

# C 12

THE EFFECTIVE



## C 12 | PASSIVE LOUDSPEAKER OWNERS MANUAL

FULL RANGE 12" + 1,4"

**Thank you for purchasing a professional KS AUDIO product. Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.**



**CAUTION**

To prevent electrical shock, do not remove top or bottom covers. No User serviceable parts inside. Refer servicing to qualified service personnel.

**SHOCK HAZARD  
DO NOT OPEN!**



**WARNING  
TO REDUCE THE RISK OF ELECTRIC  
SHOCK, DO NOT EXPOSE THIS  
EQUIPMENT TO RAIN OR MOISTURE!**

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions
8. Do not install near any heat sources such as radiators, heat registers, stoves etc. which produces heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit.
11. Make sure the power cord remains readily accessible at all times.
12. Only use attachments/accessories specified by the manufacturer.
13. Unplug device during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into it, it has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. It is in your responsibility to ensure that our products comply to regional regulations and standards

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## **PROLOGUE**

Thank you very much for your confidence in our product line-up and purchasing professional KS AUDIO sound reinforcement tools !

Please read this manual carefully and do not hesitate contacting KS AUDIO headquarter or your local distributor having further questions depending the utilization of your product!

## **CONTACT**

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## OVERVIEW

### C 12

#### THE EFFECTIVE

#### FULL RANGE 12" + 1,4"

The C 12 complements the KS C-Series of compact 2-way systems with its unique directivity of HDSP technology, the result is consistently even high quality audio dispersion with the highest sound pressure level possible even in the lower frequency range, while simultaneously having the lightest weight possible. With the 12"- long excursion low-mid speaker that can handle 700W and an 1.4" HF driver that can handle 100W, C 12 enables long term power- with a peak overall power handling of 1500W.

The unique sound dispersion design of the HDSP high frequency horn and its electronic blending with HF driver is unique, and requires a matching electronic processor for best results. The HDSP design results in multiple dispersion angles that widen downwards towards the near field of the speaker while maintaining tight pattern control and long throw capability. The vertical bending of the HF wave front continues through the cut-off frequency as well as the crossover frequency, without any variance in the frequency response. This means that with a standard two-speaker setup, the audience in close proximity to the speakers will enjoy the same audio quality and definition as those further away.

Both the 12"-long excursion low-mid speaker and the 1.4" HF driver have strong but light Neodymium-Magnets. The 3" membrane of the compression driver consists of a special material that has a clearly reduced distortion factor in comparison to a titanium membrane. With the C 12, KS has responded to the demanding needs of the professional user with a modular 2-way sound system with the highest audio quality, even in a compact size. There are many applications in which the C 12 can be used: Theatre, Live-stage Music, in large rooms or tents, as a delay system for long throw, or as a compact top used with any KS Audio subwoofer. We recommend the C WL Sub.

The unit is equipped with a 12"- Neodymium low-mid speaker with a 3" voice coil, and 1.4" Neodymium compression driver with HDSP that guarantees the same sound quality in all areas of the auditory field. The C 12 is used on tripod stands or with KS Audio flyware.

The speaker cabinet construction is, like all KS systems, built from birch plywood with an extremely durable PU-coating. All RAL colors available. Another special feature is the two multipurpose fittings on the back of the speaker. Allowing the installation of different fly-ware and connectors, which are safely interlocked by means of quick release push-pins. There is a pole mount in the bottom of the cabinet and a protective steel grill on the front, with or without acoustic foam, are further features of this premium product.

Please note, all specifications are only achieved using KS audio amplifiers and controllers.



## OPERATION

### GENERAL INFORMATION

The C 12 is delivered with integrated flyware. First make sure that the flyware is undamaged and the accessories such as RIG C 12 or KSB6 fits together perfectly. The connection sockets must not show any visible damage.

Assembly and disassembly as well as operation may only be carried out by specialists who are familiar with the relevant provisions. Note that all cited regulations apply to Germany. Please consider local regulations for your country.

