cabinets in the array, the hanging height, the number of hanging points and the kind of available flybars. When selecting two hanging points consider those points positioned at the flybar extremes.

The height of the array should be considered referred to the bottom side of the flybar, as shown in the picture below.



After entering all the data input in the left part of the user interface, by pressing the AUTOSPLAY button the software will perform:

- Hanging point for the shackle with A or B position indicated if a single pickup point is selected, rear and front load if two pickup points are selected.
- Flybar tilt angle and cabinet splays (angles that we have to set to each cabinet before lifting operations).
- Inclination that each cabinet will take (in case of one pick up point) or will have to take if we were to tilt the cluster with the use of two engines. (two pick up points).
- Total load and Safety Factor calculation: if the selected setup doesn't give Safety Factor > 1.5 the text message shows in red color the failure to meet the minimum conditions of mechanical safety.

D LINE HDL6-A

VENUE

| | x | y |
|----------------------|-----|-----|
| min Audience 1 [m] | 5 | 0 |
| max Audience 1 [m] | 30 | 0 |
| Listener Height [cm] | 170 | |
| min Audience 2 [m] | 35 | 2.5 |
| max Audience 2 [m] | 60 | 6 |
| Listener Height [cm] | 170 | |
| N. of Audience | 2 | |

ARRAY

| | |
|---------------------|-------|
| N. of cabinets | 8 |
| Height [m] * | 8 |
| N. of pickup points | 1 |
| Flybar type | Short |

* from the rear side of the flybar

RESULTS

FLYBAR [°]: -0.1

| SPK | SPLAY | TILT |
|--------|-------|-------|
| SPK 1 | 0 | -0.1 |
| SPK 2 | 1 | -1.1 |
| SPK 3 | 3 | -4.1 |
| SPK 4 | 4 | -8.1 |
| SPK 5 | 5 | -13.1 |
| SPK 6 | 7 | -20.1 |
| SPK 7 | 10 | -30.1 |
| SPK 8 | 10 | -40.1 |
| SPK 9 | | |
| SPK 10 | | |
| SPK 11 | | |
| SPK 12 | | |
| SPK 13 | | |
| SPK 14 | | |
| SPK 15 | | |
| SPK 16 | | |

Total Load [Kg]: 498

Hanging Points: 12-13B

Front Pick Load [Kg]: -

Rear Pick Load [Kg]: -

SAFETY FACTOR
15.5 **OK**

AUTOSPLAY

Graph showing Listener (dashed line) and Audience (solid line) coverage over distance (0 to 150m).

The autoplay algorithm was developed for optimum coverage of the audience size. The use of this function is recommended for the optimization of the array aiming. A recursive algorithm chooses for every cabinet the best angle available in the mechanics.

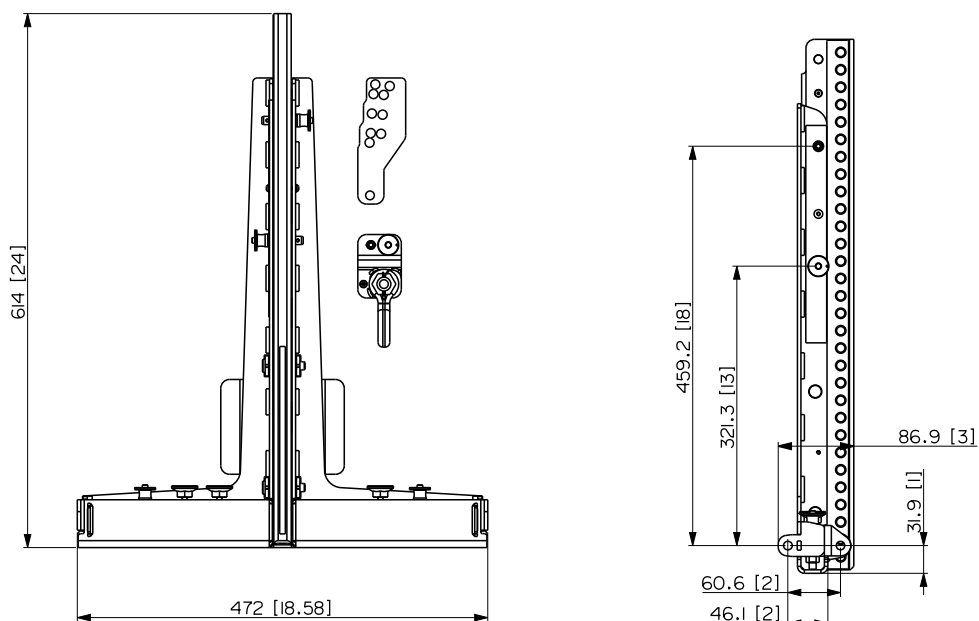
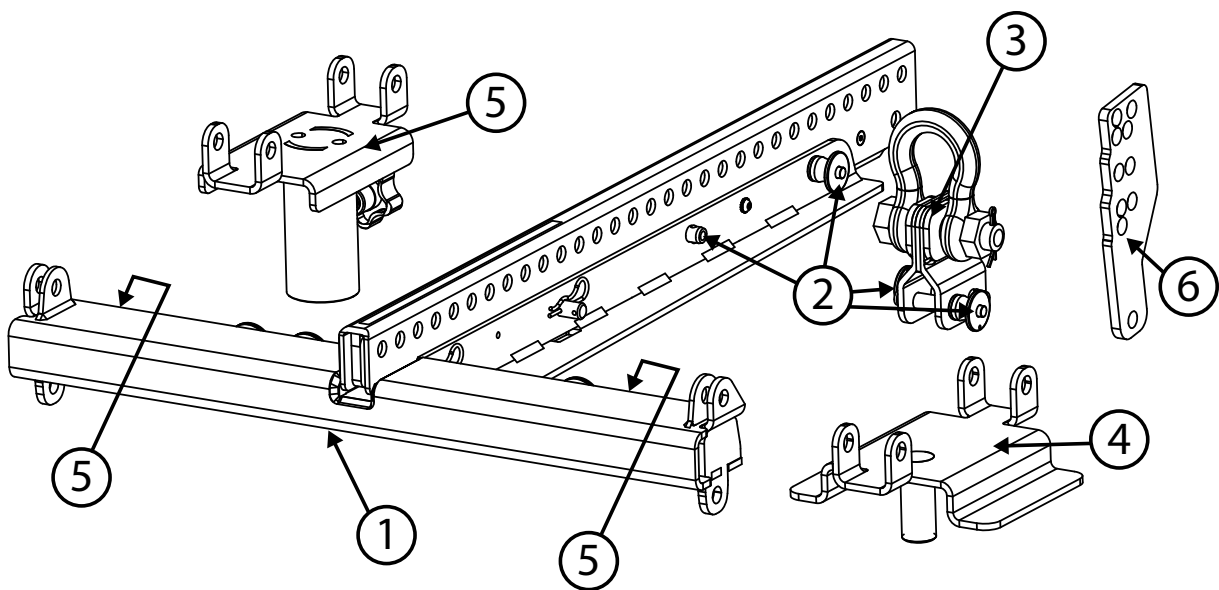
RECOMMENDED WORKFLOW

Pending the official and definitive simulation software, RCF recommends the use of HDL6 Shape Designer together with Ease Focus 3. Because of the need of interaction between different software, the recommended workflow assumes the following steps for every array in the final project:

