FOCUS MODULAR.

THE INTRODUCTION OF FOHHN'S LINEA FOCUS ELECTRONICALLY STEERABLE LINE ARRAY SYSTEMS PROVED A SIGNIFICANT MILESTONE.

FOUR YEARS LATER, FOLLOWING UNPRECEDENTED ENTHUSIASM, ENORMOUS SUCCESS AND A STRING OF ACCOLADES, THE NEXT GLOBAL INNOVATION IS UNVEILED.

FOCUS MODULAR TAKES FOHHN'S CURRENT BEAM STEERING TECHNOLOGY TO A WHOLE NEW LEVEL THROUGH CONTINUED DEVELOPMENT.

FOCUS MODULAR HAS GREATER PERFORMANCE CAPABILITY, BETTER DYNAMICS AND MORE POWER THAN ANY OTHER COMMERCIALLY AVAILABLE ELECTRONICALLY STEERABLE LINE SOURCE SPEAKER SYSTEM.

FOCUS MODULAR GUARANTEES EXCELLENT SOUND QUALITY, HIGHEST SOUND PRESSURE LEVELS AND INCOMPARABLE BEAM STEERING PRECISION.


fohhn

8 REASONS
WHY FOCUS MODULAR IS SO UNIQUE

1 **Amazing potential.**
Greater performance capability and better dynamics than existing electronically steerable line array systems.

2 **Infinite possibilities.**
Systems can be cascaded, combined and scaled for total flexibility.

3 **Better results.**
Includes 3 separate, state-of-the-art DSP processors.

4 **Precise handling.**
Perfect control in real time.

5 **Unique live performance capability.**
Suitable for live sound and mobile applications.

6 **Incomparable precision.**
Beam steering is considerably more precise.

7 **Better overview.**
Everything can be controlled via a single piece of software.

8 **Superb integration.**
Blends perfectly into architectural surroundings and stage settings.

FOCUS MODULAR

MODULAR LINE ARRAY SYSTEMS WITH BEAM STEERING TECHNOLOGY.

Installation Europe EDITORS' AWARDS
Best of prolight+sound 2011
Fohhn® Focus Modular

LES ETOILES DU SIEL
für Focus Modular

1. AMAZING POTENTIAL. GREATER PERFORMANCE CAPABILITY AND BETTER DYNAMICS THAN EXISTING ELECTRONICALLY STEERABLE LINE ARRAYS.

Two high frequency modules containing 8/16 ultra high performance compression drivers. These focus the speaker energy in a unique waveform/horn construction. The system produces outstanding sound pressure levels of up to 148 dB peak/1 metre. Rather than including a lot of smaller high frequency dome tweeters in each module, we have chosen real high performance technology encapsulated in a single module.

An extremely high performance low-mid module with specially developed high-powered 4" long excursion speakers. 32 of these are combined in one module to produce maximum sound pressure levels of up to 134 dB peak/1 metre*.

2. INFINITE POSSIBILITIES. SYSTEMS CAN BE CASCADED, COMBINED AND SCALED FOR TOTAL FLEXIBILITY.

Focus Modular systems can be adapted to meet a range of sound reinforcement requirements, offering unbelievable flexibility. Combine one, two or three low-mid modules with a high frequency module for example. Or, combine two high frequency modules with two low-mid modules, using one HF module on top for balcony coverage and one on the bottom for targeting the stalls. It simply depends on the venue requirements. The length and arrangement of the modules is influenced by the application and the acoustic conditions of the room. As the number of modules increases, so does the performance power. The longer the array, the longer its reach and its ability to target low frequencies more precisely.

3. BETTER RESULTS DUE TO THREE SEPARATE DSP PROCESSORS: BEAM STEERING DSP, SPEAKER PROTECT DSP AND USER DSP.

Instead of the usual single DSP unit, Focus Modular systems contain three independent, state-of-the-art processors. The processing is totally digital and extremely high quality thanks to the use of 56 bit/96 kHz double precision filter technology. Firstly, and most importantly, we have the **BEAM CONTROL DSP**. This guarantees precise beam steering in real time. Each individual speaker has separate processor control. Secondly, the **SPEAKER PROTECT DSP** offers loudspeaker protection via a sophisticated multi-band limiter. This guarantees maximum operating reliability and a controlled, clear sound image at all volume levels. The third DSP is known as the **USER DSP**. This gives the user direct access to the DSP functionality that includes very high quality audio tools such as 10-band parametric EQ, delay, dynamics, x-over etc. There's also an integrated pink noise generator and a sine tone generator plus status, temperature and operating time displays. The loudspeakers are also equipped with pilot tone monitoring for integration into emergency evacuation systems.

4. PRECISE HANDLING. PERFECT CONTROL IN REAL TIME.

A further unique feature is the ability to control the Focus Modular beam characteristics in real time via software simulation. This real-time capability offers tremendous advantages during venue set-ups. Using the software simulation, the user can see exactly where the beam is being directed and hear the result at the same time. It's a case of »What you see is what you hear«. This enables optimum sound results to be reliably achieved, without any stress!

* Peak, 20 ms, Pink Noise (IEC 60268- 2).

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MODULAR LINE ARRAY SYSTEMS WITH BEAM STEERING TECHNOLOGY.

Focus Modular flown system comprising two FM-400 low-mid modules and an FM-100 high frequency module, suspended via a VFM-1 flying cradle. Low frequency extension from patented high performance PS-9 21" active subwoofer featuring Adaptive Control Loop Technology. 8.5 KW peak.

5. UNIQUE LIVE PERFORMANCE CAPABILITY. SUITABLE FOR LIVE SOUND AND MOBILE APPLICATIONS.

Focus Modular systems are perfect for mobile sound reinforcement applications. They are compact, lightweight and extremely powerful. One FM-110 high frequency module and two low-mid FM-400 modules have a combined weight of 120 kg and a maximum sound pressure level (dBA) of ca. 100 dB at a distance of 100 metres. The coverage is very even and natural sounding. The dynamic performance is equivalent to six modules of conventional, compact 2 x 6.5"/1.4" line array. In comparison with conventional line arrays, the results are clearer and more precise, especially in challenging acoustic situations.

The modules also take up less space for transportation – use a sprinter van instead of a truck! When mounting on ceilings, the overall weight remains manageable and the set-up time is short. Using an existing rigging system, several modules can be quickly combined without the need for additional tools. The array hangs straight with no mechanical curving.

Setting up the speaker beams can be done via laptop – in real time. Small adjustments can be carried out at the click of a mouse. This enables changes to be made just before or even during the show, for example if audience numbers are less then expected, or if the balcony is not being used.

6. INCOMPARABLE PRECISION. BEAM STEERING IS CONSIDERABLY MORE EXACT.

The computing power of the signal processors used, combined with an enormous investment in development, has resulted in the ability to adjust the speakers' vertical beam width (0°-90°) and vertical sound inclination angle (-40°/+40°) in highly precise 0.1 increments. In real time! This has enabled more direct coverage of audience areas avoiding room reflections – something that is very important in reverberant surroundings.

Another contributory factor in achieving such precision is the use of Fohhn's **»Side Lobe Free Technology«.** Developed in house, this algorithm is designed to suppress the unwanted side lobes that inevitably occur with line arrays, leading to greatly improved speech intelligibility.

Another outstanding technological function is Fohhn's **»Two Beam Technology«.** Two separate beams are generated in the loudspeakers' vertical dispersion range (each beam has a full acoustic line length), enabling different areas such as stalls and gallery to be simultaneously targeted. The **acoustic centres** of both beams can be moved over the entire length of the array and adjusted to give optimum results, even in the most difficult acoustic conditions.

7. BETTER OVERVIEW. EVERYTHING CAN BE CONTROLLED VIA A SINGLE PIECE OF SOFTWARE.

Focus Modular systems can be directly and intuitively controlled using a single piece of software: Fohhn Audio Soft V3.3. Highly unusual, it nevertheless offers tremendous advantages: No unnecessary waiting time while data is transferred between software programs, or computer processes are completed. Loudspeakers do not have to be muted while settings are optimised. Both the software and loudspeaker systems are permanently online and in constant communication with one another. Every single adjustment, including beam steering and sound settings, can be made in real time. Bass Arrays can also be controlled using the same software.

8. SUPERB INTEGRATION. BLENDS PERFECTLY INTO ARCHITECTURAL SURROUNDINGS AND STAGE SETTINGS.

Focus Modular is also remarkable for its appearance. Architects, event organisers and customers simply love the loudspeakers' slim, unobtrusive »look« that allows the units to blend perfectly into architectural surroundings and stage settings.

Housings can be supplied in all RAL colours to match interiors. As the speakers are electronically adjustable, they can be installed flat against the wall, or even integrated into a wall cavity enabling them to merge unobtrusively into the room architecture.

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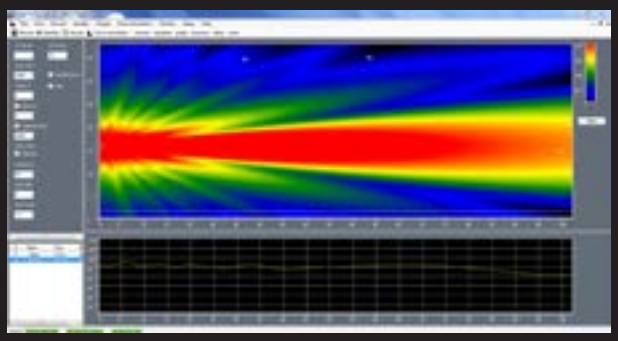
MODULAR LINE ARRAY SYSTEMS WITH BEAM STEERING TECHNOLOGY.

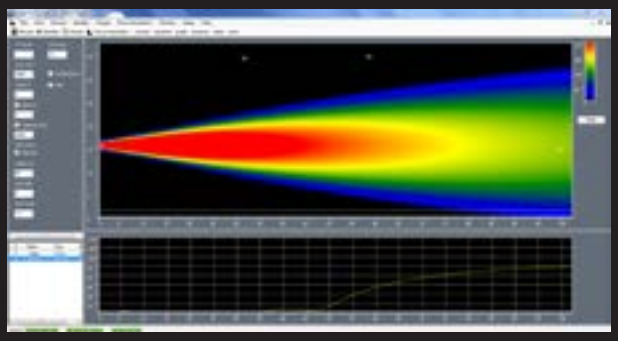
SIDE LOBE FREE

TECHNOLOGY

Developed in house, this algorithm is specially designed to suppress naturally occurring but unwanted side lobes. This results in more direct coverage and greatly improved speech intelligibility, especially in reverberant acoustic conditions.



WITHOUT SIDE LOBE FREE TECHNOLOGY

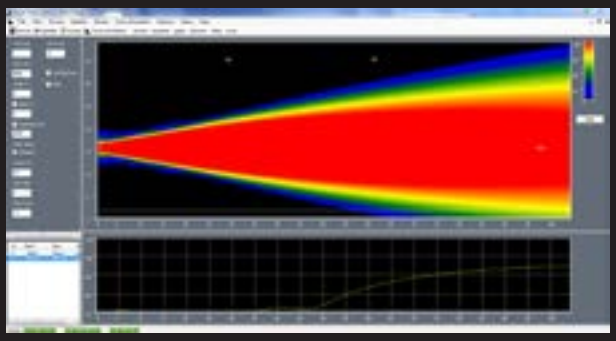


WITH SIDE LOBE FREE TECHNOLOGY

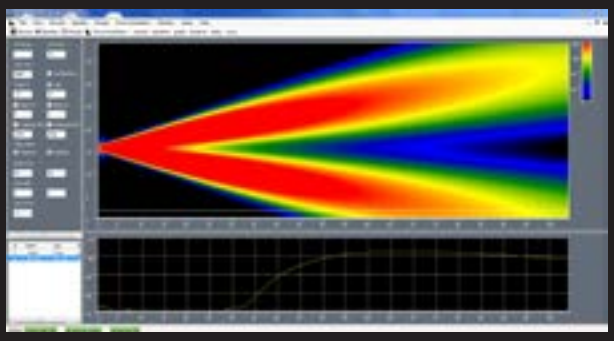
TWO BEAM

TECHNOLOGY

Also developed in house, »Two Beam Technology« enables the generation of two separate beams per module within a loudspeaker's vertical sound dispersion range. This applies to both the Focus Modular low-mid/full range and high frequency modules.