Do not operate the C 12 if you have concerns about speaker system malfunctions. The device does not contain any user-repairable parts, please contact your specialist or dealer for repairs or directly contact [service@ks-audio.de](mailto:service@ks-audio.de).



### CONNECTING C 12 TO AMPLIFIERS

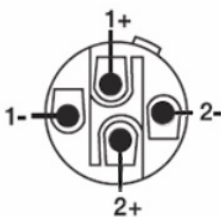
KS AUDIO C 12 can be operated with KS controller amplifiers CA 4D or TA 4D. You can achieve optimal playback quality in 2-way active mode when the switch at the connection plate is in "Bi-Amp" position. The appropriate controller module or program is located in the amplifier. Connect the C 12 to one of the "bi-amp" outputs at the amplifier (see details on page 6). Use a 4-core cable / 2.5mm<sup>2</sup>.

The KS AUDIO C 12 is provided with two Speakon sockets connected in parallel. Before you start wiring your speaker system, please make sure that all devices are switched off. It is recommended to use high quality speaker cables.

Passive operation is useful if you use the max. possible number of Speakers per amplifier, or all 4 amplifier channels to control them separately. The overall performance is limited, and a very low Impedance on the loudspeaker line significantly deteriorates the impulse behavior. For the highest possible sound pressure levels, and when operating with a subwoofer, use the LowCut function at the controller.



**KS AUDIO recommends using KS AUDIO SYSTEM-AMPS with KS AUDIO SYSTEM-LOUDSPEAKERS only! If not, it may damage parts of equipment. For further Information about powering your passive speakers, please visit the corresponding CA 4D or TA 4D manual with F MOD or D MOD2 module. Please check details in the F MOD/D MOD2 controller card manual for proper controlling.**



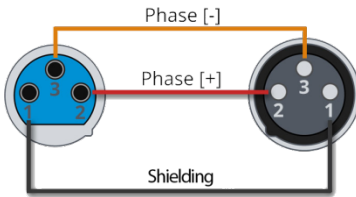
Be certain that all speaker cables are wired identically at each end. Two amplifiers being bridged together can create fatal damage to the drivers. We recommend to not use any other connectors than original Neutrik® products.

### SPEAKON WIRING

## AUDIO CONNECTORS – LINE IN/OUT (CA 4D/ TA 4D)



All line/audio input and output connections are a balanced electronic type conforming to the XLR international standard, nominal 20 KOhms for matching to a typical 50 ohm impedance line output (grounding is on pin #1). For very long cable run installations, a transformer-balanced output is preferable to avoid ground differentials and 60 Hz hum loops over mixed type cable runs. The impedance is 2 x 10kOhm and is discreet (independent for pin 2 and 3). Multiple devices can share the same input signal by using the male-female sockets as a daisy chained audio link. A total of only 1 dB of signal loss on the input signal is seen when up to 20 devices are sharing the same input signal. Digital AES/EBU lines should be run with 110 Ohm cable impedance. You can daisy chain as many products you wish, as the XLR male outputs feature an active line transmitter.



**KS AUDIO recommends employing "balanced input connections".**

## POWER-OUTPUTS /SPEAKON (CA 4D/ TA 4D)

There are 4 Neutrik®-Speakon speaker level output connectors. These 4 audio outputs are configured automatically by the controller card selected for the system. The bi-amp mode is +1 /-1 for the lows/mids and +2 /-2 for the tweeter. In bridge mode for high-power-subwoofer applications one amp is on +1/+2 while the other amplifiers runs as -1/-2. The selected configuration is indicated through green LED' s located next to each of the 4 outputs. For programming please check the corresponding manual.



