



**Portable
Sound**



Sound Reinforcement Systems 2006

for Musicians, DJs and Bands





The HK Audio Experience

Experience HK AUDIO®:
Easier transport – faster set-up – better sound!

You may play big festival tents with your gala band or perform as a lone entertainer in small but select venues. But whatever your gig may entail, you're sure to find a smart audio tool engineered to satisfy your demands among the line of HK AUDIO® systems.





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The Sound of HK Audio.



We live in a world of sensory perception - touch, taste, sight, and, particularly, sound! Hearing is like no other sense. Auditory perceptions are interpreted as information, but they also directly affect our emotions and, by extension, our entire well-being. Language and music are the speech of the heart, giving voice to our feelings and making a shared experience of our emotions.

Though we may not always be cognizant of it, we immediately classify our perceptions of sound on a scale ranging from „Stop that noise!“ to „Crank it!“

There are many reasons why some sounds are music to our ears. Our auditory perceptions have been conditioned on an emotional level by thousands of years of evolution. We are all equipped with “algorithms” that tell us immediately if an audio event signals safety, relief, good vibes, trouble ahead, or even danger.

We may never fully understand these algorithms, but the fascination of studying and discovering more about them never seems to wane. And the process is even more fascinating when one’s job is—like

ours—to develop the devices that create audio sensations!

In 1979 when we started making speakers, these insights were of lesser concern to us. Lothar Stamer, the founder of HK AUDIO, simply sought to build better-sounding, more practical alternatives to the systems of the day. He painstakingly researched the functional and acoustical properties of horns and documented his findings in his master's thesis.



Today the HK AUDIO developer team is made up of many specialists. Engineers specializing in acoustics, in analog and digital electronics, and in mechanical engineering work hand in hand, collaborating with a musicologist who adapts the sound of every HK AUDIO product to suit human auditory physiology. A world-class anechoic chamber/acoustical testing lab on site is the perfect proving ground for these developers. It enables our engineers to document and analyze the audio properties and dynamics of a speaker system in exhaustive detail to ultimately advance the state of the art.

We do this with a singular goal in mind—to create extraordinarily accurate instruments of sound reinforcement! What does this entail?

- Your voice (or any other audio signal) is rendered accurately and authentically.
- The sonic image remains clear and stable even at varying levels and dynamic loads.
- Frequency response is remarkably smooth and dynamics are consistent, obviating any need for corrections with graphical EQs.

- Listening fatigue never sets in: Disharmonic distortion and resonance are minimised so your audience perceives the sound to be pleasant even after long listening sessions.
- HK AUDIO systems pack an amazing low-end punch.
- HK AUDIO systems are compact and easier to tote.
- Plug in, power up, and play. Enjoy great sound right out of the box: HK AUDIO systems take you there that much faster.

The Technology of HK Audio

Utmost reliability and exemplary audio quality—that's what HK AUDIO cabinets are all about. An unflagging commitment to researching and developing ever more advanced technologies ensures HK AUDIO cabinets stand out from the crowd.

HK AUDIO Active Cabinets and Active Systems are end-to-end sound reinforcement solutions with all the circuitry on board. Every system is engineered and optimised from the bottom up for specific application scenarios. The meticulous selection and tuning of all components that has gone into them is vital to their stellar performance.

But simply matching components is not enough; they must be made to harmonise perfectly to deliver optimum sound. This is why HK AUDIO engineers invested so much time and effort in developing truly useful new features and technologies. We would like to take this opportunity to introduce you to them. These features combine to make the most of each system's sonic potential in each application scenario.



DDO™ Controlling Technology

Active Compensation of Dynamic Distortion

Every speaker has a specific tonal character. Like an instrument, a speaker's timbre is not static—it varies as volume levels vary. A speaker also generates distortion, partial oscillations and resonances. In a nutshell, its response is constantly changing. And in a system comprising several speakers, these undesirable effects can be multiplied. This is where the new patent-applied-for DDO™ (Digital Dynamics Optimization) technology comes into play. Leveraging many years of experience with the HK AUDIO DFC (Digital Field Controller), our engineers developed an extremely powerful controller that for the first time compensates for these forms of dynamic distortion. The resulting sound is strikingly clear and natural. Furthermore, it is stable and easily controlled from a whisper to a roar. To adapt the rig more easily to different applications and configurations, the DDO™ Controller offers various presets. For detailed information on DDO™ visit www.hkaudio.com.



Multi-Band Limiting

Optimised for every frequency range

Several limiters function in tandem to process all key frequency ranges. This achieves balanced dynamic response and punchy projection for highly musical sound across the entire frequency spectrum.



OFR™

Optimised Frequency Response Technology

An unprecedented technology, OFR™ delivers commanding yet well-balanced sound at every level. It rectifies speaker components' non-linear frequency response and adapts the system's output to suit the specific response of the human ear.



Subsonic Filter

Protection against low-frequency rumble

The integrated subsonic filter eliminates unintentional LF signals such as footfalls, wind, or the sound of a hand inadvertently bumping a microphone. It cuts these frequencies drastically, freeing energy to better render bass impulses. The result: delightfully dynamic and natural-sounding low-end response.



DynaClip™ Limiter

For the bass power amp

HK AUDIO's DynaClip™ technology entails a dynamic limiter function developed specifically to enhance low-end performance. The DynaClip™ Limiter compensates for the subwoofer's slower initial transient response, audibly improving pulse behavior. This makes the most of low-frequency energy, and enhanced efficiency translates to more available power.



Opto-Limiter

For the mid-range/high range

Mid-range and high frequencies are a breed apart from low frequencies, and they require a different brand of signal processing. To this end, we use an opto-limiter, a technology originally developed for high-end recording. Its soft-knee response ensures smoother, more musical limiting that works inconspicuously. The source signal remains largely intact for more dynamic and natural-sounding response.



Digital Amping

Enhanced efficiency and dynamics

With an efficiency rating topping the 90% mark, digital power amps are smaller, lighter, and more compact than conventional amps. The reduced thermal load on components clearly enhances reliability. The slew rate is far faster and the damping factor is higher, resulting in perceptibly more responsive and accurate performance.



TiltUnit™

Making the most of sonic energy

DuoTilt™, MonoTilt™ and MicroTilt™ pole mounts allow sound energy to be utilised more efficiently. DuoTilt™ offers angles of 7.5° and 15°, and MonoTilt™ and MicroTilt™ an angle of 10°, to better aim mid/high-range cabinets directly at the audience. Interfering ceiling reflections are substantially decreased; the soundscape is clearer, tighter, and more focused.



Easy Setup and Handling

Less pre-gig stress

Every HK AUDIO Active System was designed as a cohesive unit consisting of perfectly matched components. Painstaking effort was invested in ensuring that the system can be transported easily and swiftly set up. With no complicated, time-consuming tweaking needed, operation couldn't be any easier.



System Crossover in the Subwoofer

For uniform sound

The crossover ensures that each loudspeaker precisely renders just the frequency range for which it is designed, and that spells superior performance. In addition, it improves the consistency of overall system impedance, therefore assuring more effective distribution of the power amp's output. This serves to create a homogeneous sound system that is not plagued by phase issues and washed-out sound.





L.U.C.A.S Active Systems



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L.U.C.A.S – The next Generation

Within a few short months of its debut in 1998, the original L.U.C.A.S system triggered a sea change on the market for compact sound reinforcement systems. Exceptional depth and detailing from soft to loud paired with ingeniously simple handling made it the venerable progenitor of the entire HK AUDIO L.U.C.A.S product family. In fact, it sired a new product category that sent many of the conventional compact sound reinforcement systems scurrying for cover, never to be seen again in some market segments.

The newest generation of this best-selling product family embraces the first L.U.C.A.S generation's sought-after features and leverages state-of-the-art speaker and digital technology to attain an unprecedented level of performance. The original was a high-water mark in system engineering, but the new generation, even more compact, lighter, and able to deliver even more impressive sound with even greater reliability, raises the bar even higher.

Whatever your musical mission as a DJ, mobile entertainer or small band, the new L.U.C.A.S family's four systems offer the perfect solution for every range of application you may encounter.

The following features are integrated into all of our L.U.C.A.S systems:



DDO™ Controller

Compensates for dynamic distortion to provide natural sound from a whisper to a roar



Equalizer

Modifies the entire system's frequency response



Active Crossover

Cleanly splits the input signal into low and high ranges with no signal loss



Limiter

Protects speakers from overloading



Separate high-performance bass and mid/high-range power amps

Deliver assertive and dynamic natural-sounding response

Max



Maximum Sound and Power

Is life too short for compromises? Do you want maximum sound paired with max headroom? And do you want it in a compact system that you can transport all on your own? Then look no further, because we have developed exactly what you're seeking—L.U.C.A.S MAX.

As compact as the original L.U.C.A.S, but with audio quality and headroom that put many a "big" PA system to shame, L.U.C.A.S MAX pulls out all the stops when it comes to state-of-the-art appointments. Witness the professional neodymium speakers, 2,000 watts of digital power amp performance, and the peerless patent-applied-for DDO™ technology to boot.

Praise for the preceding L.U.C.A.S models went as far as to speak of a built-in audio engineer, but DDO™ takes that notion a step further. With its ability to achieve latency-free compensation of speaker coloration and smooth adaptation to human hearing, a stable, uniform sonic image is assured for every application from subdued dinner accompaniment to cranked crowd favorites to get the party roaring—no manual adjustment required!

L.U.C.A.S MAX—No Compromises!



L.U.C.A.S MAX Satellite

The ultra-light mid/high unit is equipped with a 10" neodymium Speaker and a 1" neodymium compression driver with a 60° x 40° CD horn. The HK Audio DuoTilt™ pole mount is built-in to enable optimum sound-to-audience alignment.



L.U.C.A.S MAX Subwoofer

A real powerhouse package, the 15" neodymium subwoofer and the 1200-watt RMS digital power amp that drives it deliver peak performance. The enclosure houses all the circuitry, including the DDO™ Controller and the 2x 400-watt RMS digital power amps for the satellites. The subwoofer is factory-equipped with rugged casters for easy transportation.



HK Audio DuoTilt™ makes the most of sonic energy. Two tilt angles (7.5° and 15°) enable perfect speaker-to-audience alignment. Interfering ceiling reflections are eliminated and all listeners are treated to a clear, tightly focused sonic image.



Neodymium magnets lighten the load for utmost ease of use.



With an extremely high efficiency rating of over 90%, the digital power amp is considerably lighter and more compact than conventional amp modules. Alongside its impressive output power, a key feature of its performance is its extraordinarily fast pulse response, which yields a highly dynamic and musically natural sound.



The M20 pole mount ensures that the satellites are seated firmly without risk of wobbling or tipping.



Ergonomic grips for simple, fast transport.



L.U.C.A.S MAX



- HK Audio DDO™ System Controller with 5 presets
- Two satellites with 10" neodymium speakers and a 1" CD horn
- 1200-watt RMS digital power amp power the 15" neodymium subwoofer
- 2x 400-watt RMS digital power amps drive the satellites

- HK Audio DuoTilt™ for optimum sound-to-audience alignment
- 15" subwoofer in an enclosure factory-equipped with casters
- Total weight of the system: 61 kg / 134.5 lbs.

Impact



The Sound Sensation

Looking for something special in sound reinforcement? Do you wish to pamper your audience with unprecedented audio quality? Then opt for L.U.C.A.S IMPACT. It offers everything that has made L.U.C.A.S the solution of choice for small to medium-sized venues: compact components, fabulous handling ease and big, bold sound at every volume level. What's more, this newest generation sports leading-edge neodymium speakers and digital power amps. With L.U.C.A.S IMPACT, higher performance at a lower weight and smaller footprint is a reality.

