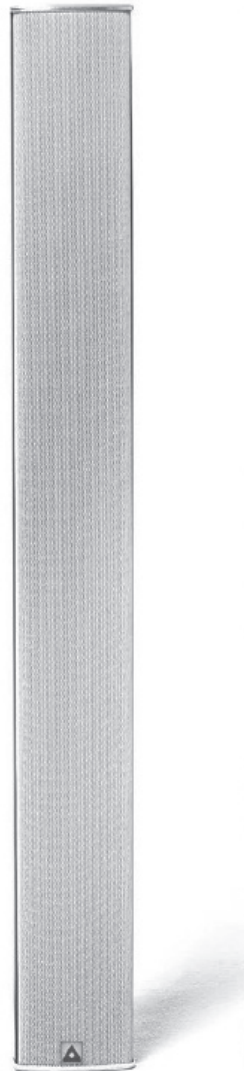




DOCUMENTATION

PAN SPEAKER EN 54 OPERATING AND INSTALLATION MANUAL

P 08-EN54



EN 54-24 CERTIFIED LOUDSPEAKER FOR VOICE-ALARM SYSTEMS

Before operating of the equipment, the manual has to be read carefully.
The manual should be kept in the vicinity of the appliance.

www.pan-acoustics.de

Table of contents

1. Introduction	3
1.1. Symbols and explanation	3
1.2. General information and target group	3
1.3. General safety regulations	3
1.4. Safety instructions	5
1.5. Lieferumfang	5
1.6. Setup location	5
2. Assembly and connection	6
2.1. Assembly	6
2.2. Electrical connection	7
3. Operating conditions	8
4. Service and repair	8
4.1. Maintenance measures	8
5. EC conformity (CE mark)	8
6. WEEE declaration (disposal)	8
7. Contact address	8
8. Brackets	9
9. Technical specifications P 08-EN54	10

1. Introduction

Thank you for purchasing a Pan Acoustics product.

The passive column loudspeakers from the Pan Speaker® series, certified according to EN 54-24 (type A), are passive 100V column speakers with aluminium housing for use in voice alarm systems including optical display for existing pilot tone.

In addition to the EN 54-24 speakers in the Pan Speaker series an extensive model portfolio for e.g. acoustically difficult environments, classic AV installations, theatre and outdoor applications. The portfolio is completed with a correspondingly tuned woofer. All speakers from the Pan Speaker series are optimized for natural speech and music reproduction.

Before operating, please read this manual thoroughly, to ensure a trouble-free operation.

1.1. Symbols and explanation

DANGER

This symbol indicates a hazard with a high level of risk. If this hazard is not prevented, severe injuries or death may result.

WARNING

This symbol indicates a hazard with a moderate level of risk. If this hazard is not prevented, moderate to severe injuries or death may result.

CAUTION

This symbol indicates a hazard with a moderate level of risk. Failure to observe this instruction may lead to minor injuries or property damage.

NOTICE

This symbol provides important instructions for proper handling of the product. Failure to observe this instruction may lead to damage to the product or malfunctions.

1.2. General information and target group

All information in this manual is based on the available product characteristics and is corresponding to the safety regulations at that time of creation.

This manual describes the structure, function and connecting the Pan Speaker EN 54-24 speaker systems P 08-EN54. It is addressed to the technicians and people who are in charge with the installation and operation of an appropriate system.

Pan Acoustics reserves the right to changes and modify, within the framework of the legal requirements and product improvements, without prior notice.

Prior to the use this manual and all other necessary information for the operation must be read by all involved with the commissioning. The operating instructions and other necessary information must be kept accessible near the appliance.

All necessary information and documents can be obtained from the Pan Acoustics website www.pan-acoustics.de/en/manuals.html or requested by E-Mail contact@pan-acoustics.de

1.3. General safety regulations

The following safety regulations have to be read fully and conscientiously before using the device, and then kept in the vicinity of the device. Reading the instruction manual does not replace the knowledge and observance of all applicable local safety rules and regulations. The information published in this document and technical specifications are based on data available at the time of publication. We reserve the right to make any changes to the product in the interest of product improvement and adaptation to new standards in force.

DANGER

To avoid injury, electric shock or fire, it is to ensure that all people involved in the installation, construction, operation or removal, of the equipment/ system, read this operating instructions.

