
Linea_focus: active, electronically steerable line array speaker. The cream of sound technology. The vertical sound dispersion characteristics of the speaker can be directed towards a specific section of the audience using state-of-the-art digital technology and software from Fohhn without having to alter the speaker position mechanically.

All components integrated in a space-saving housing
Die Linea_focus systems incorporate 8 (LFI-120) or 16 (LFI-220) 4” high-performance speakers arranged perfectly in a line that produce sound with accurate, cylindrical dispersion characteristics. Each of the 8 or 16 speakers is equipped with a separate class D DSP amplifier that produces 100 watts of direct path power.

Two Beam Technology
Other special features of the LFI-120 and LFI-220 include the generation of asymmetric beams or two independent beams that transmit sound to a divided audience.

Side Lobe free Technology
The specially developed algorithm can suppress unwanted side lobes.

Green Power Standby Mode
Only 5 watts of power is consumed in green power standby mode. The maximum current consumption is 400 W for the LFI-120 and 800 W for the LFI-220.

Features
7 integral M6 threaded inserts are available for attaching eyebolts and system brackets. Standard bearing colours include black or white powder coating.

Configuration
To configure the Linea_focus the Fohhn Audio Soft V3 is indispensable. For connecting the it to a PC the Fohhn-Net Adaptor NA-1 is necessary.

Optional versions
All RAL colours available on request, front grille colour same as housing.

Applications
LARGE CHURCHES, CATHEDRALS, RAILWAY STATIONS, CONFERENCE HALLS, AIRPORTS, TRADE FAIR CENTRES, ETC.

Description
The LFI-120 and LFI-220 models from the Fohhn® Linea_focus series are active, electronically steerable mini line array systems. Software capable of manipulating individual sound dispersion characteristics opens up a whole new range of opportunities to sound planners and integrators. Linea_focus also has an elegant design and produces an excellent sound quality. Especially designed for fixed installations.

Perfect integration
Linea LFI-120 and LFI-220 speakers were developed to guarantee top-quality, even speech and music reproduction in rooms with demanding acoustics and discreet visual integration of the sound system in the room architecture. The Linea LFI-120 and LFI-220 can be used both in mobile and fixed installations. These particular Linea speakers were designed specifically for directing a constant sound with maximum accuracy and flexibility towards a specific section of the audience without the need to alter the speaker position mechanically. The electronic Fohhn Audio DSP control system regulates the beam/focus separately and Fohhn Audio Soft conveniently adapts the sound to the room architecture. This intuitively operated PC interface simulates and then alters the beam/focus in realtime. All other parameters in the Fohhn Audio DSP are also programmed using the same software, enabling the vertical adjustment of the „acoustic beam/focus“ position and the beam width. Sound is directed accurately at the audience and unnecessary reflections within the room are avoided. The result is a clear improvement in speech intelligibility in environments with difficult acoustics. A single LFI-120 can transmit balanced speech and music to an audience up to 25 metres away while the LFI-220 boasts a maximum range of 50 metres.

Cascade function
Two Linea_focus systems can be cascaded. The resulting extension of the speaker row increases the projection range and sound pressure level significantly as well as extending the frequency range of sound directed at the audience. Doubling the line length quadruples the projection range.

LARGE CHURCHES, CATHEDRALS, RAILWAY STATIONS, CONFERENCE HALLS, AIRPORTS, TRADE FAIR CENTRES, ETC.

Optional subwoofer
Fohhn® DSP processor technology modulates the Linea LFI-120 and Fohhn subwoofers perfectly. Digital Fohhn signal processors are integral components of active Fohhn subwoofers, Fohhn DSP amplifiers and Fohhn DSP controllers. DSP-controlled Fohhn devices can be controlled remotely from a central location in the room or on the stage via intuitive remote control units. Fohhn therefore offers a perfectly adapted sound system that fulfils all the requirements of a modern speaker system regarding design, sound quality and operating comfort in every respect.

Connections
All connections are placed inside the housing of the LFI-120/220 behind an easy accessible service flap in front. That means that all cables are implementing by the rear cable inlet into the housing. So the cables can be connected to the Phoenix terminals very comfortable from the front. Extraneous no cable is visibly. The internal cord grip guarantees a save operation.