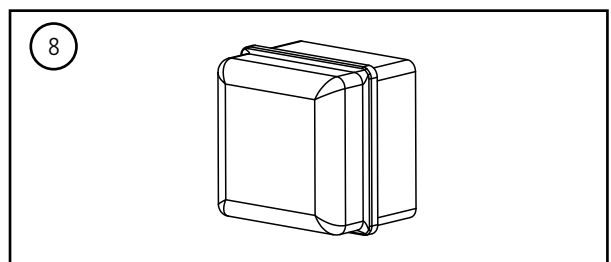
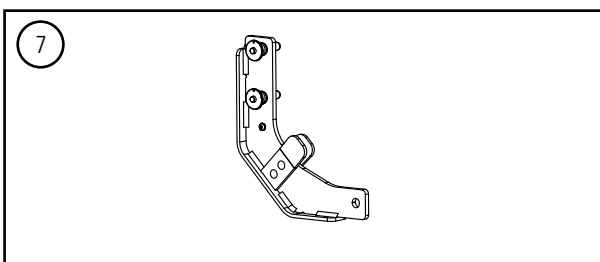
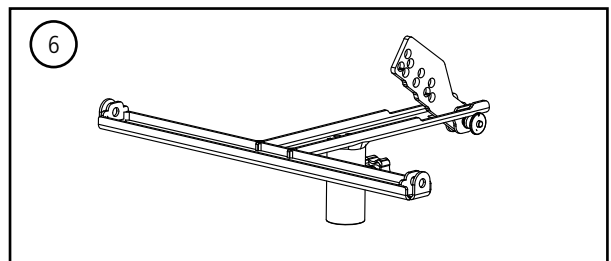
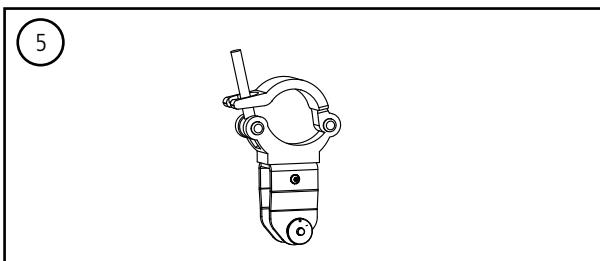
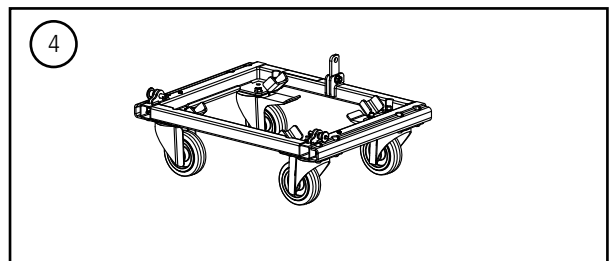
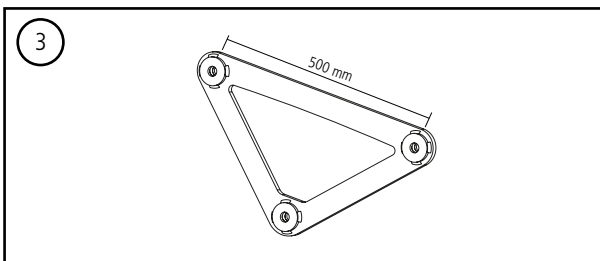
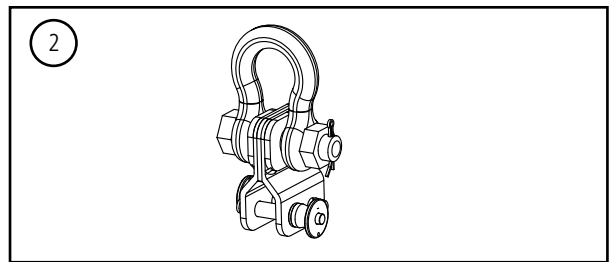
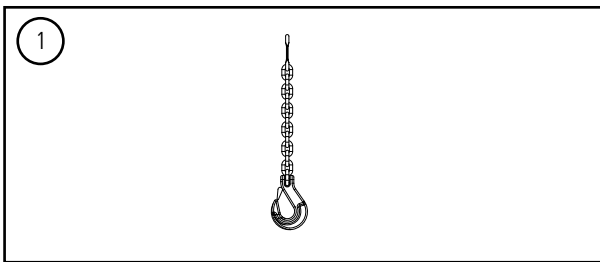
- Shape Designer: audience and array setup. Calculation in "autoplay" mode of flybar tilt, cabinet and splays.
- Focus 3: reports here the angles, tilt of flybar and presets generated by Shape Designer.
- Shape Designer: manual modify of splay angles if the simulation in Focus 3 does not give satisfactory results in order to check the safety factor.
- Focus 3: reports here the new angles and tilt of flybar generated by Shape Designer. Repeat the procedure until good results are achieved.

RIGGING COMPONENTS

| | Description | Accessory p/n |
|---|---|---------------|
| 1 | BARRA SOSPENSIONE HDL6-A E HDL12-AS - up to 16 HDL6-A - up to 8 HDL12-AS - up to 4 HDL12-AS + 8 HDL6-A | 13360360 |
| 2 | QUICK LOCK PIN | 13360022 |
| 3 | FLY BAR PICK UP HDL6-A | 13360372 |
| 4 | CONNECTION BRACKET FOR SECURELY LOCKING THE STACKING CLUSTER ON A SUBWOOFER | |
| 5 | POLE MOUNT BRACKET | |



| | | |
|---|----------|--|
| 1 | 13360129 | HOIST SPACING CHAIN. It allows enough space for the hang of most 2 motor chain containers and avoids any impact on the vertical balance of the array when it is suspended from a single pick-up point. |
| 2 | 13360372 | FLY BAR PICK UP HDL6-A + 2 QUICK LOCK PIN (SPARE PART P/N 13360022) |
| 3 | 13360351 | AC 2X AZIMUT PLATE. It allows the horizontal aim control of the cluster. The system must be hooked with 3 motors. 1 frontal and 2 attached to the azimuth plate. |
| 4 | 13360366 | KART WITH WHEELS AC KART HDL6 + 2 QUICK LOCK PIN (SPARE PART 13360219) |
| 5 | 13360371 | AC TRUSS CLAMP HDL6 + 1 QUICK LOCK PIN (SPARE PART P/N 13360022) |
| 6 | 13360377 | POLE MOUNT 3X HDL 6-A + 1 QUICK LOCK PIN (SPARE PART 13360219) |
| 7 | 13360375 | LINKBAR HDL12 TO HDL6 + 2 QUICK LOCK PIN (SPARE PART 13360219) |
| 8 | 13360381 | RAIN COVER 06-01 |



RIGGING PROCEDURE

Installation and setup should only be carried out by qualified and authorized personnel observing the valid national Rules for the Prevention of Accidents (RPA).

It is the responsibility of the person installing the assembly to ensure that the suspension/fixing points are suitable for the intended use.

Always carry out a visual and functional inspection of the items before use. In the event of any doubt as to the proper functioning and safety of the items, these must be withdrawn from use immediately.

WARNING - The steel wires between the locking pins of the cabinets and rigging components are not intended to carry any load. The cabinet's weight must only be carried by the Front and Splay/Rear links in conjunction with the front and rear rigging strands of the loudspeaker cabinets and the Flying frame. Ensure all Locking pins are fully inserted and securely locked before lifting any load.

In the first instance use HDL 6-A Shape Designer software to calculate the proper set up of the system and to check the safety factor parameter.

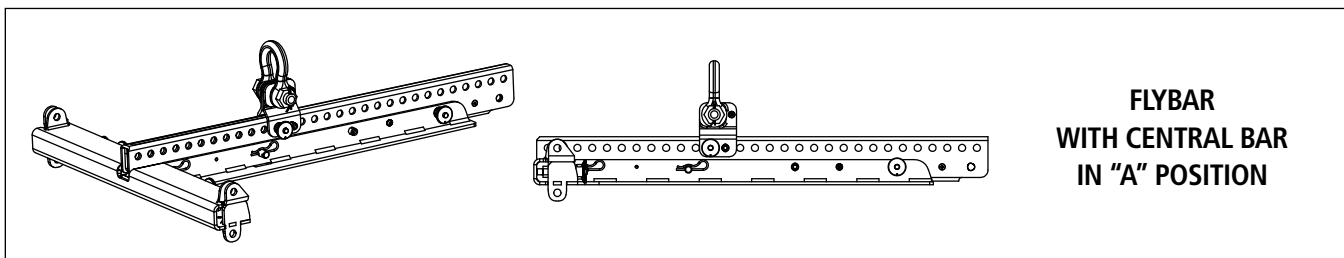


The HDL6 flybar allows the suspension of HDL6-A and HDL12-AS.

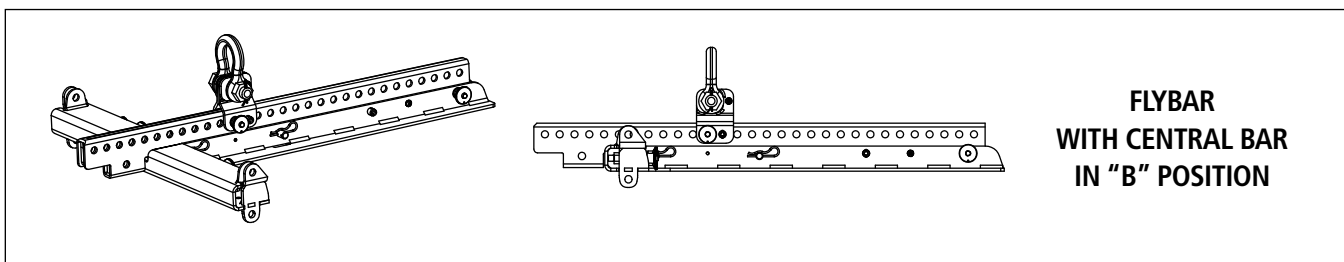
1. FLYBAR SETUP

The HDL6 flybar allows to set the central bar in two different configurations "A" e "B".

