



**CONCERT  
SOUND**



**CONTOUR ARRAY™**

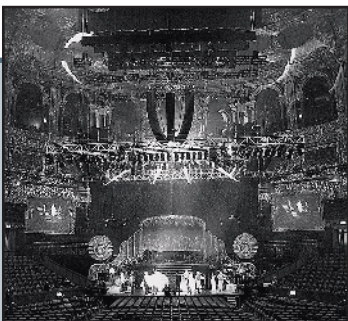


***OVER 25 YEARS OF INNOVATION AND  
PROFICIENCY IN SOUND***

With more than 25 years experience researching, developing and producing sound reinforcement systems, as well as a workforce numbering over 200 in the main German facility, HK AUDIO is one of Europe's leading enterprises in the professional audio industry.

From compact active systems for the roving entertainer to specialty solutions for fixed installations and touring systems for large indoor and open-air venues, HK AUDIO offers the perfect solution for every sound reinforcement challenge. The worldwide distribution network with partners in over 55 countries affords customers the availability and service they expect and deserve.

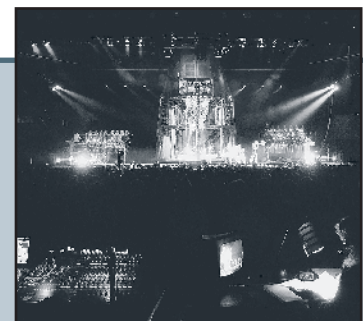
In pursuit of an ongoing quest to develop the line array, HK AUDIO has taken the concept another step up the evolutionary ladder with COHEDRA™ technology. The Coherent Dynamic Response Arrays COHEDRA™ and COHEDRA COMPACT™ constitute a new breed of line array engineered for natural-sounding dynamic response, resistance to the adverse influences of wind, great throw range and excellent handling. And now the novel ConTour Array™ is here to bring all these benefits to a wider range of applications.



*Daniel O'Donnell Tour 2005,  
Royal Albert Hall, London*



*Miss China Contest  
Beijing, China*



*Carmina Burana Tour  
Europe 2003-2005*

# HK AUDIO

## CONTOUR ARRAY™

The ConTour Array™ bridges the gap between conventional PA systems and large touring line arrays. Yesterday, deploying line array rigs for smaller applications was not a cost-effective proposition; today this new system is the first of its kind to put this technology to efficient use for many sound reinforcement scenarios.

Local rental companies and touring top-40 bands can now get into the professional line array game with ConTour Array™.

Courtesy of state-of-the-art components and leading-edge engineering methods, the ConTour Array™ delivers superb dynamic response paired with exceedingly faithful sound reproduction. Alongside excellent audio quality, this line array is all about light weight, versatility and easy, practical handling. A highly scalable solution, the ConTour Array™ is in itself amazingly flexible. What's more, it can be combined with ConTour Series™ speakers for even greater flexibility.



*Rhema Church  
Randburg, South Africa*



*Magna Racino  
Vienna, Austria*



*MTV's Rock im Park  
Nuremberg, Germany*

## ***MORE PRECISE***

The ConTour Array™ excels with superb dynamic response and vividly natural sound at every volume level. ConTour Array™ mid/high units are equipped with COHEDRA™ Acoustic Lens technology to produce a very stable coherent wave front with precise directivity and maximum efficiency in the mid and high-frequency ranges. The fine-tuned combination of active circuitry and perfectly matched speakers ensures uniform and transparent sound even at highest volumes.

## ***EASIER TO HANDLE***

Setting up and tearing down a ConTour Array™ is easy thanks to the ingenious three-point rigging system, the astonishingly light weight of the selected components, and the system's practical handling features. Rigging frames and stacking base plates can be mounted directly—no tools required. The intuitive DualCurve™ Rigging System and the built-in DuoTilt™ pole mount facilitate flexible adaptation to the given acoustical conditions. And for a real plug-and-play experience, the integrated controller offers preprogrammed presets for every system configuration.

## ***MORE VERSATILE AND MORE LUCRATIVE***

Configurable in setups ranging from a two-meter line array for bigger events to a compact club system, the ConTour Array™ scales to suit the task at hand. Flown, stacked or deployed as a satellite system, the ConTour Array™ adapts to the most diverse sound reinforcement situations. The active ConTour Array™ subwoofer may also be operated in combination with ConTour Series™ speakers. This extends the system's application range, making it an excellent option for near-fills, side-fills and drum monitoring. And this versatility translates directly to optimum profitability and investment security.