**CAUTION: C 12 passive speaker can be used in bi-amp and passive mode!**



**KS recommends the use of 4 conductor, 12 gauge cable for all speaker to amplifier connections for optimal performance.**





**COMBINATION SPEAKER/AMPLIFIER/CONTROLLER**

	CA 4D			TA 4D		
	max. speakers can be driven	F MOD	DMOD 2	max. speakers can be driven	F MOD	DMOD 2
C 12	2 (biamp) (4 in passive mode)	yes	yes	4 (biamp) (8 in passive mode)	yes	yes



**Inputs and outputs can be freely assigned via F MOD, so input and output channels may vary depending on your programming, please check the corresponding manual for CA 4D/TA 4D with controller card.**

After wiring has been completed, check that the connected loudspeakers are working in phase. A phase error can also be recognized by the fact that if connected active channels getting signal at the same time, bass frequencies cancel each other out, i.e. become quieter or center frequencies, such as voices, can't be located in the mix.

**TRIPOD OPERATION C 12**

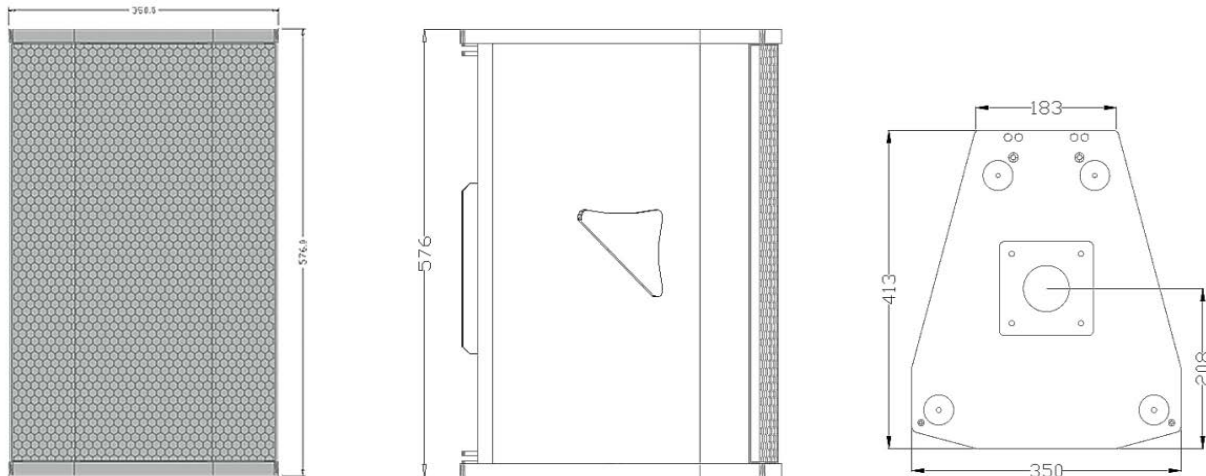
The KS AUDIO C 12 includes a 35mm stand mount to allow mounting on tripod stands or above an Subwoofer.

Make sure to:

- Check the specifications of the speaker stand to be certain it is capable of supporting the weight of the speaker.
- Check that the speaker stand is placed on a flat, stable surface and be sure to fully extend the legs of the stand. Do not try to make the stand "taller" and compromise its structural integrity.
- Route cables and position the stand so that performers, production crew and audience members will not trip over the stand or cables and pull the speaker system over. Secure cables with wire ties or tape whenever possible.
- Do not attempt to suspend more than one speaker on a stand designed for a single speaker.
- Unless you are confident that you can safely handle lifting the weight of the speaker onto the stand, ask another person to help you place it.



## DIMENSIONS



## SPECIFICATIONS

Specifications	C 12
frequency response + / -3dB	58-19000Hz
output SPL	136dB peak
dispersion angle (horizontal x vertical in degrees)	asymm. 60°-120°/35°
system controller type	KS AUDIO amp CA 4D or TA 4D with D MOD or F MOD
drivers	12"-cone ND, 1,4"-driver ND
power in Wrms	800W at 8 ohms
crossover frequency	1200Hz, phase linear Bessel
input connectors	speakon NL4
output connectors	speakon NL4
cabinet	birch plywood
grill	stainless steel honeycomb 6 sided + acoustic foam
finish	charcoal black polyurethane
dimensions (height x width x depth)	576 x 350 x 413 mm 22.7" x 13.8" x 16.3"
weight (without options)	21 kg 46,29 lbs
features	35mm pole mount
options	mounting frame, heavy duty padded black cover

## **CLEANING**

The fitted mesh filters (foam) should be regularly cleaned to maximize the air flow into the unit.