WARNING

To avoid injury by falling,

- this device is equipped with suitable fasteners to mount, according to the installation instructions, on buildings.
- For professional installation with the, by Pan Acoustics, supplied mounts and components, the mounting area is to be checked carefully to guarantee a professional mounting.
- The load-bearing elements and connections are to be checked regularly for wear and loosening.

To minimize the risk of fire or electric shock,

- do not open the product. It contains no parts that can be serviced by the user and the product must not be exposed to moisture and humidity.
- no objects filled with liquids (e.g. bottles) are placed on the equipment.
- the device may not be exposed to excessive heat, sunshine, fire and the like.
- no open flames (e.g. candles) are placed on or under the unit.

To avoid injury, this product must be disconnected if the product shows visible signs of damage, marked and secured against accidental operation,

- contains loose parts.
- is no longer working correctly.
- was stored for a longer period under unfavourable conditions (e.g. in a humid area).
- exposed to insufficient transport (e.g. with no proper packaging).

To avoid injuries such as hearing damage through excessive volume, people should never

- directly reside in front of a connected speaker.
- not be exposed to a significant period of high volume levels.

CAUTION

To prevent damage to the product, it is important to avoid

- generating acoustic feedback.
- to reproduce distorted signals at a high level over a long period.
- to generate an impulse noise (e.g. pops), arising when a playback device of the system is turned on, connected, or disconnected.
- to operate the device in high humidity environments.

NOTICE

Device protection and operational safety

- Only clean the outside of the device with a dry cloth.
- When transporting the equipment, the original packaging should be used.
- The device must be protected from vibrations.

1.4. Safety instructions

All Pan Acoustics products are developed and manufactured in Germany according to current safety regulations. Each product is thoroughly tested in accordance with internal quality assurance guidelines before shipment.

The device complies with the currently valid CE regulations for operation in residential, commercial and industrial sectors.

After reception, the device must be inspected carefully for transport damage and incompleteness. In case of damage, the transporter and the consignor must be notified immediately.

Safety may be impaired if the product:

- shows visible damage.
- is not working properly.
- was stored under unfavorable conditions for a long time.
- was incorrectly transported (e.g. unsuitable packaging).

If any impairment are identified to the product, which do not guarantee safe operation, the device must be secured and marked accordingly. It must also be ensured that no intentional or accidental operation can be carried out by a third party.

1.5. Delivery scope of speakers

Check the product for completeness after receipt. The Pan Speaker EN 54 System contains the following components:

1 x Pan Speaker P 08-EN54

1 x Quickstart manual

1 x Connection plate (including 2 x cable glands, 1 x blind plug)

1.6. Setup location

The loudspeaker can be operated at indoor and outdoor applications. For indoor it is important to ensure sufficient air circulation.

The unit can be damaged by condensation. Therefore the devices should be acclimatized accordingly before operation.

The ambient temperature during operation of the device should not exceed 75 °C and should not fall below - 25 °C.

WARNING

When unpacking, it is important to pay attention to the temperature difference between the ambient temperature and the device. In case there is a high temperature difference, it is necessary to wait for a sufficient period before commissioning the device in order to prevent damage due to condensation.

2. Assembly and connection

2.1. Assembly

For installation of the Pan Speaker EN 54 on walls and ceilings, various accessories are available from the accessories range of the Pan Speaker series. ----> see chapter 9 "Brackets".

Installation and commissioning of loudspeakers may only be carried out by qualified personnel. Ensure that the chosen bracket meets wall and ceiling requirements as well as operating requirements.