Integration as per VDE 0828
Important features for system integration as per EN 60849 / DIN 0828 Regulations on Places of Assembly (alarm sound systems): 2 independent line inputs with automatic priority and symmetrical transformers, fault message contact for simultaneous evaluation of the operating status, 24 volts emergency power operation, monitoring and intelligent evaluation of all important device parameters.

1. Inputs / outputs (Phoenix terminals)
   - 2 independent line inputs with automatic priority
   - both inputs are equipped with symmetrical transformers
   - 2 link outputs

3. Emergency power
   - 24 V /16 A emergency power operation possible
   - 12...64 volts external, with external voltage transformer
   - built-in fuse

4. Mains connections 100 - 240 V /50/60Hz
   - 2 pin Phoenix terminal
   - grounding screwed

5. Fault message contact
   - relay 2x alter
   - link terminal
**Scope of benefits at a glance**

+ 8 or 16 integral digital amplifiers and digital signal processors
+ Beam control in realtime
+ DSP mini line array, no side lobes
+ Vertical dispersion control function
+ Dual-beam technology
+ Integral protective circuits for maximum operating safety
+ High degree of speech intelligibility in rooms with difficult acoustics
+ Suitable for reproduction of music using Fohhn subwoofers in a system
+ Aluminium housing with slim, discreet design
+ Low weight
+ No mechanical steering of speaker necessary
+ Discreet integration in the room architecture
+ Integral DSP control for:
  + Vertical dispersion monitoring
  + Beam angle
  + Inclination angle
  + Acoustic focus
  + 10-band fully parametric equaliser
  + Volume control
  + Customised preset selection
  + Compressor/limiter
  + Extensive group functions
+ Fohhn Net remote connection
+ Intuitive operating software for configuring all parameters and focus simulation using version 3 of Fohhn Audio Soft or later
+ Option of integration in media controls
+ Complex remote control and monitoring via Fohhn Net
+ Comprehensive range of mounting accessories
+ For mobile applications and fixed installation
+ Easy servicing due to superior design
+ German Quality - Engineered and made by Fohhn®

LINEA FOCUS.

**LFI-120**
Active, electronically steerable line array speaker,
8x 4” neodymium speaker,
digital 8-channel DSP amplifier integrated,
8 separate DSP channels,
vertical sound dispersion, digitally controlled (beam angle: 0° to 40°),
vertical sound inclination angle, digitally controlled (-40° to +40°),
horizontal sound dispersion: 110°,
aluminium housing in all RAL colours,
length: 125 cm

**LFI-220**
Active, electronically steerable line array speaker,
16x 4” neodymium speaker,
digital 16-channel DSP amplifier integrated,
16 separate DSP channels,
vertical sound dispersion, digitally controlled (beam angle: 0° to 40°),
vertical sound inclination angle, digitally controlled (-40° to +40°),
horizontal sound dispersion: 110°,
aluminium housing in all RAL colours,
length: 225 cm

**PERFECT INTEGRATION**
Thanks to the electronic control function, the speaker system can be mounted flat on the wall or installed directly in the wall, allowing perfect integration into the room architecture.

**CASCADE FUNCTION**
Two Linea_focus systems can be cascaded. The resulting extension of the speaker row increases the projection range and sound pressure level significantly as well as extending the frequency range of sound directed at the audience. Doubling the line length quadruples the projection range.
Illustrated: 2x LFI-220, total line length: 450 cm.
TWO BEAM TECHNOLOGY

The Linea focus system with “two beam technology” developed by Fohhn can generate 2 dispersion beams in the vertical dispersion range. A speaker system can direct sound at a specific area of the dance floor or gallery as a result.

1 Beam

2 Beams

SIDE LOBE FREE TECHNOLOGY

This specially developed algorithm can suppress unwanted side lobes.