L.U.C.A.S IMPACT is endowed with the new DDO™ Controller, which dramatically improves upon the predecessor's already amazing performance. The patent-applied-for DDO™ technology is powered by an extremely potent 56-bit DSP engineered to effectively compensate errors in speakers' response and adjust the signal perfectly to human hearing at every volume. All this adds up to sound that is full and crystal clear at all levels. Rest assured, you've never heard your instrument like this before. In fact, go ahead and strike the word distortion from your vocabulary—you won't need it any longer.

**L.U.C.A.S IMPACT—a new experience
in sound quality!**


DDO™
controlled



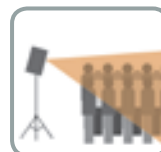
L.U.C.A.S IMPACT Satellite

The ultra-light mid/high unit is equipped with an 8" neodymium speaker and a 1" compression driver with a 60° x 40° CD horn. The HK Audio DuoTilt™ pole-mount cup is built into the base of the cabinet to allow for optimum sound-to-audience alignment.



L.U.C.A.S IMPACT Subwoofer

A 700-watt RMS digital power amp drives the 15" neodymium subwoofer. The enclosure houses all the circuitry, including the DDO™ Controller and the 2x 250-watt RMS digital power amp for the satellites.



HK Audio MonoTilt™ makes the most of sonic energy. A tilt angle of 10° enables perfect speaker-to-audience alignment. Troublesome ceiling reflections are eliminated and all listeners are treated to a clear, tightly focused sonic image.



Neodymium magnets lighten the load for utmost ease of use.



With an extremely high efficiency rating of over 90%, the digital power amp is considerably lighter and more compact than conventional amp modules. In addition to its impressive output power, its performance is highlighted by extraordinarily fast pulse response, which results in highly dynamic and musically natural sound.



The M20 pole mount ensures that the satellites are seated firmly without risk of wobbling or tipping.



Ergonomic grips for simple, fast transport.



L.U.C.A.S IMPACT



- HK Audio DDO™ System Controller with 5 presets
- Two satellites outfitted with 8" neodymium speaker and 1" CD horn
- 700-watt RMS digital power amp powers the 15" neodymium subwoofer.
- 2x 250-watt RMS digital power amps to drive the satellites.

- HK Audio MonoTilt™ for optimum sound-to-audience alignment
- 15" subwoofer in an enclosure factory-equipped with casters
- Total weight of the system: 47 kg/ 103 lbs.

Performer



The Entertainer's Power Pack

If we were compelled to reinvent L.U.C.A.S today, the outcome would look suspiciously like L.U.C.A.S PERFORMER. Courtesy of the latest neodymium speakers and PWM power amp technology, it is even more compact and lighter than its popular predecessor. And its amazing sound quality and powerful performance come at an astonishingly affordable price.

From soothingly sweet dinner ambience to a big bang for rock-the-house party time, L.U.C.A.S PERFORMER does it all with style. Bringing to the table everything that made its forebear the entertainer's best friend, it is truly a plug-and-play proposition, sparing your nerves and saving time. This latest generation is an evolutionary advance, a perfected version of the original L.U.C.A.S. Weighing in at several pounds lighter, high-quality speakers sporting neodymium magnets conjure a uniform soundscape that remains gorgeously smooth from low to high volume levels. The digital power amps (PWM) also lighten the load. Endowed with extremely fast signal processing capability and an impressive 1,000 watts, they drive L.U.C.A.S PERFORMER to deliver top-drawer audio quality.

**No matter how you entertain,
L.U.C.A.S PERFORMER is the powerful sidekick
you want on your team.**



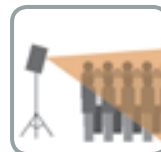
L.U.C.A.S PERFORMER Satellite

The ultra-light mid/high unit is equipped with an 8" neodymium speaker plus a 1" neodymium compression driver mounted on a 60° x 40° CD horn. The HK Audio MonoTilt™ pole-mount cup is integrated into the cabinet base in order to make possible optimum sound-to-audience alignment.



L.U.C.A.S PERFORMER Subwoofer

A 500-watt RMS digital power amp drives the 15" neodymium subwoofer. The enclosure houses all the circuitry, including the 2x 200-watt RMS digital power amp for the satellites. The subwoofer is factory-equipped with rugged casters to facilitate transport.



HK Audio MonoTilt™ makes the most of all the available sonic energy. A tilt angle of 10° enables perfect speaker-to-audience alignment. Ceiling reflections are no longer troublesome and all listeners are treated to a clear, tightly focused soundscape.



Neodymium magnets lighten the load for utmost ease of use.



With an extremely high efficiency rating of over 90%, the digital power amp is considerably lighter and more compact than conventional amp modules. Keys to its impressive performance are its high output power, as well as its extraordinarily fast pulse response which makes for highly dynamic and naturally musical sound.



The M20 pole mount ensures that the satellites are seated firmly without risk of wobbling or tipping.



Ergonomic grips for simple, fast transport.



L.U.C.A.S PERFORMER

- Two satellites, each with 8" neodymium speaker and 1" CD horn
- 500-watt RMS digital power amp for the 15" neodymium subwoofer
- 2x 200-watt RMS digital power amps for the satellites



- HK Audio MonoTilt™ for optimum sound-to-audience alignment
- 15" subwoofer in an enclosure factory-equipped with casters
- Total weight of the system: 44 kg/ 97 lbs.

Smart



The Mighty Mite

“So, where did you hide the other speakers?” The owners of L.U.C.A.S SMART have grown accustomed to questions like this posed by incredulous listeners. Never before has such a powerful sound come in such a petite package.

Looking for a subcompact high-performance system that one person can tote easily and set up inconspicuously? Is it your goal to deliver impressive presentations, or to make your appearance as a solo entertainer a memorable experience in big, bold sound? Then L.U.C.A.S SMART is the right system for you.

L.U.C.A.S SMART distills the legendary L.U.C.A.S experience into the miniature format. Powered by a 250-watt digital amp (PWM), the subwoofer’s 10" woofer has proven its merits in high-end touring systems. Engineered to throw a generously wide, uniform pattern, the satellites offer audio resolution to rival that of premium studio monitors—richly detailed, silky voice-reinforcement guaranteed.

And with the optional trolley, handling and transport is a piece of cake. Even a child could tote this mighty mite.

L.U.C.A.S SMART—the world’s smallest large-sounding PA.



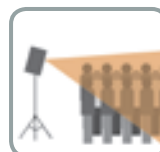
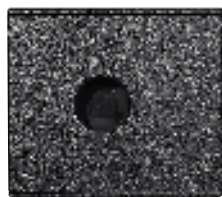
L.U.C.A.S SMART Satellite

The compact mid/high unit is equipped with a 6.5" woofer and a 1" dome tweeter. The HK Audio MicroTilt™ pole-mount cup is built into the base of the satellite cabinet to make it easy to achieve optimum sound-to-audience alignment.



L.U.C.A.S SMART Subwoofer

A 250-watt RMS digital power amp drives the 10" subwoofer. The enclosure houses all the circuitry, including the dual 80-watt RMS power amps to power the satellites.



The HK Audio MicroTilt™ makes the most of the considerable sonic energy available from this system. A tilt angle of 10° enables perfect speaker-to-audience alignment. Ceiling reflections are mitigated and all listeners are treated to clear, tightly focused sound.



With an extremely high efficiency rating of over 90%, the digital power amp is considerably lighter and more compact than conventional amp modules. Not only does it produce impressive output power for its size, its performance is marked by extraordinarily fast pulse response that yields very musical and natural-sounding dynamics.



Additional inputs, each with its own gain control, can accommodate a microphone, CD player and the like.



The optional trolley (roller bag) makes transport easy and protects the system from wear and tear to and from venues, especially on longer trips. The system packs into a car conveniently, breaking down into two small parts.



L.U.C.A.S SMART

- Two satellites with a 6.5" speaker and 1" dome tweeter
- 250-watt RMS digital power amp for the 10" subwoofer
- 2x 80-watt RMS power amps for the satellites



- Independently adjustable inputs with connections for microphone, line and aux
- HK Audio MicroTilt™ for optimum sound-to-audience alignment
- System weight: 30 kg/ 66 lbs.



Active Systems for Bands



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Every note is on the money, each instrument sounds sweet. The band is well-rehearsed, tight like clockwork, and ready to strut its stuff in front of their faithful fans. After all, the goal of every band is to pull off a successful gig, play for an enthusiastic audience, and enjoy the pay-off for all their efforts.

But the line between glee and gloom is thin. Among all the potential fun-killers at gigs, the sound system is by far the most common culprit. Hauling it demands brute force, and making sense of what seems like miles of cable demands patience. Often, despite an epic-length sound check, the system still fails to deliver decent sound. As if that weren't enough, the band is expected to play soothing background music during the cocktail hour, and then kick out the jams for a blowout bash to follow. Many systems for bands are heavy, hard to set up, and complicated. Racks, power amps, cords, speaker stacks—even with all this, it only manages to sound

decent at a medium volume level. Turn it up and the sound soon grates; back it off and it turns thin and puny.

HK AUDIO systems are designed to deliver full-spectrum sound that uniformly maintains punch and dynamics all across the board from soft to loud. These systems are remarkable in the amount of effective sound pressure levels they produce; which is another way of saying that each system always delivers optimal sound right up to peak volume. Even without constantly tweaking knobs, HK AUDIO systems consistently sound full and rich.

Compact housings to facilitate transport, integrated electronics to simplify set-up, and smart circuits to streamline handling: These features make life easier for every band, freeing musicians to focus on the essentials: their music and their audience.

The following features are integrated into all our Active Systems:

DDO™ Controller

Compensates dynamic distortion for natural sound from a whisper to a roar

Separate high-performance bass amps and mid/high-range power amps

Deliver assertive and dynamic natural-sounding response

Limiters

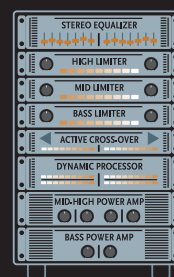
Protect the speakers against electrical overload

Equalizer

Corrects the entire system's frequency response

Active Crossover

Splits the input signal cleanly into low and high ranges with no signal loss





The Flexible Workhorse

A pub gig today, a show in a small art theater tomorrow, and another event on the stage of the town fair on the weekend—no sweat with ELIAS PX. Equipped with a controller, crossover and power amp, every speaker unit in the ELIAS PX system is a standalone solution that does not require a central system controller to operate. This affords you greater independence and flexibility to adapt your rig to suit the situation: Leave the bass bins behind for smaller gigs, and bring them along for bigger venues.

For instance, you can opt to deploy the EPX 112 A Mid/High unit as a full-range cabinet to achieve professional results for voice public address in medium-sized venues and for band gigs in pubs.

To treat your audience to a muscular low-end thump for big, bold drums and other burly bass signals, simply set up the entire system with the EPX 115 Sub A subwoofer. Adding another pair of subwoofers to the sonic equation transforms the ELIAS PX into a full-grown PA that lets bands play bigger halls and DJs rave it up.

ELIAS PX - The Right Sound System for Every Gig.



Fullrange



Standard



Extended



EPX 112 A Satellite

These enclosures are loaded with a 12" HK AUDIO Custom Speaker and a 1" compression driver feeding a 60° x 40° CD horn to render the mid-to-high frequency range. The integral power amp delivers 400 watts RMS and the HK AUDIO DuoTilt™ pole mount allows sound energy to be utilised far more efficiently. Troublesome ceiling reflections are dramatically reduced, enhancing punch and clarity. The cabinet is stabilised at its center of gravity—no wobbling, tilting, or unintentional turning.



HK Audio DuoTilt™ makes the most of the system's sonic energy. With two different tilt angles of 7.5° and 15° to choose from, you can aim the speakers directly at your audience and thereby avoid unwanted ceiling reflections and the phase issues they would cause. Listeners are treated to a clear, tightly focused sonic image.



A touch of a button transforms the satellite from a mid/high unit into a full-range cabinet that renders lower frequencies as well, making it the perfect solution for rehearsal rooms and smaller venues.



Subwoofers come factory-equipped with 100 mm casters for utmost transport ease.



Ergonomically shaped recessed handles for easy transport



Subwoofer features an integral M20 pole-mount collar on top, and additional handles on the side.



M8 rigging points are integrated for easy installation.



EPX 115 Sub A Subwoofer

The ELIAS PX Sub A is equipped with a direct-loaded 15" woofer. Its integral circuitry and 400-watt RMS power amp deliver clean, powerful bass response. And courtesy of its rugged 100-mm casters, the EPX 115 Sub A serves as a perfectly convenient dolly for the mid/high units.

ELIAS PX

- 1x 12"/1" satellite with integral 400-watt RMS power amp and opto-limiter
- 1x 15" subwoofer with integral 400-watt RMS power amp and DynaClip™ limiter



- Satellite features the DuoTilt™ pole mount
- Integral rigging points
- Subwoofer features the M20 pole mount
- Subwoofer factory-equipped with 100-mm casters



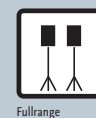
The New Dimension in Performance

ACTOR DX is an end-to-end active PA system featuring the finest high-tech appointments. Its innovative DDO™ technology puts an unprecedented dimension in performance at your fingertips.

Experience has taught us that a digital controller can only prompt the system to deliver premium performance if that system is endowed with high-quality components. This is why we engineered every ACTOR DX setup to deliver state-of-the-art sonic results even without the benefit of a controller. Add DDO™ controlling to the audio equation, and what is already very good sound is transformed into an unsurpassed sonic sensation.

ACTOR DX pairs top-drawer components such as the 1.4" driver and the potent digital power amps with the novel DDO™ Controller. Boasting 56-bit computing power, the latter is able to compensate speakers' dynamic distortion, providing a richly detailed signal free of discoloration.

With its extremely efficient components and revolutionary DDO™ controlling capability, ACTOR DX delivers awesome punch and natural sound replete with crystal-clear transparency at high levels and plenty of warmth and fullness at even the lowest volumes.





ADX 112 A Satellite

The ADX 112 A mid/high unit is equipped with a 12" HK AUDIO custom speaker and a 1.4" compression driver feeding a 60° x 40° CD horn. The onboard digital power amp delivers 600 watts RMS, while the DDO™ controller provides selectable presets ensuring outstanding sound for every occasion. The integrated DuoTilt™ and ACTOR DX Tilt Unit help aim the mid/high unit directly at the audience.



ADX 115 Sub A Subwoofer

The ADX 115 Sub A is equipped with a 1,000-watt RMS digital power amp. The direct-loaded 15" woofer delivers clear bass response with full-impact immediacy. With the new ergonomic handles and 100-mm casters, the ADX 115 Sub A is a dream to transport and set up.



ADX 115 Sub B Subwoofer

A cabinet without an integral power amp, this is the passive version of the ADX 115 Sub A. The ADX 115 Sub B connects to the ADX 115 Sub A, and its housing and speakers are identical to the Sub A's.



The 56-bit DDO™ Controller features eight presets that quickly adapt the rig to different scenarios:

- 0 Mute
- 1 Top Only
- 2 Half Stack DJ
- 3 Half Stack Band
- 4 Full Stack DJ
- 5 Full Stack Band
- 6 2 x Stack DJ
- 7 2 x Stack Band

A backlit display makes operation easy even on dark stages.



ACTOR DX's integral HK Audio DuoTilt™ makes it easy to align the cabinet directly toward the audience, offering choices of 7.5° or 15° tilt angles.



The subwoofer features the M20 pole-mount collar on the top of the bass cabinet and additional handles on the side.



The ACTOR DX rigging frame enables the mid/high unit to be flown from a truss. Half-couplers, brackets or TV spigots may be used to attach enclosures.



Subwoofers come factory-equipped with 100-mm casters for effortless transport.



Locking PowerCon mains connector with Through capability.

ACTOR DX

- HK Audio DDO™ System Controller with 8 presets
- 12"/1.4" mid/high unit with 600 watts RMS digital power amp and DDO system controller
- 15" subwoofer with 1000-watt RMS digital power amp and Output jack for connecting a passive auxiliary bass bin

- Mid/high units with DuoTilt™ and optional rigging points
- Ergonomically shaped handles, 100 mm casters





Dynamics and Punch at Every Volume

D.E.A.CON is the compact, active system for bands that raises the industry bar for versatility, handling ease and, particularly, natural-sounding dynamics. Loaded with a 12" woofer and 2" tweeter, the mid/high unit is driven by an integral 600-watt RMS digital power amp. This combination serves up an assertive, powerful soundscape. As the system's nerve center, the on-board digital controller ensures life-like dynamic response, while DDO™ technology affords utmost accuracy and authenticity at every level. Built-in protective circuitry assures maximum reliability for the entire system, even under critical operating conditions. The DuoTilt™ pole-mount cup, the D.E.A.CON Tilt unit, and the M10 rigging points make the cabinets easy to align to audiences regardless of venue. And the mid/high unit also delivers very persuasive sound when set to full-range mode.

The 18" subwoofer and its 1000-watt RMS digital power amp pump out big, brawny low end. An additional passive subwoofer may be connected to boost the system's low-end punch for larger events. D.E.A.CON's components are amazingly easy to mix and match to suit the scenario. And courtesy of the DDO™ digital controller, this rig is astonishingly easy to operate. Best of all, it delivers expressive dynamics and potent sound pressure at every level.



Standard



Extended



D.E.A.CON Mid/High

The D.E.A.CON mid/high unit sports a 12" HK AUDIO Custom speaker and a 2" compression driver feeding a 60° x 40° CD horn. The internal Class D power amp delivers 600 watts RMS, while the built-in DDO™ Controller ensures transparent yet rock-solid sound for every occasion. With the optionally available rigging frame, the mid/high unit is easily flown and optimally aligned.



D.E.A.CON Sub A

The direct-loaded 18" woofer and the internal 1000-watt RMS digital power amp provide bold and articulate bass response. With the benefit of 80-mm casters, transporting the D.E.A.CON Sub A is a piece of cake.



D.E.A.CON Sub B

A cabinet without an integrated power amp, this is the passive version of the D.E.A.CON Sub A. The D.E.A.CON Sub B connects to the D.E.A.CON Sub A, and its housing and speakers are identical to that of the Sub A.



Everything under control: All controls such as Gain, Subwoofer Level and the Limiter indicator are laid out clearly.



The integrated D.E.A.CON Tilt Unit enables the mid/high unit to be angled downward toward the audience from the stage. And the DuoTilt™ pole mount offers an alternative choice of tilt angles of 7.5°



Subwoofers are factory-equipped with 80-mm casters for easy manoeuvring from street to stage.



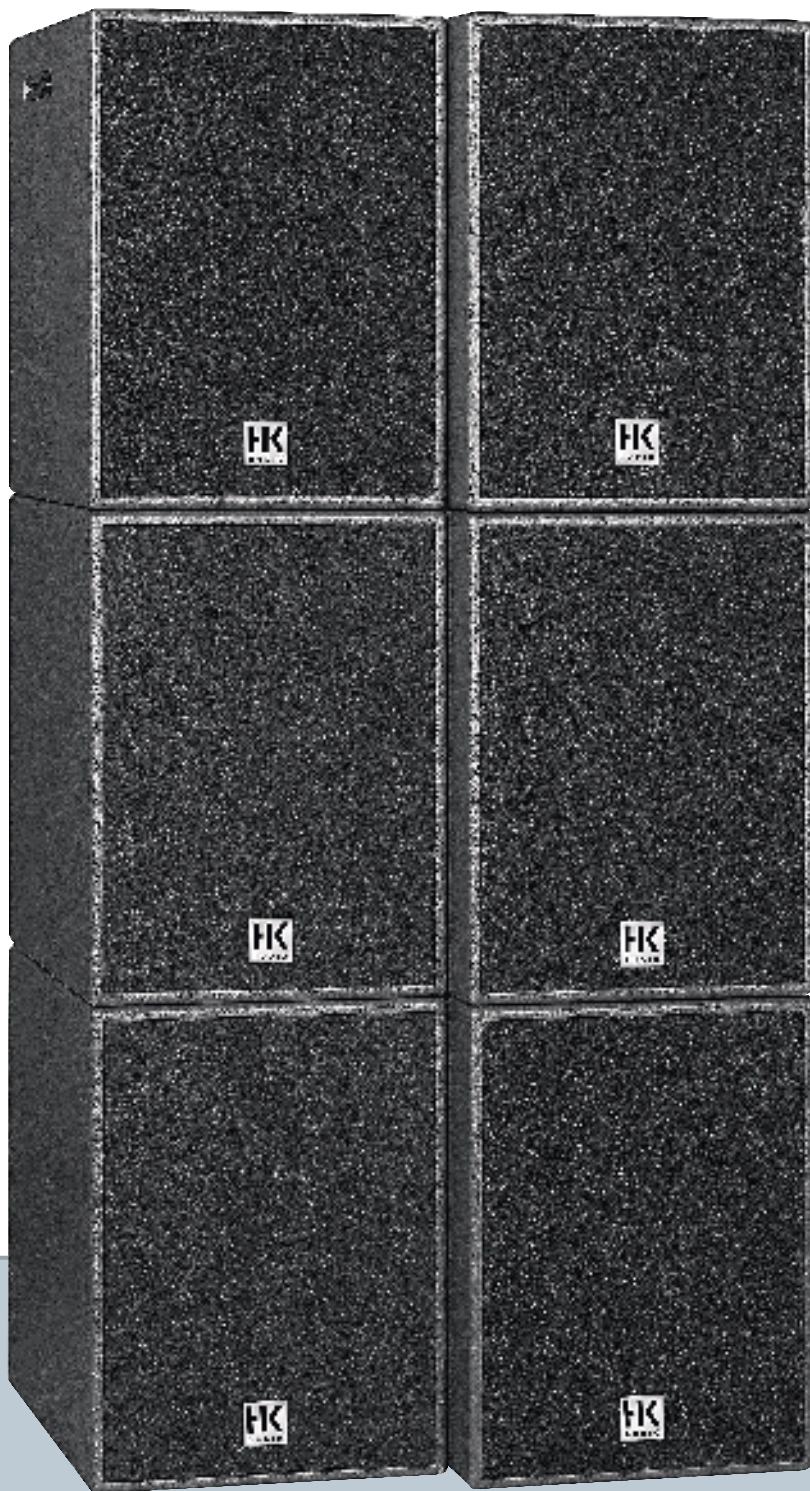
The D.E.A.CON rigging frame enables the mid/high unit to be flown from a truss. Half-couplers, brackets or TV spigots may be used to attach enclosures.

D.E.A.CON

- HK Audio DDO™ System Controller
- 12"/2" mid/high unit with 600-watt RMS digital power amp and digital system controller
- 18" Subwoofer with 1000-watt RMS digital power amp, Output for a passive auxiliary bass bin, and casters



- Mid/high unit configurable for full-range mode
- Mid/high unit with DuoTilt™ and optional rigging points



Transparent Sound Projection, All the Way to the Last Row

The perfect rig for playing successful gigs in tents, halls, and open-air events, PROJECTOR weds audio expertise gained with big touring rigs to the advantages of HK AUDIO Active Systems. Brawny enough for big bass sounds yet ultra-responsive for rendering fine dynamic details, four horn-loaded 18" subwoofers with 600 watts RMS each pack a mighty low-end punch, even over longer distances. Courtesy of a 12" speaker and 2" driver combination, the horn-loaded mid/high unit ensures complex signals remain clean and articulate all the way to the back row. A truly professional tool, PROJECTOR sports classy details such as rugged 18-mm birch plywood housings, PowerCon mains sockets, and Aeroquip flight tracks on the mid/high units. Compact housings furnished with rugged 80-mm casters make the system easy to roll and a pleasure to set up.

PROJECTOR – The Big System For Big Events.



Standard



Extended



PROJECTOR Mid-High Unit

The fully horn-loaded mid/high unit is equipped with a 12" HK Audio speaker and a coaxially arrayed 2" compression driver feeding a 60° x 40° CD horn. The bi-amped power amp delivers 2x 300 watts output. The speaker's coaxial array creates a tightly focused sound source providing the best prerequisites for precise directivity and accurately detailed resolution. The mid/high unit ships with TÜV-certified Aeroquip flight tracks enabling the enclosure to be flown with utmost safety.



PROJECTOR Sub 1 & Sub 2

Packing the powerful punch of a horn-loaded 18" woofer, every PROJECTOR subwoofer delivers considerable low-end sound pressure, even across greater throw distances. The integrated 600-watt RMS amplifier with DynaClip™ Limiter and active crossover OFR™ circuitry dishes up plenty of power and headroom. Though the subwoofers are identical in all other respects, Sub 2 is constructed as a mirror image of Sub 1 to form a large low-frequency horn together. And that spells even greater bottom-end sound pressure and throw range.



All PROJECTOR components are equipped with 80 mm casters for effortless transport.



An optional PROJECTOR Tilt Unit is available to better align mid/high units towards the audience. Tilt angles of 5°, 10° and 15° may be selected.



Sub 1 and Sub 2 feature a mirror-image design. This one/two combination horn packs an even

PROJECTOR

- Fully horn-loaded system comprising four subwoofers and two mid/high units
- 12"/2" mid/high unit with 2x 300-watt RMS power amp and opto-limiter
- 18" subwoofer with 600-watt RMS power amp with DynaClip™ Limiter
- 3-way active circuitry with OFR™ technology

- Flyable mid/high units with selector for Medium-Throw and Long-Throw equalization
- Locking PowerCon mains connector
- All cabinets factory-equipped with casters





Active Cabinets

D.A.R.T 30

F.A.S.T 32



Plug in, power up, and play. Great sound right out of the box! Yes, sound reinforcement is that simple with HK AUDIO Active Cabinets.

HK AUDIO Active Cabinets offer two decisive advantages:

- No additional power amps, crossovers, and speakers required. Your sound system is complete; all you have to do is connect your mixing console, keyboard or other sound source.
- HK AUDIO Active Cabinets are “integrated” systems. From the input to the speaker, all components are selected, matched and fine-tuned for and to each other. The controller “knows” how the power amp responds, and the power amp “knows” how each speaker behaves in its specific housing.

These two advantages bring multiple benefits to users:

- Transportation and handling are far easier than with conventional systems, with less cabling effort.
- No risk of incorrect power amp and speaker matching
- All components operate in their intended ranges
- Users can come up with great sound far faster, and with far greater assuredness.

The following features are integral to all our Active Cabinets:



Active Crossover

Splits the input signal cleanly into low and high ranges with no signal loss



Equalizer

Corrects the frequency response of the entire system



Limiter

Protects the speakers against overloading



Dynamic Processor

Ensures full sound and smooth response



Separate high-performance bass and mid/high-range power amps

Deliver powerful yet natural-sounding dynamics

Active High-Class Monitoring

Looking for a stage monitor engineered to satisfy professional demands for performance and sound without requiring additional power amps, crossovers and cables? Want a versatile enclosure suitable for use as a side-fill, front-fill or a FOH system for (almost) unplugged gigs? Then welcome to D.A.R.T.

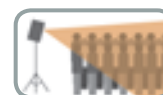
D.A.R.T packs a high-quality preamp, controller, active crossover, two power amps, a 12" speaker and a 1" CD horn in a compact, low-profile monitor housing. With HK AUDIO OFR™ technology on board, these enclosures project extraordinarily rich, transparent sound, even at very high levels. And their remarkably linear frequency response enables high volumes with reduced feedback sensitivity.

Though D.A.R.T has been optimised for use as a stage monitor, its multi-functional housing shape and the integrated DuoTilt™ pole-mount cup allow it to be used for additional applications. With all this and a full-featured input stage (to including a microphone input for the mayor's address), D.A.R.T is a high-end sound-reinforcement "Swiss Army knife" for literally every occasion.

D.A.R.T—Professional Monitoring & More!



Sometimes, loud and assertive is good! The HK AUDIO Active Systems Technology™ featured in D.A.R.T entails much more than merely separate power amps for the 1" driver and 12" woofer. For example, OFR™ technology is on board to make fine-tuning so much easier, as well as to assure smooth frequency response across the board. Each power amp is responsible exclusively for its assigned frequency range. Equipped with three separate limiters for all key frequency ranges, the new multi-band limiting technology does not abruptly cut higher frequencies in response to a powerful bass impulse, and vice versa. This results in sound that retains all of its character and impact, and simultaneously suppresses onstage feedback.



HK Audio DuoTilt™ makes the most of all the available sonic energy. Two tilt angles of 7.5° and 15° enable precise speaker-to-audience alignment. Bothersome ceiling reflections are a thing of the past, and all listeners are treated to a clear, tightly focused soundscape.



Low-profile wedge design for unobtrusive stage monitoring.



Digital power amp: With an extremely high efficiency rating, it is considerably lighter and more compact than conventional amp modules. Not only does it boast impressive output power, but its hair-trigger pulse response results in extraordinarily natural-sounding dynamics.

D.A.R.T

- 2-way active bi-amped circuitry with OFR™ technology
- 1" CD horn with 60-watt RMS power amp
- 12" woofer with 250-watt RMS digital power amp

- Multi-band limiter
- 2-band EQ (High/Low)
- XLR Mic Input and Line Input (with additional RCA Input), independent Gain controls

- HK Audio DuoTilt™
- Weight: 19.8 kg/ 43.6 lbs.





The Right Sound Tool, Every Time and All the Time

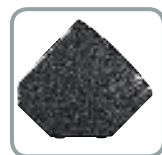
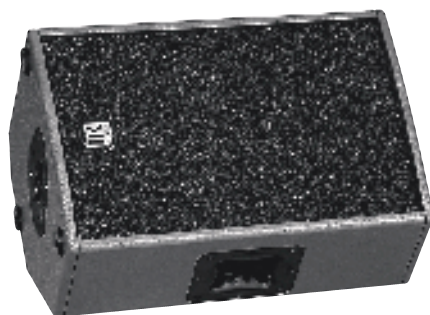
You know the score: Today it's a band gig in a small venue, tomorrow it will be an acoustic duo in the pub, next week a speech at some association's anniversary, soon the stage monitoring at this summer's open-air festival, and much later public address at the Christmas fair. It's the same old song and dance: You're back to borrowing a system because the one you have is not good enough or too complicated, too inflexible, too small, or too large.

At long last, F.A.S.T. puts the right tool for every occasion into your hands. It's so very compact that it's a pleasure to set up even when you're on your own. Yet it's sizable enough to deliver full, fat sound. The design of the cabinet's housing is ingenious, allowing for effective positioning as a front cab or stage monitor. It sports internal power amplification, simplifying transport and setup, and ensuring that all components operate together in perfect harmony. And, with built-in microphone and line inputs to connect to, you can leave your mixer at home for smaller gigs.

F.A.S.T. could well become your most frequently used piece of sound reinforcement gear.



Featuring integrated OFR™ technology, F.A.S.T.'s brawny power amp delivers the right sound every time. Serving up a healthy helping of 300 watts RMS, it even has enough reserves for larger events. The professionally-tuned combination of 1" driver with 60° x 40° CD horn and 12" woofer pumps out a lush, crisp sonic image at all levels from soft to loud, remaining remarkably feedback-proof along the way. And courtesy of the DynaClip™ Limiter, bass impulses are rendered in all their burly glory.



HK Audio DuoTilt™ takes the available sonic energy and makes the most of it. Two tilt positions of 7.5° and 15° allow angling the speakers directly at the audience. Without the usual problem of reflections off the ceiling, everyone in the audience gets to enjoy phase-free, tightly focused sound.

F.A.S.T.'s multifunctional housing makes it a top-flight stage monitor.



F.A.S.T

- 1" 60° x 40° CD horn
- 12" Low/mid woofer
- 300-watt power amplifier
- XLR microphone input

- XLR/1/4" combo connector for line signals
- DynaClip™ limiter
- OFR™ technology
- Subsonic filter

- HK Audio DuoTilt™
- Multi-functional housing design
- Weight: 23 kg/ 50,6 lbs.





Modular Passive Systems



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PREMIUM PR:O

With the PREMIUM PR:O line, HK AUDIO has raised the bar for passive sound reinforcement systems specifically designed for musicians. Along with their excellent audio quality, this new line of speaker cabinets offers a rich feature set ordinarily found only with much higher-priced pro equipment. Like all HK AUDIO products, PREMIUM PR:O is all about sound that delivers a vivid image of the original source, with a balance of smooth clear highs, natural articulate mids, and tight muscular lows.

The exceptional performance of PREMIUM PR:O components in benchtests is a mark of excellence on par with that of far more expensive products found in the world's concert halls. The remarkably linear frequency response, consistent impedance, hair-trigger transient response and extraordinary sound pressure levels of the PREMIUM PR:O line attest to a standard of audio quality far beyond the reach of other offerings in this class.

Modular Systems:

The PREMIUM PR:O Series is modular in design so that mid/high units may be deployed as full-range cabinets and combinations with the PR:O 18 S bass bin at will.

This modularity extends to the acoustic domain: Like every HK AUDIO system, PREMIUM PR:O Series cabinets are meticulously matched.

Irrespective of the PREMIUM PR:O Series configuration, you are sure to enjoy that trademark excellent HK AUDIO sound with every setup!





Professional Components

At the heart of the PREMIUM PR:O full-range cabinets is a new 1" driver with ultra-low-distortion that renders a very natural-sounding image even at peak loads. The 60° x 40° horn to which this driver is coupled ensures uniform system directivity that is sure to delight performing musicians, sound techs, and audiences alike.

Professional Features

The new PREMIUM PR:O series' high-value interior is reflected in the exterior's smart appearance and modern appointments. The ergonomically shaped and positioned handles are recessed into the enclosures, with no projecting parts or screws that could ruin auto upholstery. In addition, the full-range models feature countersunk rigging points for fast, professional fixed installation. For added convenience, the subwoofer is pre-fitted with threaded bushings to accept optionally available casters.

The ingeniously simple DuoTilt™ pole mount gives you a choice of angles at which to aim the speakers directly at your audience, but without the hassle and risk of wobbly tilt units.

Dynamic protection circuit for the high-frequency driver

PREMIUM PR:O Series mid/high units and monitors are equipped with special protective circuitry. Located in the high-frequency signal path, it limits output levels whenever the 1" driver approaches the overload threshold.



PR:O 12

Loaded with a 12" woofer, the PR:O 12 is a full-range cabinet tweaked to deliver a gorgeously balanced sonic image and good speech intelligibility at extremely high sound-pressure levels.



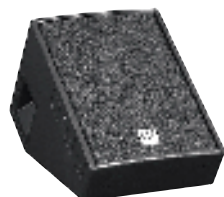
PR:O 15

Offering all features of the PR:O 12, the PR:O 15 sports a 15" woofer for extended bass response.