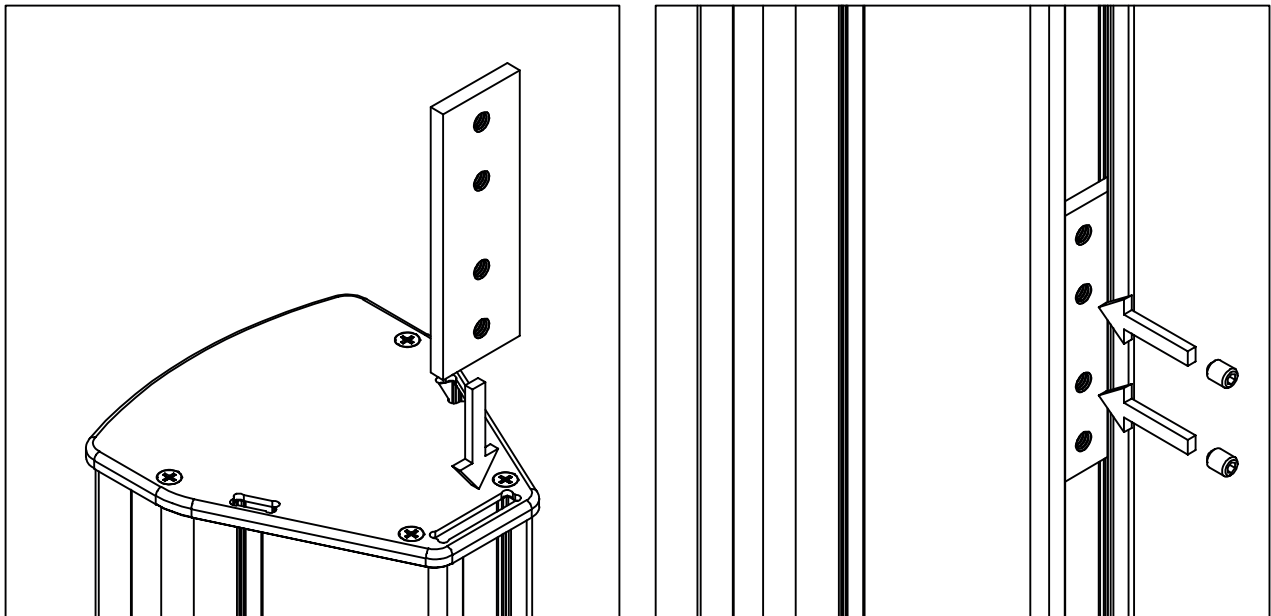
National safety regulations for operation and assembly are to be followed.

CONNECTION TO THE BUILDING

- Ensure that the ceiling / wall area on which the installation is installed is statically suitable.
- The support must be fixed flat on the surface of the structure. The area may not have any settling effects in the long term.
- For a secure and permanent connection, dowel and screw connections are to be dimensioned according to the acting forces which can arise through levers.
- In case of doubt about the type and procurement of the building, a structural engineer must be consulted.

CONNECTING SPEAKER AND BRACKET

- All mounting brackets, which are supplied by Pan Acoustics for the Pan Speaker EN 54, include the appropriate mounting material for connecting to the loudspeaker.
- The connection between the loudspeaker and the holder is made by a slot nut which is inserted into the rear groove of the loudspeaker and is fastened with two threaded pins M6.
- To prevent damage to the brackets and loudspeakers, do not use longer screws than the original ones. Longer screws can damage the loudspeaker or cause short circuits inside the loudspeaker.
- A tightening torque of 10 Nm must be maintained for the screw connection between the bracket and the loudspeaker.



⚠ NOTICE

Installation instructions for the selected bracket is included with the bracket.