Configuration "B" allows a better upper inclination of the cluster.

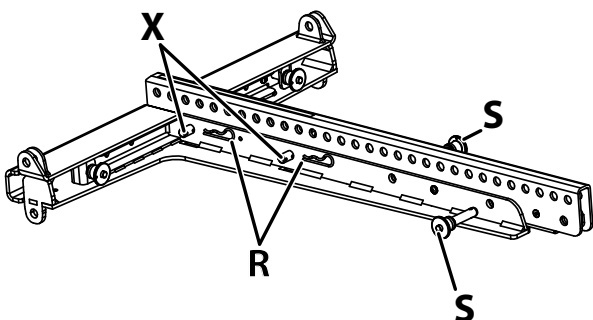


**FLYBAR
WITH CENTRAL BAR
IN "A" POSITION**



**FLYBAR
WITH CENTRAL BAR
IN "B" POSITION**

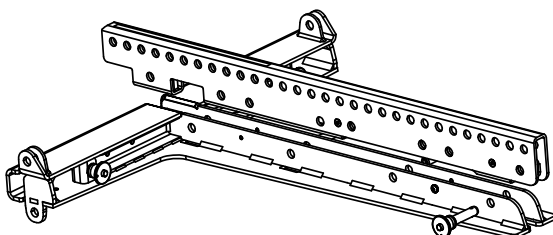
1.1 SET THE CENTRAL BAR IN "B" POSITION



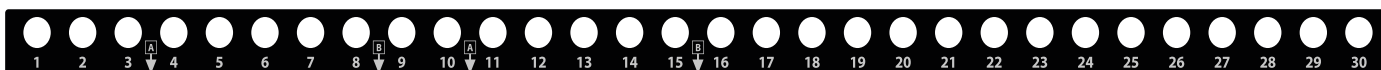
This accessory is provided in "A" configuration.

To set it in "B" configuration:

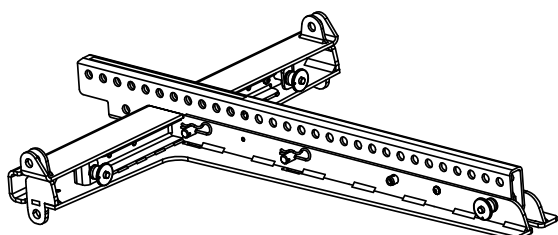
1. Remove the cotter pins "R", pull out the linchpins "X" and the quick lock pins "S"



2. Lift the central bar then re-position it making the "B" indication on the label and the holes "S" match together.

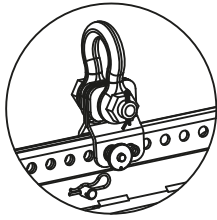


CENTRAL BRACKET LABEL



3. Re-assemble the flybar repositioning the pins "S", the linchpins "X" and the cotter pins "R".

1.2 PICK UP POINT POSITION



PICK UP POINT POSITION

PICK UP POINT "A" POSITION

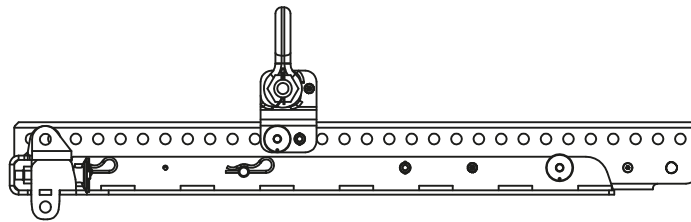


PICK UP POINT "B" POSITION



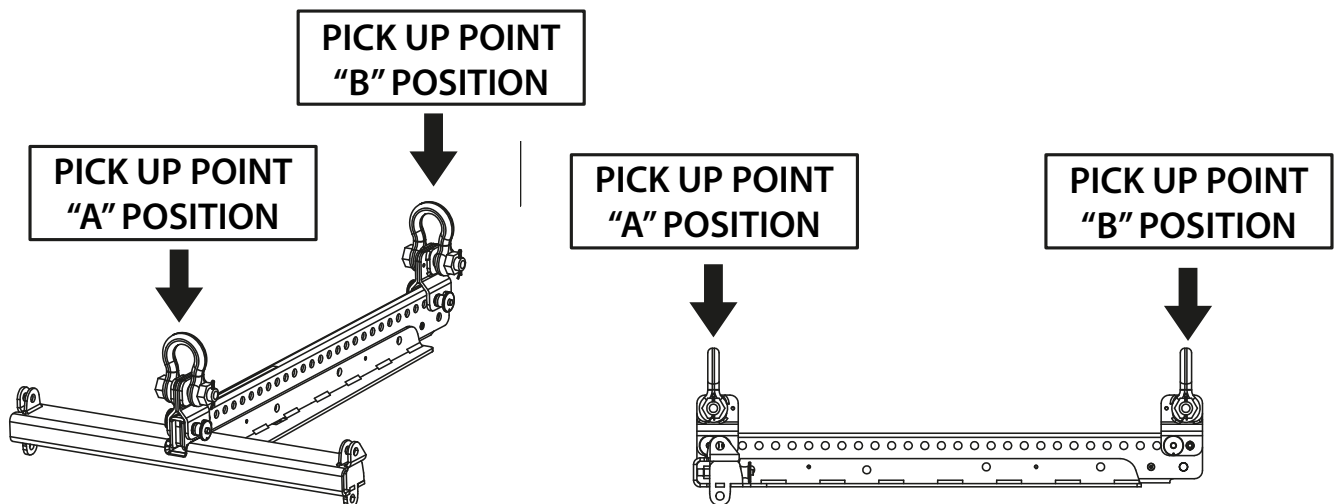
2. SYSTEM SUSPENSION PROCEDURE

SINGLE PICK UP POINT



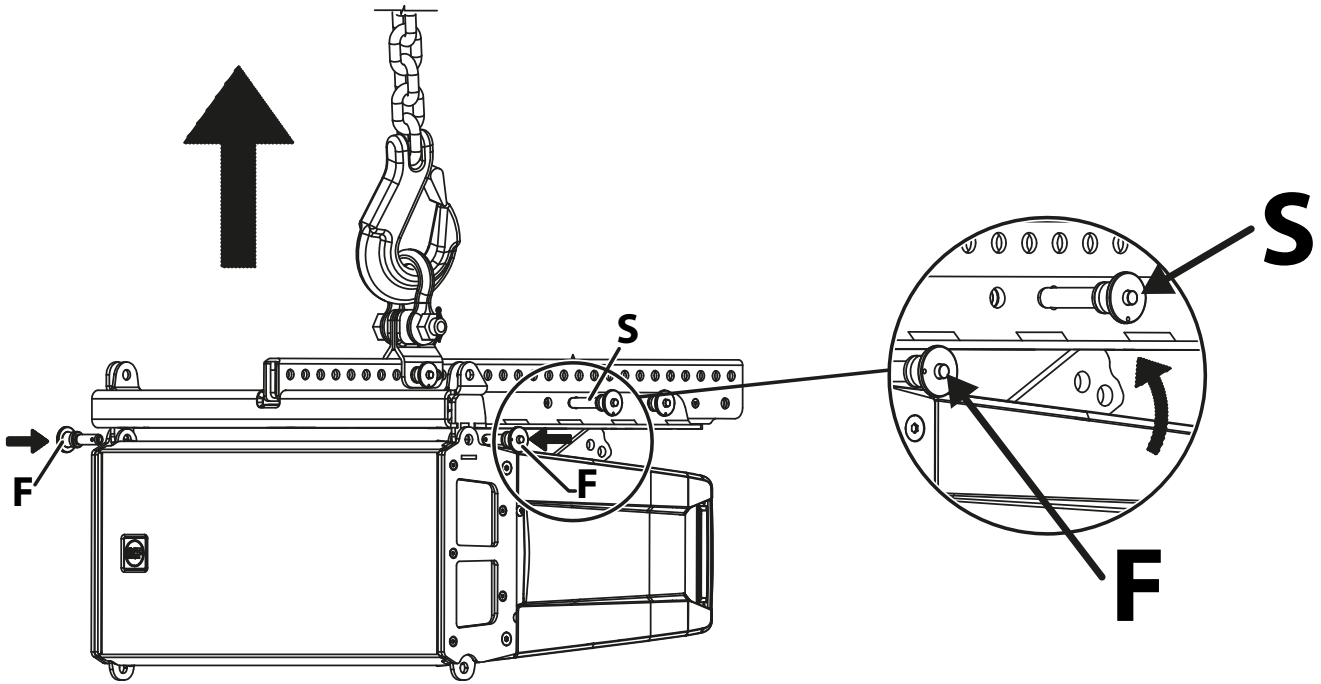
Position the flybar pick-up point as shown in the software, respecting the position "A" or "B".