*Flown mid/high array*



*ConTour Array™ ground stack*



*Active circuitry with DDO-Pro™ controller*

## DDO-Pro™ TECHNOLOGY

A revolution in live sound: For great sound fast, go DDO-Pro™!

With its patent-applied-for DDO-Pro™ technology, HK Audio has taken an unprecedented approach to solving the problems attributable to the physics of speakers in PA systems.

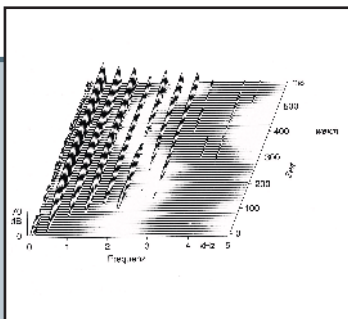
Every musical instrument has a characteristic initial transient. But the differences in membrane mass between subwoofers, woofers, and tweeters yield differing response times, and these variations falsify and distort the natural sound and dynamic response of the instruments, especially the attack impulses that

are so vital for helping the ear distinguish one instrument from another. The normal consequences range from a lack of definition and depth to the masking of entire instruments.

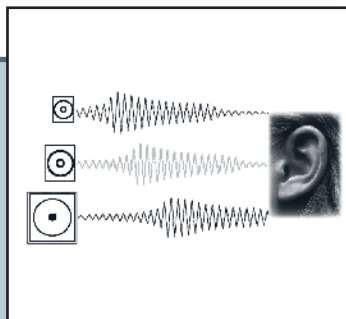
Rather than using conventional equalizers, compressors and expanders to alleviate these symptoms, DDO-Pro™ remedies the cause - the speakers' inertial mass!

DDO-Pro™ technology ensures faithful reproduction of signal attacks. What's more, it synchronizes low, midrange and high-frequency speakers' dynamic properties.

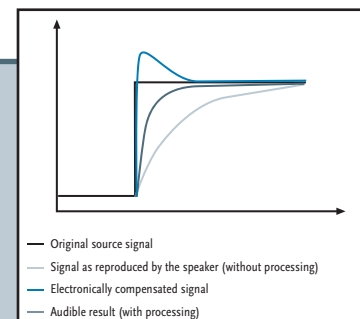
This yields ultra-precise dynamic response and a natural-sounding, amazingly vivid sonic image. These new possibilities for conjuring better sound—not to mention the EQ and dynamics processors that are freed up for real sound design tasks—are sure to delight the live sound engineer.



Example: An instrument's specific transient response



Signal distortion caused by speaker cones' varying masses



Synchronized acceleration of different speaker cone masses

## THE CTA 208 MID/HIGH UNIT

Able to produce a stable line array wave with great range and low susceptibility to the adverse influences of wind, the CTA 208 mid/high unit delivers the performance you have come to expect from HK Audio equipment. The enclosure is loaded with two 8" neodymium speakers and four 1" drivers. These high-frequency drivers are connected to two HK AUDIO Acoustic Lens HF transformers of the type featured in our flagship COHEDRA™ systems. In combination with DDO-Pro™ technology, this pairing delivers the ultimate in natural-sounding response.

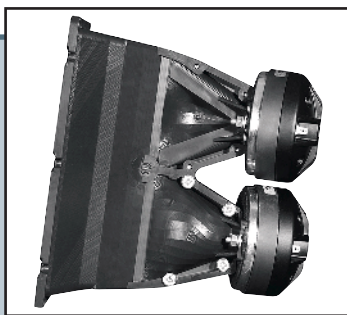
The special DualCurve™ Rigging System featuring 0° and 9° tilt angles facilitates deployment in both long-throw and near-field applications: When you opt for the 0° setting, the individual mid/high units are not articulated; instead they form a stable and

remarkably coherent wave. This maximizes frequency bundling effects, thereby maximizing range. With the DualCurve™ Rigging System, mid/high units may be articulated at a 9° angle to cover the near-field. And with that, the ConTour Array™ also provides excellent sound reinforcement for audiences up front. To set the curvature or tilt angle of the overall array, simply select the desired pick points on the rigging frame.

Engineered for economy and efficiency, the entire array is easily and swiftly set up and torn down. The integrated three-point rigging assembly lets you readily connect mid/high units to fly them or to stack them on subwoofers—no tools required. Featuring neodymium components, the mid/high units are exceedingly light, and you'll be delighted to discover that their low weight makes them even easier to handle.