Beam without Side Lobes

Beam with Side Lobes
Electronically controlled sound dispersion
The „acoustic beam/focus“ position and the beam width can be adjusted vertically using Fohhn Audio DSP technology combined with Fohhn Audio Soft V3 without having to steer the speakers mechanically. These features open up a whole new range of opportunities to sound planners and integrators for the discreet visual integration of speakers into the room architecture.

The first scientific analysis of the sound dispersion characteristics of speaker arrays were performed as early as the 1920s. Unfortunately DSP technology had not yet been invented at that time. (Publication: Wolfe, I. & Malter, L., „Directional Radiation of Sound“, J. Acoustical Society of America, volume 2, number 2, p. 201 (1930).)

Overlapping sound sources such as a closely arranged series of speakers inside a vertical housing (e.g. in a line array speaker) results in the vertical concentration of sounds over a large frequency range. The taller the line array speaker, the more accurately sounds can be concentrated, irrespective of the frequency. As a result, Linea_focus systems LFI-120 and LFI-220 can be cascaded.

If each individual speaker within this line array speaker is controlled electronically, the directional characteristics can also be manipulated, which allows the „acoustic beam/focus“ to be steered. However, the interactive optimisation of the sound dispersion characteristics in realtime, for example, requires highly complex technology.

Sub arrays
In the future it will be possible to calculate and electronically control specific dispersion characteristics of clusters consisting of subwoofers using Fohhn Audio Soft V3 control and simulation software combined with Fohhn® DSP amplifiers.

Listening experience
We would be glad to demonstrate the features of our Linea_focus systems to you. Experience specific, precision sound dispersion with the LFI-120 and LFI-220!
Keeping track of your sound.

Easy, convenient handling. Laptop and Fohhn Audio Software for intuitive control and monitoring of all connected Fohhn audio devices with integrated DSP. Clear graphical user interface for rapid access to the speaker database, status display and all audio devices integrated in the Fohhn DSP. A sound generator with pink noise and sweep tone function is also integrated. Connection via WLAN adapter, Fohhn USB adapter or Ethernet adapter.

To configure the Linea_focal the Fohhn Audio Soft V3 is indispensable. For connecting the it to a PC the Fohhn-Net Adaptor NA-1 is necessary.

The unique combination of integral control and simulation enables the immediate transfer of simulation parameters to the connected speaker array.

Simulation of the sound dispersion characteristics of controllable speaker arrays in the 50 Hz to 20 kHz frequency range. The spatial distribution of the sound pressure level is displayed in graded colours. The frequency response at any given position and the sound pressure level for any area of the audience can be displayed on a graph, allowing the interactive optimisation of sound dispersion characteristics in real-time.

Use of a wireless LAN laptop allows you to quickly optimise sound dispersion at any desired position within the room and then compare your results with the simulation while guaranteeing maximum freedom of movement.

Different speakers and amplifiers with integral Fohhn Audio DSP can be grouped together and configured as a single unit.
Technical specifications

**Electro-acoustical features**
- **Acoustic design**: Electronically steerable line array speaker
- **Components**[^1]^: 8x 4” impregnated speaker membranes (fully neodymium)
- **Operating mode**: Active, 8-channel DSP amplifier, class D
- **Sensitivity**[^2]^: 106 dB
- **Power rating (peak)**[^3]^: 124 dB
- **Frequency range**: 60 Hz - 17 kHz
- **Nominal dispersion**[^6]^: 110°
- **Vertical dispersion, electronically steerable**: 0° - 40°
- **Vertical sound inclination angle, electronically steerable**: -40° - +40°

**Features**
- **Enclosure**: Aluminium design
- **Protection grille**: Ball impact resistant metal, powder coating
- **Suspension points**: 7x M6 thread
- **Standard colours**: Black or white powder coating
- **Front design**: Metal grille in enclosure colour
- **Dimensions (W x H x D)**: 130 x 1250 x 120 mm
- **Weight**[^7]^: 8 kg

**Optional features**
- **Optional colours**: All RAL-colours

**Electronic performance**
- **Amplifier output**: 8x 100 W
- **Amplifier type**: Pure Path Digital PWM
- **Audio inputs**: 2 independent line inputs with automatic priority, symmetrical transformers
- **Audio outputs**: 2x links
- **DSP channels**: 8
- **Amplification**: 25 dB
- **Input sensitivity**: 1.4 V
- **Frequency response**: 20 Hz - 20 kHz
- **S/N Ratio**: >105 dB/A
- **Protective circuit**: 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**: 24 V / 16 A
- **Emergency power operation possible**: 24 V / 16 A
- **Current consumption**: Standby 5 W, max 400 W
- **Low power**: Green Power Standby Mode
- **Emergency power operation possible**: 24 V / 16 A
- **Temperature range**: 0 - 40°C
- **Cooling**: Temperature-controlled fan
- **Weight**: 2 kg

**Remote control, remote monitoring and simulation**
- **Remote control**: Fohhn-Net, Fohhn Audio Soft
- **Remote monitoring**: Temperature, protect, signals, power supply
- **Simulation beam**: Fohhn-Net, Fohhn Audio Soft
- **Fault message contact**: Relay 2x alter

**Controller**
- **Digital signal processors**: 2
- **Independent limiters**: 4
- **Selektive 3-band limiting**: Bass/ mid/ high
- **Band specific time constants**: 25 dB

**Control panel**
- **Filter technology**: 10-band parametric EQ
- **Gain**: -80 dB - +12 dB
- **Volume**: -80 dB - +12 dB
- **EQ**: Frequency range 10 - 20 kHz
- **Frequency response**: 0.1 - 100 kHz

**Limiter compressor**
- **X-Over**: Linkwitz-Riley 4. order
- **Noise gate**: 24 dB / octave
- **Delay**: 0.01 - 350 ms, or 3.4 mm - 120 m

**Controls (built-in Phoenix terminals)**
- **Mains connections**: 2 pol Phoenix terminal, grounding screwed
- **Emergency current**: 24 V / 16 A
- **Audio inputs**: 2 independent line inputs with automatic priority, symmetrical transformers
- **Audio outputs**: 2x link
- **Fault contact**: Relay 2x alter, link

**Indicate LEDs (built-in)**
- **Power on/ off (standby)**: Green = on, red = standby
- **Red flashing = fault**
- **Network control**: Receive/ send remote control LED

**CAAD simulation data**
- **Simulation data**: EASE (in preparation)

[^1]: 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
[^2]: 2.83 V at 8 ohms (2 V at 4 ohms, 4 V at 16 ohms) at a distance of 1 meter under anechoic fullspace conditions
[^3]: -10 dB under anechoic halfspace-conditions
[^4]: Horizontal x vertical at -6 dB
[^5]: Net weight without optional equipment
LFI-220 electronically seerable line array speaker

### Technical specifications

#### Electro-acoustical features
- **Acoustic design**: electronically steerable line array speaker
- **Components**[*]: 16x 4" impregn. speaker membranes (fully neodymium)
- **Operating mode**: active, 16-channel DSP amplifier, class D
- **Sensitivity**[^1^]: 112 dB
- **Power rating (peak)**[^1^]: 130 dB
- **Frequency range**: 60 Hz - 17 kHz
- **Nominal dispersion [6]**: horizontal 110°
- **Vertical dispersion, electronically steerable**: 0° - 40°
- **Vertical sound inclination angle, electronically steerable**: -40° - +40°

#### Features
- **Enclosure**: Aluminium design
- **Protection grille**: ball impact resistant metal, powder coating
- **Suspension points**: 7x M6 thread
- **Standard colours**: black or white powder coating
- **Front design**: metal grille in enclosure colour
- **Dimensions (W x H x D)**: 130 x 2250 x 120 mm
- **Weight**: 15 kg

#### Optional features
- **Optional colours**: all RAL-colours

#### Electronic performance
- **Amplifier output**: 16x 100 W
- **Amplifier type**: Pure Path Digital PWM
- **Audio inputs**: 2 independent line inputs with automatic priority, symmetrical transformers
- **Audio outputs**: 2x links
- **DSP channels, Fohhn Audio DSP**: 8
- **Amplification**: 25 dB
- **Input sensitivity**: 1.4 V
- **Frequency response**: 20 Hz - 20 kHz
- **S/N Ratio**: >105 dB/A
- **Protective circuit**: 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
- **Current consumption**: standby 5 W, max 800 W
- **Low power**: Green Power Standby Mode
- **Emergency power operation possible**: 24 V / 16 A, 12...64 volts external, with external voltage transformer, built-in fuse
- **Temperature range**: 0 - 40°C
- **Cooling**: temperature-controlled fan
- **Weight electronic**: ca. 3 kg

#### Remote control, remote monitoring and simulation
- **Remote control**: Fohhn-Net, Fohhn Audio Soft
- **Remote monitoring**: temperature, protect, signals, power supply Fohhn-Net, Fohhn Audio Soft
- **Fault message contact**: relay 2x alter
- **Simulation beam**: Fohhn-Net, Fohhn Audio Soft

#### Controller
- **Digital signal processors**: 2
- **Independent limiters**: 4
- **Selektive 3-band limiting**: bass / mid / high
- **Band specific time constants**:
- **Filter technology**: 56-bit double precision
- **AD**: 24 bit / 96 kHz
- **FIR filters**:
- **Gain**: -80 dB - +12 dB
- **Volume**: -80 dB - +12 dB
- **EQ**: 10-band parametric EQ
- **Gain**: +/−12 dB
- **Frequency range**: 10 - 20 kHz
- **Q 0.1 - 100**
- **Limiter compressor**:
- **Noise gate**: Linkwitz-Riley 4. order
- **X-Over**:
- **24 dB / octave**
- **High pass**: 10 Hz - 20 kHz
- **Low pass**: 10 Hz - 20 kHz
- **Delay**: 0.01 - 350 ms, or 3,4 mm - 120 m

#### Controls (built-in Phoenix terminals)
- **Fohhn-Net**: 2x in / thru Phoenix terminals
- **Mains connections**: 2 pol Phoenix terminal, grounding screwed
- **Emergency current**: 24 V / 16 A
- **Audio inputs**: 2 independent line inputs with automatic priority, symmetrical transformers
- **Audio outputs**: 2x link
- **Fault contact**: relay 2x alter, link

#### Indicate LEDs (built-in)
- **Power on / off (standby)**:
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[^4^]: Horizontal x vertical at -6 dB
[^5^]: net weight without optional equipment
**Remote control and network ability of Fohhn devices with integrated DSP**

**FR-10**
remote control wall panel designed for the remote operation of Fohhn devices with integrated DSP.

**Description**
The FR-10 is a wall mount remote control module designed for the remote operation of Fohhn DSP amplifiers, DSP controllers and active Fohhn speakers systems. The FR-10 is extremely easy to operate because the controls are so well arranged. It is virtually impossible for the end customer to make operating errors because the only operating elements are the 8 labelled buttons.

**Easy handling**
Control up to 32 Fohhn devices individually with this stylish FR-10 wall panel. 8 programmable buttons can be configured to control the overall volume of a system, the volume in different zones or presets for different room effects, for example. The system also has a special function that confirms whether all commands have been executed successfully. The buttons indicate this by changing red or green shortly after they are pressed. For example, if a device is not switched on, the button changes red to indicate that a command could not be executed. This additional monitoring function ultimately contributes to the overall operating reliability of your system. The wall panel is easy to configure using a standard computer with intuitive Fohhn-Net Remote software installed.

**Connections**
Two terminal strips (paralleled). Alternative connection via standard 4-wire telephone cable.

**Applications**
The FR-10 is ideal for training rooms, hotels, churches, halls, restaurants or any venue where a simple, efficient system is required to control your audio equipment from a central location. The FR-10 is also ideal for projects where complex media control systems are not viable or inappropriate, but the user wishes to control the speaker system centrally.

**FR-20**
19” remote control unit can be controlled via conventional external buttons or switches.

**Description**
The FR-20 can be controlled via conventional external buttons or switches (e.g. Jung, Vitra, etc.) or switching contacts (e.g. media control system). Buttons and switches may come in the form of a wall installation module or an individually manufactured control panel, for example. Presets stored in the connected Fohhn DSP devices are activated simultaneously and settings for different scenarios such as speech, music, empty room, full room, etc are loaded when the buttons/switches are pressed. You can also adjust the volume quickly and easily in 1 dB increments using the FR-20. A maximum of 31 Fohhn devices connected to the network can be activated simultaneously at the press of a single button.