DUAL PICK UP POINT



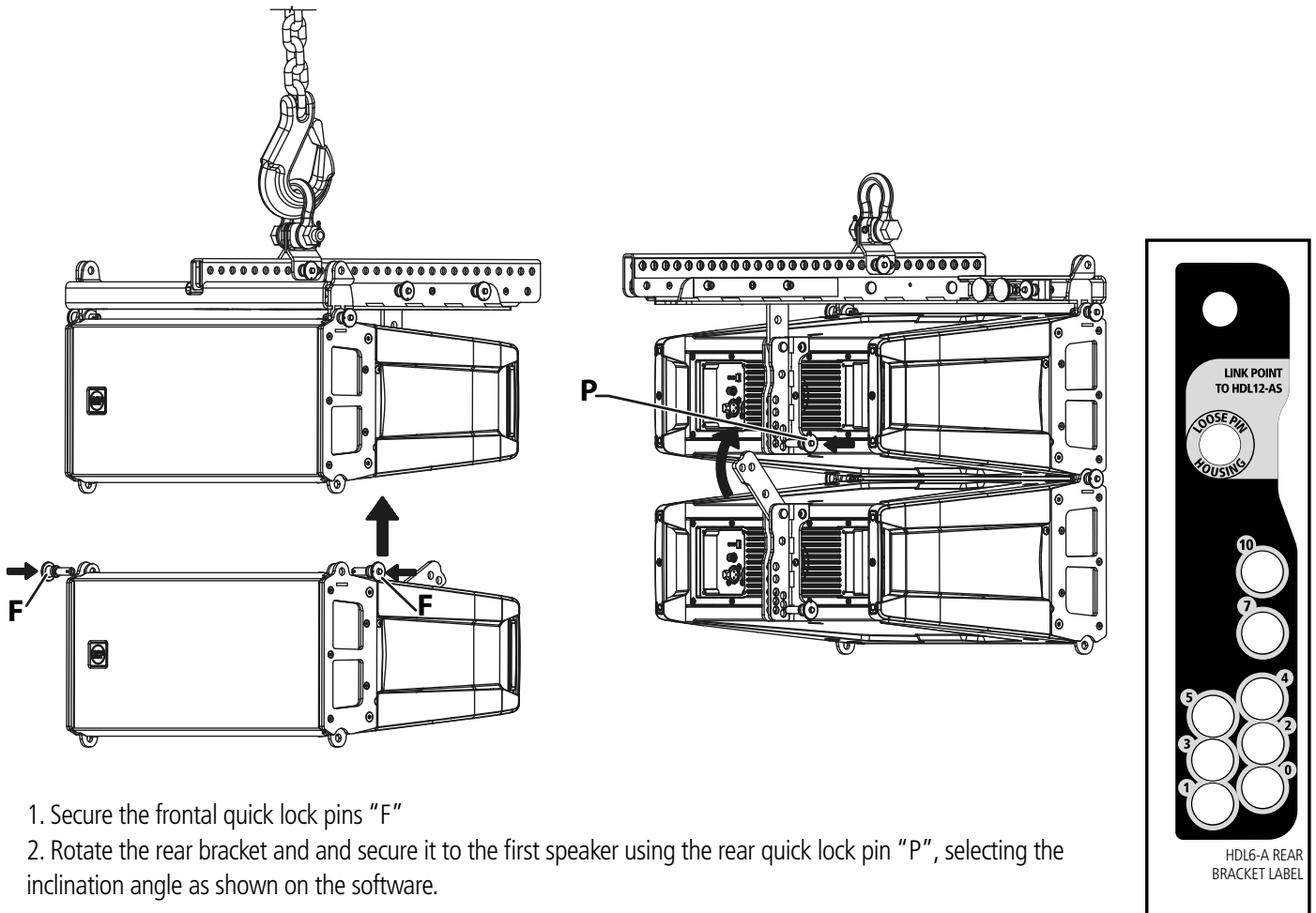
Allows to lift the cluster with two pulleys adding an optional pick up point (pn 13360372).

2.1 SECURING THE FLYBAR TO THE FIRST HDL6-A SPEAKER



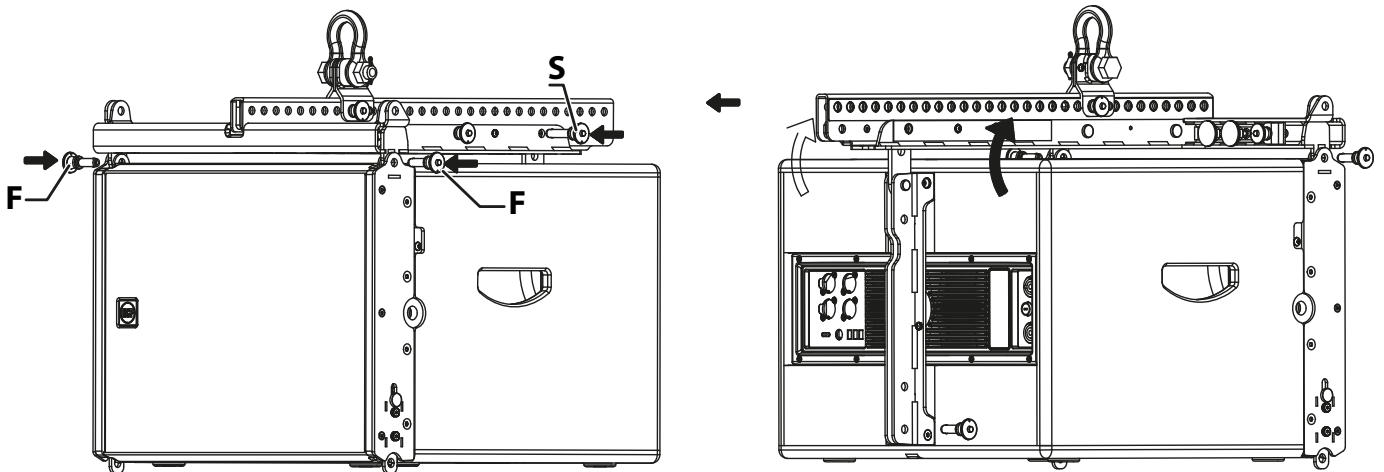
1. Insert the frontal quick lock pins "F"
2. Rotate the rear bracket and secure it to the flybar with the rear quick lock pin "S" to the HDL6 Link Point hole

2.2 SECURING THE SECOND HDL6-A SPEAKER TO THE FIRST (AND CONSECUTIVE)



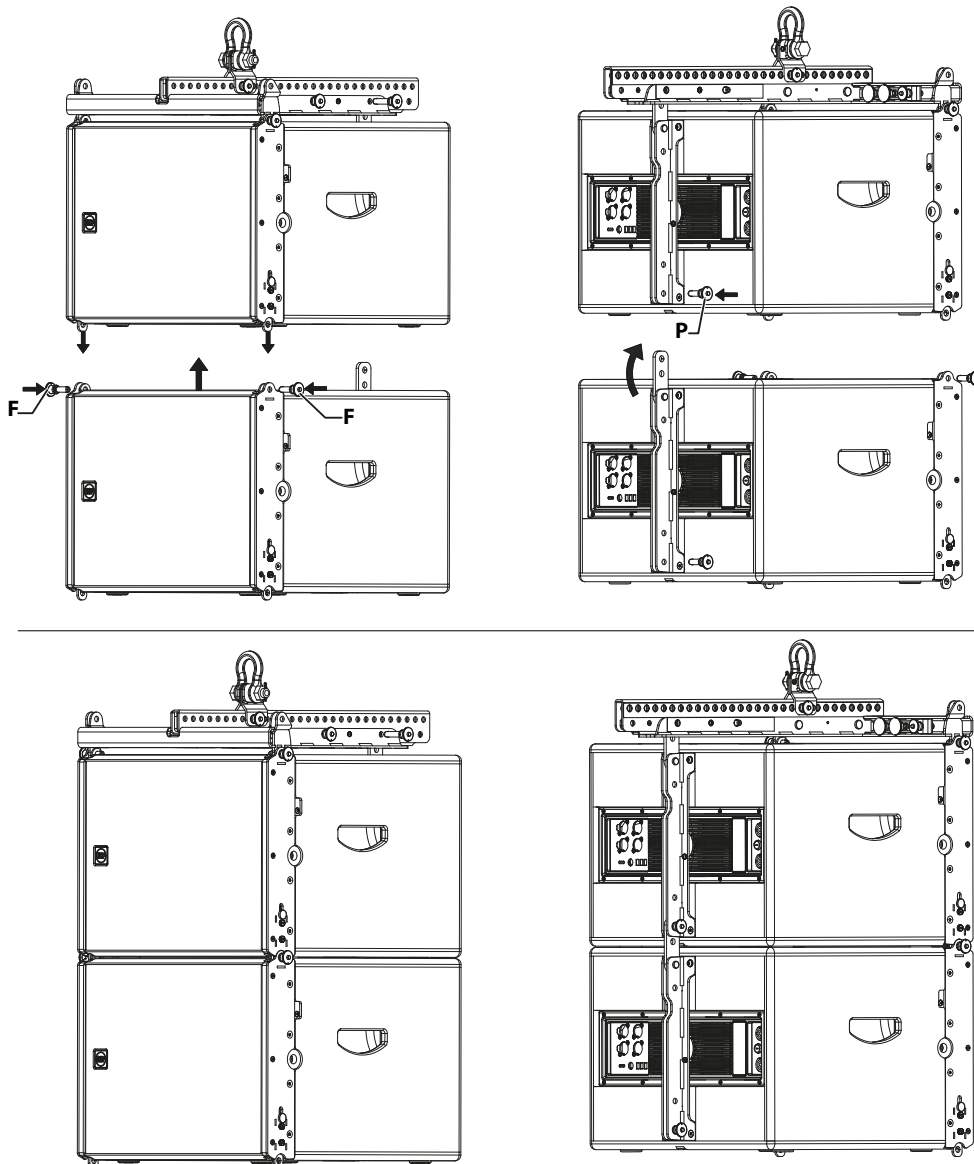
1. Secure the frontal quick lock pins "F"
2. Rotate the rear bracket and secure it to the first speaker using the rear quick lock pin "P", selecting the inclination angle as shown on the software.

