



Portable Sound



D.E.A.CON

Dynamic Enhancement And Controlling System

Manual 1.1

English
Deutsch
Français
Español

Important Safety Instructions

Before connecting, read instructions

- Read all of these instructions!
- Save these instructions for later use!
- Follow all warnings and instructions marked on the product!
- Do not use this product near water, i.e. bathtub, sink, swimming pool, wet basement, etc.
- Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to the product or to persons!
- Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. This product should not be placed in a built-in installation unless proper ventilation is provided.
- This product should not be placed near a source of heat such as a stove, radiator, or another heat producing appliance.
- Use only the supplied power supply or power cord. If you are not sure of the type of power available, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
- Never push objects on the power supply cord.
- Power supply cords should always be handled carefully. Periodically check cords for cuts or sign of stress, especially at the plug and the point where the cord exits the unit.
- The power supply cord should be unplugged when the unit is to be unused for long periods of time.
- If this product is to be mounted in an equipment rack, rear support should be provided.
- This product should be used only with a cart or stand that is recommended by HK AUDIO®.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind on the product.
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
- Clean only with dry cloth.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for the safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed.
 - If liquid has been spilled into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally when the operating instructions are followed.
 - If the product has been dropped or the cabinet has been damaged.
 - If the product exhibits a distinct change in performance, indicating a need of service!
- Adjust only these controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
- Exposure to extremely high noise levels may cause a permanent hearing loss.
- Individuals vary considerably in susceptibility to noise induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

Duration Per Day In Hours	Sound Level dBA, Slow Response
8	90
6	92
4	95
3	97
2	100
1 1/2	102
1	105
1/2	110
1/4 or less	115

- According to OSHA, any exposure in excess of the above permissible limits could result in some hearing loss.
- Ear plug protectors in the ear canals or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss if exposure is in excess of the limits as set forth above. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels such as this amplification system be protected by hearing protectors while this unit is in operation.
- Fuses: Replace with IEC 127 (5x 20 mms) type and rated fuse for best performance only.

TO PREVENT THE RISK OF FIRE AND SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO MOISTURE OR RAIN. DO NOT OPEN CASE; NO USER SERVICE-ABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

Version 1.0 10/2004

Important Advice on Safety!

Please read before use and keep for later use!

- The unit has been built by HK AUDIO® in accordance with IEC 60065 and left the factory in safe working order. To maintain this condition and ensure non-risk operation, the user must follow the advice and warning comments found in the operating instructions. The unit conforms to Protection Class 1 (protectively earthed).
- HK AUDIO® ONLY GUARANTEE THE SAFETY, RELIABILITY AND EFFICIENCY OF THE UNIT IF:
 - Assembly, extension, re-adjustment, modifications or repairs are carried out by HK AUDIO® or by persons authorized to do so.
 - The electrical installation of the relevant area complies with the requirements of IEC (ANSI) specifications.
 - The unit is used in accordance with the operating instructions.
 - The unit is regularly checked and tested for electrical safety by a competent technician.

WARNING:

- If covers are opened or sections of casing are removed, except where this can be done manually, live parts can become exposed.
- If it is necessary to open the unit this must be insulated from all power sources. Please take this into account before carrying out adjustments, maintenance, repairs and before replacing parts.
- The appliance can only be insulated from all power sources if the mains connection is unplugged.
- Adjustment, maintenance and repairs carried out when the unit has been opened and is still live may only be performed by specialist personnel who are authorized by the manufacturer (in accordance with VBG 4) and who are aware of the associated hazards.
- Loudspeaker outputs which have the IEC 417/5036 symbol (Diagram 1, below) can carry voltages which are hazardous if they are made contact with. Before the unit is switched on, the loudspeaker should therefore only be connected using the lead recommended by the manufacturer.
- Where possible, all plugs on connection cables must be screwed or locked onto the casing.
- Replace fuses only with IEC127 type and specified ratings.
- It is not permitted to use repaired fuses or to short-circuit the fuse holder.
- Never interrupt the protective conductor connection.
- Surfaces which are equipped with the "HOT" mark (Diagram 2, below), rear panels or covers with cooling slits, cooling bodies and their covers, as well as tubes and their covers are purposely designed to dissipate high temperatures and should therefore not be touched.
- High loudspeaker levels can cause permanent hearing damage. You should therefore avoid the direct vicinity of loudspeakers operating at high levels. Wear hearing protection if continuously exposed to high levels.

MAINS CONNECTION:

- The unit is designed for continuous operation.
- The set operating voltage must match the local mains supply voltage.
- It is connected to the mains via the supplied power unit or power cable.
- Power unit: Never use a damaged connection lead. Any damage must be rectified by a competent technician.
- Avoid connection to the mains supply in distributor boxes together with several other power consumers.
- The plug socket for the power supply must be positioned near the unit and must be easily accessible.

PLACE OF INSTALLATION:

- The unit should stand only on a clean, horizontal working surface.
- The unit must not be exposed to vibrations during operation.
- Keep away from moisture and dust where possible.
- Do not place the unit near water, baths, wash basins, kitchen sinks, wet areas, swimming pools or damp rooms. Do not place objects containing liquid on the unit - vases, glasses, bottles etc.
- Ensure that the unit is well ventilated.
- Any ventilation openings must never be blocked or covered. The unit must be positioned at least 20 cm away from walls. The unit may only be fitted in a rack if adequate ventilation is ensured and if the manufacturer's installation instructions are followed.
- Keep away from direct sunlight and the immediate vicinity of heating elements and radiant heaters or similar devices.
- If the unit is suddenly moved from a cold to a warm location, condensation can form inside it. This must be taken into account particularly in the case of tube units. Before switching on, wait until the unit has reached room temperature.
- Accessories: Do not place the unit on an unsteady trolley, stand, tripod, base or table. If the unit falls down, it can cause personal injury and itself become damaged. Use the unit only with the trolley, rack stand, tripod or base recommended by the manufacturer or purchased together with the unit. When setting the unit up, all the manufacturer's instructions must be followed and the setup accessories recommended by the manufacturer must be used. Any combination of unit and stand must be moved carefully. A sudden stop, excessive use of force and uneven floors can cause the combination of unit and stand to tip over.
- Additional equipment: Never use additional equipment which has not been recommended by the manufacturer as this can cause accidents.
- To protect the unit during bad weather or when left unattended for prolonged periods, the mains plug should be disconnected. This prevents the unit being damaged by lightning and power surges in the AC mains supply.

Diagram 1



Diagram 2



Wichtige Sicherheitshinweise!

Bitte vor Gebrauch lesen und für späteren Gebrauch aufbewahren!

- Das Gerät wurde von HK AUDIO® gemäß IEC 60065 gebaut und hat das Werk in sicherheitstechnisch einwandfreiem Zustand verlassen. Um diesen Zustand zu erhalten und einen gefahrlosen Betrieb sicherzustellen, muss der Anwender die Hinweise und die Warnvermerke beachten, die in der Bedienungsanleitung enthalten sind. Das Gerät entspricht der Schutzklasse I (schutzgeerdet).
- DIE SICHERHEIT, ZUVERLÄSSIGKEIT UND LEISTUNG DES GERÄTES WIRD VON HK AUDIO® NUR DANN GEWÄHRLEISTET, WENN:
 - Montage, Erweiterung, Neueinstellung, Änderungen oder Reparaturen von HK AUDIO® oder von dazu ermächtigten Personen ausgeführt werden.
 - die elektrische Installation des betreffenden Raumes den Anforderungen von IEC (ANSI)-Festlegungen entspricht.
 - das Gerät in Übereinstimmung mit der Gebrauchsanweisung verwendet wird.

WARNUNG:

- Wenn Abdeckungen geöffnet oder Gehäuseteile entfernt werden, außer wenn dies von Hand möglich ist, können Teile freigelegt werden, die Spannung führen.
- Wenn ein Öffnen des Gerätes erforderlich ist, muss das Gerät von allen Spannungsquellen getrennt sein. Berücksichtigen Sie dies vor dem Abgleich, vor einer Wartung, vor einer Instandsetzung und vor einem Austausch von Teilen.
- Ein Abgleich, eine Wartung oder eine Reparatur am geöffneten Gerät unter Spannung darf nur durch eine vom Hersteller autorisierte Fachkraft (nach VBG 4) geschehen, die mit den verbundenen Gefahren vertraut ist.
- Lautsprecher-Ausgänge, die mit dem IEC 417/5036-Zeichen (Abb.1, s.unten) versehen sind können berührungsgefährliche Spannungen führen. Deshalb vor dem Einschalten des Gerätes Verbindung nur mit dem vom Hersteller empfohlenen Anschlusskabel zum Lautsprecher herstellen.
- Alle Stecker an Verbindungskabeln müssen mit dem Gehäuse verschraubt oder verriegelt sein, sofern möglich.
- Es dürfen nur Sicherungen vom Typ IEC 127 und der angegebenen Nennstromstärke verwendet werden.
- Eine Verwendung von geflickten Sicherungen oder Kurzschließen des Halters ist unzulässig.
- Niemals die Schutzleiterverbindung unterbrechen.
- Oberflächen, die mit dem "HOT"-Zeichen (Abb.2, s.unten) versehen sind, Rückwände oder Abdeckungen mit Kühlschlitzen, Kühlkörper und deren Abdeckungen, sowie Röhren und deren Abdeckungen können im Betrieb erhöhte Temperaturen annehmen und sollten deshalb nicht berührt werden.
- Hohe Lautstärkepegel können dauernde Gehörschäden verursachen. Vermeiden Sie deshalb die direkte Nähe von Lautsprechern, die mit hohen Pegeln betrieben werden. Verwenden Sie einen Gehörschutz bei dauernder Einwirkung hoher Pegel.

NETZANSCHLUSS:

- Das Gerät ist für Dauerbetrieb ausgelegt.
- Die eingestellte Betriebsspannung muss mit der örtlichen Netzspannung übereinstimmen.
- Der Anschluss an das Stromnetz erfolgt mit dem mitgelieferten Netzteil oder Netzkabel.
- Netzteil: Eine beschädigte Anschlussleitung kann nicht ersetzt werden. Das Netzteil darf nicht mehr betrieben werden.
- Vermeiden Sie einen Anschluss an das Stromnetz in Verteilerdosen zusammen mit vielen anderen Stromverbrauchern.
- Die Steckdose für die Stromversorgung muss nahe am Gerät angebracht und leicht zugänglich sein.

AUFSTELLUNGORT:

- Das Gerät sollte nur auf einer sauberen, waagerechten Arbeitsfläche stehen.
- Das Gerät darf während des Betriebs keinen Erschütterungen ausgesetzt sein.
- Feuchtigkeit und Staub sind nach Möglichkeit fernzuhalten.
- Das Gerät darf nicht in der Nähe von Wasser, Badewanne, Waschbecken, Küchenspüle, Nassraum, Swimmingpool oder feuchten Räumen betrieben werden. Keine mit Flüssigkeit gefüllten Gegenstände - Vase, Gläser, Flaschen etc. auf das Gerät stellen.
- Sorgen Sie für ausreichende Belüftung der Geräte.
- Eventuelle Ventilationsöffnungen dürfen niemals blockiert oder abgedeckt werden. Das Gerät muß mindestens 20 cm von Wänden entfernt aufgestellt werden. Das Gerät darf nur dann in ein Rack eingebaut werden, wenn für ausreichende Ventilation gesorgt ist und die Einbauanweisungen des Herstellers eingehalten werden.
- Vermeiden Sie direkte Sonneneinstrahlung sowie die unmittelbare Nähe von Heizkörpern und Heizstrahlern oder ähnlicher Geräte.
- Wenn das Gerät plötzlich von einem kalten in einen warmen Ort gebracht wird, kann sich im Geräteinneren Kondensfeuchtigkeit bilden. Dies ist insbesondere bei Röhrengeräten zu beachten. Vor dem Einschalten solange warten bis das Gerät Raumtemperatur angenommen hat.
- Zubehör: Das Gerät nicht auf einen instabilen Wagen, Ständer, Dreifuß, Untersatz oder Tisch stellen. Wenn das Gerät herunterfällt, kann es Personenschäden verursachen und selbst beschädigt werden. Verwenden Sie das Gerät nur mit einem vom Hersteller empfohlenen oder zusammen mit dem Gerät verkauften Wagen, Rack, Ständer, Dreifuß oder Untersatz. Bei der Aufstellung des Gerätes müssen die Anweisungen des Herstellers befolgt und muss das vom Hersteller empfohlene Aufstellzubehör verwendet werden. Eine Kombination aus Gerät und Gestell muss vorsichtig bewegt werden. Plötzliches Anhalten, übermäßige Kraftanwendung und ungleichmäßige Böden können das Umkippen der Kombination aus Gerät und Gestell bewirken.
- Zusatzvorrichtungen: Verwenden Sie niemals Zusatzvorrichtungen, die nicht vom Hersteller empfohlen wurden, weil dadurch Unfälle verursacht werden können
- Zum Schutz des Gerätes bei Gewitter oder wenn es längere Zeit nicht beaufichtigt oder benutzt wird, sollte der Netzstecker gezogen werden. Dies verhindert Schäden am Gerät aufgrund von Blitzschlag und Spannungsstößen im Wechselstromnetz.

Abb.1

Abb.2





Welcome to the HK AUDIO® family!

Thank you for choosing an HK AUDIO® product. D.E.A.CON consists of a 12"/2" mid/high-range enclosure with integrated DDO™ system controller, a Sub A subwoofer with integrated 1000 W RMS Class D amplifier and the Sub B subwoofer, the passive addition to the Sub A.

There's no need to adjust or tweak levels – just set up the system components, connect the mains and signal cables and you're ready to roll.

An HK AUDIO® active system is more than just two active speakers – it's an all-inclusive sound reinforcement solution comprising a subwoofer, enclosure, and meticulously integrated electronics. To make these advantages possible, our engineers specially developed new technologies for these systems. The unique features make active HK AUDIO® sound systems stand out from other active speakers.

Your HK AUDIO® team says: Enjoy your D.E.A.CON!

Guarantee

Register your D.E.A.CON using the enclosed registration card and your warranty will be extended by five years free of charge! Use the convenient **Online Registration** on www.hkaudio.com.

If you cannot register online, please fill out the enclosed guarantee card completely, and send it to us by post or fax. The registration is only valid if the fully completed registration card is sent to HK AUDIO® within 30 days of the date of purchase, or if registration via the Internet has been effected within the period stipulated. Furthermore, we would like to know more about who uses our equipment and where. This information supports future product development. Your personal data is, of course, assured by data protection.

Thank you!

HK AUDIO®
Technical Service
Postfach 1509
66595 St. Wendel
Germany

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Digital amping

More efficiency and dynamics.