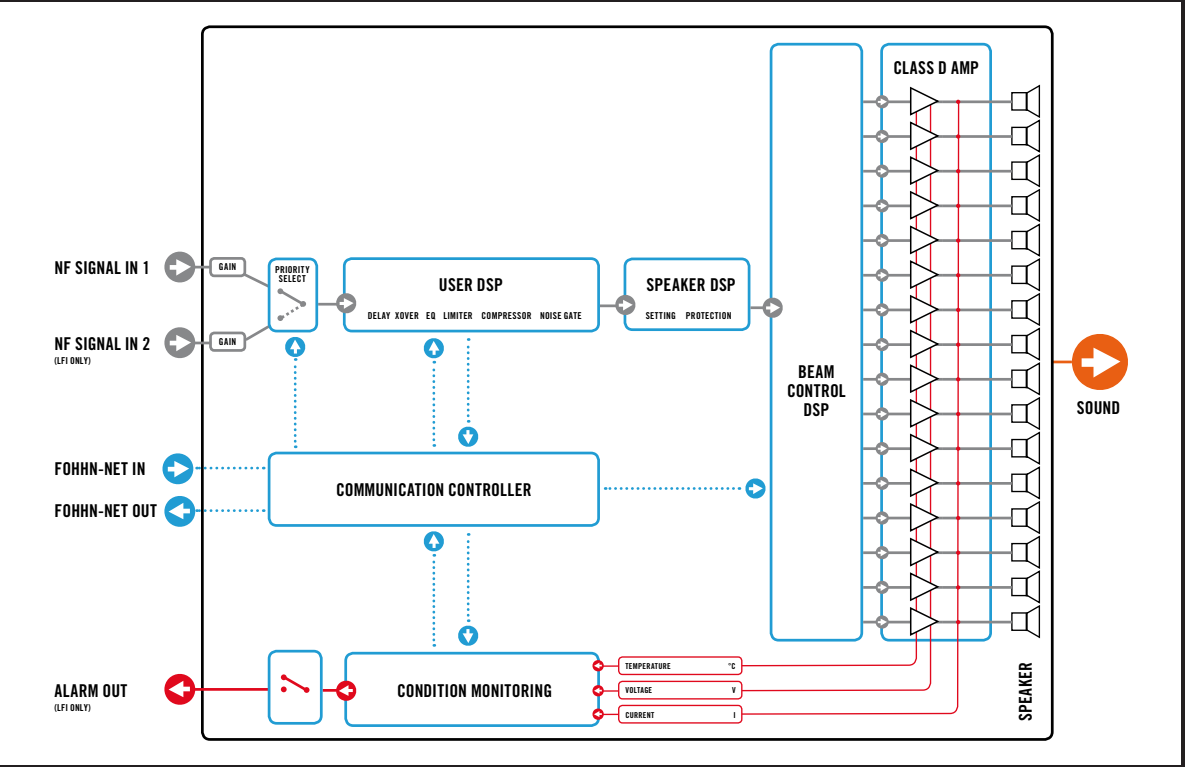
A SINGLE LOUDSPEAKER BEAM



TWO SEPARATE BEAMS

Using Fohhn Audio Soft 3.3, Focus Modular systems can be intuitively controlled in real time. A clearly laid out graphical user interface gives quick and easy access to the integrated digital audio tools, grouping functions, sound presets and the Focus Simulation window.

FOCUS MODULAR – THE FUNCTIONAL PRINCIPLES.



This simplified diagram gives interested readers a basic overview of the functional principles. The input signal initially runs through the NF Signal In. This has a Priority Select that is primarily used to handle emergency evacuation information, guaranteeing maximum safety during an emergency. The input signal then passes through a digital signal processor (the User DSP), which offers an extensive range of real-time processing functions. These can be simply and intuitively accessed via Fohhn Audio Soft control software. The »Speaker Setting & Protection« DSP contains all the various protection mechanisms such as a finely tuned multi-band limiter.

At the »heart« of all Focus Modular systems is the »Beam Control DSP«. This contains the algorithms required for calculating the various beam characteristics. From here, all software beam steering settings made by the user are transmitted for realisation by the individual loudspeakers. Each speaker, with its specially calculated signal, is then driven by its own Class D amplifier.

Constant monitoring of each individual output signal and of component conditions such as temperature, current and voltage enables the user to check on the actual operating status at all times. Any modified settings can be saved as presets.

FOCUS MODULAR

MODULAR LINE ARRAY SYSTEMS WITH BEAM STEERING TECHNOLOGY.

FM-100/FMI-100

→ **High performance, high frequency module with beam steering technology, equipped with 8 neodymium 1" compression drivers with Waveguide/horn system.** 8 state-of-the-art Class D amplifiers are also integrated, as well as a specially developed multi-channel DSP processor for beam steering capability. The loudspeaker can reach a maximum SPL of 142 dB/1 metre. Its vertical beam width (0°-90°) and sound inclination angle (-40°/+40°) can be adjusted in real time, in 0.1° increments, using Fohhn Audio Soft control software. This ultra-fine degree of adjustment enables the speaker beam to be targeted with extreme precision towards the required audience area.

The speaker output can be split into two separate beams (Fohhn Two Beam Technology), enabling simultaneous coverage of different areas such as stalls and balcony. A further feature is Fohhn's Side Lobe Free Technology. This algorithm is designed to suppress the unwanted side lobes that inevitably occur with line arrays, resulting in greatly improved speech intelligibility.

The elegant speaker housing is constructed from premium quality birch plywood. Loudspeaker drivers and electronics are protected by a steel front grille, backed by acoustic foam, specially designed to give maximum sound transparency.

Two or more Focus Modular units can be securely combined in seconds using Fohhn's own Quick-Lock system. Flying mechanics can also be secured using Quick-Lock. Optional brackets for ceiling and wall mounting, and also for flown applications, are separately available. CAAD simulation data for EASE is available on request.

The FMI-100 fixed installation model is also equipped with important features that enable its integration into emergency evacuation systems (in accordance with EN60849 requirements). The connector panel has a protective cover with slots to accommodate cabling.

FM-110/FMI-110

→ **High performance, high frequency module with beam steering technology, equipped with 16 neodymium 1" compression drivers with Waveguide/horn system.** 16 state-of-the-art Class D amplifiers are also integrated, as well as a specially developed multi-channel DSP processor for beam steering capability. The loudspeaker can reach a maximum SPL of 148 dB/1 metre. Its vertical beam width (0°-90°) and sound inclination angle (-40°/+40°) can be adjusted in real time, in 0.1° increments, using Fohhn Audio Soft control software. This ultra-fine degree of adjustment enables the speaker beam to be targeted with extreme precision towards the required audience area.