2.3 SECURING THE FLYBAR TO THE FIRST HDL12-AS SPEAKER



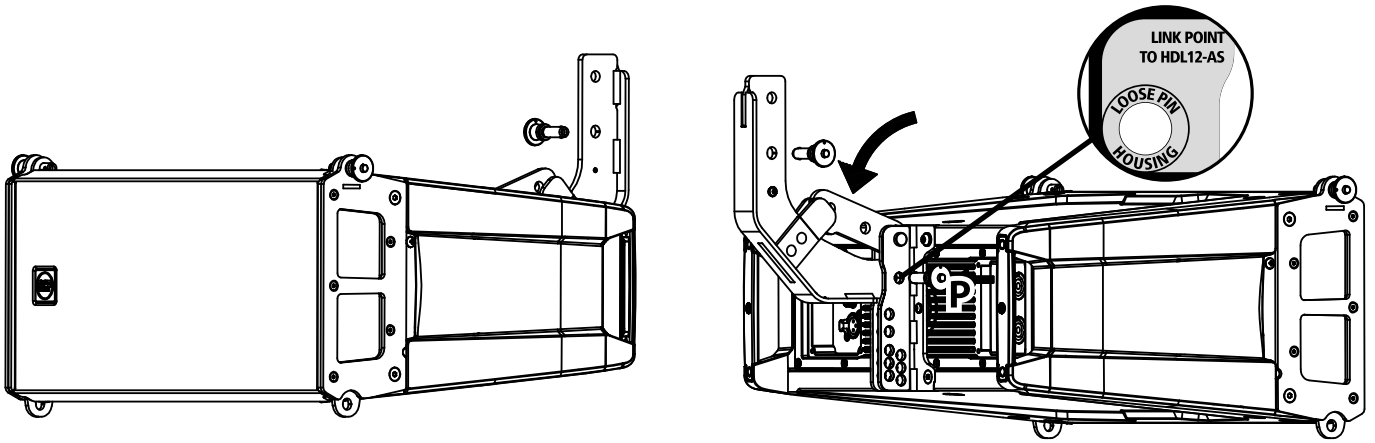
1. Insert the frontal quick lock pins "F"
2. Rotate the rear bracket and secure it to the flybar with the rear quick lock pin "S" on the HDL12 Link Point hole.

2.4 SECURING THE SECOND HDL12-AS SPEAKER TO THE FIRST (AND CONSECUTIVE):

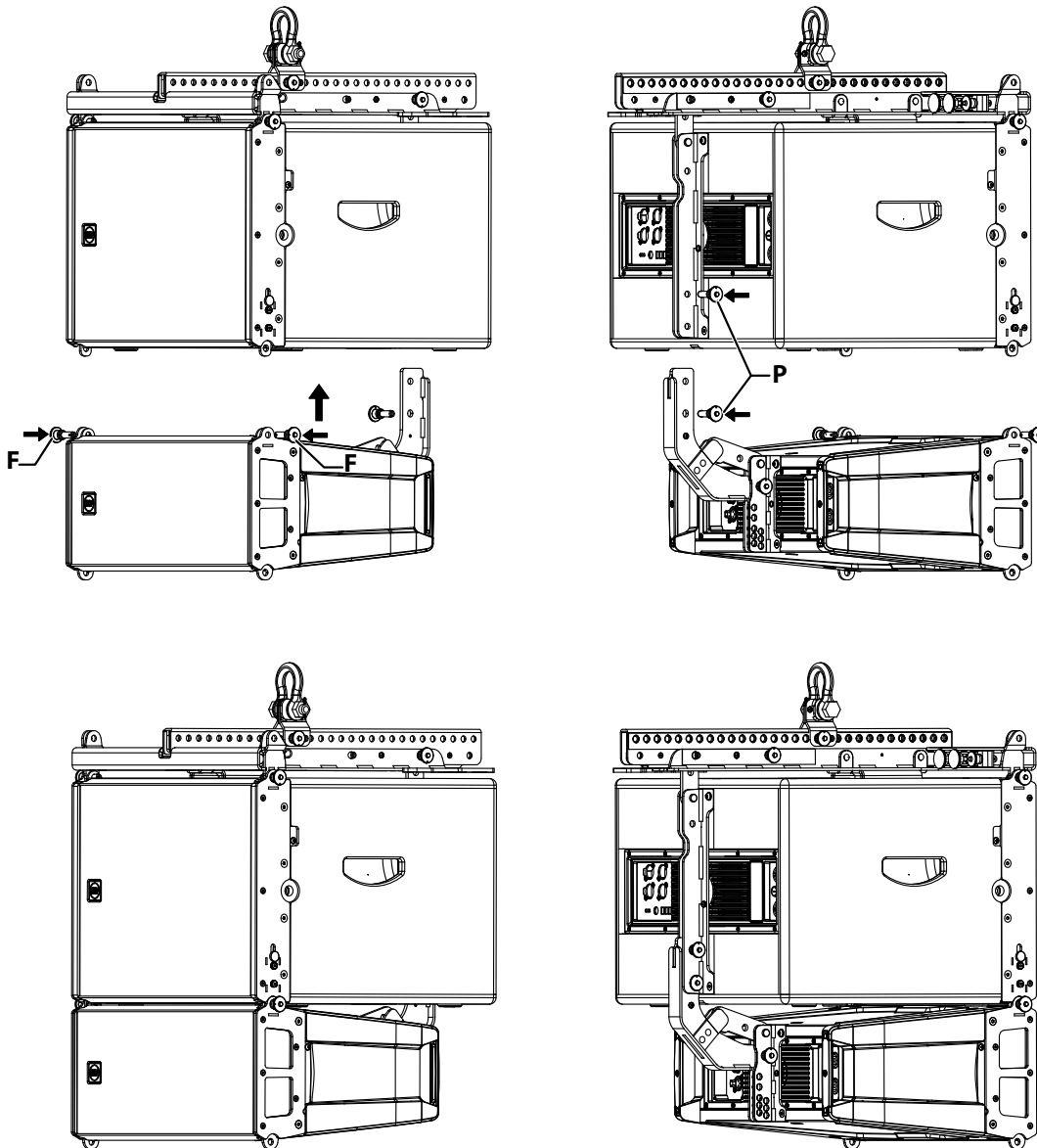


1. Pull out the frontal bracket "A"
2. Secure the frontal quick lock pins "F"
3. Rotate the rear bracket and secure it to the first speaker using the rear quick lock pin "P".

2.5 CLUSTER HDL12-AS + HDL6-A



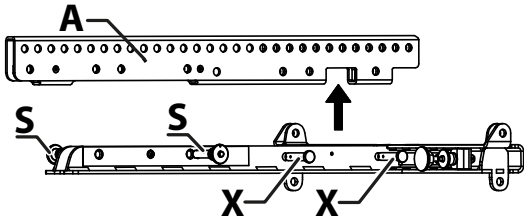
1. Using the quick lock pin "P", secure the linking bracket to the HDL6-A speaker on the "Link point to HDL12-AS" hole, on the rear bracket.
2. Rotate the HDL6-A rear bracket and block it on the linking bracket between the two metal flaps.