Rigging attachments with quick-release pins are built into the side panels for quick, easy array assembly.



HK AUDIO COHEDRA™ Acoustic Lens



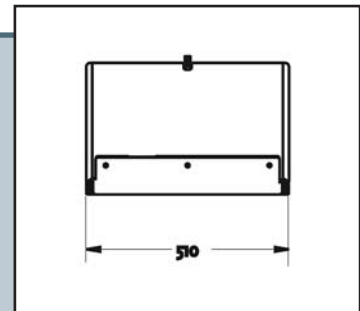
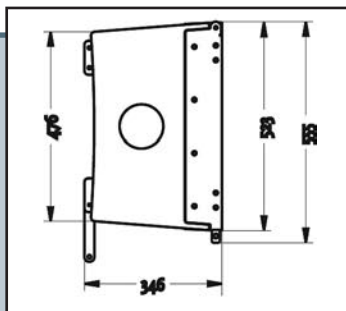
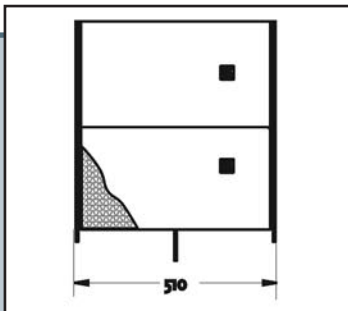
HK AUDIO DuoTilt™ pole mount offering two angles of tilt for aligning speakers, 3° and 10°

**Power-handling**  
 nominal/ program/ peak: 500W RMS /1000W/ 1500W  
**Frequency response - 10 dB 3):** 80 Hz – 20 kHz  
**Frequency response +/- 3 dB 3):** 95 Hz – 19 kHz  
**Directivity:** 100° horizontal  
**Sensitivity 1W@1m 1):** 105 dB  
**Max. SPL calculated 1):** 138 dB 2)  
**Max. SPL peak 1):** 136 dB 3)  
**Max. SPL 1):** 134 dB @ 10% THD (200 Hz- 5 kHz) 3)  
**Nominal impedance:** 8 ohms  
**Low-/ midrange woofer:** 2x 8"  
**High frequency driver:** 4x 1", 2" voice coil  
**Crossover frequency, passive:** 2 kHz, 12 dB/ octave  
**Connectors:** 1x Speakon® NL 4  
**Enclosure (birch):** 15/18 mm (1/2"), 9/13-ply  
**Angles up:** 2x 4.5°  
**Finish:** Black polyurethane lacquer  
**Grille:** Metal grille with black acoustic foam  
**Handles:** Two slot grips routed into the side panels  
**Rigging hardware:** DualCurve™, integrated, with quick-release pins  
  
**Pole mount:** HK Audio DuoTilt™  
**Weight:** 29 kg/ 63.8 lbs..  
**Dimensions (W x H x D):** 51 x 52,5 x 34,6 cm  
 20" x 20 2/3" x 13 2/3"

**Accessories:** Touring flight case (2x CTA 208)



1) Based on half space conditions 2) Based upon peak power capacity 3) Measured with 2 CTA 208 mid/high units



## CTA 118 SUB ACTIVE SYSTEM BASS

An active, direct-loaded subwoofer, the 18" CTA 118 SUB serves as the system's powerful engine room. All the required circuitry is on board, including a 56-bit DDO-Pro™ digital controller and two 1,000-watt RMS PWM power amps. One of the power amps drives the subwoofer's 18" speaker; the other is configured by the controller to drive a CTA 208 mid/high unit or a ConTour Series™ CT 108, CT 112 or CT 115 enclosure.

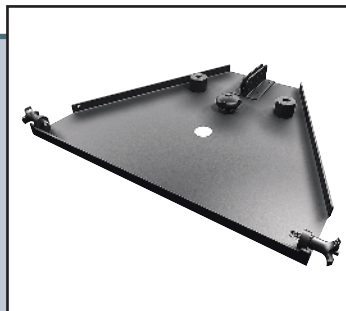
Packing a powerful punch, the CTA 118 SUB delivers low-ranging yet clearly defined bass response, rendering impulses with great accuracy and authority even when handling the heaviest loads.

Filter presets have been devised for the various setups. They fine-tune the components of each configuration to work optimally with each other, ensuring peak system performance and reliability. Simply select the appropriate filter preset on the controller, and the integrated display will immediately indicate all information of relevance to the given setting.

The internal electronic circuitry is shock-mounted on rubber grommets, while a dolly facilitates transport and affords additional protection against damage and dirt.