## **TRANSPORTATION**

KS products are tools for daily, professional use and are correspondingly robustly manufactured. You should, however, be aware of these aspects of note:

As with all types of electronic devices, condensation and moisture must be avoided i.e. when the speaker comes from a cold and humid truck and is brought into a warm venue, give the system as much time as possible to heat up to venue temperature before powering on.

Of course, direct exposure to liquids is never safe and should be prevented at all times. The vibrations of a transport vehicle are safe - all components and cabinetry are well assembled, secured with screwed or bolted parts for extra strength where necessary.

It has however been shown that train or airplane transport without further packaging creates undue stress on KS products. We recommend shock resistant flight cases for such situations.

Significant contamination by dust, etc. is dangerous for Electronic assemblies as it may cause a short circuit. It is therefore advisable, that the devices are periodically opened, and cleaned out with compressed air.

**LIMITED WARRANTY**

Without any exception, KS AUDIO professional products will be sent out in strict accordance with long-time final inspection and under permanent quality control during manufacturing process by dedicated specialists.

When receiving freight, please check your delivery on shipping damages, out – and inside immediately. Product defects have to be reported to the shipping company immediately after detection and to KS AUDIO headquarter within eight days.

24 month limited warranty of manufacturer to the exclusion of all further claims and the following obligations:

- Exchange or repair of defect devices whenever not subject of external damage, vandalism or misuse or by an act of god.
- Exchange of entire product if repair deadline may exceed four weeks respectively fails second time.
- Exclusion of manufacturer's warranty whenever devices opened respectively customized by third parties non factory-authorized
- The warranty card shipped within the package is subject of all repairs done in KS AUDIO headquarter or factory-authorized service points.
- Freight costs generally to be paid by customer

Hettenleidelheim 11/14/2016

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(Dieter Klein, CEO / KS Beschallungstechnik GmbH)

## EC DECLARATION OF CONFORMITY

We hereby declare that the equipment designated below is designed and built in the version sold by us in such a way as to comply with the relevant fundamental safety and health criteria of the applicable EC respectively EU directives. This declaration shall cease to be valid if alternations are made to the equipment without our prior agreement.

This declaration covers:

- KS AUDIO **C 12** - in ascending order from serial no. 1001

Relevant EC respectively EU directives:

low voltage directive (LVD) 2006/95/EC

electromagnetic compatibility directive (EMC) 2004/108/EG

Hettenleidelheim 11/14/2016

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(Dieter Klein, CEO / KS Beschallungstechnik GmbH)

## APPROPRIATE USE OF YOUR EQUIPMENT



**Although KS AUDIO professional products represent heavy duty tools for daily use, please refer to the following information of operating manual under all circumstances.**

- Please avoid water condensation at any electronic device under all circumstances !
- Whenever system carried e.g. from cold truck to warm and humid event location, always allow equipment to acclimate for a while.
- For rail cargo use professional shock-absorbing flight-cases
- To protect your equipment, for regular cargo e.g. by truck, this is not necessary.
- For cleaning your equipment, please follow instructions attached to page 9 of this manual
- Verify the electrical conformity and compatibility of the mains supply.
- Only connect the product to an AC power outlet rated 100-240 V, 50-60 Hz, with the following current values:  
100-120 V: 30 A  
200-240 V: 16 A

## NOTES

Model
<input type="text"/>
Serial Number
<input type="text"/>
Purchase Date
<input type="text"/>

## CONTACT

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