**Integration in a media control system**
The FR-20 allows the convenient integration of all DSP-controlled Fohhn devices into media control systems (e.g. AMX, Crestron) by means of 8 switching contacts or RS-485 interface.

**Integration in a EIB bus technology**
One building, one concept, one system.
Fohhn systems equipped with a FR-20 distribution switch comply with the „European installation bus technology“ standard, including all operating comforts.

**Applications**
The FR-20 is ideal for training rooms, hotels, churches, halls, restaurants, clubs, bars and many other venues. For simple, reliable remote operation of your audio system without having to install complex, expensive media control systems.
Views of LFI-120

Front view

Side view

Rear view

Top view = Bottom view
Views of LFI-220

Front view

Side view

Rear view

Top view = Bottom view
Accessories for LFI-120/220

**WAL-1**
pair of L-brackets for Linea LX-100/150

**WLF-1**
Wall bracket for Linea LFI-120/220 and LF-120/220, not pivoting

**SA-9**
Reducing flange, 36mm dia, for Linea LFI-120/220 and LF-120/220, two-piece with spacer, black

**SA-10**
Flying adapter for traverse mounting e.g. with optional Clamp LC-50 and TV-spigot with M10 female thread, black, for Linea LFI-120/220 and LF-120/220

**Carrying bag**
Carrying bag for Linea LF-120/LX-100, padded

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### Overview accessories

<table>
<thead>
<tr>
<th></th>
<th>WAL-1</th>
<th>WLF-1</th>
<th>SA-9</th>
<th>SA-10</th>
<th>Carrying bag</th>
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<tbody>
<tr>
<td>LF-120</td>
<td>x</td>
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<tr>
<td>LF-220</td>
<td>x</td>
<td>x</td>
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<td>LFI-120</td>
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<td>LFI-220</td>
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Wall mount

Side view

Rear view

Top view = Bottom view
WAL-1 and LFI-220

Wall mount

Side view

Rear view

Top view = Bottom view
Wall mount

Side view

Rear view

Top view = Bottom view

Draufsicht / Top view

WLF-1 Bestellnr. 830 366
WLF-1 Order number 830 366
Wall mount

Side view

Rear view

Top view = Bottom view
SA-9 for LFI-120/220 and LF-120/220

Stand mount

Side view

Rear view

Top View

Bottom view
Flying adapter

Side view

Rear view

Top View
Electronically steerable active line source speaker

Powerful active, electronically steerable line source speaker with aluminium enclosure, equipped with eight coated, long stroke 4” drivers and digital 8-channel DSP amplifiers. Because of the application of neodymium chassis and an aluminium enclosure, the speaker remains light with only 8 kg. Perfectly suited for dynamic speech- and music transmissions in rooms with demanding acoustics, long reverberation times and challenging architecture. The eight integrated digital amplifiers with 100W each generate acoustic pressure of maximal 124 dB. The speaker has a wide frequency range of 60Hz to 17kHz. The horizontal dispersion of 110° and the adjustable vertical sound inclination angle of 0° to 40° in steps of 1° allow an exact adjustment onto the audience. The inclination angle of the beam can be adjusted from + 40° to - 40° in steps of 0,5°. The Lina focus system can generate two dispersion beams and is therefore able to reach additional areas such as galleries. It is possible to high-pass filter the beams separately. Unwanted side lobes which occur because of interferences are suppressed effectively through a specially developed Optimize-Algorithm. The adjustment and monitoring of all parameters is controlled in real time with Fohhn Audio Soft V3.0. The handling is easy and intuitive done via mouse click. The dispersion of the speaker, the sound level and the frequency are graphically visualized. To increase the range, two Lina focus systems can be cascaded. 2 symmetrical transformers, independent line inputs, alive contact for analogue evaluation of the operating status, 24V emergency current, control and intelligent evaluation of all important parameters. Optically appealing, slim and inconspicuous aluminium enclosure with rounded sides, available in black anodized or white matt varnish. Optional available in all RAL-colours. For the protection of the speaker chassis and the electronics, the enclosure is equipped with a ball impact resistant, extremely sound-permeable front grille, which is made of powder-coated steel as well as a moisture- and dust repellent acoustic fleece. Highly efficient Green Power supply with a maximum activity input of 5W in stand-by mode. Seven pieces M6 thread applications are integrated to the admission of system brackets. Connections: internal Phoenix terminal and a cable duct on the back. Specific brackets to assemble the system on ceilings, walls, traverses and stands are optionally available. Simulation data CAAD for EASE are in preparation.

