

SOUNDS PERFECT. IS PERFECT.



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**FOHNN PS-9**

**PERFECT SOUND IN ITS DEEPEST FORM.**



# FOHNN PS-9.

IT'S HARD TO BELIEVE THAT BASS CAN SOUND SO GOOD!



Extreme power, combined with maximum precision and exceptional sound quality. Fohhn subwoofers are renowned for all these qualities, which have also proved key factors in the development of our latest high-powered subwoofer.

Using patented DPC technology in conjunction with an electronically controlled 21" speaker has enabled us to realize a whole range of requirements, including maximum precision and a dry controlled sound, as well as enormous sound pressure levels – even at the lowest audible frequencies.

Fohhn's PS-9 active, 21" high-powered subwoofer, with its constantly controlled speaker system and 8.5 kW (peak) amplifier power, has just redefined the whole concept of bass sound.

#### Power capabilities and advantages – an overview:

- \* Extremely powerful dry sound, with full control over a frequency range of 28 Hz - 110 Hz
- \* Perfect for club sound and live applications
- \* Suitable for use as a complete subwoofer system, or as low-extension units combined with other conventional subwoofers
- \* Can be used in combination with a wide range of mid-high speaker systems
- \* Patented 21" system with specially adapted 8.5 kW (peak) high-powered CLASS D amplifier
- \* Offers the precision of a 15" subwoofer, with the same power as 4 conventional 18" systems
- \* Compact dimensions
- \* Can be networked and remotely controlled
- \* Fohhn® Audio Soft software included

*Redefining the subwoofer concept – Fohhn's new PS-9 with patented DPC-Technology. Powerful, dry and perfectly controlled sound every time. Frequency range 28 Hz - 110 Hz. Can either be used as an ultra-low extension to a conventional sub or as a complete full-range subwoofer system.*



**Jochen Schwarz, Dipl. Ing. (FH)**  
Head of the Executive Board

**Uli Haug, Dipl.-Medien-P (FH)**  
Executive Board (Sales & Marketing)

# IT'S ALL ABOUT MOVEMENT.

## 1 The acoustic principle

Double vented subwoofer, constructed according to 6th order bandpass principles.

## 2 Electronic integration: The PS-9 components

- CLASS D high-powered amplifier with 8.5 kW peak power
- Patented DPC-Feedback-Loop signal processors for maximum control of the speaker
- Fohhn Audio DSPs for optimum protection of each component
- Intuitive control panel with 4-column LCD display for controlling all subwoofer parameters
- Network connectors for remote control via laptop using Fohhn® Audio Soft software
- Fohhn® Mains Control – integrated mains voltage monitoring system

## 3 Bandpass ports

The design of the PS-9 has been optimized to ensure sufficient airflow at all times. Because of the high sound pressure levels involved, the conventional metal front grille has been dispensed with. Instead, tear resistant, black nylon mesh fabric has been used inside the ports to physically protect the components, while at the same time allowing the air to flow freely.

## 4 Sunken handles

The PS-9 is equipped with eight sunken, ergonomically positioned handles for easy transportation.

## 5 Extremely robust wooden housing

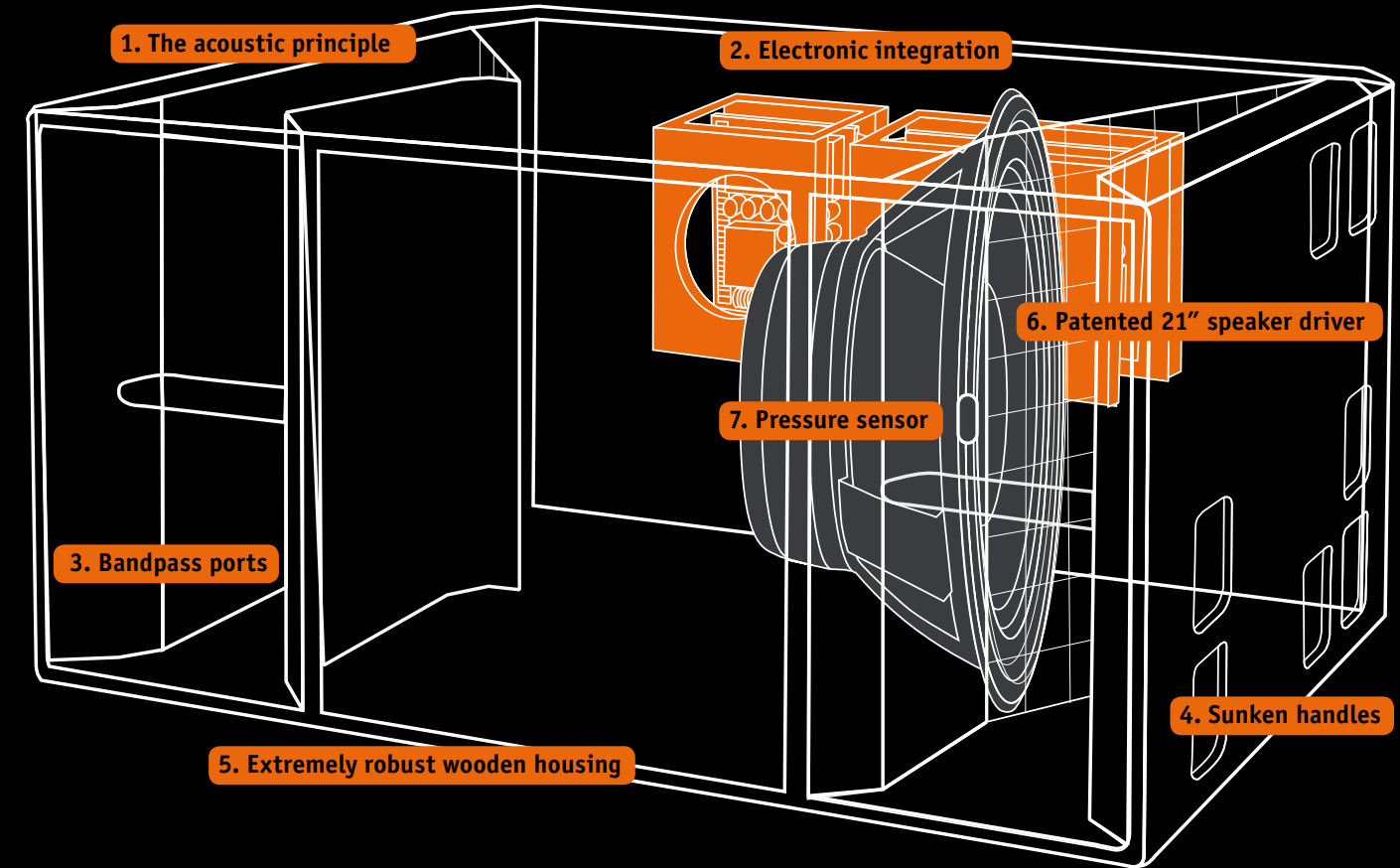
Made from high quality birch plywood which has been given a tough polyurethane coating. Waterproofed, slotted, glued and double-screwed, CLASS A.

## 6 Patented 21" speaker driver

2500 W power rating (AES); 1 Ohm impedance; electronically controlled speaker with 76 mm excursion for extreme efficiency.

## 7 Pressure sensor

Measuring the difference in pressure levels between the back and front of the speaker, in relation to the electrical signal sent to it, ensures that the two sets of measurements correspond. This means that any unwanted or uncontrolled movement of the membrane can be avoided.



# PS-9 SUBWOOFER TECHNOLOGY EXPLAINED BY THE SPECIALISTS.

“PERFECT SOUND, EVEN AT THE LOWEST BASS FREQUENCIES.”