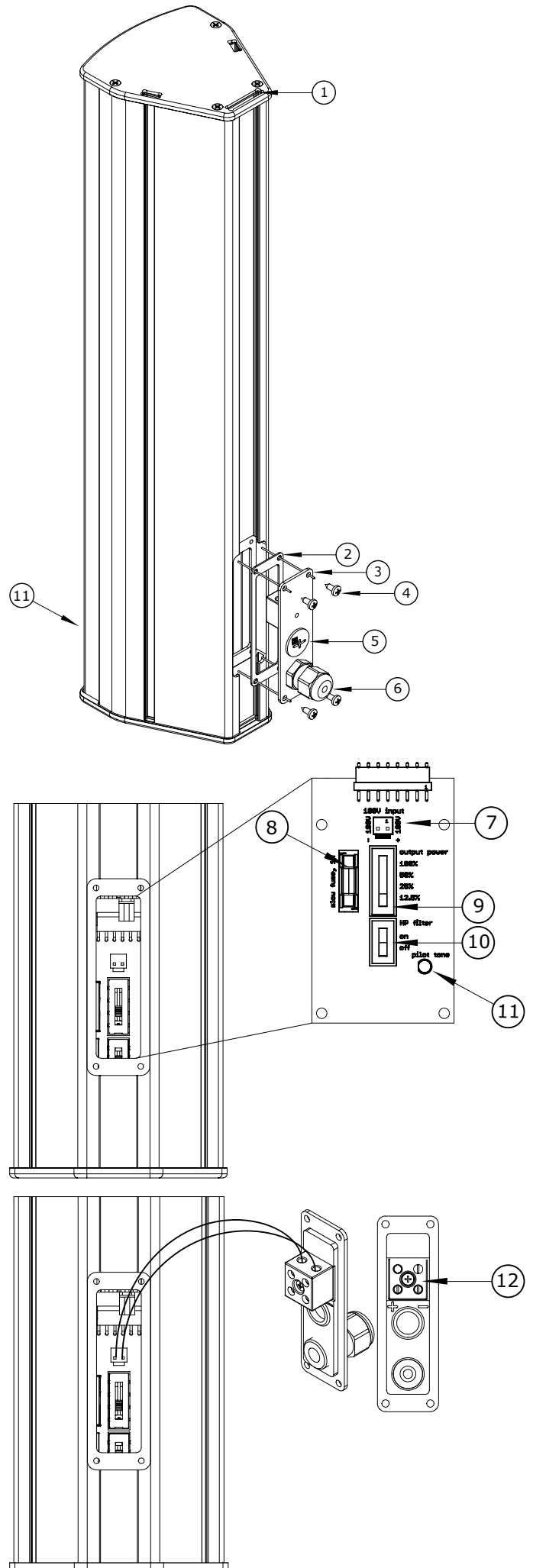
2.2. Electrical connection

The speakers of the Pan Speaker series with EN 54-24 option are passive 100V systems. For operation External power amplifiers are required.

These systems have the same connections for the supply line. The power adjustment takes place via an internal switch. The high-pass filter can be switched via an internal switch.

A second cable gland is provided for the loop through (link) to further loudspeakers.

- (1) Housing**
with connection plate and slider for mounting bracket
- (2) Sealing plate**
- (3) Connection plate**
- (4) 4 x screws to attach the connection plate (3) on the case**
- (5) Hole with blind-plug for second cable gland / 100V-Link**
- (6) Pre-assembled cable gland**
- (7) 100 V connection of the connecting plate**
- (8) Fuse**
- (9) Slide switch for power selection**
Specifications in %: 100 / 50 / 25 / 12,5
= P 08-EN54: 125 W / 62 W / 31 W / 15 W
- (10) Slide switch for high pass filter**
- (11) Control-LED**
lights up green when pilot signal is detected
Frequency range: 20 kHz - 23 kHz
Minimum Level: 6 V_{rms}
- (12) Connection for signal cable**
suitable for cable cross-sections up to 2.5 mm²



⚠ NOTICE

Switch settings for delivery from the factory:

- HPF: off,
- Power: 100%

The cables are to be dimensioned sufficiently with regard to their cross section. The cable ends must be provided with wire end ferrules.

A sealing plate and two M16 cable glands are supplied with the speakers. These serve to seal the speaker and the strain relief of the cable.

The cable glands are suitable for Ø 4.5-10 mm. If only one connection cable is used, then the second gland should be replaced by a plug.

3. Operating conditions

The product is suitable for operation in an ambient temperature of - 25 °C to + 70 °C.
If the product is operated below 0 °C, the device must be operated permanently by means of a suitable signal in order to prevent the loudspeaker chassis from freezing.

Before initial operation, the unit must be acclimatized. Avoid exposing the unit to aggressive chemical fluids and vapors. The equipment must not be covered by textiles. Make sure that the housing can not heat up due to sunlight or strong headlights. Do not expose the unit to strong vibrations.

4. Service and repair

Service and repairs are only to be performed by Pan Acoustics trained people and partners.

No service or carry out measures are to be performed on the unit, which go beyond the commitments made in the maintenance (see Chapter 5.).

Contact information

--> see Chapter 8. „Contact address“

4.1. Maintenance measures

The following measures must be carried out at regular intervals:

Cleaning

The housing should regularly be dusted with a damp cloth and examined for damage.

Perform visual and functional inspection

The installed device should regularly be subjected to a visual inspection.

The following points are to be carried out:

- Check the mounting for wall or ceiling mounting for a tight fit.
- Check housing for damage.
- Check connection cable for damage.

5. EC conformity (CE mark)



Pan Acoustics GmbH hereby declares, the products 04-EN54 and P 08- EN54, comply with the basic requirements and other provisions of the EC directives 2004/108 / EC and 2006/95/ EC.