CTA 118 SUB dolly with 100 mm wheels; attaches to the subwoofer housing via butterfly latches.



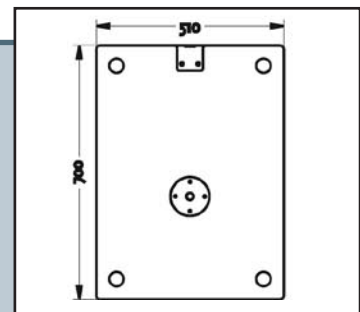
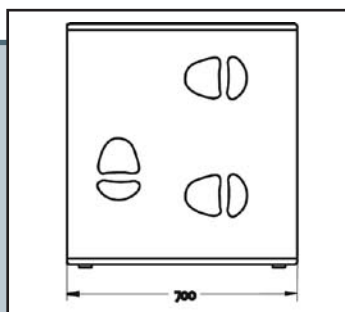
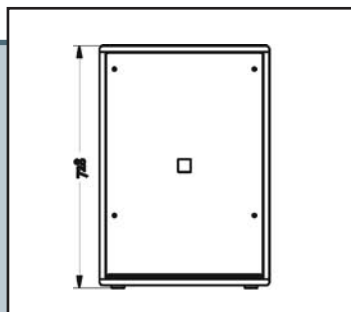
ConTour Array™ stacking base plate; provides the underpinning for a ground stack



Active circuitry in the subwoofer



**Integrated Power Amps:**  
**Output power, Subwoofer:** 1000 W RMS, Class D  
**Output power, Mid/High:** 1000 W RMS, Class D  
**Protection circuits:** DDO™ Pro Limiter, thermal protect, short-circuit  
**Inputs/Outputs:**  
**Line In/ Through:** XLR female, electronically balanced & floating  
**Mid/High Out:** 1x Speakon® NL 4  
**Mains In/ Out:** 2x Powercon  
**Networking/ Communication:** DDO-Pro™ Net/ RS 485 Ethercon  
**Woofer:** 18"  
**Frequency response- 10 dB:** 36 Hz – fx  
**Frequency response +/- 3 dB:** 42 Hz – fx  
**Sensitivity 1W@1m 1):** 101 dB  
**Max. SPL calculated 1):** 134 dB 2)  
**Max. SPL peak 1):** 133 dB  
**Max. SPL 1):** 130 dB @ 10% THD (50 Hz- 200Hz)  
**Enclosure (birch):** 18 mm (3/4"), 13-ply  
**Finish:** Black polyurethane lacquer  
**Grille:** Metal grille with black acoustic foam  
**Handles:** 6 slot grips routed into the side panels, 1 on the top  
**Pole mount:** M20  
**Weight:** 59 kg/ 129.8 lbs.  
**Dimensions (W x H x D):** 51 x 73 x 71 cm  
 20" x 28 3/4" x 27 7/8"  
**Accessories:** Protective cover, dolly, stacking plate



1) Based on half space conditions 2) Based upon peak power capacity

# AMPLIFICATION AND CONTROLLER NETWORK



## MAXIMUM ACCURACY AND AUTHENTICITY IN DYNAMIC RESPONSE!

Designed to operate with a high-resolution bandwidth of 56 bits, the integrated DDO-Pro™ signal processor offers an extraordinarily extensive range of dynamics processing options.

Due to the very nature of their design, speakers are unable to render musical signals in a linear fashion from soft to loud. The purpose of DDO-Pro™ is to optimize their transient response. To this end, the frequency range is divided into several individual bands that are processed independently. The control compensates the speakers' frequency response in up to 1,000 steps per band, thereby eliminating inaccuracies in dynamic response!

As a result, you and your audience will enjoy an aurally compensated, dynamically correct rendition

of the master signal - with dramatically improved definition, intelligibility and presence! Vocal nuances, fine distinctions in reverb and other subtle effects, as well as the array of individual instruments are all much more finely detailed in the mix.

The Multi-band Limiter protects system components, ensuring truest fidelity to the original signal and utmost operating safety even at very high volumes. The controller offers preprogrammed presets for every ConTour Array™ system configuration, which may be selected directly via the illuminated text display. The system's volume is adjusted in 0.5 dB steps using the Input Gain knob and by adjusting the balance of levels between the subwoofers and mid/high units.

In scenarios where CTA 208 mid/high units are flown and there are any incongruities between the flown cabinets and bass bins on the ground, the integral delay will align the time to compensate.