**Boris Kunz, Dipl.-Ing. (BA), Head of Acoustic and Mechanical Development at Fohhn, explains the unique patented technology behind the PS-9.**

Fohhn's PS-9 offers the user total dynamic control in the lowest bass frequency range, thanks to our implementation of the new patented **DPC\*-Feedback-Loop-Technology**. So what does this new technology achieve? Measuring the difference in pressure levels between the back and front of the speaker, in relation to the electrical signal sent to it, ensures that the two sets of measurements correspond. This means that any unwanted or uncontrolled movement of the membrane can be avoided. The result, in comparison with conventional subwoofers, is a much dryer, clearer bass sound, even at high pressure levels and very low frequencies (as low as 28 Hz). By using DPC technology and pushing it to the limit, Fohhn has created an absolute “first” in loudspeaker technology.

With its power rating of 2.5 kW and an incredibly low impedance of 1 Ohm, it's been possible to achieve a level of efficiency with the PS-9's 21" speaker that has not been reached with other dynamic loudspeakers.

This, together with the speaker's 76 mm excursion (50 mm linear), has enabled us to produce sound pressure levels that have not previously been possible with just a single chassis.

With the speaker electronically controlled via the DPC technology, it guarantees both a long excursion and optimum protection. The integrated Class-D high-powered amplifier, with its 8.5 kW peak power capability, also helps to maximise the speaker's enormous power reserves.

Built according to 6th order bandpass principles, the double vented PS-9 represents a significant step towards greater working efficiency in this particular frequency range.

By measuring the pressure on the membrane and constantly checking it in relation to the input signal, the DPC technology ensures that the work of the membrane is always electronically regulated, leading to much better control and bringing the dynamic behaviour of the PS-9 remarkably close to that of a 15" system.

The PS-9's two Bandpass ports have been specially designed to minimize any extraneous noise caused by airflow. As a result, the conventional metal front grill has been dispensed with. Instead, a tear-resistant black nylon mesh fabric, with an extremely high air permeability, has been used inside both ports to physically protect the components.

The **housing** is made from birch plywood, which is waterproofed, slotted, glued and double-screwed. A scratch-resistant polyurethane coating has also been applied to help withstand the everyday rigours of touring.

Considerable expense has also been incurred in minimizing the effects of the extreme sound pressure and vibration that occurs within the PS-9. The **rubber** shock absorbers fitted around the suspended electronics are an essential component in this product, along with the double sets of screws used to fix all the constituent parts together.

The ergonomic arrangement of the eight sunken carrying **handles** enables the PS-9 to be set up or packed away by just one person. M8 threaded inserts also allow an optional flying cradle to be connected, enabling up to eight PS-9s to be stacked underneath one another.

The innovative **SmartLock Locking System** allows the PS-9 to be attached to the supplied 80 mm-wheeled trolley in a record-breaking two seconds. Side-positioned sliding feet facilitate the handling of the PS-9 in vans and trucks. Bearing in mind the power capability of the PS-9, its 1200 x 600 x 910 mm dimensions are really quite compact. In terms of both electronics and software, the PS-9's spec leaves very little else to be desired. The logical stereo construction of the input section, and the possibility of daisy chaining all adjacent signals, helps to significantly simplify the system cabling.

In keeping with Fohhn's typical dual DSP implementation, an additional DSP has been included exclusively to calculate the DPC-Feedback-Loops and to take care of the internal protection circuitry, which is vital with a peak performance capability of 8.5 kW. Fohhn's tried and tested Mains Control provides additional protection through its constant monitoring of the mains voltage supply. Remote control via laptop is possible, using the familiar and intuitive Fohhn® Audio Soft software. Parameters can also be directly adjusted on the unit itself.