With an extremely high efficiency of over 90% Class-D digital amps are considerably smaller, lighter, and more compact than conventional amps. The lower thermal load of the components enhances reliability. The considerably faster slew rate and the higher damping factor are audible in the system's transient response and more accurate performance.

MultiBand limiting and companding

Optimised for every frequency range.

Various perfectly matched limiters and compressors process different frequency bands. This processing of signals independent of the loudspeakers ensures a natural dynamic response and thus a tighter, more well-balanced sound across the entire frequency spectrum.

DDO™ controller technology

The DDO™ controller offsets the loudspeaker-dependent differences in the dynamics of the PA components (bass, mid/high speakers, amps, crossovers, etc.) for an integrated, dynamically homogeneous system.

DuoTilt™

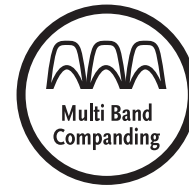
Making the most of sonic energy

The new DuoTilt™ speaker stand mounting collars allow for a more efficient use of sound energy. With two possible downward angles (7,5°, 15°) to better aim the satellite speakers directly at the audience, troublesome ceiling reflections are minimized for a tighter, clearer sound.

Easy setup and handling

Less pre-gig stress

Like all HK AUDIO® active systems, D.E.A.CON was designed as a cohesive unit consisting of perfectly matched components. It was developed to ensure that D.E.A.CON is easy to transport and can be swiftly set up. Operation is easy and there's no need for complicated tweaking.





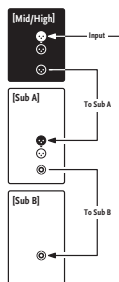
D.E.A.CON mid/high



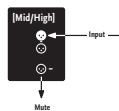
D.E.A.CON Sub A



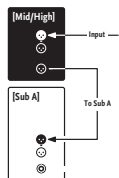
D.E.A.CON Sub B



Connection diagram for standard system



Connection diagram for full-range setup



Connection diagram for club set

1 D.E.A.CON system components

Mid/high enclosure

Equipped with a 12" HK AUDIO® custom speaker and a 2" B&C compression driver with 60° x 40° CD horn. The Class D amp delivers 600 watts of RMS power and is housed in a separate chamber with the DDO™ controller.

The newly developed, integrated HK AUDIO® Duo-Tilt™ speaker stand mounting collars allow sonic energy to be used more efficiently. Troublesome ceiling reflections are minimized for tight, clear sound. The cabinet is always balanced – no wobbling, tipping, or unintended twisting.

Sub A subwoofer

The D.E.A.CON Sub A cabinet is divided into two chambers. The front chamber serves as the actual loudspeaker cabinet for the directly loaded 18" speaker. It has a load capacity of 500 W RMS and an 8-ohm nominal impedance. Separate from and behind this is the chamber for the amp.

Sub B subwoofer

The D.E.A.CON Sub B cabinet and speaker equipment match those of the Sub A. Sub B is the passive version of Sub A.

2 Transport

To transport the system, just stand the subwoofer on its casters and place the mid/high-range enclosure with Styrofoam grid onto the subwoofer. Use original HK AUDIO®, D.E.A.CON protective covers to prepare your personal system for tough on-the-road use. Well-padded and kept dry, your D.E.A.CON system will give you satisfaction for years.

3 Installation und wiring

3.1 Standard D.E.A.CON system

The standard system comprises 2x D.E.A.CON mid/high units, 2x D.E.A.CON Sub A subwoofers, and 2x D.E.A.CON Sub B.

D.E.A.CON is always wired from top to bottom (see illustration/diagram on reverse of the D.E.A.CON component)! This may seem confusing at first, since generally active systems can often be wired in any order since the signal is routed via the Through socket. D.E.A.CON has a DDO™ system controller in the mid/high-range enclosure, so basic settings such as gain and subwoofer level only need to be adjusted on the enclosure. The DDO™ subwoofer signal paths are then routed from the mid/high-range enclosure to the Sub A subwoofer.

Note: Make sure to follow the correct wiring order. Never connect the signal from the sound mixer directly to the subwoofer – this would mean bypassing the DDO™ system controller! Always connect the signal sources to the input socket of the D.E.A.CON mid/high-range enclosure!

3.2 D.E.A.CON full-range setup

The full-range setup comprises 2x D.E.A.CON mid/high-range enclosures. Turn the mode switch to full-range for a power bandwidth that reaches down to 80 Hz. In this case the subwoofer output (DDO™ controlled) is muted to avoid malfunctioning.

3.3 D.E.A.CON club set

The club set comprises 2x D.E.A.CON mid/high units and 2x D.E.A.CON Sub A subwoofers. It is also possible to use just one Sub A, connected either to the left or right mid/high-range enclosure. This is possible because bass frequencies are not recognized as stereo perspective and instruments such as bass drums and bass guitar are generally in mono.

3.4 Double D.E.A.CON system

The double system comprises 4x D.E.A.CON mid/high units, 4x D.E.A.CON Sub A, and 4x D.E.A.CON Sub B.

