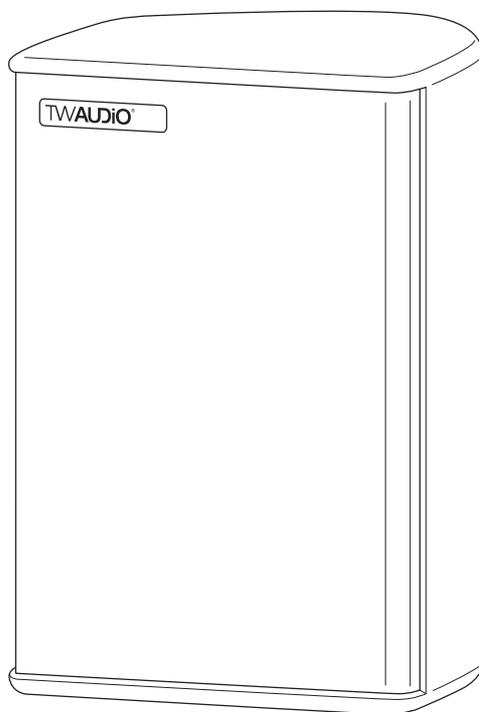


C5 | Operating Manual



Introduction

Thank you for choosing a high quality product "MADE IN GERMANY" from TW AUDiO.

The C5 loudspeaker is a high performing and utterly compact, universally applicable passive loudspeaker. Its 5 inch coax driver with a radial coverage of 110° makes it ideal for near field applications, for example as a front fill or as an inconspicuous monitor in a TV studio next to the couch. At the same time, this "little one" can be amazingly loud and surprises the audience with extremely low distortion and natural reproduction.

As is customary at TW AUDiO, there is also a carefully constructed and precisely balanced passive crossover which allows direct use on standard amplifiers without additional adjustments. Thanks to the elaborately constructed integral rigid foam enclosure and shock resistant PU varnish, which is standard, the C5 is suitable for permanent outdoor installations.

If you lend your product to another party, inform that party of the safety-related operating procedures and hand over this operating manual. If you require additional copies of this operating manual, they can be obtained free of charge from TW AUDiO or online by downloading from: www.twaudio.de

Instructions in the operating manual

Strictly adhere to the instructions contained in this operating manual that are marked as follows:



This symbol in combination with the signal word "Warning" identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word "Warning" identifies a potentially hazardous situation for persons with a pacemaker. Failure to comply with this safety instruction can lead to serious injury or even death.



This symbol in combination with the signal word "Caution" identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to light or moderate injury.



This symbol in combination with the signal word "Note" identifies a potentially hazardous situation. Failure to comply with this safety instruction can lead to product damage.



This symbol in combination with the signal word "Tip" identifies additional information or notes that will simplify working with TW AUDiO products on the basis of practical experience.

Notes on the products

Read manual before use!

Before setting up the device, read the operating manual carefully and keep this document in a safe place together with the C5 loudspeaker.

General information

Operating manual: OM-C5
Version 1.1 en, 09/2016
© by TW AUDiO 2015; all rights reserved.

All information contained in this operating manual was correct to the best of our knowledge at the time of printing.

Quality warranties or assurance of suitability for a certain type of use based on the technical specifications, dimensions and weights are not granted by TW AUDiO.

TW AUDiO also shall not assume liability for any secondary damage (property damage and/or personal injury) nor for the failure to comply with this operating manual.

TW AUDiO reserves the right to make changes that take into account the latest engineering advancements.

TW AUDiO is pleased to receive suggestions for improvement and recommendations on this operating manual. Please send us any feedback you may have to the following e-mail address.

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Contents

Safety Intended use	1
Overview	3
Components	3
Technical data	4
Data sheet	4
Wiring diagram	4
Setting up the loudspeaker	5
Setup	5
Connecting cables	5
Operation	6
Transport and storage	7
CE Conformity Declaration	8
Disposal	9

1. Safety | Intended use

Please adhere to the following safety instructions to avoid risks when operating the loudspeakers.

The C5 loudspeaker was developed for professional use in sound systems. The loudspeaker may only be used by trained and qualified personnel.

Note the operating modes described in this operating manual. Other uses are not permissible.

TW AUDiO GmbH shall not be held liable for any damage that ensues from unintended use.



Loudspeakers generate an electromagnetic field. Persons with pacemakers are not permitted to remain in the immediate vicinity of loudspeakers as the electromagnetic fields can cause pacemakers to malfunction.



Ensure that the units are in a stable position and are firmly attached. A falling loudspeaker can result in serious personal injury and property damage.