The full declaration of conformity is available on request, see contact address.

6. WEEE declaration (disposal)



The waste bin symbol points out that electrical and electronic components are not allowed to be disposed of in household waste. This symbol is found on our products.

If the product is to be disposed of, please consult with your dealer or distributor.

7. Contact address

Pan Acoustics GmbH
Lindener Straße 15

Tel: +49 (0) 5331 900 95 70
Fax: +49 (0) 5331 900 95 79

38300 Wolfenbüttel
Germany

Mail: support@pan-acoustics.de

8. Brackets



Wall bracket, fixed, PB xx
Article no.: 801839



Wall bracket, can be moved
horizontally, PB xx (TWM II)
Article no.: 801840



Wall bracket, horizont. and vertic.
adjustable by +/- 5°, PB xx (TWM III)
Article no.: 801841

9. Technical specifications P 08-EN54

ACOUSTIC SPECIFICATION

Type:	Passive column speaker
Drivers:	8 x 3.5"
Rated Power:	125 W / 62 W / 32 W / 15 W (switchable)
Recommended amplifier:	Lab.gruppen
SPL max 100V*:	98.8 dB _{SPL} @4m
Sensitivity (1W/4m)*:	79 dB _{SPL}
Frequency range:	140 Hz - 15 kHz (-10 dB, +6 dB, HPF off)
Horizontal coverage*:	@ 500 Hz : 360° @ 1000 Hz : 220° @ 2000 Hz : 150° @ 4000 Hz : 100°
Vertical coverage*:	@ 500 Hz : 90° @ 1000 Hz : 40° @ 2000 Hz : 25° @ 4000 Hz : 10°
Steering angle**:	Vertical -4°
Typical throw:	20 m

ELECTRICAL SPECIFICATION

Rated impedance*:	@ 100 % : 80Ω @ 50 % : 158Ω @ 25 % : 322Ω @ 12.5 % : 666Ω
Rated noise power:	125 W _{rms}
Rated noise voltage:	100 V _{rms}
Control switches:	Maximum input power (100 % / 50 % / 25 % / 12.5 %) Switchable high pass filter
Fuses:	Glass fuse (1.6 A slow type, replaceable) Thermal fuse (Open temperature 104° C, 16 A, 250 V _{AC} , One-shot operation, replaceable)
Connections:	Terminal ceramic block (100 V / 0 V) Rated cross-section : (0.8 ... 2.5) mm ² Cable gland - maximum diameter : Ø (4,5 ... 10) mm

GENERAL SPECIFICATION

Pilot tone detection**:	Indicator : green LED on front Frequency range : 20 kHz ... 23 kHz Minimum level : 6 V _{rms}
Enclosure:	Aluminium-Profile
Grille:	Powder coated perforated steel
Colour:	Aluminium RAL 9006
Temperature range:	-25 °C ... +70 °C environment
Dimensions (HxWxD):	906.0 x 107.2 x 117.9 mm
Weight:	4.85 kg
Standards:	EN 54-24 Type B (outdoor)
Mounting accessory:	Different mounting options available

* referred to EN54-24

** not measured in laboratory



TECHNOLOGY

Audio, data and power over only 2-wire-system, e.g. I-Y(ST)Y of existing 100V-system. Pan Powerline is an option for several products of the Pan Beam series.



PASSIVE COLUMN SPEAKER

Shapely. Versatile. Functional..

Solid. Different performance levels.
Applications: Live and fixed installations.

PAN ACOUSTICS COMBINES EXPERTISE AND KNOW-HOW

We create products with a unique sound performance.

We create solutions for acoustics challenges.

We create products with **weatherproof** option (IP 54/ IP 65), **seawater proof** and **temperature resistant** (-30°C - 80°C).

All products are designed, developed and manufactured with high-quality materials according to the strict criteria by Pan Acoustics from Germany.

QUALITY - MADE IN GERMANY

CONTACT:

Pan Acoustics GmbH | Lindener Str. 15 | D-38300 Wolfenbüttel | Germany

Tel: +49 (0) 5331 900 95 70 | Fax: +49 (0) 5331 900 95 79 | Mail: contact@pan-acoustics.de

www.pan-acoustics.de



PAN ACOUSTICS PRODUCTS: