

S O U N D P R O J E C T S

QUICK-RIG™
RIGGING ACCESSORIES
SP2 / SP3



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GENERAL APPLICATION EXAMPLE



Fig.1 Three Quick-rig™ Flying Frames [B] with Quick-rig™ 18- degrees connecting bars [A] for waved front configuration.

SAFETY GUIDELINES

Workload Limits (WLL) of all SOUND PROJECTS rigging accessories have a design ratio of 10:1. This is well above the European guidelines for lifting machinery.

In order to approve to the German BGV C1 Rule for the Prevention of Accidents a S.F. 12x should be applied. An indication of the maximum number of cabinets in a configuration in accordance to this Rule and other safety guidelines are given throughout this paper.

QUICK-RIG™ RIGGING ACCESSORIES

All SP2 and SP3 high, mid and low cabinets are provided with Quick-rig™ cabinet hardware for use with the Quick-rig™ rigging accessories, a proprietary design of flying hardware for easy, fast and flexible configuring of sound reinforcement arrays. Always use the rigging system as described in this manual.

The system is made up with the following items:

1. Quick-rig™ Flying Frame, Q-pin and safety [b]
2. Quick-rig™ connecting bar 0 degrees
3. Quick-rig™ connecting bar 18 degrees [A, fig1]
4. Green pin 4,74T [a]
5. Quick-rig™ Q-pin, Block and safety [c]

The Quick-rig™ system has several special features.

The front of the total array in the vertical plane can either be curved or straight depending on SPL requirements and desired coverage angle.

Due to narrowing of the radiation pattern a vertical straight column will generate more SPL (i.e. longer “throw”) at the expense of some H.F. lobbing. A vertical curve can be created to adapt a rig to the required vertical coverage angle. Since the mid- and high frequencies are most sensitive to precise aiming, we recommend to design clusters around the top-cabinets and add the desired amount of Low cabinets to taste and/or to complete the desired cluster-shape. A pleasant feature of the SP3-45T is its asymmetrical HF radiation pattern.

When two SP3-45T cabinets are mounted above each other with the HF horns parallel, maximum coupling is achieved with virtually no overlap in the high and high-mid frequencies.

In wave- as well as flat shaped arrays cabinets are tightly placed one to another, giving acoustic benefits and making it a very compact set with very little obstruction of sight lines.

Adjusting the suspension point in the Flying Frame rearwards will tilt single or multiple column arrays forwards.

Front-fill cabinets at the bottom of an array can be tilted by means of green pin shackles of various lengths in stead of the Q-pin.

WARNING:

Never use any other suspension point than the available lifting points within the Quick-rig™ Flying Frame and never tilt an array by pushing or pulling the array at one of the cabinets itself!

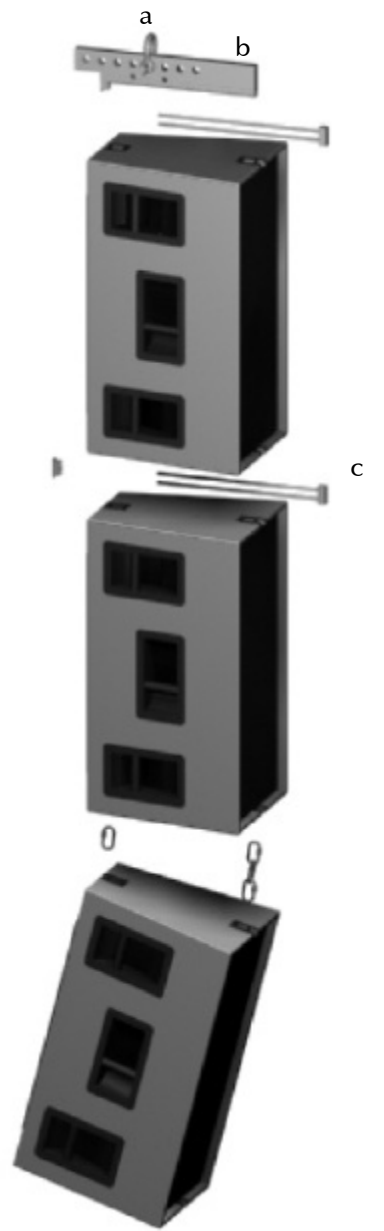


Fig.2 Vertical array of SP3 cabinets with Quick-rig™ Flying Frame [b], Q-pin[c] and Green-pin [a].

QUICK-RIG™ FLYING FRAME

The Flying Frame allows SP2 and SP3 cabinets (standard with Quick-rig™ cabinet hardware) to be flown as a single or multiple column array.

When used as a single column array the Flying Frame is accommodated with a 5T shackle to provide connection with lifting gear. Positioning the shackle to the back of the Flying Frame will slant the array to the front.



LOAD SAFETY INFORMATION

When tilting an array forward, the maximum safe workload limit (SWL) of the Quick-rig™ hardware diminishes because of the introduction of forces of moment into the system. The table below shows maximum SWL of the Quick-rig™ system and the weight of different types of cabinets.

