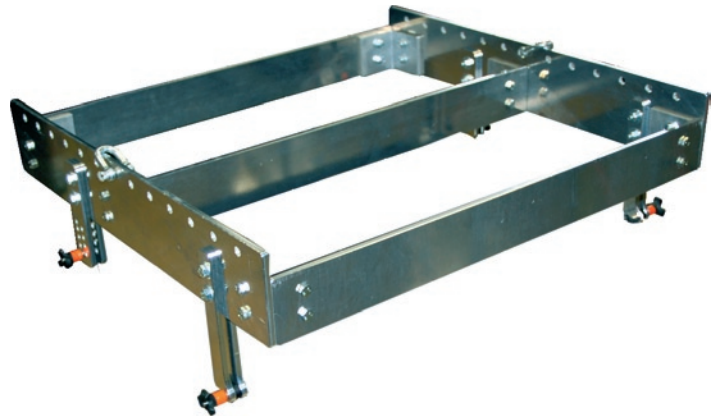


PROPHON

AUDIO & TEKNIK AB



Safety instructions and rigging specifications for Prophon Line Array PLA2821 with Aluminium bumper

Safety instructions and rigging specifications for Prophon Line Array PLA2821

A word to the user

All rigging, installation and flying of our products must be made by personell with the knowledge and experience, and in some countries also certification, in rigging and installing products in public environment.

Only use certified truss, lifts and other hardware that are not manufactured by us, when you fly our speakers.

Note that standards and safety regulations can be different depending on what country you are using your prophon system in, always make sure you follow the standards and safety of the country you are in.

Designs and safety

When designing and constructing hardware and riggin equipment for use in public environments, the highest possible safety precautions have been taken into account, We always over-dimension, and over specify all components, and only use high quality materials.

When designing the PLA2821 we wanted the safety to be well above normal standard in the business, this was ensured with the best software and simulation programs avaiable, in combination with live tests. and external professional construction engineers was hired.

We have designed, developed and manufactured in accordance with all relevant safety standards concerning flewn products in public environment.

For all hardware and flying equipment in the PLA2821, we use a 8 mm. thick, special aluminium alloy EN 6082 T6/SS 4212-06 that is specified and manufactured to be extra strong and resistant.

All the specifications in this datasheet are specified with the assumption that the user frequently test and inspect their products, to assure that no malfunction or damage in the materials and components have occured.

Bumper frame

The bumper frame (aluminium version) are manufactured and assembled in the same way as the flightware, with the same special aluminium alloy EN 6082 T6/SS 4212-06, and with the same bolts and fastening materials, as are mounted on the speakers, so the same factors and weights are to be observed.

Note that the specified max safe working load assumes that there are 4 flying-points lifting the bumper, if you are lifting the bumper in 2 flying-points half the safe working load will apply.

Max load specifications

The aluminium hardware construction are specified and tested to break at a total weight of 6,000 kg's (6 metric Tonnes).

Each fly-piont (there are four on each loudspeaker) are specified and tested to break at a load of 1500 kg's (1,5 metric tonnes) $4 \times 1500 \text{ kg's} = 6000 \text{ kg's}$

The aluminium alloy, manufactured with attached drawings, starts to deform, but not break at 1200 kg's (1,2 metric tonnes)

The aluminium alloy construction are tested and specified to hold at 1000 kg's (1 metric tonne) for each point, giving a $4 \times 1000 \text{ kg's} = 4000 \text{ kg's}$ safe workload, without any safety factor (see below description of our safetyfactors)

Safety factor, depending on what country you will use the system in

Different standards for specifying a safe working load are used in different countries, and different standards are used depending on usage and applications, this makes it hard to specify a safe working-load and in the same time satisfy all governments. We strongly recommend that you use the highest safety factor at all times safety factor 7 (1/7)

we will here specify different ways of describing the safe working load, they are, in the end, all the same, but presented in different ways, depending on regulations and safety factors in different countries.

In this way, you (the user), will be able to easily comply with the standards in your country.