# THE PERFECT PARTNER.



*The PS-9 subwoofer is compatible with a whole range of loudspeaker systems. Used in combination with Fohhn Arc-, Linea-, Perform- or X-Series speakers, it is the perfect partner for producing a powerful, controlled bass sound.*

## REMOTELY CONTROLLABLE. REMOTE MONITORING. NETWORK COMPATIBLE.



### Perfect adaption to almost any sound reinforcement situation via instantly accessible presets.

The PS-9 can be quickly and easily adapted to almost any sound reinforcement situation. By simply selecting a preset, its role within the system can be instantly defined. Whether employed as a powerful low-end extension to a conventional subwoofer system, or as a full-range subwoofer system in itself covering a frequency range of 28 Hz - 110 Hz, the PS-9 adapts perfectly to the task in hand. The presets can either be

accessed using the intuitive 4-column, lit control panel on the unit, or via laptop using Fohhn® Audio Soft software. The PS-9 can also be networked. Up to 255 devices can be connected and remotely controlled via laptop from a central location. A number of integrated, high-quality audio tools including 10-band parametric EQ, Delay, Compressor/Limiter and X-Over, as well as Pink Noise and Sweptone Generator, can also be accessed and controlled from the unit itself, or via software.





## SMART ACCESSORIES.

For easy transportation, the PS-9 is supplied with a sturdy trolley on 80 mm wheels. The innovative SmartLock Locking System allows the trolley to be attached or detached in a record-breaking 2 seconds.



## TECHNICAL SPECIFICATIONS FOHNN PS-9.

### Electro-acoustic features

Acoustic design	double-vented. 6th order Bandpass principles
Speaker	1 x 21", ultra long excursion (76 mm) chassis, neodymium
Power rating (AES)	2.5 kW
Max. SPL	145 dB
Frequency range	28 Hz – 110 Hz

### Standard features

Housing	Birch plywood, Class A, waterproofed, glued, slotted and double screwed
Protective grille	tear resistant nylon mesh fabric, black
Factory colour	black
Dimensions (W x H x D)	120 x 60 x 91 cm
Weight	104 kg
Transportation	removable wheel board with 80 mm castors and SmartLock locking system
Handles	eight sunken handles, ergonomically positioned on sides
Threaded fixing plates	M20, integrated
Threaded inserts	M8, for attaching optional flying cradle

### Options

Flying cradle	for flown applications
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### Digital Amplifier (integrated)

Power	8500 W (peak)
Gain	adjustable
Input sensitivity	adjustable
Input impedance	10 kOhm
Frequency range	20 Hz – 3 kHz
S/N Ratio	>105 dBA

Circuit protection Softstart, impedance and short circuit protection, DC Protect, temperature monitoring, Fohhn® Mains Control.

Voltage supply power supply with powerfactor correction (PFC) 195 V – 250 V AC 50/60 Hz, max.10 A.

Temperature range 0 - 45°C  
Cooling Convention cooling. Additional cooling as needed via temperature regulated fans.

Fohhn® Audio Controller 2 digital signal processors Band specific, time constant 56-bit double precision filter technology AD/DA 24 bit / 48 kHz

DPC Controller (patented) Constant measuring of loudspeaker membrane pressure levels and automatic comparison with input signal.

Operation 4-line display for DSP selection. Ground/lift, Power on/off switch

Remote control Fohhn-Net, Fohhn® Audio Soft  
Remote monitoring Temperature, Protection, Signal  
Displays 4-line display, 2 x signal/level LED, 2 x clip LED receive/send remote control LED

### Connections

Inputs	2x XLR
Network	2 x powercon network connectors in and thru
Remote control	Fohhn-Net, Fohhn® Audio Soft
Remote monitoring	Temperature, Protection, Signal



### Fohhn® Mains Control – Integrated power monitoring system

During use, the electrical current supplied to the amplifier is constantly monitored. If the recommended range is exceeded (180 - 255 V AC), the supply is automatically cut. During power up the input surge from the current is also minimized by the switch on occurring at the zero crossing of the mains voltage.



PCT Patent N°: WO-2008-018099

PCT Patent N°: PCT/IT98/00031

U.S. patent N°: US 6,281,767 B1



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