1. Secure HDL6-A to HDL12-AS using the frontal quick lock pins "F" and the rear ones "P".

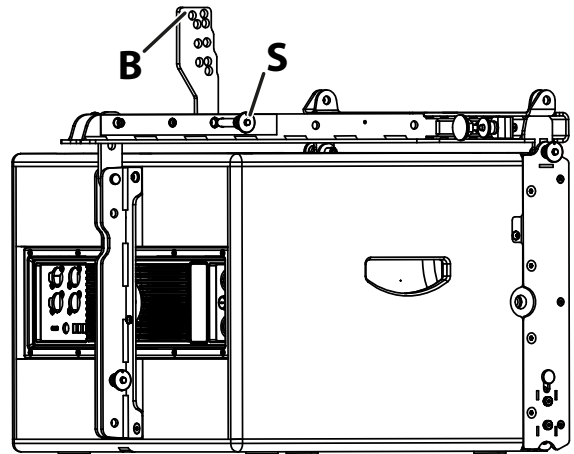
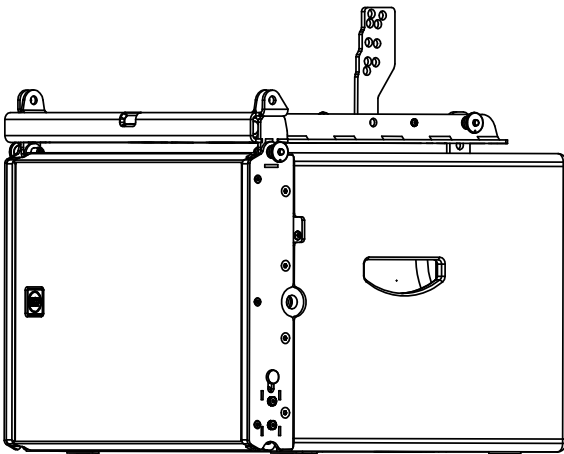
WARNING: always secure both rear pins "P".

3. STACKING PROCEDURE

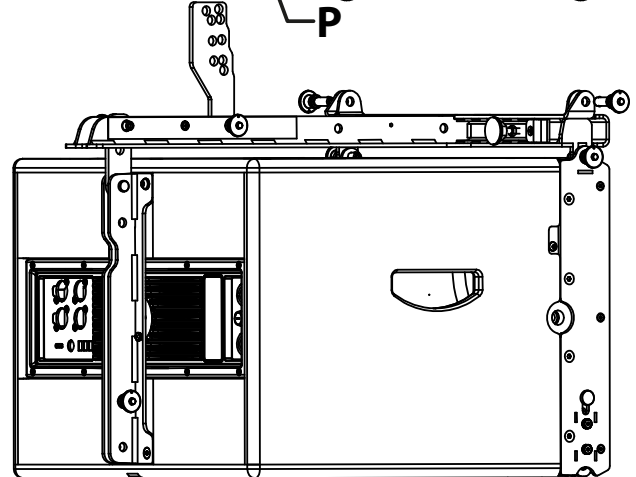
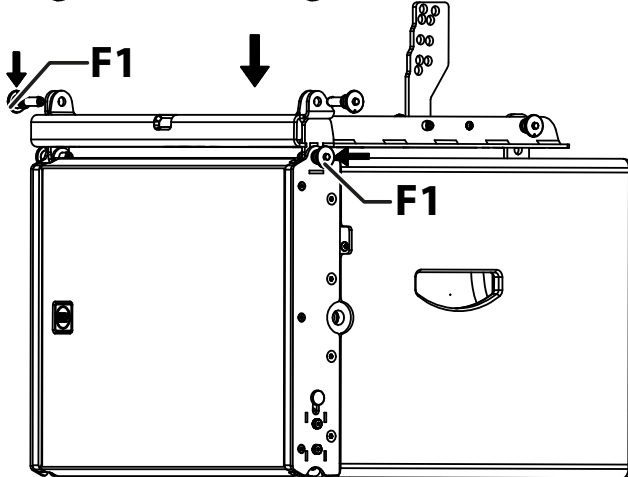
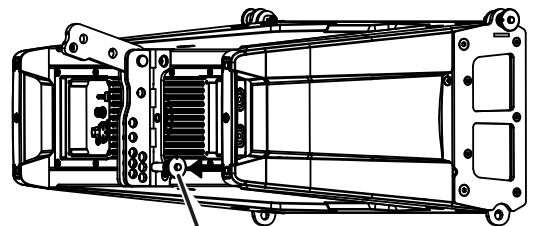
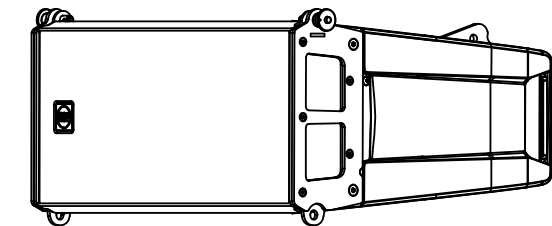


Remove the central bar "A" from the flybar by pulling out the linchpins "X" and the quick lock pins "S".

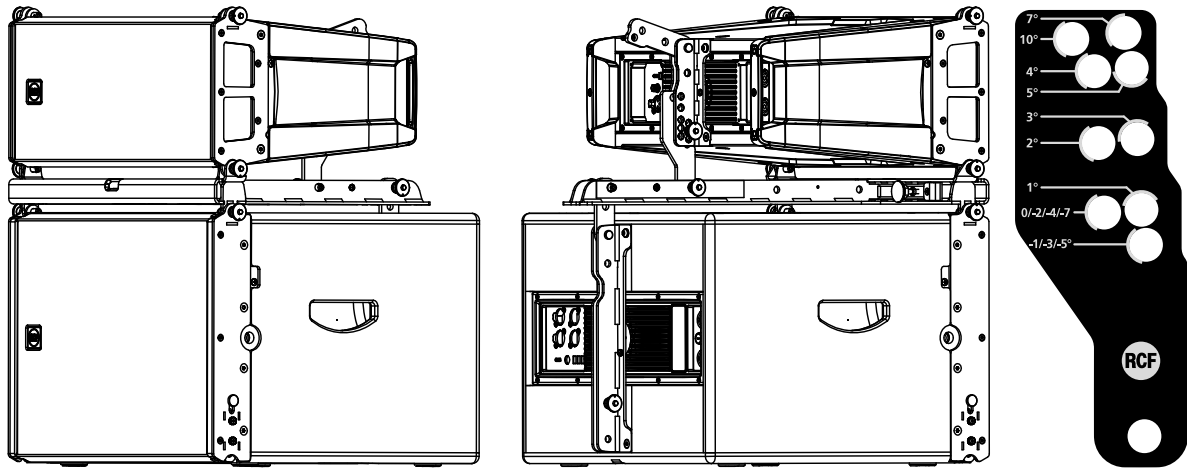
3.1 STACKING ON SUB HDL12-AS



1. Secure the flybar to HDL12-AS
2. Secure the stacking bar "B" (as shown in the picture) to the flybar using the quick lock pin "S" (follow the indication "stacking point")



1. Secure HDL6-A to the flybar using the frontal quick lock pins "F1".



2. Select the inclination angle (positive angles indicate a lower inclination of the speaker) and secure it with the rear quick lock pin "P".

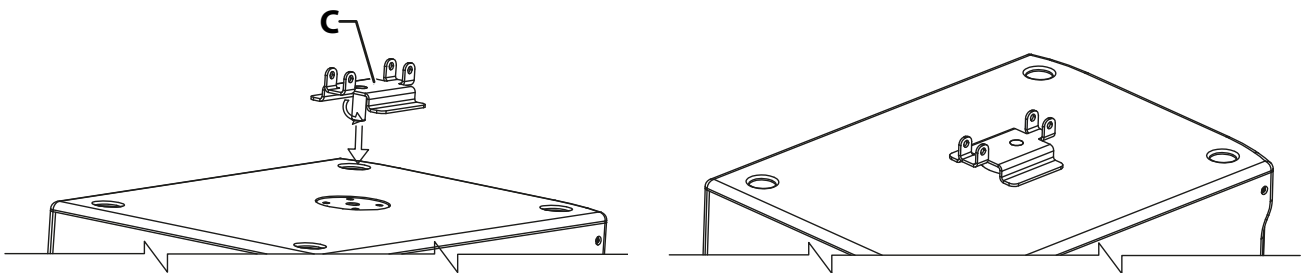
To obtain the speaker inclination (positive or negative) you need to match the stacking bar angle value with the same angle value stated on the speaker rear bracket.