Max.Safe Workload Limit (SWL) Quick-rig

Configuration (Vertical angle)	SWL (SF 10)	Example	SWL(acc.BVG C1) (SF 12)	Example
Straight array (0-15 degrees)	330 kg	4 x SP3M and 2 x SP3-45T	275 kg	3 x SP3M and 2 x SP3-45T
Semi-slanted (15-45 degrees)	195 kg	3 x SP3M and 1 x SP2-85T	162 kg	2 x SP3M and 1 x SP3-85T
Full-slanted (45-90 degrees)	67 kg	1 x SP3-90	55 kg	1 x SP3M

Cabinet Weights

System	Weight (kg)
SP2	29
SP2-85T	25
SP3-60	60
SP3-90	67
SP3-M	55
SP3-45T	54
SP3-85T	54

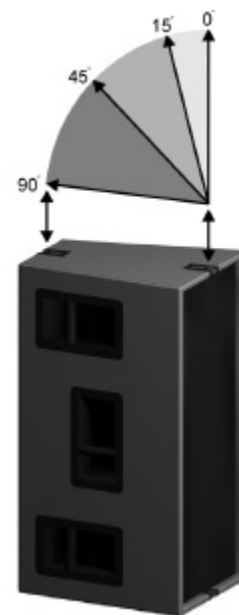


Fig.3 Vertical angle of cabinet with horizontal.

QUICK-RIG™ CONNECTING BAR

The Connecting Bar is used for those situations where more than one column is needed. Two types of connecting bars are available. The 18-degree version for waved front configurations and the 0-degree version for flat front situations.

The same SWL's are applicable per column in the array as described in the table for one column on page 4.

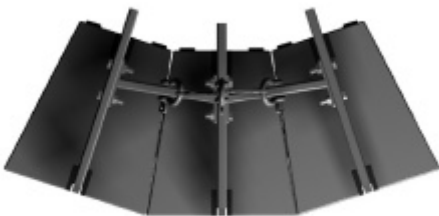


Fig.4 Top view of three arrays with 18-degree frame-to-frame

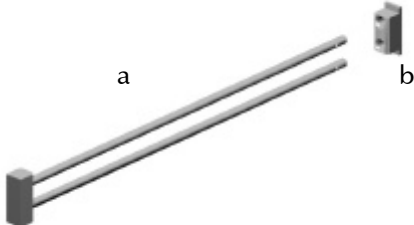


Fig.5 Top view of three arrays with 0-degree frame-to-frame connecting bars.

QUICK-RIG™ Q-PIN

The Q-pin is the brain behind the Quick-rig™ system, because only one connection per cabinet is needed. It is used for Flying Frame-to-cabinet and cabinet-to-cabinet connection. Easy handling evidently shortens build-up times and can be done by just one person.

After positioning of the Flying Frame or cabinet on top of another cabinet the Q-pin[a] is pushed through the cabinet hardware from the front to the back of the cabinet(s). At the backside the two legs of the pin will stick out just enough for the Q-pin block [b] to slide over. Two locking pins, one for each leg, avoid the Q-pin block to slide back.



ADDITIONAL SAFETY INFORMATION

- ⚠ Always use both front and back suspension points of your cabinet hardware.
- ⚠ Quick-rig™ is designed for suspension of cabinets in an upright position only.
- ⚠ When using a Quick-rig™ Q-pin make sure to put both legs of the pin either in the Flying Frame or the Q-pin block and lock the legs with one safety pin per leg.
- ⚠ The SWL (Safe Workload Limit) of all Quick-rig™ cabinet hardware is 330kg (275kg for a safety factor 12). The limit of total amount of cabinets in the vertical column of the array is configuration dependent.
- ⚠ When the array is tilted in the vertical plane the number of cabinets is limited as shown in table 1.

GENERAL SAFETY GUIDELINES

- ⚠ Standards for flying and rigging are local not universal, therefore it is important for the user to contact appropriate regulatory agencies concerning relevant standards for specific applications.
- ⚠ Before suspending any array, always inspect all components of the array for cracks, deformation, corrosion, and damaged or missing parts that could reduce strength and safety of the array.
- ⚠ Use only load rated hardware.
- ⚠ Never exceed maximum load ratings at any time.
- ⚠ Consult a licensed physical engineer if you are unsure how to proceed.
- ⚠ It is advisable to consult and engage a qualified rigger when making decisions related to purchase, set-up and use of any equipment and technique that will be used to suspend any temporary loudspeaker system above areas that will be occupied by persons.

DECLARATION OF CONFORMITY

Hilversum, 1 October 2004

DECLARATION OF CONFORMITY

SOUND PROJECTS, hereafter referred to as the manufacturer, declares that the Easy-rig™ flying frame and its rigging hardware as supplied by the manufacturer are produced and, when provided with certificate, tested conform CE norms as described in the Guidelines for Machinery appendix 2A.

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