When using and assembling TW AUDiO loudspeakers, only use materials specified by TW AUDiO. These tasks must be performed by qualified personnel. Adhere to the applicable safety regulations.



When using the loudspeakers, ensure that they are not exposed to the following ambient conditions:

- Direct sunlight
- Moisture
- Jolting
- Dust



Keep away from the immediate vicinity of loudspeakers that are operated at high sound pressure levels. These loudspeaker systems are capable of endangering your health. Sound levels beginning as low as approx. 90 dB SPL can lead to long-term hearing impairment.



Avoid:

- Feedback
- Distorted signals (clipping)
- Peaks that result when devices are switched on or hot plugged and unplugged.

These signals can lead to loudspeaker overload..



Ensure that the loudspeaker is not exposed to permanent thermal overloads. This may cause a fire and result in serious personal injury and property damage.

Note that TW AUDiO does not provide a warranty for damage that can be attributed to this type of overload and therefore cannot be held liable for any secondary damage.



A permanent, magnetic field is present in the immediate vicinity of loudspeakers. Ensure that objects which react sensitively to magnetic fields are not located in the immediate vicinity of the loudspeaker. In particular, this applies to magnetic data carriers, EC cards and CRT displays. A distance of approx. one meter is sufficient to avoid damage.



Check loudspeakers and accessory parts regularly for visible wear. This is essential to ensure fault-free operation on a permanent basis. Replace worn parts promptly. Spare parts can be obtained from TW AUDiO.

2. Overview

2.1 Components

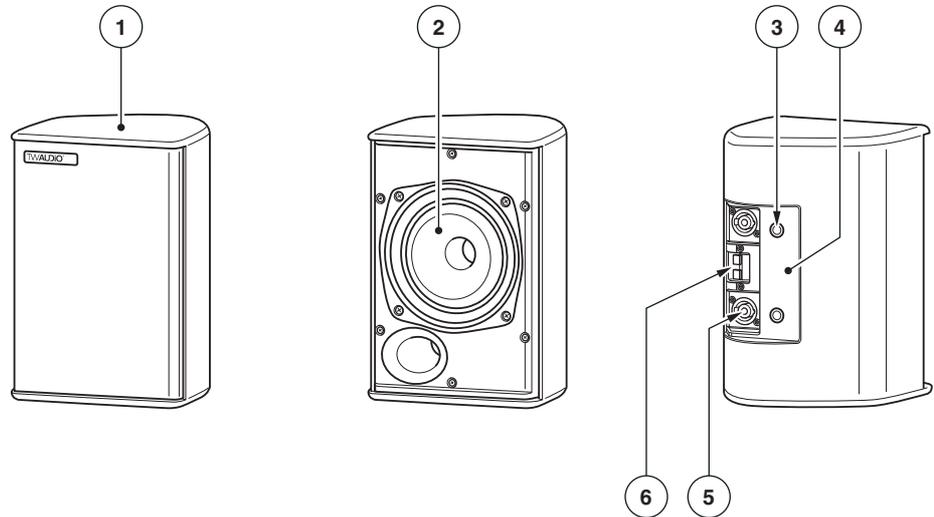


Figure 2.1 - Overview

1. Integral rigid foam housing with Warnex-coated surface
2. 5" coaxial loudspeaker
3. M10 threaded insert for attaching accessory parts (2 pieces)
4. Type label
5. Two SpeakON[®] sockets
6. Clamped connection: red (+) / black (-)

3. Technical data

3.1 Data sheet

Component	1x 5" LF/1x 1" HF
Frequency response	90 – 20000 Hz
Power handling, program/peak	250/500 W
Impedance	24Ω
Coverage angles	110° radial
SPL max./1 m	117 dB
Dimensions (h x w x d)	240 x 160 x 160 mm [9,45 x 6,30 x 6,30 in]
Weight	3.9 kg [8,6 lbs]
Finish	Warnex texture paint

3.2 Wiring diagram

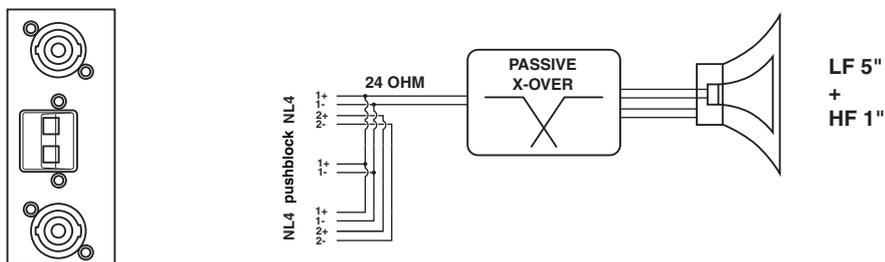


Figure 3.2 - Wiring diagram

4. Setting up the loudspeaker

4.1 Setup

The C5 loudspeaker is designed for upright and horizontal operation. A variety of accessories is available from TW AUDiO to securely attach the loudspeaker, e.g. on stands or suspended horizontally or vertically from trusses and motor lifts.