This method works for every inclination except for angles 10 and 7 of the stacking bar, for which you need to proceed in the following way:

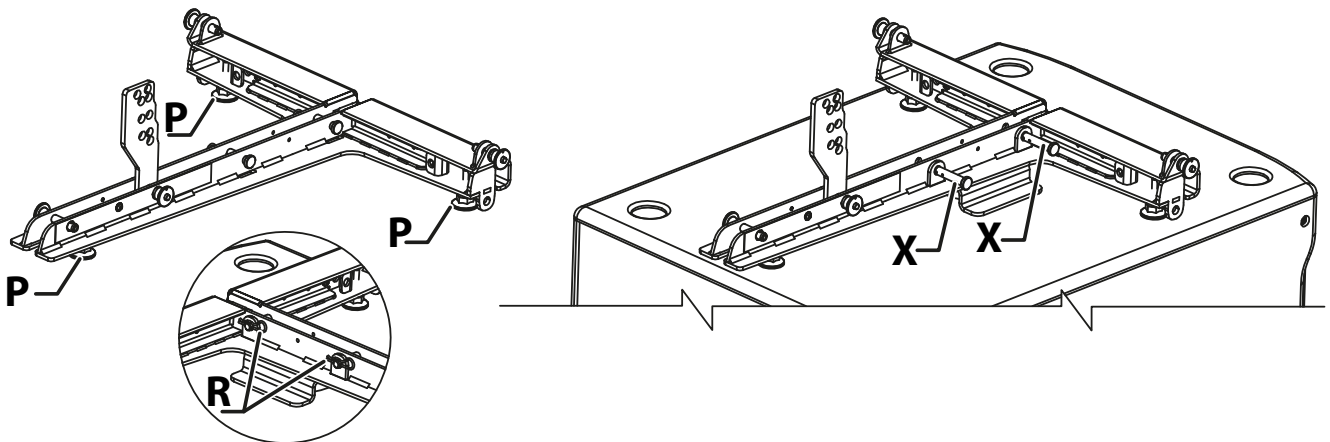
- angle 10 of the stacking bar needs to be matched with angle 0 on the speaker rear bracket.
- angle 7 of the stacking bar needs to be matched with angle 5 on the speaker rear bracket.

WARNING: ALWAYS VERIFY THE SYSTEM SOLIDITY IN EVERY CONFIGURATION

3.1 STACKING ON DIFFERENT SUBWOOFERS (OTHER THAN HDL12-AS)



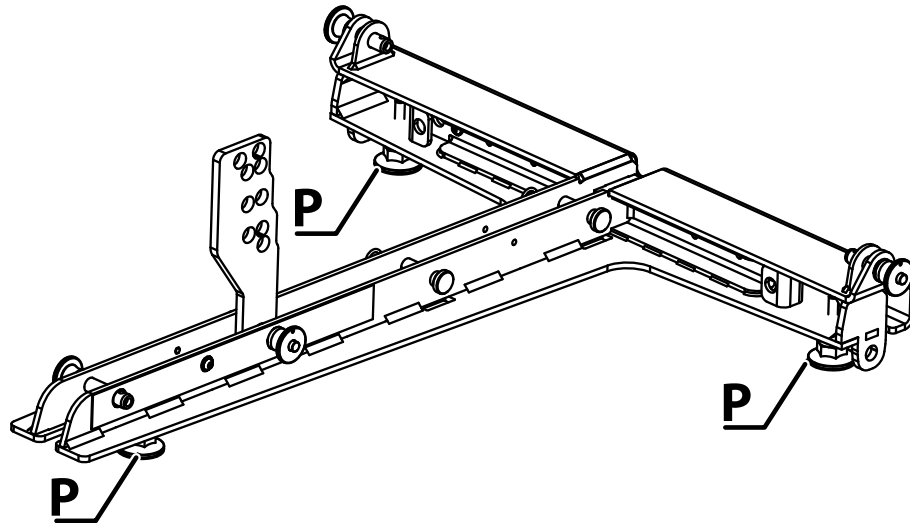
1. Screw the safety bracket "C" to the M20 insert on the subwoofer



1. Screw all three plastic feet "P".
2. Secure the flybar to the safety bracket using the linchpins "X" and block them with the cotter pins "R".
3. Adjust the feet to stabilize the flybar on the subwoofer then block them with their nuts to avoid unscrewing.
4. Assemble the HDL6-A speaker with the same procedure.

WARNING: ALWAYS VERIFY THE SYSTEM SOLIDITY IN EVERY CONFIGURATION

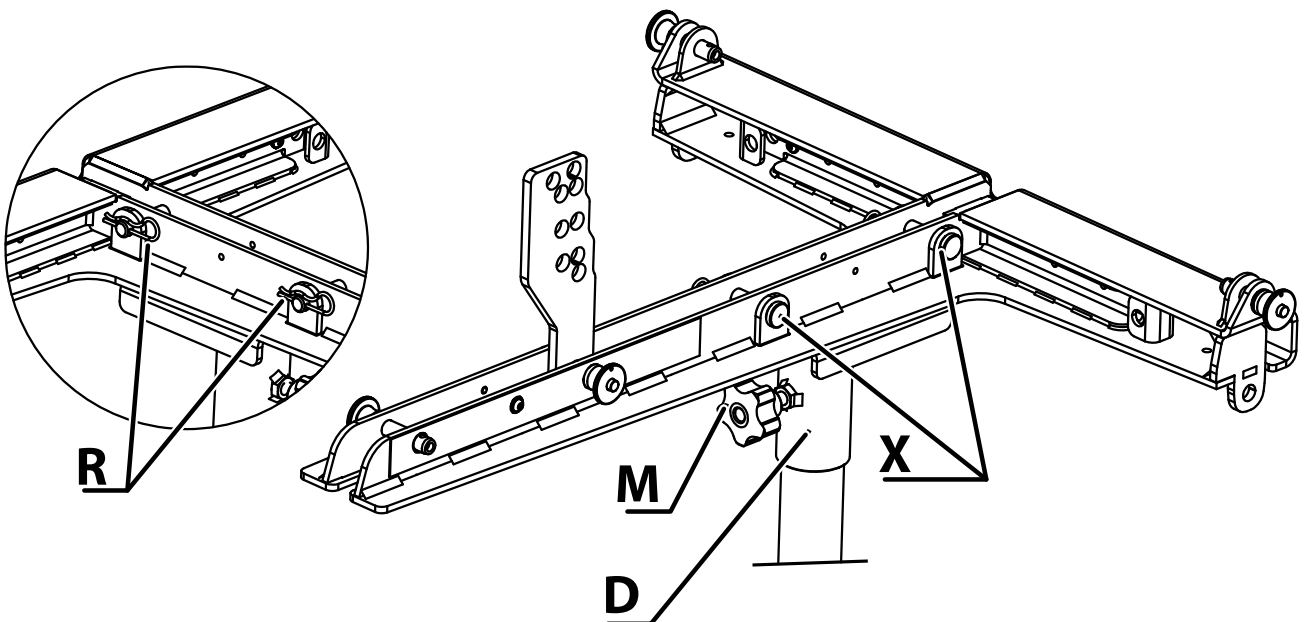
3.2 GRAOUND STACKING



1. Screw all three plastic feet "P".
2. Adjust the feet to stabilize the flybar on the subwoofer then block them with their nuts to avoid unscrewing.
3. Assemble the HDL6-A speaker with the same procedure.

WARNING: ALWAYS VERIFY THE SYSTEM SOLIDITY IN EVERY CONFIGURATION

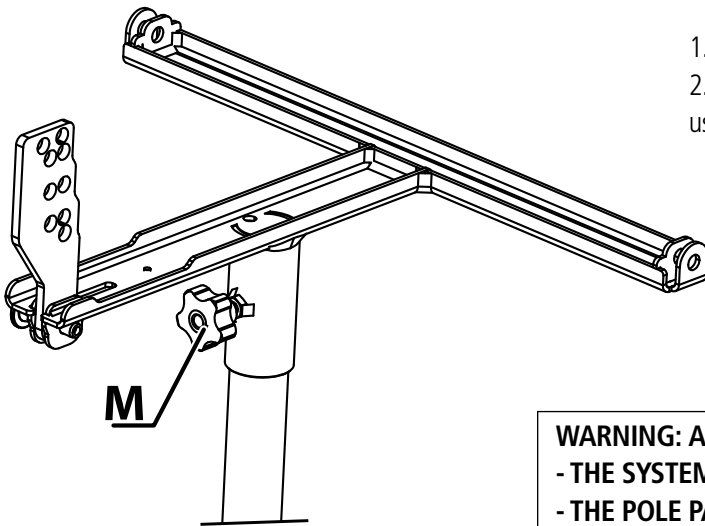
3.3 POLE MOUNTING WITH SUSPENSION BAR



1. Secure the pole mount bracket to the flybar with the linchpins "X" then block them with the cotter pins "R"
2. Block the flybar to the pole by screwing the knob "M".
3. Assemble the HDL6-A speaker with the same procedure.