Wiring also follows the “top-to-bottom” order described above. To route the sound mixer signal to the second D.E.A.CON stack, use the Through socket on the first mid/high-range enclosure. Use a microphone cable. The XLR jacks should be configured as follows: 1= ground, 2= +, 3= -

Installation:

With the double D.E.A.CON system, it is especially important to pay attention to the installation of the two stacks. The cabinets are constructed so that the bevelled sides of the enclosure indicate the correct installation (at a splay angle—see illustration). This is essential to ensure an optimal acoustic coupling of the two enclosures. Otherwise undesired nulls or phasing effects in the power bandwidth may result. The subwoofers can, of course, also be placed side-by-side.

3.5 Flying the D.E.A.CON mid/high unit

For flying the enclosure, use the special HK AUDIO® flying mount for the D.E.A.CON mid/high-range enclosure. For mounting, loosen the laterally sunken M10 pins. Tightly screw the flying mount via its flanges to the cabinet. The enclosure may be tilted at any angle. Just loosen the lateral knob and manually screw it tight. The dovetailed synthetic plates will ensure that the enclosure does not inadvertently swivel.

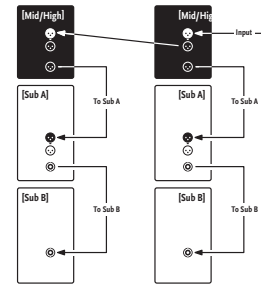
Note: To ensure safety, only use separate lifting accessories that have been tested (e.g. half-couplers, TV spigots, collars, etc.)!

The supports or tripods used must be designed to bear the corresponding load (weight of D.E.A.CON mid/high unit = 39.7 kg).

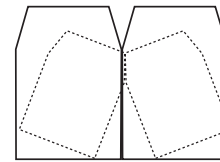
3.6 Using the D.E.A.CON tilt unit

Mounting the optionally available tilt unit is extremely easy:

Just place the D.E.A.CON tilt unit with its bottom plate onto the upper subwoofer, then place the D.E.A.CON mid/high-range enclosure onto the flange with the flange-holders (7.5° or 15°), just as if you were placing the cabinet onto a tripod.



Connection diagram for double system



Installation angles for two D.E.A.CON stacks



D.E.A.CON mid/high unit with mounting bracket

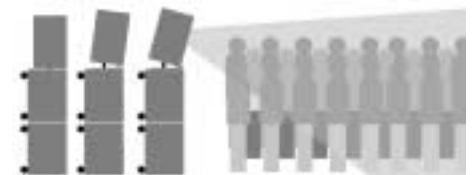
Question

Can I connect enclosures other than the D.E.A.CON Subwoofer Sub A or Sub B to the D.E.A.CON mid/high-range enclosure?

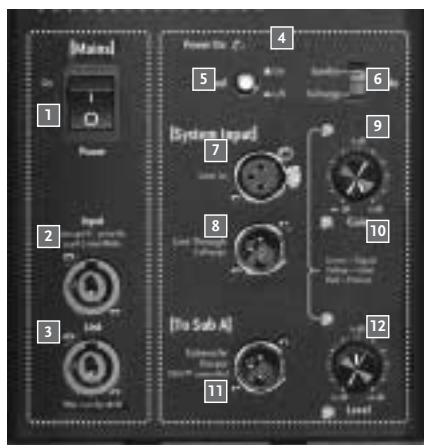
Answer

The system components are acoustically perfectly matched and can only be operated in the indicated

configurations. The use of other subwoofers can have a negative effect on the sound, and may result in damage to the enclosure (e.g. Sub A). Sub A's speaker output socket is designed for a (total) nominal impedance of 4 ohm, and under no circumstances should anything less be used. Always connect only one Sub B to the Sub A's speaker output socket.



Use of the D.E.A.CON tilt unit



D.E.A.CON Mid/High



4 Connections and control functions

D.E.A.CON Mid/High

1 Power switch

Operation: This is the on/off switch for the active system. The power LED lights up red when the system is switched on. The D.E.A.CON active system should always be the last component to be switched on (i.e. after all other components), and the first to be switched off (of all the equipment two which it is connected).

2 Mains Input

Connection: Hook up this connection socket to the mains power supply via the included Powercon® cable. Caution! Make sure that the local mains voltage matches the voltage specified. Connection to incorrect mains voltage may damage or destroy the electronics of the D.E.A.CON system.

3 Mains Link

Connection:

The Powercon® Link socket is wired in parallel to the mains input. Connect additional devices (e.g. another D.E.A.CON mid/high-range enclosure or a D.E.A.CON Sub A) here using a suitable connection cable.

A current of no more than 11,6 A – or a maximum capacity of 2780 W (at 230 volts) – may be drawn from the Powercon Link socket. Therefore, it should be used to operate at most two additional D.E.A.CON components.

Note: Always switch on the D.E.A.CON components separately one after another to maintain a relatively low inrush current as a high combined inrush current could trip the circuit breaker.

4 Power On LED

This LED lights up when the power switch is On and the appropriate connection to the mains exists.

5 Ground

Ground lift switch to separate signal ground and chassis ground when hum occurs. Use the ground lift switch when low frequency hum occurs. When

depressed, the ground is separated. If this does not resolve the problem, check the cables leading to D.E.A.CON and all signals arriving at the sound mixer for deficiencies (also see Tips and tricks).

6 Mode switch

Operation: Configures the controller for the satellite and full-range modes. In the satellite configuration, the D.E.A.CON mid/high unit works as an enclosure in connection with Sub A (and Sub B). In the full-range configuration, the enclosure is used as a self-sufficient full-range speaker (from 80 Hz and up), e.g. for speech or to play music.

Note: The subwoofer output (DDO™ controlled) is muted when the system is switched to full-range.

7 Line In

Connection: Connect the mixing console (Master Left/Right, Line Out, etc.) to the D.E.A.CON balanced input socket using a microphone cable. The XLR jacks should be configured as follows: 1= ground, 2= +, 3= -.

8 Line Through

Connection: Parallel output for routing the input line signal via an XLR cable to additional D.E.A.CON systems, a recorder, or other individual components.

9 Limiter status LEDs

The active system's "tachometer." Indicates the operational status.

10 Gain

Operation: Prior to turning on the system, turn off the gain control (completely counter-clockwise). Prior to powering up, make sure that the system is connected to the subwoofer(s) Sub A (and, if applicable, Sub B) and that all other components which are connected to the system are already on. That is, the mixing console which is feeding the D.E.A.CON system, as well as any signal sources connected to the console's inputs, such as keyboards, instrument amplifiers, effects, etc., should be turned on before the D.E.A.CON system is.

After you have turned on the D.E.A.CON system, turn its Gain control to the right (clockwise). Should distortion or overdriving occur, first check

the signal sources and reduce the output signal there, if possible. Should this fail to alter the signal leading to D.E.A.CON, adjust the system's input levels using the Gain controls (also see Tips and Tricks).

11 Subwoofer Output

Connection: Output of the subwoofer signal from the DDO™ controller to the D.E.A.CON Sub A via an XLR cable. The XLR jacks should be configured as follows: 1 = ground, 2 = +, 3 = -.

12 Subwoofer Level

Operation: In mid position, the volume of the subwoofer is matched to the mid/high-range enclosure in such a way as to create a good, homogeneous balance of bass, midrange and treble. By turning the subwoofer level control to the left or right, the volume of the subwoofer can be lowered down to -12 dB or raised up to +6 dB as necessary.

Tip: Before reaching for the master EQ on your mixing console to adjust the low end below 100 Hz, adjust the subwoofer Level control.

13 Flying points

For the mounting of M10 eyebolts or the D.E.A.CON mid/high flying mount for flying the enclosure in a truss system, etc.

D.E.A.CON Sub A

1 Power switch

Operation: This is the on/off switch for the active system. The power LED lights up red when the system is switched on.

The D.E.A.CON active system should always be the last component to be switched on (i.e. after all other components), and the first to be switched off (of all the equipment it is connected to).

2 Mains Input

Connection: Hook up this connection socket to the mains power supply via the included Powercon® cable. Caution! Make sure that the local mains voltage matches the voltage specified. Connection to an incorrect mains voltage may damage or destroy the electronics of the D.E.A.CON system.

3 Power On LED

This LED lights up when the power switch is On and the appropriate connection to the mains exists.

4 Subwoofer Input

Connection: Hook up the signal path coming from the D.E.A.CON DDO™ controller (= subwoofer output of the mid/high-range enclosure) to the balanced subwoofer input socket via an XLR microphone cable. The XLR jacks should be configured as follows: 1 = ground, 2 = +, 3 = -.

Important: Never connect the line or master signal from the mixing console directly to the subwoofer input of Sub A. The latter would then be running without a controller – that is, without crossovers, frequency compensation or any system protection – and could be severely damaged.

For further information, please also see Chapter 3, Installation and Wiring.

5 Subwoofer Through

Connection: Parallel output for routing the DDO™ subwoofer signal to an additional D.E.A.CON Sub A via a XLR cable. The XLR jacks should be configured as follows: 1 = ground, 2 = +, 3 = -.

6 To Sub B Speaker Output

Connection: Parallel Speakon® output for connecting the passive D.E.A.CON Sub B

Note: The Speakon® plugs must be turned clockwise to click into place! Before pulling these plugs out, the lock must be released by pulling the bayonet lock toward the cable.

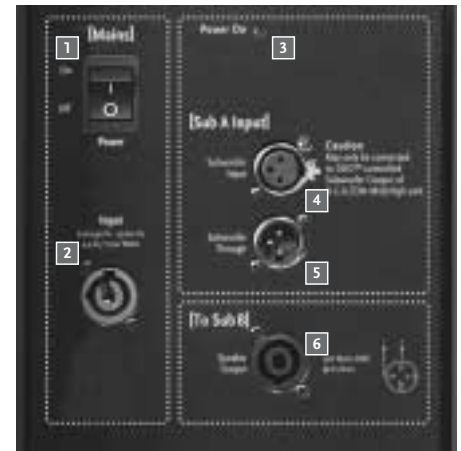
The pin configuration is: pin 1+ = +, pin 1- = -.