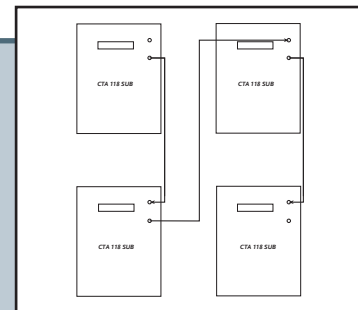
To ensure utmost ease of operation even for very large rigs, the controller is equipped with a DDO-Pro™ Net Port enabling all CTA 118 SUB enclosures to be networked. If you adjust settings on one of the controllers in the network, the changes are automatically sent to the other networked components!



The integrated DDO-Pro™ controller with a blue backlit display and control panel



The DDO-Pro™ Net Port serves to network CTA 118 subwoofers via standard RJ 45 Ethernet plug-in connectors



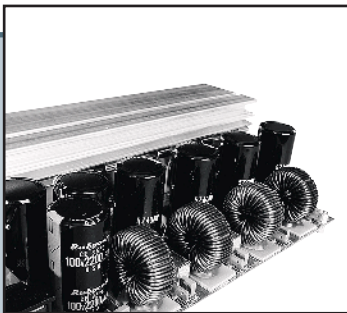
CTA 118 SUB networking: With the Master function, you can adjust a setting on any controller, and the pertinent bits of data are automatically sent to the other controllers in the network.



Display:	2x 16 text display
Input / Outputs:	1 / 2
Sampling frequency:	48 kHz
Bandwidth:	56 bits
Frequency range:	20 Hz to 20 kHz, +/- 0.5 dB
Dynamic range:	>112 dB (A-weighted, 22 kHz bandwidth)
Interface:	RS 485 Ethercon
Gain:	-99 dB to +6 dB in 0.5 dB steps
Sub Level:	-12 dB to +6dB in 0.5 dB steps
Delay:	Up to 70 ms
Limiters:	HK Audio DDO™ Multiband Limiter

### CONTOUR ARRAY™ PWM POWER AMPS

The ConTour Array™ active subwoofer comes with two highly efficient PWM digital power amps that feature extraordinarily fast pulse response and a high damping factor. This one-two combination yields amazingly authentic sound and highly musical dynamic response. Each amp delivers 1,000 watts RMS: one to drive the subwoofer itself and the other to power the line array mid/high units. Intelligent protection circuits guard against overloading, overheating and short-circuits. Despite their high output power, the PWM power amps weigh in at just three kg, making the subwoofer an amazingly light, conveniently handled enclosure indeed.



PWM digital power amp with 1,000 W RMS



Mid/high Speaker output



Powercon mains connectors

## **EASY RIGGING, EFFORTLESS FLYING**

To make the most of its performance potential, a ConTour Array™ should be flown whenever possible. The DualCurve™ Rigging System makes it easy to adapt the array quickly to any given situation from near-field to long-throw. With handy quick-release pins at your fingertips, setup is hassle and stress-free — the entire system can be assembled without tools.

The ConTour Array™ rigging frame accepts up to four CTA 208 mid/high units, which constitutes a flown line array two meters in length. The array weighs just 120 kg, which allows you to fly the rigs off pick points with limited load-carrying capacity. And that adds up to greater flexibility, safety and handling convenience!



2x4 ConTour Array: 4x CTA 208s and 4x CTA 118 SUB per side. Total power: 16,000 W RMS

2x2 ConTour Array: 2x CTA 208s and 2x CTA 118 SUB per side. Total power: 8,000 W RMS



*The DualCurve™ Rigging System aligns CTA 208 mid/high units to throw sound over*



*greater distances and cover near-fields in front of the stage.*



## SIMPLE STACKING

Not every venue lets you fly line array mid/high units, be it for a lack of pick points, insufficient ceiling clearance, or due to the type and size of the event. The good news is that you can stack ConTour Array™ mid/high units on subwoofers yet still enjoy the benefits of line array technology.

Simply affix the mid/high units atop the bass bins using the special pivoting stacking base plate and the built in M20 pole mount.