Ensure that the loudspeakers are securely attached to prevent personal injury and property damage. Secure stacked loudspeakers properly so that they can be tipped by 10° in any direction without toppling.



TW AUDiO recommends using only the accessories specified by TW AUDiO to install and secure the loudspeakers.

4.2 Connecting cables

To create a cable connection with an amplifier rack from TW AUDiO, proceed as follows.

The correct presets need to be selected for the cable connections.



Ensure that the cable cross section is sufficiently large (at least 1.5 mm²) to avoid power losses. TW AUDiO recommends using the loudspeaker cables available from TW AUDiO.

When connecting the cables to the loudspeaker, ensure that the polarity (+/-) and pin assignment (1/2) are correct. Incorrect connection results in a significant change in the loudspeaker sound characteristics and may damage the compression driver.

The pin connections of the C5 loudspeaker can be found in section 3.2 “Wiring diagram” on page 4.

The two SpeakON[®] NL4 connectors on the back of C5 can be used to link multiple loudspeakers on a single amplifier output. Note that parallel connection reduces the total impedance (Ω) seen by the amplifier.

The total impedance of loudspeakers connected in parallel must not drop below the minimum operating impedance of the amplifier.

4.3 Operation

TW AUDiO recommends operating the C5 loudspeaker on a DSP controller. TW AUDiO only recommends using presets developed by TW AUDiO. The TW AUDiO system racks are ideal for this purpose.



Ensure that the right preset was selected before connecting the loudspeaker with the amplifier.

Operating with an incorrect preset can damage parts of the loudspeaker.



Ensure that the amplifier is properly sized according to requirements. Undersizing or oversizing may damage the loudspeaker.

Please note the technical data in section 3.1. "Data sheet" on page 4.

5. Transport and storage



When transporting and storing the unit, it is important to ensure that the surface and front grill of the loudspeaker are not damaged. A bent or broken front grill will no longer adequately protect the sensitive speaker membranes.

In addition, appreciable dust deposits may considerably impair the functionality of a loudspeaker membrane. For this reason, the loudspeakers should be transported and stored in a safe, careful, dry and largely dust-free manner.

The following accessory parts for transport and storage are available from TW AUDiO:

- BagC5 (carrying bag for two C5)

The original packaging is unsuitable as permanent storage and transport packaging.

6. CE Conformity Declaration

Copy and translation of the original CE Conformity Declaration:



We hereby declare that the below-referenced components by virtue of their design and construction, and in the configuration placed on the market by us, satisfy the safety and health requirements of the applicable EC directives. This declaration becomes invalid in case of modifications that have not been approved by us.

This declaration applies to the following components:

- C5

as well as all model variants based on these, provided that they correspond to the original factory models and have not been technically modified in any way.

Applicable directives:

- 2001/95/EC
- 2011/65/EU

Applicable national standards and technical specifications:

- DIN 18800
- DIN 4113
- DIN EN ISO 14121-1
- BGV C1/BGI 810-3
- EN 50581:2012

Ludwigsburg, Germany, 01 April 2014

Tobias Wüstner

7. Disposal

It is prohibited to dispose of used electrical equipment with household refuse.



All products of TW AUDiO GmbH are so-called B2B products. This means that they are sold by a commercial business to a commercial business. TW AUDiO products that bear the trash can symbol shown here are only permitted to be disposed of by TW AUDiO.

The loudspeaker owner is legally responsible for the disposal of used devices that do not bear this symbol. This pertains to all products delivered prior to 29 March 2010. Nevertheless, TW AUDiO will also be happy to assist you in this case.

If you have any question regarding the disposal of used devices, please contact us under the following telephone number:

+49 (0) 71 41 - 48 89 89 0

Thus, TW AUDiO is in strict compliance with the Waste Electrical and Electronic Equipment Directive (2012/19/EU) for the protection of our environment.

TW AUDiO is registered under the following WEEE reg. no. with the German National Register EAR as a B2B manufacturer and distributor of electrical devices:

DE54488702

In countries outside of the European Union, follow the local regulations.

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