- 1) One standard is to have a safety factor of 7 (1/7) in products, using the standard for flying, rigging and in other ways transporting or flying people above ground,
This would mean that the PLA2821 has a safe total working load of 857 kg's with a safety factor of 7 meaning you can hoist 16 pcs. of the PLA2821 in one array
- 2) Some companies use a safety factor of 5 (1/5) when specifying flying and rigging materials that are not to be used by people, but to be used amongst people.
This would mean that the PLA2821 has a safe working load of 1200 kg's, with a safety factor of 5
- 3) Some manufacturers specify and use a safety factor of 2 (*this is not something we would recommend*) but since some companies, and some countries have a different view of safety we will here specify according to that.
This would mean that the PLA2821 has a safe working load of 3000 kg's with a safety factor of 2 And that you could (theoretically) array 120 pcs of the PLA2821... (you would also have an array of 32 meters)

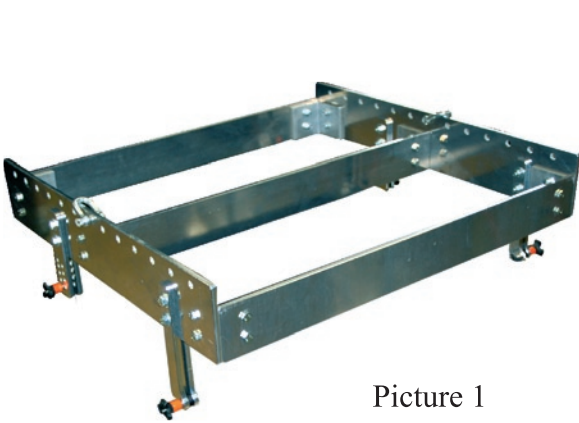
WE DO NOT RECOMMEND THE USE OF SAFETY FACTOR 2 IN EXAMPLE 3 !!!

| MAX SAFE WORKING LOAD SHOULD NOT BE EXCEEDED!!! | | |
|--|--|---|
| Modell nr | Description | Max load |
| PLA2821-FL | Bumper in aluminium alloy: EN 6082 T6/SS 4212-06 8 mm. thick, black, anodized | 32 PLA2821 with 4 flying points (857 kg's) 16 PLA2821 with 2 flying points (428 kg's) All specifications with safety factor 7 |
| PLA2821 | Line array, with complete flightware alloy: EN 6082 T6/SS 4212-06 8 mm. thick, black, anodized with certified sprint 8mm x 25 mm | Max workload 857 kg. (32 pcs PLA2821) safety factor 7 |
| LS825 | Sprint for connecting hardware 8 mm x 25 mm | max load 3 kN |

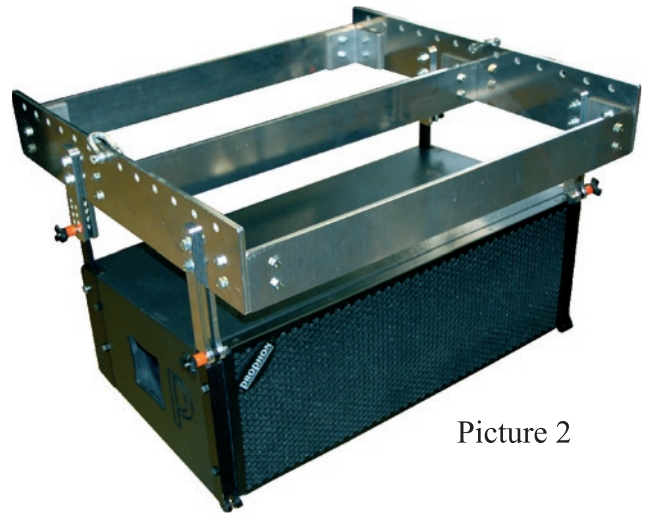
Instruction for using, rigging and flying the PLA2821 safely.
according to the safety factor 7, where a safe working load is 857 kg's, over 4 flying points,
never use more than 34 PLA2821 in an array.