WARNING: ALWAYS VERIFY - THE SYSTEM SOLIDITY IN EVERY CONFIGURATION
- THE POLE PAYLOAD

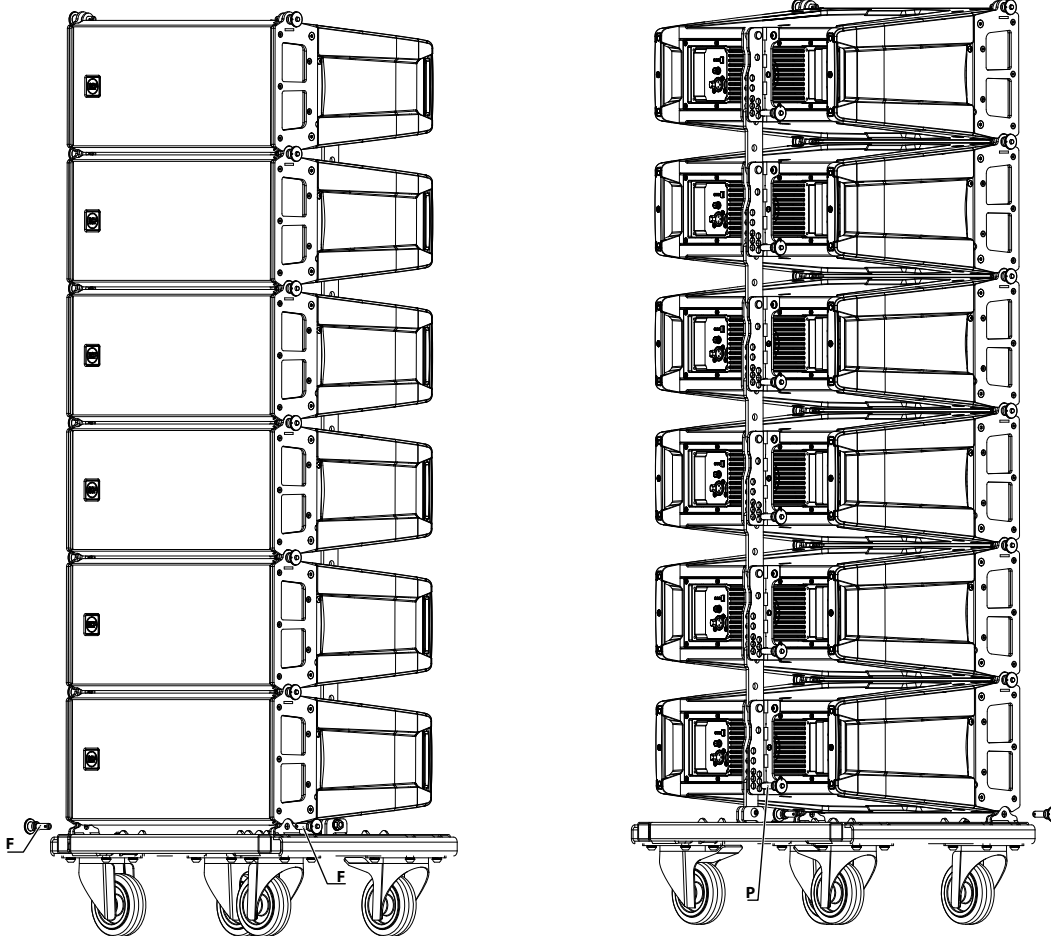
3.4 POLE MOUNTING WITH POLE MOUNT 3X HDL 6-A



1. Secure the flybar on the pole by screwing the knob "M"
2. Assemble the speakers HDL6-A with the same procedure used on stacking on sub HDL12-AS

WARNING: ALWAYS VERIFY
- THE SYSTEM SOLIDITY IN EVERY CONFIGURATION
- THE POLE PAYLOAD

4. TRANSPORTATION: POSITIONING THE SPEAKERS ON THE KART



1. Secure the front side of the speaker to the kart using the quick lock pins "F"
2. Secure the rear side of the speaker to the kart using the quick lock pins "P".
Careful: the hole to be used is 0° on the speaker rear bracket.
3. Proceed with the second speaker repeating steps "1" and "2"

WARNING: the kart has been designed to carry up to 6 speakers.

CARE AND MAINTENANCE – DISPOSAL

TRANSPORT – STORING

During transportation ensure the rigging components are not stressed or damaged by mechanical forces. Use suitable transport cases. We recommend the use of the RCF HDL6-A touring kart for this purpose.

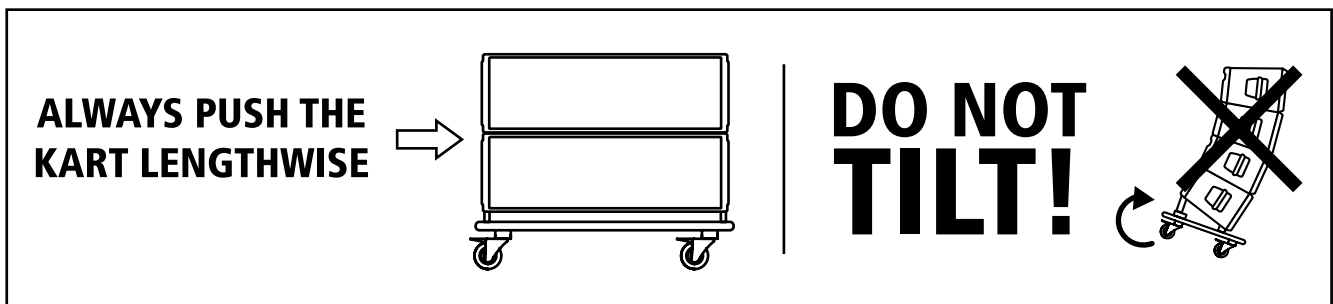
Due to their surface treatment the rigging components are temporarily protected against moisture. However, ensure the components are in a dry state while stored or during transportation and use.

SAFETY GUIDE LINES – HDL6-A KART

Do not stack more than six HDL6-A on one Kart.

Exercise extreme caution when moving stacks of six cabinets with the Kart to avoid tipping.

Do not move stacks in the front-to-back direction of the HDL6-A's (the long side); always move stacks sideways to avoid tipping.



SPECIFICATIONS

| | HDL 6-A | HDL 12-AS |
|----------------------------------|-------------------------|--------------------------|
| Frequency Response | 65 Hz - 20 kHz | 40 Hz - 120 kHz |
| Max Spl | 131 dB | 131 dB |
| Horizontal Coverage Angle | 100° | - |
| Vertical Coverage Angle | 10° | - |
| Compression Driver | 1.0" neo, 1.7" v.c. | - |
| Woofers | 2 x 6.0" neo, 2.0" v.c. | 12", 3.0" v.c. |
| INPUTS | | |
| Input Connector | XLR male | Stereo XLR |
| Output Connector | XLR female | Stereo XLR |
| Input Sensitivity | + 4 dBu | - 2 dBu/+ 4 dBu |
| PROCESSOR | | |
| Crossover Frequency | 900 Hz | 80-110 Hz |
| Protections | Thermal, RMS | Thermal, RMS |
| Limiter | Soft limiter | Soft limiter |
| Controls | HF correction | Volume, EQ, phase, xover |
| AMPLIFIER | | |
| Total Power | 1400 W Peak | 1400 W Peak |
| High Frequencies | 400 W Peak | - |
| Low Frequencies | 1000 W Peak | - |
| Cooling | convection | convection |
| Connections | Powercon in-out | Powercon in-out |
| PHYSICAL SPECIFICATIONS | | |
| Height | 237 mm (9.3") | 379 mm (14.9") |
| Width | 470 mm (18.7") | 470 mm (18.50") |
| Depth | 377 mm (15") | 508 mm (20") |
| Weight | 11.5 Kg (25.35 lbs) | 24 Kg (52.9 lbs) |
| Cabinet | Composite PP | Baltic Birch Plywood |
| Hardware | Integrated mechanics | Array fittings, pole |
| Handles | 2 rear | 2 side |



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