Of course, you can also use a cable with four leads; however, the subwoofer socket's pin 2+ and pin 2- are not wired.

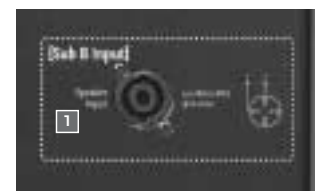
D.E.A.CON Sub B

1 Sub B In

Connection: Connect the Speakon® input socket of Sub B to the speaker output of the D.E.A.CON Sub A using a suitable Speakon®-style speaker cable.



D.E.A.CON Sub A



D.E.A.CON Sub B

Pin configuration

The configuration of the XLR socket conforms to the international norm IEC 268-12. In accordance with this norm, pin 1 carries the ground, pin 2 the positive signal, and pin 3 the negative.

5 Tips and tricks

1 Keep electronics away from moisture! When using the system outdoors, make sure it is installed safe from rain. Soft drinks, beer, and other liquids must not come into contact with the electronics as this may cause short-circuiting.

2 Make sure that the ventilation slits on the back of the equipment are always free of dust and that air can always circulate freely. It is crucial to prevent the electronics from overheating so that they do not suffer damage.

3 D.E.A.CON provides optimum sound, so you should provide it with optimum input signals! Hum is generally caused by defective or the wrong type of cables, or unbalanced signals routed into the mixing console. Check all signal and mains cables, use DI boxes to balance unbalanced signals, and do everything you can to keep on-stage noise to a minimum.

4 Avoid distortion! Not only is it unpleasant to the ears of your audience, it's also dangerous for your system. Make sure that all components connected directly or indirectly to the D.E.A.CON system have sufficient power at their disposal and never produce distortion because they are being operated at or beyond their limit. Provide a strong and clean signal to the system that doesn't have to be cleaned up by backing off the Gain control.

5 Avoid ground loops! If, for example, the mixing console is earthed via the mains cable and is not connected to the same electrical circuit as D.E.A.CON, this can lead to so-called "ground loops." To prevent this problem, always connect the D.E.A.CON system and the mixing console to the same circuit (same phase!). Should you nonetheless encounter hum problems with your system, the ground lift switch may help.

Caution: Never tape over the earth contact on the mains plug – this endangers lives!

6 Accessories for D.E.A.CON

HK AUDIO D.E.A.CON tilt unit

Tilt unit for the D.E.A.CON mid/high-range enclosure. The tilt unit is placed on the subwoofer. Possible angles are preset at 7.5 and 15°.

HK AUDIO protective covers for D.E.A.CON

Comprises subwoofer protective covers and mid/high protective cover. Extremely tear-resistant, water repellent, and thickly padded to provide lasting protection for the D.E.A.CON system during transport.

HK AUDIO D.E.A.CON mid/high flying mount

Easy-to-mount U-bracket for mounting half-couplers, TV spigots or clamps. Flying speakers couldn't be easier.

For further information about original HK AUDIO® accessories, please consult your HK AUDIO® dealer or visit our website at www.hkaudio.com.

Info regarding limiter status LEDs

The limiter status of the mid/high signal paths and of the subwoofer are indicated respectively via individual LEDs.

How do I read the indicator?

The green LED indicates that there is a signal at the corresponding input socket. As long as the LED lights up green the system is in the lower to middle working range and there is enough headroom available for the amps. Yellow means that the system

is in the upper working range. There is no need to worry if the yellow LED flashes intermittently, yet under no circumstances should it remain lit up continually. Should this occur, lower the output volume coming from the mixing console. If the LED lights up red continually, there is a defect in the amp and the system will shut down. In this case, the equipment should be inspected by an authorized service technician.

7 Troubleshooting

The Power-On LED doesn't light up red when switched on.

- 1 Check that the mains cable is connected to the mains input.
- 2 Make sure that the mains itself has power.
- 3 Check whether the circuit breaker has tripped.

The Power-On LED lights up red, but there's no sound coming from the D.E.A.CON system.

- 1 With system power off, check the cables that you connected to the system's input connectors.
- 2 With system power off, check that the signal sources (keyboard, CD-player, mixing console, etc.) are switched on.
- 3 With system power off, check the speaker cables for possible damage.
- 4 Make sure that the Speakon® plugs are properly locked into the speaker jacks (turned all the way to the right).
- 5 With system power on, are the system's Input Gain controls turned up sufficiently?

The subwoofer is not producing much bass.

- 1 Check the setting of the subwoofer Level control and adjust if needed.
- 2 Check whether the mode switch is set to Full-range mode. (In Full-range mode the subwoofer is completely muted.)

Sound coming from the system seems distorted.