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FM-400/FMI-400

→ **High performance, low-mid/full range module with beam steering technology, equipped with 32 specially developed, high performance neodymium loudspeakers.** 16 state-of-the-art Class D amplifiers are also integrated, as well as a specially developed multi-channel DSP processor for beam steering capability. The loudspeaker can reach a maximum SPL of 134 dB/1 metre. Its vertical beam width (0°-90°) and sound inclination angle (-40°/+40°) can be adjusted in real time, in 0.1° increments, using Fohhn Audio Soft control software. This ultra-fine degree of adjustment enables the speaker beam to be targeted with extreme precision towards the required audience area.

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The FMI-400 fixed installation model is also equipped with important features that enable its integration into emergency evacuation systems (in accordance with EN60849 requirements). The connector panel has a protective cover with slots to accommodate cabling.

THE MAIN FACTS AT A GLANCE

- High performance, high frequency modules with 1" compression drivers, Waveguide and horn (SPL max: 148 dB)
- High performance low-mid module (SPL max: 134 dB)
- Powerful, musical sound
- Real-time beam steering via intuitive software
- Ultra-fine adjustment of loudspeaker beams in 0.1° increments
- Vertical beam width 0°-90°
- Vertical sound inclination angle -40° to +40°
- Side Lobe Free Technology – suppresses side lobes
- Two Beam Technology – two separate beams per module
- Suitable for mobile applications and fixed installations
- Excellent speech intelligibility, even in reverberant acoustics
- Build into the wall for complete invisibility
- Can be combined and cascaded
- No mechanical curving
- Extremely compact, low weight
- Short set-up time
- Extremely long reach

APPLICATIONS

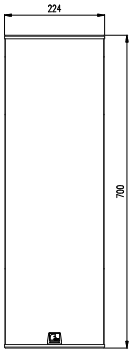
→ Focus Modular is the ideal sound reinforcement system for large conference facilities, theatres, cathedrals, concert halls, exhibition halls etc.

FOCUS MODULAR

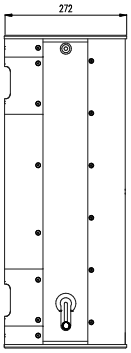
MODULAR LINE ARRAY SYSTEMS WITH BEAM STEERING TECHNOLOGY.

FM/FMI-100

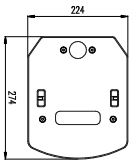
Front view



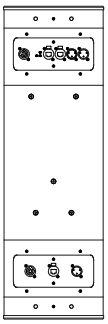
Side view



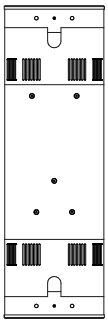
View from above



Rear view FM-100 with connection sockets

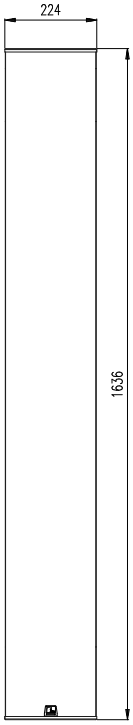


Rear view FMI-100 with internal connection sockets

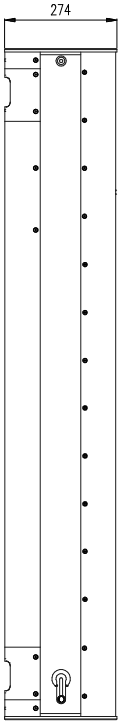


FM/FMI-400

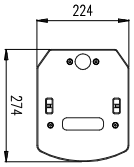
Front view



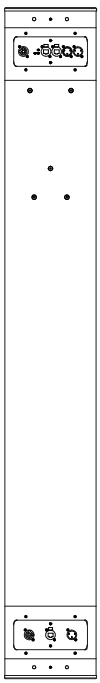
Side view



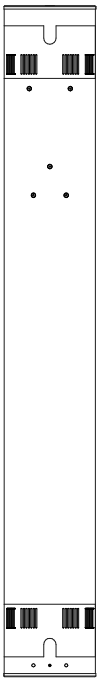
View from above



Rear view FM-400 with connection sockets

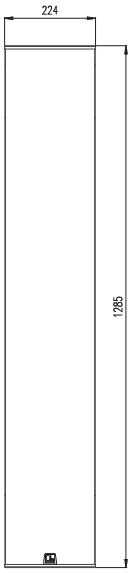


Rear view FMI-400 with internal connection sockets

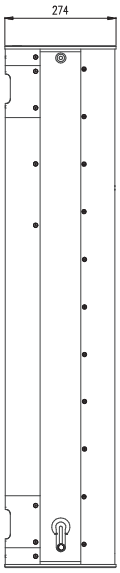


FM/FMI-110

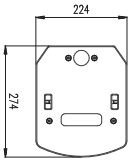
Front view



Side view

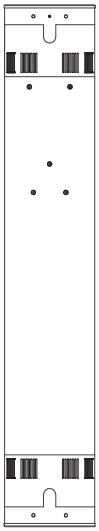


View from above



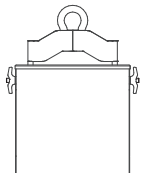
Rear view FM-110 with connection sockets

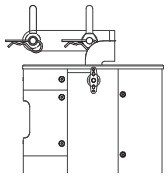
Rear view FMI-110 with internal connection sockets

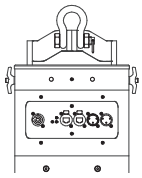


ACCESSORIES

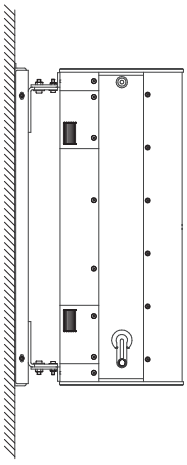
Flying cradle VFM-1

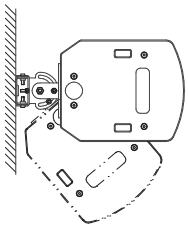






Wall brackets WFMI-100, WFMI-110, WFMI-400





	FM/FMI-100	FM/FMI-110	FM/FMI-400
Electro-acoustical features			
acoustic design	electronically steerable line array speaker	electronically steerable line array speaker	electronically steerable line array speaker
components	8x 1" horn loaded compression driver, neodymium motor	16x 1" horn loaded compression driver, neodymium motor	32x 4“ long excursion with treated cones, neodymium motor
operating mode	active, 8-channel DSP amplifier, class D	active, 16-channel DSP amplifier, class D	active, 16-channel DSP amplifier, class D
maximum SPL [3]	142 dB (102 dB @ 100 m)	148 dB (108 dB @ 100 m)	134 dB (94 dB @ 100 m)
frequency range [5]	1 kHz – 20 kHz	1 kHz – 20 kHz	60 Hz – 17 kHz
horizontal dispersion [6]	90°	90°	–
	–	–	90°
	–	–	80°
vertical dispersion, electronically steerable [6]	0°– 90° in 0.1° steps	0°– 90° in 0.1° steps	0°– 90° in 0.1° steps
vertical sound inclination angle, electronically steerable	-40° – +40° in 0.1° steps	-40° – +40° in 0.1° steps	-40° – +40° in 0.1° steps
acoustic centre, both beams steerable	0% (at the bottom) to 100% (at the very top)	0% (at the bottom) to 100% (at the very top)	0% (at the bottom) to 100% (at the very top)
features			
enclosure	aluminum / wood cabinet	aluminum / wood cabinet	aluminum / wood cabinet
protection grille	steel, ball impact resistant, powder coated	steel, ball impact resistant, powder coated	steel, ball impact resistant, powder coated
rigging points	4x M8 threads, integrated rigging system	4x M8 threads, integrated rigging system	4x M8 threads, integrated rigging system
standard colours	black or white powder coating	black or white powder coating	black or white powder coating
front design	steel grille in enclosure colour, backed by acoustically transparent foam	steel grille in enclosure colour, backed by acoustically transparent foam	steel grille in enclosure colour, backed by acoustically transparent foam
dimensions (W x H x D)	224 x 700 x 274 mm	224 x 1285 x 274 mm	224 x 1636 x 274 mm
weight [7]	24 kg	39 kg	41 kg
optional features			
optional colours	all RAL-colours	all RAL-colours	all RAL-colours
remote control, remote monitoring and simulation			
remote control	Fohhn-Net, Fohhn Audio Soft	Fohhn-Net, Fohhn Audio Soft	Fohhn-Net, Fohhn Audio Soft
remote monitoring	temperature, protect, signals, power supply, Fohhn-Net, Fohhn Audio Soft, Pilot signal monitoring	temperature, protect, signals, power supply, Fohhn-Net, Fohhn Audio Soft, Pilot signal monitoring	temperature, protect, signals, power supply, Fohhn-Net, Fohhn Audio Soft, Pilot signal monitoring
fault message contact	relay 2x changeover	relay 2x changeover	relay 2x changeover
simulation beam	Fohhn-Net, Fohhn Audio Soft	Fohhn-Net, Fohhn Audio Soft	Fohhn-Net, Fohhn Audio Soft

	FM/FMI-100	FM/FMI-110	FM/FMI-400
electronical features			
amplifier output	8x 120 W	16x 120 W	16x 120 W
amplifier type	Pure Path Digital PWM	Pure Path Digital PWM	Pure Path Digital PWM
audio inputs	2 independent line inputs with automatic priority, transformer-balanced	2 independent line inputs with automatic priority, transformer-balanced	2 independent line inputs with automatic priority, transformer-balanced
audio outputs	2x link	2x link	2x link
DSP channels	Fohhn Audio DSP 16	Fohhn Audio DSP 16	Fohhn Audio DSP 16
amplification	28 dB	28 dB	28 dB
input sensitivity	1,4 V	1,4 V	1,4 V
frequency response	20 Hz – 20 kHz	20 Hz - 20 kHz	20 Hz - 20 kHz
S/N Ratio	>105 dB/A	>105 dB/A	>105 dB/A
protective circuit	soft start, temperature monitoring, short-circuit protection, overload	soft start, temperature monitoring, short-circuit protection, overload	soft start, temperature monitoring, short-circuit protection, overload
power supply	100 V – 240 V AC 4A 50/60 Hz, power supply with Power Factor Correction	100 V – 240 V AC 4A 50/60 Hz, power supply with Power Factor Correction	100 V – 240 V AC 4A 50/60 Hz, power supply with Power Factor Correction
current consumption	Standby 5 W, max 1000 W	Standby 10 W, max 1000 W	Standby 10 W, max 1000 W
fuse	16 A @ 230 V	16 A @ 230 V	16 A @ 230 V
low power	Green Power Standby Mode	Green Power Standby Mode	Green Power Standby Mode
emergency power operation possible	external USV 230 V 1000 W 16 A	external USV 230 V 1000 W 16 A	external USV 230 V 1000 W 16 A
temperature range	0 – 40° C	0 – 40° C	0 – 40° C
cooling	temperature-controlled fan	temperature-controlled fan	temperature-controlled fan
weight electronics	3 kg	5,5 kg	5,5 kg
Controller			
digital signal processors	2	2	2
independent limiters	4	4	4
selective 3-band limiting	bass / mid / high	bass / mid / high	bass / mid / high
band specific time constants	✓	✓	✓
filter technology	56-bit double precision	56-bit double precision	56-bit double precision
AD	24 bit / 96 kHz	24 bit / 96 kHz	24 bit / 96 kHz
FIR filters			
gain	-80 dB – +12 dB	-80 dB – +12 dB	-80 dB – +12 dB
volume	-80 dB – +12 dB	-80 dB – +12 dB	-80 dB – +12 dB
EQ	10-band parametric EQ, gain +/-12 dB, frequency range 10 – 20 kHz, Q 0,1 – 100	10-band parametric EQ, gain +/-12 dB, frequency range 10 – 20 kHz, Q 0,1 – 100	10-band parametric EQ, gain +/-12 dB, frequency range 10 – 20 kHz, Q 0,1 – 100
limiter compressor	✓	✓	✓
noise gate	✓	✓	✓
X-Over	Linkwitz-Riley 4. order, 24 dB / octave, high pass 10 Hz – 20 kHz, low pass 10 Hz – 20 kHz	Linkwitz-Riley 4. order, 24 dB / octave, high pass 10 Hz – 20 kHz, low pass 10 Hz – 20 kHz	Linkwitz-Riley 4. order, 24 dB / octave, high pass 10 Hz – 20 kHz, low pass 10 Hz – 20 kHz
delay	0,01 – 350 ms (3,4 mm – 120 m)	0,01 – 350 ms (3,4 mm – 120 m)	0,01 – 350 ms (3,4 mm – 120 m)
CAAD simulation data	EASE	EASE	EASE

	FM/FMI-100	FM/FMI-110	FM/FMI-400
controls FM-100/110/400 fixed installation (all controls internal)			
Fohhn-Net	2x in/thru, Phoenix terminals, 3-pin	2x in/thru, Phoenix terminals, 3-pin	2x in/thru, Phoenix terminals, 3-pin
mains connections	1x Powercon in, 1x Powercon out	1x Powercon in, 1x Powercon out	1x Powercon in, 1x Powercon out
audio inputs	2 independent line inputs with automatic priority, transformer-balanced	2 independent line inputs with automatic priority, transformer-balanced	2 independent line inputs with automatic priority, transformer-balanced
audio outputs	2x link, Phoenix terminals, 3-pin	2x link, Phoenix terminals, 3-pin	2x link, Phoenix terminals, 3-pin
fault contact	relay 2x changeover, link	relay 2x changeover, link	relay 2x changeover, link
display LEDs (internal)			
power on/ off (standby)	green = on, red = standby, red flashing = fault	green = on, red = standby, red flashing = fault	green = on, red = standby, red flashing = fault
network control	receive / send remote control LED	receive / send remote control LED	receive/ send remote control LED
Anschlüsse FM-100/110/400 mobile application			
Fohhn-Net	1x RJ-45 Neutrik in, 2x RJ-45 Neutrik out	1x RJ-45 Neutrik in, 2x RJ-45 Neutrik out	1x RJ-45 Neutrik in, 2x RJ-45 Neutrik out
mains connections	1x Powercon in, 1x Powercon out	1x Powercon in, 1x Powercon out	1x Powercon in, 1x Powercon out
audio inputs	1x line input, XLR, transformer balanced	1x line input, XLR, transformer balanced	1x line input, XLR, transformer balanced
audio outputs	2x XLR, balanced	2x XLR, balanced	2x XLR, balanced
display LEDs			
power on/ off (standby)	green = on, red = standby, red flashing = fault	green = on, red = standby, red flashing = fault	green = on, red = standby, red flashing = fault
network control	receive / send remote control LED	receive / send remote control LED	receive / send remote control LED

The manufacturer reserves the right to make technical modifications according to legal regulations stipulating the continual improvement of product features.
[3] Peak, 20 ms with bandpass filtered pink noise signal according to IEC 60268-2 at one octave above the lower limit of the frequency range.
[5] Usable frequency range [6] horizontal x vertical at -6 dB [7] net weight without optional equipment

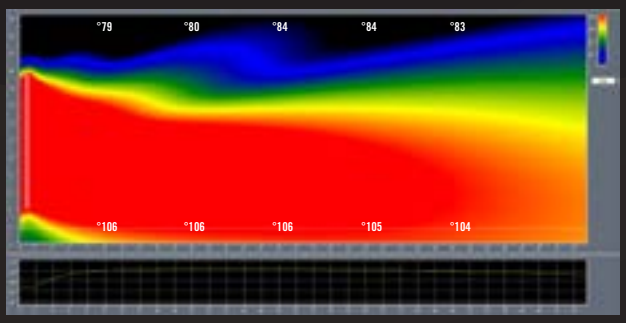
FOCUS SUB ARRAY

BEAM STEERING

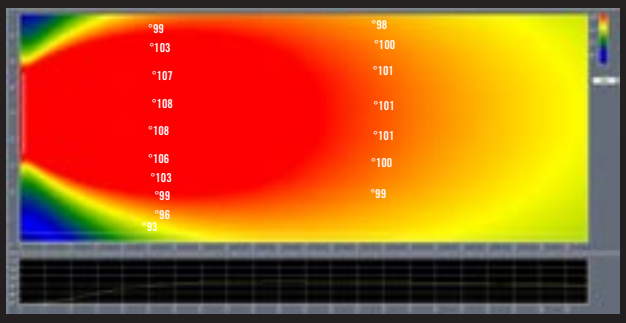
TECHNOLOGY

FOR BASS ARRAYS

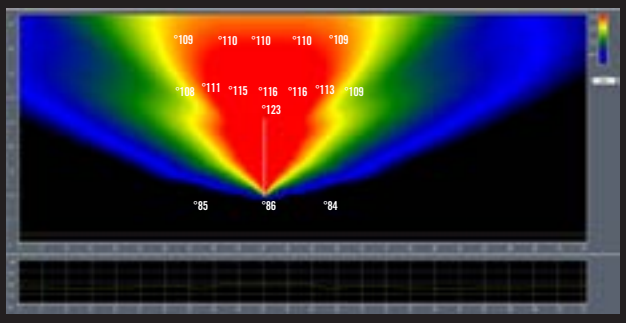
VERTICAL BASS ARRAY



HORIZONTAL BASS ARRAY



ENDFIRED BASS ARRAY



FOCUS SUB ARRAY AND PS-22

BEAM STEERING TECHNOLOGY FOR BASS ARRAYS.

Combining multiple subwoofers to form bass arrays is a common practice in modern sound reinforcement. The technique enables subwoofer beam characteristics to be optimized and more precisely directed.

However, the ability to control these beam characteristics in real time via software is completely new and unique. This is achieved using Fohhn Audio Soft 3.3 in combination with Fohhn DSP technology and Fohhn subwoofers. For the user, there are tremendous advantages: Real-time control lets you see the directional characteristics of the beam via software simulation and hear the result at the same time. This ability to simultaneously see and hear what is going on enables effortless and accurate set-up and control of horizontal, vertical and endfired bass arrays.

Electronically steerable bass arrays can be constructed using any Fohhn active subwoofers. If passive subwoofers are used, additional Fohhn DSP-controlled amplifiers or a Fohhn FC-8 controller must also be included.

The PS-22 compact subwoofer is the latest addition to Fohhn's Perform series. Specially designed as a flyable bass reflex system, it is equipped with a high performance, 12" long excursion speaker. The subwoofer is available as an active system (PS-22 active), with integral Class D amplifier, 1000W, Fohhn Double Precision DSP's, 4-line LCD display and network connection. A passive 500W/8 ohm version of the subwoofer (PS-22 passive) is also available.

THE MAIN FACTS AT A GLANCE

- Remote control of the bass frequency range using Fohhn Audio Soft
- Real-time beam steering in 0,1° increments
- Build horizontal, vertical or endfired bass arrays
- Powerful and precise reproduction of bass frequencies
- Even coverage of audience areas
- Reduction of troublesome room reflections
- Suppression of unwanted low frequency »side lobes«

Compact Subwoofer PS-22

- Flyable bass reflex system
- High performance, 12" long excursion speaker
- Active system (PS-22 active) with integrated Class D amplifier, 1000 W and Fohhn Double Precision DSP's
- PS-22 passive in 8 ohms with 500 W power rating
- Powerful and controlled sound over the entire frequency range of 38 Hz – 130 Hz
- Integrated flying mechanics and optional flying cradle
- Up to 12 PS-22s can be combined in a column to form a vertical array
- Ideal as a low frequency extension for electronically steerable systems such as the Focus Modular series

UNIQUE AND INTUITIVE:

ONE PIECE OF SOFTWARE

CONTROLS EVERYTHING.

DESIGNED FOR USE

WITH ALL PRODUCTS.

REAL-TIME OPERATION.

CONTROL AND MONITOR ALL FOHHN DSP AMPLIFIERS, DSP CONTROLLERS AND ACTIVE LOUDSPEAKER SYSTEMS EITHER INDIVIDUALLY OR IN A NETWORK. BEAM STEERING IN REAL TIME FOR LINEA FOCUS SYSTEMS, FOCUS MODULAR AND FOCUS SUB ARRAYS.

FOHHN AUDIO SOFT V3.3

ONE PIECE OF SOFTWARE LETS YOU CONTROL AN ENTIRE SOUND SYSTEM. FOHHN AUDIO SOFT.

State-of-the-art technology and dedicated software have been closely developed in tandem by our engineers and finely tuned for perfect compatibility. No other software program is required; everything is included in a single intuitive application - Fohhn Audio Soft V3.3. The advantages are obvious: No unnecessary waiting time while data is transferred between software programs, or computer processes are completed. Loudspeakers do not have to be muted at any time while settings are optimised. Both the software and loudspeaker systems are permanently online and in constant communication with one another. Every adjustment can be made in real time, guaranteeing problem-free live control of all connected Fohhn systems.

Free download from www.fohhn.com.

THE MAIN FACTS AT A GLANCE

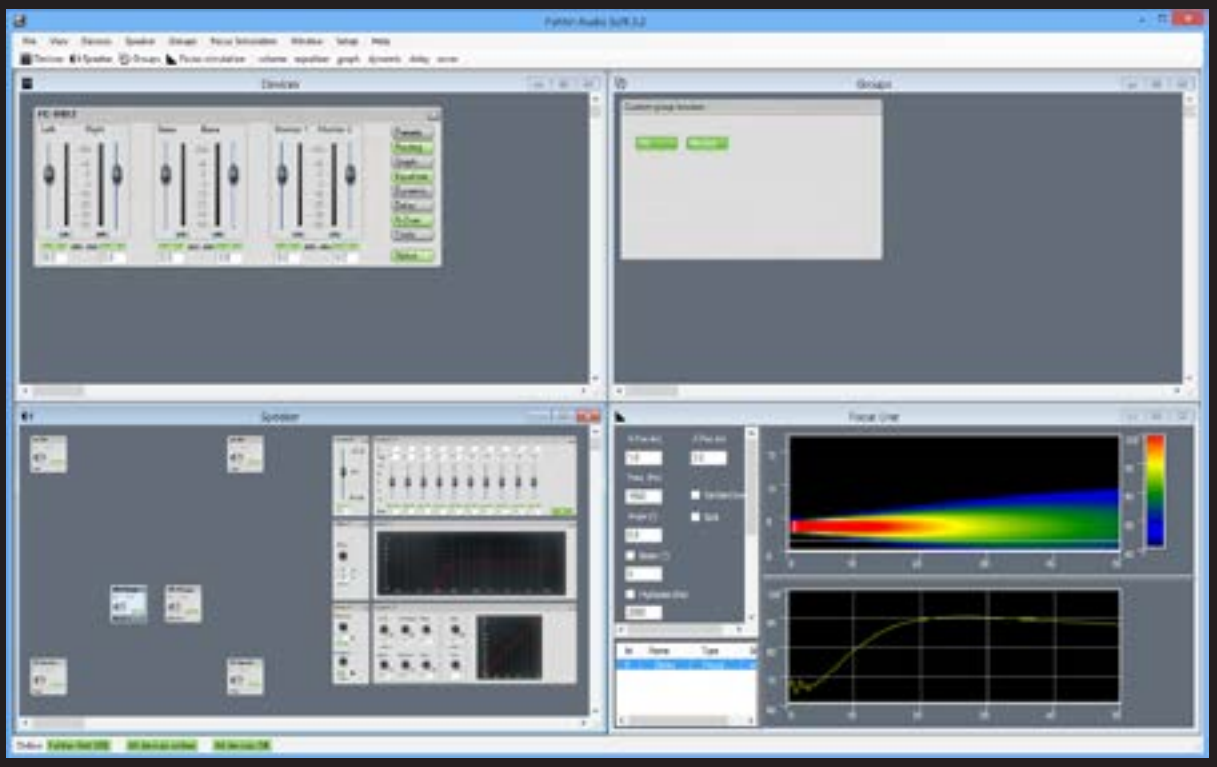
- Direct and intuitive remote control of Fohhn systems in real time
- Clear graphical user interface gives speedy access to all connected digital audio devices, group functions, software presets and Focus Simulation
- Devices can be controlled via laptop using Fohhn USB adapter or Fohhn Ethernet adapter
- All settings can be saved as presets.
- Up to 256 devices can be networked and remotely controlled

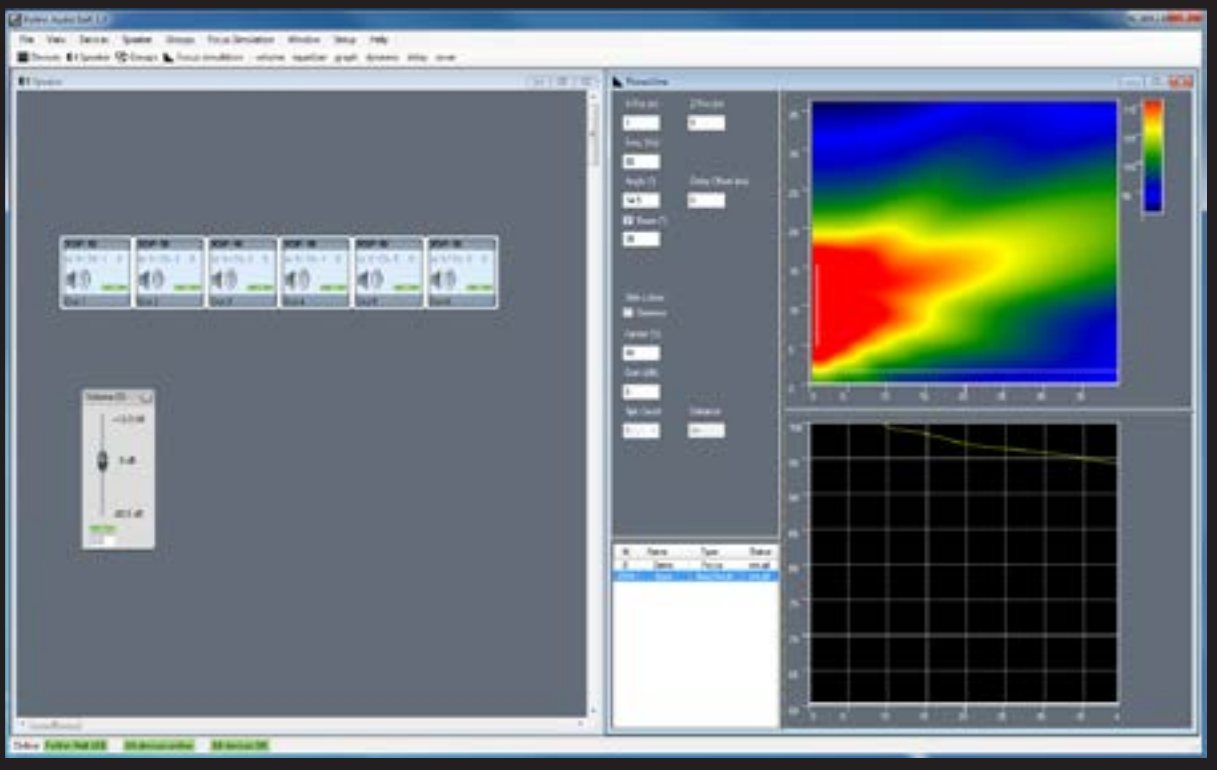
FREE DOWNLOAD AVAILABLE

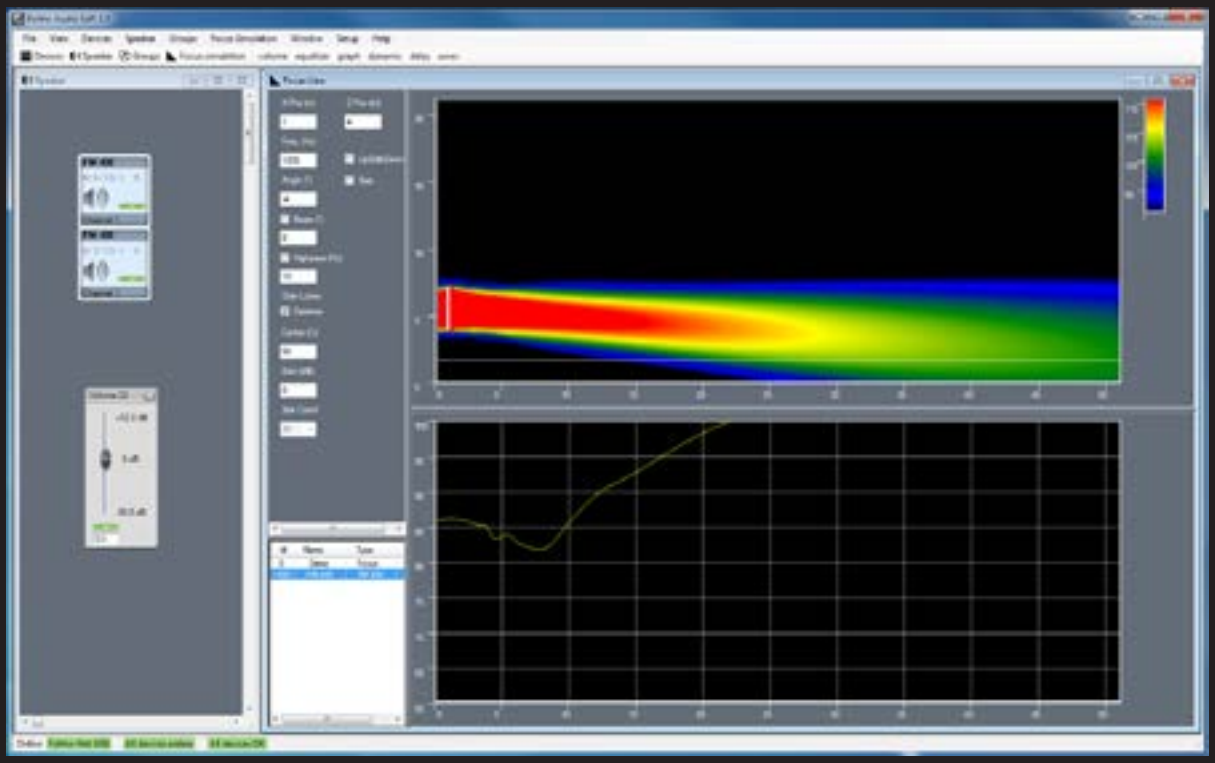
→ www.fohhn.com

FOHHN AUDIO SOFT V3.3

ONE PIECE OF SOFTWARE CONTROLS EVERYTHING.







WHAT'S NEW: THE THREE LATEST FEATURES

FOCUS MODULAR SUPPORT.

Fohhn Audio Soft 3.3 includes full support for Focus Modular – Fohhn's brand new modular line array series with beam steering technology.

NEW PRESET FUNCTION.

The new Preset function in the Speaker View enables settings from multiple devices to be simultaneously saved and recalled. Speaker presets can also be directly configured using the loudspeaker symbols.

FOCUS SUB ARRAYS: BEAM STEERING TECHNOLOGY FOR BASS ARRAYS.

With Fohhn Audio Soft 3.3, multiple subwoofers of the same type can be combined to form a bass array and remotely steered in real time. By using either a mouse or keyboard to enter individual values, the direction and angle of each subwoofer beam can be precisely set. The Focus Simulation window virtually displays the various beam characteristics. Side Lobes can be suppressed and the acoustic centre adjusted or moved as required. Even coverage and accurate dispersion of bass frequencies can be achieved in minutes!

SOUNDS PERFECT. IS PERFECT.

FOHHN® AWARDS.

LES ETOILES DU SIEL
für Focus Modular

OUR LOVE OF DETAIL GOES FAR BEYOND THIS BROCHURE:

On our website you can find detailed product descriptions, technical data, accessories and full data sheets for download, along with 360° product views, user guides, PDF brochures, CAD drawings, 2D and 3D DWG files, Fohhn software, firmware updates, EASE and ULYSSES simulation data, references and much more.

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