PR:O 15 X

As a bi-functional full-range cabinet, the PR:O 15 X is a knock-out. Deployed as a monitor, it is amazingly feedback resistant and astonishingly articulate. As a full-range cabinet, it delivers exceptionally high sound-pressure levels with tight and forceful low-end response.



PR:O 12 M

The PR:O 12 M is a no-nonsense, uncompromising 12" stage monitor that excels at reproducing the human voice with exceptional clarity.



PR:O 18 S

Housed in a bass reflex enclosure, the PR:O 18 S sports an 18" woofer. It was developed specifically to serve as the low-end complement to PREMIUM PR:O mid/high units. The subwoofer's crossover, custom-designed for this system, prevents low frequencies from being sent to the mid/high unit (Satellite Out). More on this on page 39.



HK Audio DuoTilt™ maximises the available sonic power by enabling the cabinet to be tilted at an angle of either 7.5° or 15° directly at the ears of the audience. This dramatically reduces the out-of-phase problems ordinarily introduced by ceiling reflections, and provides every listener with clear, tightly focused sound.



A 1" high-frequency driver feeds a 60° x 40° CD horn that is finely tuned for clear-cut high-frequency response



Recessed connector panels with Speakon® connectors and vertical cable feeds offer extra protection.



Ergonomically shaped handles without protruding parts make transport more convenient.



The premium-class internal crossover optimises sound quality in the transitional region between subwoofer and satellites (bass-to-mid/high).



Integrated M8 rigging points for simple installation

PREMIUM PR:O

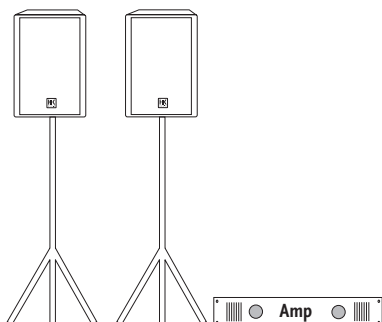
- 1" driver
- high maximum SPL (128 dB, half space)
- ergonomically formed handles

- comes standard with flypoints (PR:O 12, PR:O 15, PR:O 15 X)
- integral hi/low-pass crossover in the bass unit

- HK Audio DuoTilt™
- M20 pole-mount cup in the bass cabinet

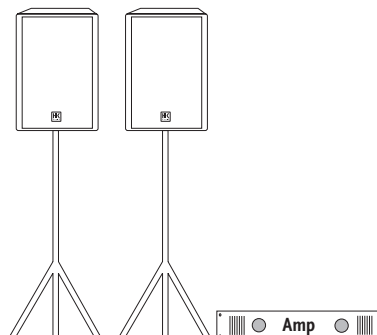


PREMIUM PR:O System Configurations



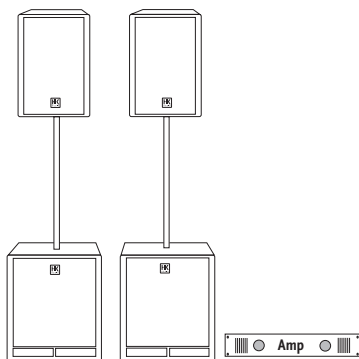
The PR:O 12 System

The classic setup for punchy, yet accurately detailed rendering of vocals, guitars, horns as well as other acoustic and electric sound sources. Overall impedance 8 ohms, recommended amp power output: 2 x 600 to 800 watts RMS @ 4 ohms



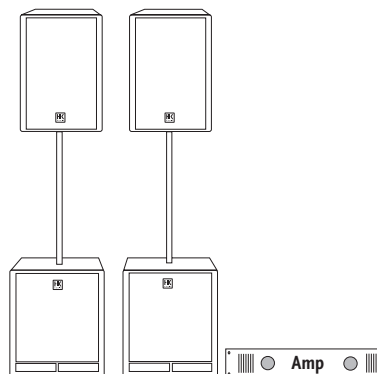
The PR:O 15 / PR:O 15 X System

The perfect rig for sumo-sized low mids and stand-alone deployment without a subwoofer. Overall impedance 8 ohms, recommended amp power output: 2 x 600 to 800 watts RMS @ 4 ohms



The PR:O 18 S / PR:O 12 System

The standard combination for club systems. Delivering a rock-solid bass foundation with exceptional vocal performance, the sound is crystal-clear with a kick. Overall impedance 4 ohms, recommended amp power output: 2 x 600 to 800 watts RMS @ 4 ohms



The PR:O 18 S / PR:O 15/15 X System

The perfect rig for all who like added oomph and love the warm sound of 15" speakers. Dazzling sound is assured, particularly for big, bold keyboard sounds and earth-shaking drum machine grooves. Overall impedance 4 ohms, recommended amp power output: 2 x 600 to 800 watts RMS @ 4 ohms

PREMIUM PR:O System crossover

How does the PR:O 18 S' crossover work?

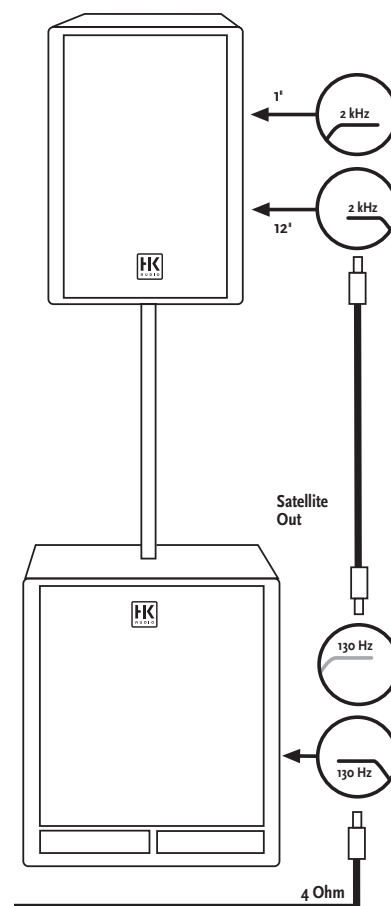
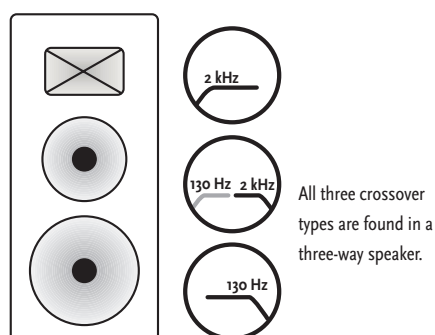
When a speaker (such as an 18" woofer) is operated without an upstream crossover, it is asked to render the musical signal's entire frequency range: lows, mids and highs. Be it a bass woofer, midrange speaker or a high-frequency driver, due to the very nature of its design every speaker type is suited for rendering a certain slice of the frequency pie. If it is operated outside of its intended frequency range, it renders these frequencies poorly or not at all. The signal will sound washed out, unnatural and distorted.

The 18" woofer was developed specifically for putting the meat on the table—rendering low-end frequencies. Its cone size, electrical load-handling capacity and low resonance frequency enables it to generate frequencies lower than roughly 150 Hz accurately, with plenty of punch. The very properties that enable it to do this prevent it from rendering mid-range and higher frequencies correctly. If tasked to do this, the cone generates partial vibrations. In simplified terms, these incomplete oscillations generate frequencies that the (original) music signal does not contain, which of course compromises the soundscape's integrity.

This is why high-quality speaker cabinets comprise several components, and we speak of two-way or three-way speakers, usually a woofer, mid-range speaker and high-frequency driver. To ensure that every speaker type operates in its assigned frequency range, the musical signal is split using passive crossovers.

A passive crossover consists largely of capacitors, coils and resistors. Depending on the given combination of components, filters with different characteristics are used to limit the musical signal sent to the given speaker, either via low-cut, high-cut, or a combination of the two. The following filter types serve this end:

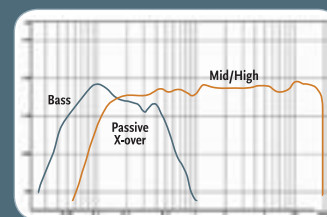
- Low-pass filter, also called a high-cut: This filter is used for woofers. It filters all frequencies above the cutoff frequency out of the musical signal.
- High-pass filter, also called a low-cut: This filter is used for high-frequency drivers or to feed satellite speakers. It filters all the frequencies below the cut-off frequency out of the musical signal.
- Band-pass filter: The band-pass is a combination of both filters. It is used for mid-range speakers to filter out both high and low frequency ranges and allow a narrow mid-range band to pass.



The signal routing in the PREMIUM PR:O system (PR:O 18 S and PR:O 12/15/15 X) corresponds to that of a typical three-way speaker; the only difference being that the crossover circuits are distributed to two enclosures: the subwoofer and the mid/high cabinet.

The PR:O 18 S' internal crossover prevents the woofer from generating undesirable partial vibrations and unburdens the mid-range speakers by routing the low frequencies away from them.

Both functions are vital to the sound quality and safety of the overall system. An additional advantage is that it spares the cost of purchasing an additional power amp and an active crossover.



L.U.C.A.S SMART Add-On Package

The L.U.C.A.S SMART Add-On Package comprises two aluminum speaker stands designed specifically for the system. They come in a practical carrying bag, along with two cables for connecting satellites to the subwoofer.



L.U.C.A.S SMART Wall Mount

With this stylish black wall-mount, L.U.C.A.S SMART systems are a breeze to install. The integrated ball joint facilitates optimum satellite-to-audience-alignment.



L.U.C.A.S SMART Trolley

This roller bag is your ticket to easy load-in and out, and reliable protection on the way. Rolling the system easily and conveniently to and from venues, it breaks down into two small parts for transport in a car.



HK Audio Speaker Stand Add-On

The ideal accessory kit for satellite and full-range speakers, the Speaker Stand Add-On Package comes with two aluminum tripod stands and two 7-metre long speaker cables with Speakon® connectors. A practical nylon carry bag rounds out the package. Recommended for systems such as L.U.C.A.S PERFORMER, L.U.C.A.S IMPACT, L.U.C.A.S MAX, D.A.R.T, and F.A.S.T



HK Audio Satellite Add-On M20 Speakon

A special accessory kit for deploying satellite speakers and subwoofers on M20 poles, the Satellite Add-On Package includes two aluminum mounting poles and two 3-metre long speaker cables for Speakon® connectors, all packed away neatly in a nylon carrying bag. Recommended for systems such as PREMIUM PR:O



HK Audio Satellite Add-On M20 XLR

A special accessory kit for deploying active satellite systems using M20 poles, the Satellite Add-On Package comprises two aluminum mounting poles and two 3-metre long XLR cables in a nifty nylon carrying bag. Recommended for systems such as E.L.I.A.S PX, ACTOR DX and D.E.A.CON



Original HK Audio Accessories.



ACTOR DX Tilt Unit

Used in combination with the built-in HK Audio DuoTilt™, the optional ACTOR DX Tilt Unit lets you aim mid/high units at a downward angle of 7.5° or 15° to make the most of sonic energy and indulge every listener in the house with clean, focused and punchy sound.



D.E.A.CON Tilt Unit

Used in combination with the built-in HK Audio DuoTilt™, the optional D.E.A.CON Tilt Unit lets you aim mid/high units at an angle of 7.5° or 15° to fully utilize the sonic energy produced by the system and indulge every listener in the house with clean, focused and punchy sound.



PROJECTOR Tilt Unit

The Tilt Unit is a practical tool enabling stacked PROJECTOR mid/high units (standing on the subwoofers) to be aimed for optimum coverage of the audience area. This ensures energy generated by the system is exploited efficiently. The PROJECTOR Tilt Unit offers three tilt angles of 5°, 10° and 15°.



HK AUDIO Protective Covers

Tailored protection for your HK Audio Active System: Made of water-repellent, extremely tear-resistant nylon, these thickly padded covers afford excellent protection for the PA en route to and from gigs. With slots providing easy access to the handles of all the cabinets, the enclosures may be carried with the covers on. Zip-fasteners seal the top unit cover completely.

Protective covers and protective cover sets are available for: L.U.C.A.S PERFORMER, L.U.C.A.S IMPACT, L.U.C.A.S MAX, D.A.R.T, F.A.S.T, ELIAS PX, ACTOR DX and PROJECTOR



ACTOR DX and D.E.A.CON Rigging Frames

These rigging frames let you fly ACTOR DX and D.E.A.CON mid/high units from a truss. Half-couplers, brackets or TV spigots may be used to attach enclosures.



Active Systems

	L.U.C.A.S MAX Satellite	L.U.C.A.S IMPACT Satellite	L.U.C.A.S PERFORMER Satellite	L.U.C.A.S SMART Satellite	ELIAS PX Satellite
Power-handling nominal	400 W RMS (130 Hz low cut)	250 W RMS	200 W RMS	80 W RMS	400 W RMS
Frequency response +/- 3dB ***	120 Hz-19 kHz	130 Hz-19 kHz	130 Hz-19 kHz	100 Hz-19 kHz	80 Hz-19 kHz / 130 Hz-19 kHz (Fullrange)
Axial sensitivity 1W *	104 dB	103 dB	102 dB	97 dB	104 dB
Maximum SPL @1m *	126 dB@10% THD	125 dB@10% THD	124 dB@10% THD	115 dB@10% THD	128 dB@10% THD
Low/midrange amplifier	-				
Mid/high range amplifier	-				1x 400 W RMS
Active protective circuitry	-				Opto limiter Subsonic filter
Nominal impedance	8 ohms	8 ohms	8 ohms	4 ohms	-
Connections	1x Speakon® NL 4	1x Speakon® NL 4	1x Speakon® NL 4	1x Speakon® NL 4	1x XLR In, 1x XLR Through
Midrange woofer	1x 10" Neodymium	1x 8" Neodymium	1x 8" Neodymium	1x 6,5"	1x 12"
Tweeter/ driver	1"	1"	1"	1" Dome Tweeter	1"
Directivity	60° x 40° CD horn	60° x 40° CD horn	60° x 40°	80° x 50°	60° x 40° CD horn
Crossover frequency	2,2 kHz, 12 dB/octave	2,2 kHz, 12 dB/octave	2,4 kHz, 12 dB/octave	3 kHz, 12 dB/octave	2 kHz, 12 dB/oct. passive
HF protection (passive)	Dyn. protection circuit	Dyn. protection circuit	Dyn. protection circuit	Dyn. protection circuit	-
Pole mount	DuoTilt™, 36 mm	MonoTilt™, 36 mm	MonoTilt™, 36 mm	MicroTilt™, 15 mm	DuoTilt™, 36 mm
Dimensions (WxHxD)	31,5 cm x 49 cm x 32 cm	26 cm x 38,5 cm x 28,5 cm	26 cm x 38,5 cm x 28,5 cm	18,5 cm x 27,5 cm x 21,5 cm	39 cm x 45 cm x 58,5 cm
	12-3/8" x 19-1/4" x 12-5/8"	10-1/4" x 15-1/8" x 11-1/4"	10-1/4" x 15-1/8" x 11-1/4"	7-1/4" x 10-7/8" x 8-1/2"	15-3/8" x 17-3/4" x 23"
Weight	11 kg/ 24,3 lbs.	7,5 kg/ 16,5 lbs.	7,2 kg/ 15,8 lbs.	4,5 kg/ 9,9 lbs.	22 kg/ 48,5 lbs.

	L.U.C.A.S MAX Subwoofer	L.U.C.A.S IMPACT Subwoofer	L.U.C.A.S PERFORMER Subw.	L.U.C.A.S SMART Subwoofer	ELIAS PX Subwoofer
Frequency response +/- 3dB ***	40 Hz - 130 Hz	45 Hz - 130 Hz	47 Hz - 130 Hz	43 Hz - 100 Hz	48 Hz - 130 Hz
Axial sensitivity 1W@1m *	101 dB	101 dB	101 dB	97 dB	104 dB
Maximum SPL @1m *	130 dB@10%THD	128 dB@10% THD	126 dB@10% THD	118 dB@10% THD	126 dB@10% THD
Subwoofer amplifier	1x 1.200 W RMS / Class D	1x 700 W RMS / Class D	1x 500 W RMS/ Class D	1x 250 W RMS/ Class D	1x 400 W RMS
Sat & Mid/High Unit amp	2x 400 W RMS / Class D	2x 250 W RMS / Class D	2x 200 W RMS/ Class D	2x 80 W RMS	-
Active protective circuits	DDO™ controller,	DDO™ controller,	Multiband limiter,	Multiband limiter	DynaClip™
	Multiband limiter	Multiband limiter	Subsonic filter	Subsonic filter	Subsonic-Filter
Connections	2x XLR In combination jack	2x XLR In combination jack	2x XLR combination jack	2x XLR, 2x Cinch	1x XLR In
	2x XLR Through	2x XLR Through	2x XLR Through	2x XLR Through, 2x Cinch (RCA)	1x XLR Through
	2x Speakon® Satellite out	2x Speakon® Satellite out	2x Speakon® Satellite out	2x Speakon® Satellite out	2x Speakon® Satellite out
Subwoofer	1x 15"	1x 15"	1x 15"	1x 10"	1x 15"
Pole mount	M20 threaded base plate	M20 threaded base plate	M20 threaded base plate	-	M20 threaded base plate
Dimensions (WxHxD)	48,5 cm x 49,5 cm x 58,5 cm	47,5 cm x 47 cm x 58,5 cm	47,5 cm x 47 cm x 58,5 cm	32 cm x 41 cm x 46,5 cm	46,5 cm x 66 cm x 64,5 cm
	19" x 19-1/2" x 23"	18-3/4" x 18-1/2" x 23"	18-3/4" x 18-1/2" x 23"	12-5/8" x 16-1/8" x 18-3/8"	18-1/4" x 25-1/2" x 26"
Weight	39 kg/ 86 lbs.	32 kg/ 74,4 lbs.	29,5 kg/ 64,9 lbs	21 kg/ 46,2 lbs.	35 kg/ 77 lbs.

Technical Specifications.



	ACTOR ADX 112 A	D.E.A.CON Mid/High	PROJECTOR Mid/High	D.A.R.T	F.A.S.T
Power-handling, nominal	-	-	-	-	-
Frequency response +/- 3dB ***	80 Hz - 19 kHz / 130 Hz - 19 kHz (Fullrange)	80 Hz - 19 kHz 130 Hz - 19 kHz (Fullrange)	120 Hz - 19 kHz	80 Hz - 19 kHz	75 Hz - 19 kHz
Axial sensitivity 1W@1m *	106 dB	104 dB	110 dB	105 dB	103 dB
Maximum SPL @1m *	129 dB@10% THD	130 dB@10% THD	131 dB@10% THD	123 dB@10% THD	120 dB@10% THD
Low/midrange amplifier	-	-	1x 300 W RMS	1x 250 W RMS	1x 200 W RMS
Mid/high range amplifier	1x 600 W RMS / Class D	1x 600 W RMS / Class D	1x 300 W RMS	1x 60 W RMS	
Active protective circuits	DDO™ controller, MultiBand limiter, Subsonic filter	DDO™ controller, MultiBand limiter, Subsonic filter	Opto limiter	MultiBand limiter	-
Nominal impedance	-	-	-	-	-
Connections	1x XLR In, 1x XLR Through 1x XLR Sub Out	1x XLR In, 1x XLR Through 1x XLR Sub Out	1x XLR In, 1x XLR Through	XLR Mic In, Line, Through 2x Cinch (RCA) AUX In	1x XLR Line In combination jack 1x XLR Mic In, 1x XLR Through
Midrange woofer	1x 12"	1x 12"	1x 12"	1x 12"	1x 12"
Tweeter/ driver	1,4"	2"	2"	1"	1"
Directivity	60° x 40° CD horn	60° x 40° CD horn	60° x 40° CD horn	60° x 40° CD horn	60° x 40° CD horn
Crossover frequency	950 Hz, 12 dB/octave	900 Hz, 12 dB/oct. passive	900 Hz, 12 dB/oct. passive	2 kHz, 24 dB/oct. active	2,2 kHz, 12 dB/oct. passive
HF protection (passive)	-	-	Dyn. protection circuit	Dyn. protection circuit	Dyn. protection circuit
Pole mount	DuoTilt™ 36 mm	DuoTilt™ 36 mm	-	DuoTilt™ 36 mm	DuoTilt™ 36 mm
Dimensions (WxHxD)	39 cm x 65 cm x 42 cm 15-1/4" x 25-5/8" x 16-1/2"	40 cm x 66 cm x 50 cm 15-3/4" x 26" x 19-3/4"	51 cm x 69 cm x 80 cm 20" x 17-1/8" x 31-1/2"	56 cm x 40,5 cm x 34 cm 22" x 15-7/8" x 13-3/8"	36 cm x 54 cm x 37 cm 14" x 21-1/4" x 3-1/2"
Weight	32 kg/ 70.6 lbs.	39,7 kg/ 87,3 lbs.	65 kg/ 132 lbs.	19,8 kg/ 43,6 lbs.	23 kg/ 50,6 lbs.

	ACTOR ADX 115 Sub A	D.E.A.CON Sub A	PROJECTOR Sub 1/2
Frequency response +/- 3dB ***	48 Hz - 130 Hz	44 Hz - 130 Hz	44 Hz - 120 Hz
Axial sensitivity 1W@1m *	104 dB	102 dB	106 dB
Maximum SPL @1m *	126 dB@10% THD	130 dB@10% THD	131 dB@10% THD
Subwoofer amplifier	1x 1.000 W RMS / Class D	1x 1.000 W RMS / Class D	1x 600 W RMS
Mid/High Unit amplifier	-	-	-
Active protective circuits	DDO™ controller, MultiBand limiter, Subsonic filter	DDO™ controller, MultiBand limiter, Subsonic filter	DynaClip™ Subsonic filter
Connections	1x XLR In, 1x XLR Through 1x Speakon® Parallel out	1x XLR In, 1x XLR Through 1x Speakon® Parallel out	1x XLR In 1x XLR Through
Subwoofer	1x 15"	1x 18"	1x 18"
Pole mount	M20 threaded base plate	M 20 threaded base plate	-
Dimensions (WxHxD)	48 cm x 65 cm x 66 cm** 18-7/8"x 25-5/8"x 26***	52 cm x 72,5 cm x 71,5 cm** 20-1/2"x 28-1/2"x 28-1/8***	51 cm x 69 cm x 80 cm 20" x 17-1/8" x 31-1/2"
Weight	36,6 kg/ 80,8 lbs.	49,5 kg/ 109 lbs.	58 kg/ 129 lbs.

	ACTOR ADX 115 Sub B	D.E.A.CON Sub B
Power-handling nominal	500 W RMS / 8 ohms	500 W RMS / 8 ohms
Connections	1x Speakon® In	1x Speakon® In
Weight	33,7 kg/ 74,3 lbs.	47 kg/ 103,4 lbs.

Passive Systems

	PR:O 12	PR:O 12 M	PR:O 15	PR:O 15 X	PR:O 18 S
Power-handling, peak	1200 W	1200 W	1200 W	1200 W	1500 W
Power-handling, program	800 W	800 W	800 W	800 W	1000 W
Power-handling, nom. (RMS)	400 W	400 W	400 W	400 W	500 W
Frequency response -10 dB	60 Hz - 19 kHz	63 Hz - 19 kHz	53 Hz - 19 kHz	53 Hz - 19 kHz	38 Hz - 150 Hz
Frequency response +/- 3 dB	68 Hz - 19 kHz	70 Hz - 19kHz	60 Hz - 19 kHz	60 Hz - 19 kHz	48 Hz - 150 Hz
Axial sensitivity 1W/1m*	104 dB	104 dB	104 dB	104 dB	104 dB
Maximum SPL @1m*	128 dB	128 dB	128 dB	128 dB	129 dB
Speaker	12"	12"	15"	15"	18"
Impedance	8 ohms	8 ohms	8 ohms	8 ohms	4 ohms
HF horn	1"	1"	1"	1"	-
HF protection	Dyn. protection circuitry	Dyn. protection circuitry	Dyn. protection circuitry	Dyn. protection circuitry	-
Horn characteristics	60° x 40° CD horn	60° x 40° CD horn	60° x 40° CD horn	60° x 40° CD horn	-
Crossover frequency	2 kHz, 12 dB/oct.	2 kHz, 12 dB/oct.	2 kHz, 12 dB/oct.	2 kHz, 12 dB/oct.	150 Hz, 12 dB/oct.
Connections	2x Speakon®	2x Speakon®	2x Speakon®	2x Speakon®	2x Speakon®
Pole mount	HK Audio DuoTilt™	-	HK Audio DuoTilt™	HK Audio DuoTilt™	M20 threaded base plate
	7,5° and 15°	-	7,5° and 15°	7,5° and 15°	-
Rigging points	3x M8	-	3x M8	3x M8	-
Angles up	-	30°	-	45° (monitor application)	-
Casters	-	-	-	-	Optional, 100 mm
Weight	18 kg / 39,5 lbs.	16 kg / 35,2 lbs.	22 kg / 48,4 lbs.	21 kg / 46,2 lbs.	39 kg / 85,5 lbs.
Dimensions (WxHxD)	39 x 57 x 36 cm	39 x 55,5 x 38 cm	47 x 61,5 x 41 cm	47 x 61,5 x 44,5 cm	53 x 61 x 64 cm
	15-1/4 x 22-1/2 x 14-1/4"	15-1/4 x 21-3/4 x 15"	18-1/2 x 24-1/4 x 16-1/4"	18-1/2 x 24-1/4 x 17-1/2"	12-3/4 x 24 x 25-1/4"

Recommended amplifier power: To drive PREMIUM PR:O enclosures, select amplifiers with the capacity to deliver between 600 and 800 watts RMS per channel @ 4 ohms. The amp's peak power output should attain at least 1200 watts per channel @ 4 ohms to have enough headroom available for dynamic musical signals.

** All measurements taken under half-space conditions*

Active Systems Guide – The Right Active System for Every Application



The Systems Guide is here to help you choose the system that is right for you. Audience and venue size, style of music and type of performance, and application scenarios – all these factors figure prominently in your decision. The table offers

a survey of all HK AUDIO Active Systems and their potential applications. However, the best way to assess a system's capabilities is to experience it first hand and hear it with your own ears. And that is easily done— simply visit an authorised HK AUDIO dealer nearby.

1 L.U.C.A.S SMART
2x Satellite
1x Subwoofer
75 400 W

5 ELIAS PX Fullrange
2x Top
in Fullrange Mode
150 800 W

9 ACTOR DX Half Stack
2x Top
2x Subwoofer
400 1600 W

2 L.U.C.A.S PERFORMER
2x Satellite
1x Subwoofer
200 900 W

6 ELIAS PX Standard
2x Top
2x Subwoofer
300 1600 W

10 ACTOR DX Full Stack
2x Top
2x Subwoofer
500 3200 W

3 L.U.C.A.S IMPACT
2x Satellite
1x Subwoofer
250 1200 W

7 ELIAS PX Extended
2x Top
4x Subwoofer
500 2400 W

11 D.E.A.CON
2x Top
4x Subwoofer
700 3200 W

4 L.U.C.A.S MAX
2x Satellite
1x Subwoofer
300 2000 W

8 ACTOR DX Top Only
2x Top
in Fullrange Mode
200 1200 W

12 PROJECTOR
2x Top
4x Subwoofer
1000 3600 W

Application	Audience up to 75	75-150	150-250	250-500	500-1000
Speech	1,2	2,3,5,8	3,4,5,8	2x5,2x8	2x9,10,11
Background music	1,2	2,3	3,4,5	9,6	10,11
Presentation / convention	1	2,3	4,5	6,9	10,11
Acoustic instruments	1,2	2,3,5	3,4,5,8	7,9,10	10,11
Entertainer	1	2,3	3,4,6	7,9,10	10,11
Mobile DJ moderate	1,2	2,3	3,4	7,9	10,11,12
Mobile DJ loud	2,3	3,4	4,6	10,11	2x10,11,12
Band moderate	3	3,4	4,6	10,11	2x10,11
Band loud	4	4,5,6	4,6,7	10,11,12	2x10,11,12

A/D converter: Analog/digital converter, an electronic component that transforms analog voltage curves, that is signals, into binary information

AC: Abbreviation for alternating current

Active system: A sound reinforcement system with integrated power amps.

ADP: Short for Advanced Driver Protection, an electronic protective circuit for tweeters developed by HK AUDIO.

Aeroquip: Locking studs that engage in a rigging, aerial or fly track and provide an eyelet for hanging cabinets

AES/EBU: A digital interface for audio data used primarily in professional applications.

Alignment: The adjustment of delays in milliseconds to ensure coherence among different speakers, for example, to align different horns to compensate for the varying depths at which drivers are mounted in the chassis.

Amp: Short for amplifier; also referred to as a power amp.

Aux bus: A mixing console output circuit for patching signals to effect devices or monitor busses. Every aux bus has an extra signal bus enabling the creation of a separate mix that is entirely independent of the end mix. To this end, each mixing console channel sports an aux knob that adjusts the aux bus signal level.

Balanced: Symmetrical signal routing via audio lines with three conductors, two carrying the signal and one the ground or shield.

Balancing: Audio signals must be balanced to ensure noiseless signal-routing across greater cable distances. To this end, an inverted copy of the signal is routed via second wire. At the destination, a useful signal is derived from the inverted signal and in-phase noise induced along the way is cancelled out.

Band-pass filter: Combination of high- and low-pass filters. A band-pass filter allows a specific band of frequencies between the upper and lower limiting frequencies to pass and rejects frequencies above and below this pass-band. Also: Bass cabinets whose speakers radiate into a resonator chamber, generating high sound pressure levels within a narrow frequency range (generally low end).

Bass reflex system: Sound radiated to the rear of a speaker is routed to a precision-tuned aperture at the front of the enclosure and added in phase to the forward-moving sound waves to boost the cabinet's sound pressure in the bass range.

Bi-amping: A crossover splits an audio signal into high-frequency and low-frequency signals, which are amplified by separate power amps and rendered by separate speakers.

Bypass: A circuit serving to reroute a signal, for instance, past an effect device or an equalizer, so that it is not processed.

Cable trunk: Crate for storing and transporting power, audio and speaker cords.

Case: A stable transport box with metal fittings, butterfly clasp and casters.

CD horn: CD is short for „constant directivity“. A CD horn is designed so that all frequencies rendered by the driver radiate outwards in a uniform horizontal and vertical pattern.

Center cluster: Additional centrally arrayed or flown speaker group, for example, to cover the audience in the middle section and near the stage when cabinet towers are situated far apart.

Circuit breaker: A device that automatically interrupts the flow of an electrical current to protect equipment from harm.

Class D: An amp operating mode serving solely to amplify square wave signals. Class D or switch-mode amplifiers serve to control step motors. Class D's transistor stages do not require bias current, so class D power amp's efficiency rating is over 90 percent. However, the process of converting the input signal to PWM and converting it back to analog, introduces considerable distortion, requiring conventional feedback to reduce distortion. See also A/B mode, digital power amp, PWM.

Clipping: When power amps, effect devices and mixing console inputs are saturated with excessively high input levels, these overdriven devices produce ugly distortion (the top of a waveform appears to be cut off - hence the term clipping). In overdriven power amps, DC voltage is added to the output signal, which may endanger connected speakers.

Cluster: A group of speakers.

Compander: Combination compressor/expander. When a signal drops below a variable threshold, a compander boosts the signal, and vice versa when it rises above the threshold. This holds the signal at a constant level. Though a compander would appear to extend the dynamic range, it also raises the noise floor audibly at high gain levels. Extreme attack and release time settings yield noise tails and audible pumping. Frequently confused with compressors, companders are quite popular with guitarists because they boost a decaying signal to create the impression of longer sustain.

Compressor: Control amplifier that reduces its gain according to the compression ratio when a signal exceeds the threshold. Threshold, ratio, attack and release are adjustable. A compressor smoothes out the spikes in an audio signal, thereby reducing the dynamic range.

Controller: A control unit tuned to a speaker system, usually fully digitally in design. A controller's aligned crossovers, limiters and delays ensure optimum performance in terms of frequency, level and time. Most controllers are designed so that operating error cannot harm the speakers.

Crossover: Also called an x-over, a crossover splits a frequency spectrum into different signal paths (2-way / 3-way). A distinction is made between active and passive crossovers. Active crossovers receive a fullrange signal directly from the mixer (line signal), which they then separate and send to different power amps. Passive crossovers are installed in a speaker cabinet. They distribute the incoming amplified signal to the speaker components inside.

Cue: A signal prompting the start of a specific action, for example, to play back a piece of music. The term is frequently used for the pre-fader listening function on tape decks and DJ consoles.

Curve: The process of bending flown cabinet clusters to create an optimum arc.

dB: Short for decibel, a numerical expression of the relative loudness of a sound. The lower limit of audible sound is equivalent to 0 dB, and a 3 dB change in level is the smallest perceptible in level, which requires twice the acoustical energy to achieve.

DC: Abbreviation for direct current.

DDO™ technology: Active compensation of dynamic distortion. Every speaker has a specific tonal character. Its timbre varies as volume levels vary. And due to its transient response, an amplified signal rendered by a speaker is not identical to the natural sound traveling through air. The DDO™ (Digital Dynamics Optimization) Controller (DFC) compensate for this dynamic distortion with 56-bit computing power. The result is amazingly assertive and authentic sound from a whisper to a roar.

Delay: In this context, the delay time of audio signals. Delays (or echoes) are usually used as an effect. In large venues and at open-air concerts it is often necessary to set up additional cabinets to cover the audience area furthest from the stage. Delay lines send a delayed signal to align the front and rear cabinets' response.

DI box: Short for direct injection box. This signal converter balances an unbalanced audio signal and matches impedances so it can be sent to the mixing console even via long cords. Equipped with an integrated ground lift switch, it can also be an effective tool for defeating ground loops.

Digital amplifying: With an extremely high efficiency rating topping the 90% mark, digital power amps are substantially smaller, lighter, and more compact than conventional amps. The reduced thermal load on components enhances reliability, while the far faster slew rate and higher attenuation factor audibly enhance the speed and accuracy of the system's dynamic response.

Directivity: The spatial distribution of acoustic waves radiated by a speaker or speaker cabinets.

DSP: Abbreviation for digital signal processor.

Duspol: A voltage tester used to check the power supplies' ground and connected neutral conductor.

DynaClip™: This dynamic limiter function minimizes the inharmonic distortion caused by limiting and maximizes energy efficiency.

Dynamic range: A signal processor's capacity to produce, render or handle signals from the softest to the loudest levels. Starting at a signal's noise floor, it extends all the way up to the distortion threshold.

ELA: German abbreviation for Elektroakustische Anlagen (electro-acoustic system). ELA systems are the remote ancestors of contemporary PA systems. Today they are used principally for voice reinforcement in large buildings, community centers or on sports grounds. At the risk of hurting some janitor's feelings, these permanently installed systems are not up to the challenges of concert sound reinforcement.

EQ: Equalizer. A device for shaping the sound of audio signals. A graphic EQ is equipped with filters with a fixed frequency and bandwidth, often arrayed in octave increments. The filters cut and boost the gain of individual frequency ranges. The filters of a 31-band EQ are spaced at much finer frequency intervals, enabling much finer filtering. Parametric equalizers enable even more variable selection of filter frequencies. Usually the filter quality (that is, the bandwidth surrounding the filter frequency) is also adjustable.

Expander: Pretty much the opposite of to a compressor, an expander extends an audio signal's dynamic range by attenuating gain by a factor of < 1 when the signal dips below a variable threshold. Soft signals grow even softer and interference such as noise is reduced by the same measure. At its most extreme setting, an expander is actually a noise gate that shuts down the signal path.

Fader: A sliding control on a mixing console that adjusts individual channel, subgroup and master signal levels.

Feedback: Feedback's symptom is an unpleasant-to-painful whining or howling. Its cause is an output signal recycled into a signal source's input, for instance when a microphone or instrument picks up the speaker signal and delivers it back to the reinforcement system.

Feedback killer: A signal processor that monitors a signal path for resonances in the frequency response. In case of feedback, it determines the feedback frequency and automatically inserts a steep notch filter with the quality and attenuation required to suppress the feedback.

F.o.H.: Front of house; the location of the main mixer on which the venue or room sound is mixed

Frequency response: The output-over-input ratio of the frequency spectrum as obtained from the output and input signal of a microphone, amp, speaker and so forth. If all frequencies are generated, rendered or processed equally, the frequency response of the given device is linear.

Fullrange: This term denotes that the entire frequency spectrum is rendered. Unlike subwoofers and satellites, which render select ranges of the overall frequency spectrum only, a fullrange cabinet reproduces bass frequencies as well as midrange and high frequencies.

Gain: A mixing console channel's input amplification. Gain knobs serve to bring different input levels to the same level, while the volume faders adjust the balance of levels.

Gate: Electronic switch that mutes a signal path when its level dips below a given threshold. It serves to suppress hiss, hum and other undesirable noise during pauses or breaks.

Ground lift: This switch separates the signal from the chassis ground. It frequently eliminates ground hum.

Ground support: The base for truss system towers. Equipped with castors, they serve to raise and lower transoms.

HK Audio Glossary



Headroom: An expression for the amount of gain reserves. In the case of sound reinforcement systems, it is essential that the system has sufficient headroom to deliver clear, uncompressed sound and ensure thermal reliability.

High-pass: This is an electrical filter (or crossover) that allows all frequencies of a signal that lie above a specific frequency (e.g. 130 hertz) to pass to other speakers.

Horn: A cone-shaped device that bundles acoustical waves to determine speaker directivity.

Impedance: In signal sources and inputs' electrical circuits, the resistance to the flow of an alternating current. In speakers, microphones and pick-ups, impedance is the product of the geometrical addition of ohmic coil resistance and additional inductive and capacitive components. Impedance therefore depends on frequency, and is usually indicated in values referenced to a frequency of 1 kHz.

In-ear monitoring: Rather than sending the monitor mix to monitor cabinets, the signal is patched directly to musicians' earphones. The advantages are greater freedom of movement, consistent sound, softer stage volumes, enhanced sound out front, and less PA transport hassle because there are monitor cabinets and power amps to lug.

L.U.C.A.S: Acronym for Lightweight Ultra Compact Active System.

LED: Light-emitting diode. Besides serving as diodes, LEDs are commonly used as visual indicators. Compared with lamps, they cost less to produce, respond faster, are more robust and smaller, have a longer lifespan, and consume less power.

Limiters: An aggressive compressor with an ostensibly infinite compression ratio. When a signal rises above an adjustable threshold, gain is reduced so that the output level no longer exceeds the threshold. Limiters are primarily used to protect devices from overloads with great damage potential for the entire system.

Line signal: This is an unamplified signal sent directly from a sound source (say a keyboard or CD player) or a mixer (via the master output or aux bus) and must be amplified by a power amp to be heard.

Low Cut: This switch limits the lower frequency range of a cabinet. In the case of the ACTOR mid-/high-range unit, frequencies below 110 hertz are cut off when the Low Cut switch is activated. The switch comes in handy when the top unit is used with one or several subwoofers. When deployed as a fullrange cabinet, the Low Cut switch should be deactivated.

Low-pass filter: The opposite of a high-pass filter. Frequencies below the limiting frequency may pass; those above it are rejected.

Master: The end of the line for all mixing console signals. The master faders are usually used to adjust a PA's overall volume.

MIDI: An acronym for Musical Instruments Digital Interface, a standardized serial interface designed to connect keyboards, sequencers, samplers and so forth. Mixing console automations and preset scenes can be activated and controlled remotely via MIDI messages.

Modulation: The process of varying the amplitude, frequency, or phase of a signal. For example, modulation serves to pack an audio signal onto a high-frequency carrier and send it as a radio signal. A demodulator at the receiving end extracts the intelligence from a signal by rejecting the high frequency signal.

Monitor system: Speaker system serving solely the purpose of on-stage sound reinforcement. In professional productions, it is controlled from an ancillary mixing console sited at the side of the stage.

Multi-Band limiting: Several matched limiters are fine-tuned to process the acoustically relevant frequency ranges. This speaker-independent approach to signal processing results in natural-sounding dynamic response across the entire frequency spectrum and an assertive yet finely balanced sonic image.

Multicore: Multiple-wire connecting cable running from the stage to the mixer. It carries all audio signals and sometimes digital MIDI or DMX data.

Mute: To silence a signal.

OFRT™: Optimized Frequency Response Technology: An unprecedented technology, OFRT™ delivers assertive yet well-balanced sound at every level. It rectifies speaker components' non-linear frequency response and adapts the system's sound to suit the human ear's auditory perceptions.

Opto limiter: The dynamic response of mid-/high-range speakers and bass woofers diverge, and therefore require different types of signal processing. The Opto Limiter is based on technology initially developed for high-end recording gear. Its soft knee attack sounds more musical and unobtrusive, making it ideal for processing high and midrange frequencies. The signal's original envelope remains virtually intact, ensuring far more natural-sounding dynamic response.

Overload: Overburden, saturate

P: Short for public address, the term used to describe speaker systems addressing audiences.

Passive cabinets: Speakers without an onboard power amp. Fullrange cabinets and subwoofers as well as satellites or mid-/high-range units can be passive. All passive cabinets by HK AUDIO have built-in crossovers that split the signal and send the appropriate frequencies to woofers and tweeters. See also subwoofer.

Peak: The maximum amplitude of a signal, usually transient in nature.

Periphery: Outboard equipment such as printers and effect devices support a central device such as a computer or mixing console. Situated nearby, these peripheral devices provide ancillary functions.

Phantom power: A power supply for condenser microphones provided by special devices or the mixing console via balanced audio circuits. The idea behind the name is that phantom power is invisible to dynamic microphones, meaning that it does not adversely affect their operation.

Phase: The live (hot) conductor of a power or signal cable.

Power amp: An amplifier that boosts the mixing console's signal to a level sufficient for driving speakers.

PowerCon: Device-sided plug-in connector for 230V power supply. A trustworthy alternative to the simple IEC inlet connector for non-heating apparatus, the Powercon plug sports a locking mechanism.

PWM: Abbreviation for pulse width modulation. A pulse width modulator uses a square wave high-frequency carrier to represent information encoded as an analog input signal's varying voltage levels in the form of square waves or pulses of varying widths. See also digitalamping.

Rack: Standardized 19" shelf providing safe accommodation for power supply units, effect devices, noise gates and so forth. Devices may be installed in any desired order.

RF: Radio frequency.

Rig: Truss system.

Riser: A stage platform.

RMS: Short for root mean square, meaning the effective value of a periodic quantity. RMS is a standard measure for indicating a speaker's thermal load handling capacity.

Routing: The signal paths' charted course within and with out the mixing console.

Satellite: Also called a mid-/high-range unit, this is a compact, two-way cabinet with a midrange speaker and a tweeter horn that is deployed in combination with a subwoofer.

Satellite system: A system in which the subwoofer and mid-/high-range units are housed in separate cabinets.

Select: The key function on all digital mixing consoles. Pushing the Select button activates the parameter settings of the chosen channel. They are indicated in the displays or on the monitor screen, and assigned to controls - usually rotary encoders and motorized faders.

Sensitivity: Sensitivity is many things to many components: A rating, usually in dBV, expressing how hot a microphone is; the minimum amount of input signal required to drive a device to its rated output level; a measure of a speaker's sound pressure level indicating how efficiently it performs.

Side fills: Part of a monitor system, side-fills are small PA stacks or pole-mounted cabinets sited at the right and left to provide stage sound reinforcement.

Side rack: A 19" rack housing the equalizers and effect devices required for mixing, usually placed alongside the mixing console.

Speakon connector: Plug-in speaker connector. Speakons are superior to XLR connectors for amp-to-speaker connections because they afford consummate protection against accidental contacts as well as very secure contacts. Both are vital in the age of high-performance power amps. Speakons come with two, four and eight pins (NL-2, NL-4, NL-8).

Stack: Any combination of speaker cabinets placed on top of one another.

Stage box: A box at the head of the multicore cable where all on-stage audio cords meet.

Subsonic noise: Low-frequency rumble produced by mechanical vibrations (for example, stage boards) and captured by resonating microphones. It can be eliminated using subsonic filters and crafty microphone placement.

Subsonic switch: A switch found on power amps. When activated, the amp does not amplify frequencies below 20-30 Hz, thereby enhancing power amp efficiency. The reasoning is that most cabinets are unable to render these frequencies anyway.

Subwoofer: A speaker that is designed exclusively to render bass frequencies.

Tilt-Unit: DuoTilt™, MonoTilt™ and MicroTilt™ pole mounts allow sound energy to be utilized efficiently. DuoTilt™ offers 7.5° and 15° angles of tilt, and MonoTilt™ and MicroTilt™ offer a 10° angles of tilt, enabling satellites to be aligned precisely toward the audience. Troublesome ceiling reflections are minimized; the soundscape is clearer, tighter, and more focused.

Transformer: Appliance that converts AC voltage up or down.

Truss: A system of aluminum struts and cross beams accommodating lights, projectors, canvases, screens and much more.

Two-way / three-way: Terms for the manner in which the frequency ranges to be rendered are distributed to the speakers within a cabinet (see passive cabinet and crossover). In the case of a typical two-way cabinet, the speaker renders low and midrange frequencies, while the tweeter renders high frequencies. Satellites are also two-way cabinets, but these reproduce solely midrange and high frequencies. A three-way cabinet distributes the three frequency ranges to three different speakers and tweeters. Note: Not to be confused with two-way active!

Two-way active: In terms of HK AUDIO systems, this is actually a three-way system that is powered by two separate power amps. One power amp, in combination with the subwoofer, is responsible for reproducing the bottom end. The other amp drives a two-way passive cabinet (which is also called a satellite or mid-/high-range unit) that renders midrange and high frequencies. See bi-amping.

Wedge: A slanted floor monitor.

XLR connector: Professional-grade, three-to-five pin plug-in connectors for audio signal cords. Owing to their robustness and reliability, they are widely used in studios and PA scenarios.

X-Over: Crossover.



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