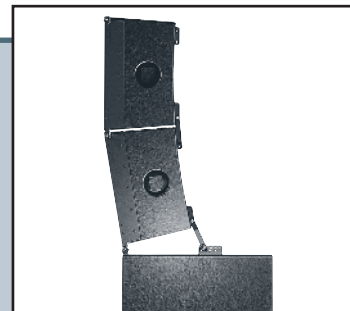
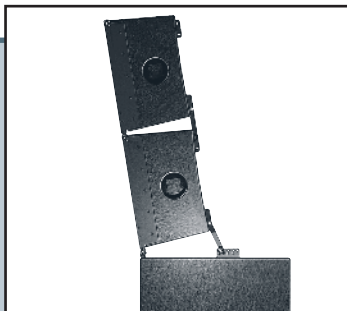
The stack plate lets you line up the mid/high units perfectly with the subwoofers. The entire mid/high array is easily aligned to audiences in 1.5° steps, up to a total tilt angle of 9°. And on occasions when you are given the task of providing sound reinforcement in the smallest venues, you can place the CTA 208 mid/high unit atop a pole using the integral HK Audio DuoTilt™ pole mount at either 3° or 10°.



ConTour Array™ ground stack: 2x CTA 208s and 2x CTA 118 SUB per side. Total power: 8,000 W RMS



ConTour Array™ satellite system: 1x CTA 208 and 1x CTA 118 SUB per side. Total power: 4,000 W RMS



Various options for curving a ConTour Array™ ground stack for optimal acoustical alignment

## INTEGRATING CONTOUR SERIES™ SPEAKERS

If versatility is what you're seeking, the good news gets even better: Courtesy of the onboard 1,000-watt RMS PWM power amp for mid/high cabinets, you are free to use the CTA 118 SUB in combination with passive HK Audio ConTour Series™ speakers. The DDO-Pro™ controller ships with factory filter presets for CT 108, CT 112 and CT 115 model enclosures. This flexibility certainly pays when you wish to quickly and easily set up FOH systems for club gigs or side and drum fills without having to add amp racks and controllers to the rig.

But even if you aim to work strictly with large ConTour Array™ rigs, these combination options offer very practical benefits: Say you decide to deploy additional CTA 118 subwoofers, for example, to set up six subs and four mid/high units per side. In this case, you can use the remaining power amp channels to drive front fills. You are free to align the CTA 208 mid/high units to the audience in back because the front fills cover the stage front.

ConTour U.101  
CTA118Sub-CT108

ConTour U.101  
CTA118Sub-CT112

ConTour U.101  
CTA118Sub-CT115

Filterpresets for ConTour Series™ cabinets



Example: ConTour Array™ CTA 118 SUB with CT 112 satellite system, Total power: 2000 W RMS



CT 108: 8"/1", 90° x 60° pivoting CD horn, 200 W RMS, 16 ohms, max SPL 128 dB



CT 112: 12"/1.4", 60° x 40° pivoting CD horn, 400 W RMS, 8 ohms, max SPL 134 dB

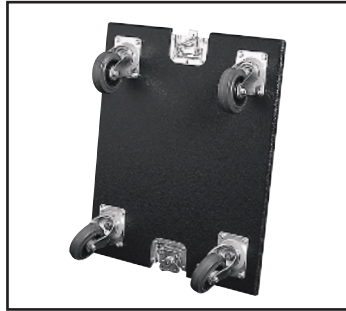


CT 115: 15"/1", 60° x 40° pivoting CD horn, 600 W RMS, 8 ohms, max SPL 134 dB

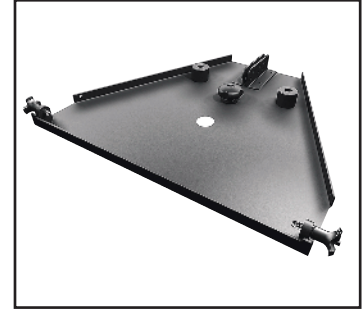
## COMPONENTS AND ACCESSORIES



The ConTour Array™ rigging frame, designed for flying up to four CTA 208 mid/high units, comes with all the rigging attachments built right in—no other accessories required for mounting enclosures.



The dolly for the CTA 118 subwoofer. Butterfly latches fasten down the bins; no muss, no fuss. During transport the dolly protects the active circuitry against dirt and damage.



The ConTour Array™ stacking plate provides a base for connecting subwoofer and mid/high units. It screws onto the M20 pole mount. The variable tilt angle adjusts in 1.5° steps up to 9° max. The mid/high array is easily aligned by lightly rotating the stacking base plate on the subwoofer.



Touring flight case for 2x CTA 208 mid/high units



The CTA 118 SUB protective cover, a padded bag for safer transport and storage



All ConTour Array™ rigging hardware is certified by TÜV, the German safety standards authority, and satisfies every quality and safety requirement.



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