Note: If you are lifting the bumper in 2 points, the safe working load is 428,5 kg.
never use more then 16 speakers in each array.

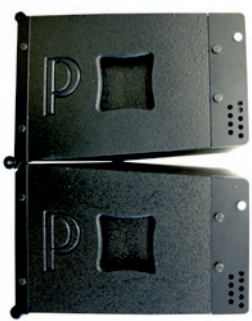
- 1) Fasten and secure the bumper with classified flying products such as slings, hooks, and winches.
- 2) add the first loudspeaker and secure it with 4 8 mm. sprints, using the 0 degree hole. (picture 2)
use only, by us sold, 8 mm. sprints, or equivalent certified sprints, be aware that there are cheap sprints
out there, manufactured in china with a very poor quality, which can result in devastating results.
see picture 7 for certified sprints
- 3) Add another PLA2821, securing it with 4 sprints, by using the splay springing holes you can easily
adjust the tilt of the speaker, see picture 3-6



Picture 1



Picture 2



Picture 3



Picture 4



Picture 5



Picture 6



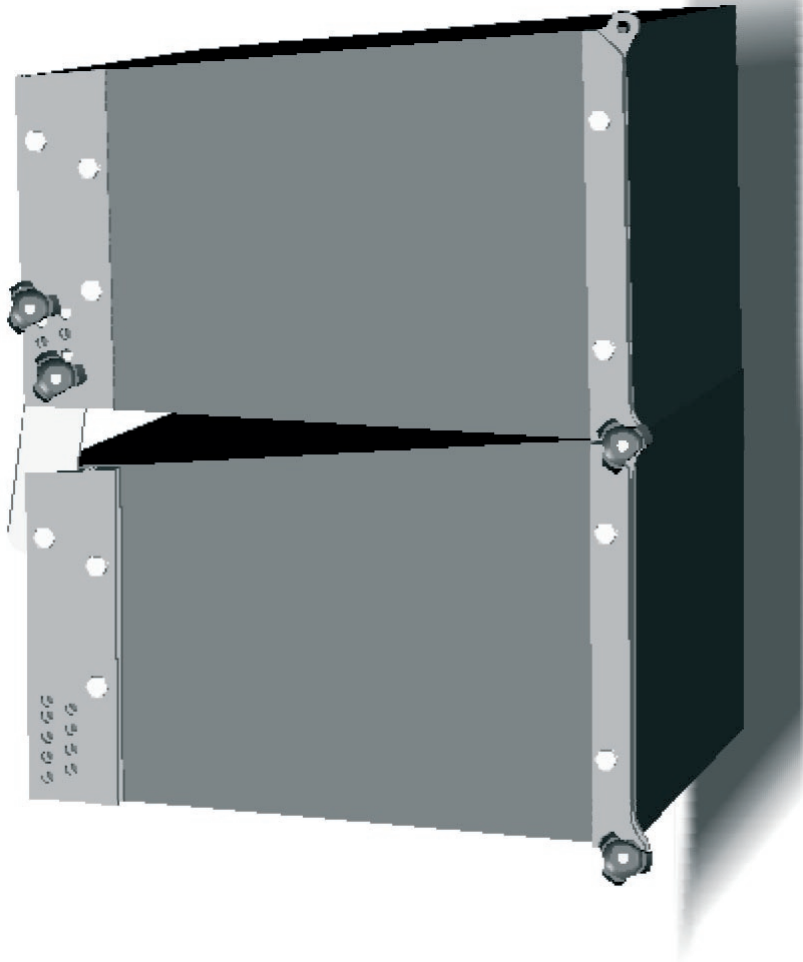
Picture 3

Illustrative pictures of some gigs, courtesy of our faithful costumers.



Prophon Audio & Teknik AB, Stockholm, Sweden 2011-06-01

All data subject to change without prior notice, latest documentation and data can always be found at www.prophon.com



Picture showing solid works software assembly of all parts