- 1 Check the LED indicators on your mixing console. They should not be continually in the red zone. If necessary, lower the input or output volume on the mixing console.
- 2 If the LEDs on your mixing console are in the green area (indicating reasonable level), turn down the Gain Left and Gain Right controls on the D.E.A.CON.
- 3 Monitor the Limiter indicator LEDs in the operation area of the D.E.A.CON mid/high. These should only briefly light up yellow. Under no circumstances should they continually light up yellow. Should this be the case, turn down the gain controls.

Bothersome hum

- 1 Check the cables connecting the signal source to the D.E.A.CON. Replace damaged cables. Should you be unable to determine the cause of the hum, press the ground lift switch. In most cases, this resolves the problem.

8 Technical specifications

D.E.A.CON Mid/High

Connectors:	1x XLR line in 1x XLR line through 1x XLR subwoofer output
Line in:	XLR female (pin 1= ground; 2= +, 3= -)
Input design:	Electronically symmetrical & floating
Input impedance:	20 k Ohm
Sensitivity:	+10 dBu (turned up to the max)
Max. input level:	+22 dBu
Frequency response +/- 3dB:1)	80 Hz-19 kHz fullrange mode 130 Hz-19 kHz satellite mode
Sensitivity 1W@1m:*)	104 dB
Maximum SPL @1m: *)	130 dB@10% THD
Mid/high power amp:	1x 600 W RMS, Class D
Active protection circuitry:	DDO™ controller multiband limiter, subsonic filter
MF speaker:	12"
HF horn/driver:	2"
Directivity:	60° x 40° CD horn
Crossover frequency:	900 Hz, 12 dB/ octave
Speaker stand mounting collar:	HK AUDIO® DuoTilt™, 36 mm, 7.5°, 15°
Flying points:	4x M10 screw thread for optional flying mount
Accessories:	D.E.A.CON tilt-unit, 7.5°, 15°
Dimensions (WxHxD):	40 cm x 66 cm x 50 cm / 15-3/4" x 26" x 19-3/4"
Weight:	39.7 kg/ 87.3 lbs.

D.E.A.CON Sub A

Connectors:	1x XLR subwoofer input, 1x XLR subwoofer through 1x Speakon® parallel out
Subwoofer input:	XLR female (pin 1= ground; 2= +, 3= -)
Input design:	Electronically symmetrical & floating
Input impedance:	20 k Ohm
Sensitivity:	+10 dBu (turned up to the max)
Max. input level:	+22 dBu
Frequency response +/- 3dB: 1)	44 Hz- 130 Hz
Sensitivity 1W@1m: *)	102 dB
Maximum SPL @1m: *)	134 dB
Subwoofer amp:	1x 1000 W RMS, Class D
Active protection circuitry:	DDO™ controller, multiband limiter, subsonic filter
Bass speaker:	18"
Speaker stand mounting collar:	M20 thread plate
Casters:	4x 80 mm casters on the reverse
Dimensions (WxHxD):	52 cm x 72.5 cm x 71.5 cm / 20-1/2" x 28-1/2" x 28-1/8"
Weight:	49.5 kg/ 109 lbs.

General electrical specifications:

Protection class 1 (protectively earthed)

Max. electric current:	4.4 A (230 V) 8 A (117 V) 8 A (100 V)
Max. power input:	1000 VA
Mains voltage range:	+/- 10%
Surrounding temperature range:	-10° C to +60° C
Internal fuse:	T8A

D.E.A.CON Sub B

Connector:	1x Speakon® input
Power handling nominal:	500 W RMS/ 8 Ohm
Frequency response +/- 3dB: 1)	44 Hz- 130 Hz
Sensitivity 1W@1m: *)	102 dB
Maximum SPL @1m: *)	134 dB
Bass speaker:	18"
Speaker stand mounting collar:	-
Casters:	4x 80 mm casters on the reverse
Dimensions (WxHxD):	52 cm x 72.5 cm x 71.5 cm / 20-1/2" x 28-1/2" x 28-1/8"
Weight:	47 kg/ 103.4 lbs.

*) all specifications indicate half-space measurements

1) active crossover activated

This is to certify that

HK AUDIO® D.E.A.CON

complies with the provisions of the Directive of the Council of the European Communities on the approximation of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 89/336/EEC) and the low voltage Directive (73/23/EEC).

This declaration of conformity of the European Communities is the result of an examination carried out by the Quality Assurance Department of STAMER GmbH in accordance with European Standards EN 50081-1, EN 50082-1 and EN 60065 for low voltage, as laid down in Article 10 of the EMC Directive.



Stamer Musikanlagen
GmbH*
Magdeburger Str. 8
66606 St.Wendel

A handwritten signature in black ink, appearing to read "L. Stamer".

Lothar Stamer Dipl.Ing.
Managing Director
St.Wendel, 03/03/04

* Stamer Musikanlagen manufactures exclusively for HK AUDIO®.

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HK Audio® • Postfach 1509 • 66595 St. Wendel
Germany • info@hkaudio.com • www.hkaudio.com
International Inquiries: fax +49-68 51-905 215
international@hkaudio.com