**electro-acoustical features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>acoustic design</td>
<td>electronically steerable line array speaker</td>
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<tr>
<td>components</td>
<td>8x 4” impreg. speaker membranes (fully neodymium)</td>
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<tr>
<td>operating mode</td>
<td>active, 8-channel DSP amplifier, class D</td>
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<td>sensitivity</td>
<td>106 dB</td>
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<td>power rating (peak)</td>
<td>124 dB</td>
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<td>frequency range</td>
<td>60 Hz - 17 kHz</td>
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<td>nominal dispersion horizontal</td>
<td>110°</td>
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<tr>
<td>vertical dispersion, electronically steerable</td>
<td>0° - 40°</td>
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<tr>
<td>vertical sound inclination angle, electronically steerable</td>
<td>-40° - +40°</td>
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**features**

<table>
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<td>enclosure</td>
<td>aluminium design</td>
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<tr>
<td>protection grille</td>
<td>ball impact resistant metal, powder coated</td>
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<tr>
<td>suspension points</td>
<td>7x M6 thread</td>
</tr>
<tr>
<td>standard colours</td>
<td>black or white powder coated</td>
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<tr>
<td>front design</td>
<td>metal grille in enclosure colour</td>
</tr>
<tr>
<td>dimensions (W x H x D)</td>
<td>130 x 1250 x 120 mm</td>
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<tr>
<td>weight</td>
<td>8 kg</td>
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**optional features**

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<tr>
<td>optional colours</td>
<td>all RAL-colours</td>
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</table>
Tender specifications LFI-120

**Electronic performance**
- Amplifier output: 8x 100 W
- Amplifier type: Pure Path Digital PWM
- Audio inputs: 2 independent line inputs with automatic priority, symmetrical transformers
- Audio outputs: 2x link
- DSP channels, Fohhn Audio DSP: 8
- Amplification: 25 dB
- Input sensitivity: 1.4 V
- Frequency response: 20 Hz - 20 kHz
- S/N Ratio: >105 dB/A
- Protective circuit: 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
- Current consumption: standby 5 W, max 400 W
- Low power: Green Power Standby Mode
- Emergency current possible: 24 V / 16 A, 12..64 V external, with external voltage transformer, internal cutout
- Temperature range: 0 - 40°C
- Cooling: temperature-controlled fan
- Weight electronic: ca. 2 kg

**Remote control, remote monitoring and simulation**
- Remote control: Fohhn-Net, Fohhn Audio Soft
- Remote monitoring: temperature, protect, signals, power supply, Fohhn-Net, Fohhn Audio Soft
- Simulation Beam: Fohhn-Net, Fohhn Audio Soft

**Controller**
- Digital signal processors: 2
- Independent limiters: 4
- Selective 3-band limiting: bass/ mid/ high
- Band specific time constants: 56-bit double precision
- FIR filters: 24 bit/ 96 kHz
- Gain: -80 dB - +12 dB
- Volume: -80 dB - +12 dB
- EQ: 10-band parametric EQ, gain +/-12 dB, frequency range 10 - 20 kHz, Q 0.1 - 100
- Limiter compressor: Linkwitz-Riley 4. order, (24 dB/ octave), high pass: 10 Hz - 20 kHz, low pass: 10 Hz - 20 kHz
- Noise gate: 0,01 - 350 ms (or 3.4 mm - 120 m)
- X-Over: delay

**Connections (internal Phoenix terminal in the enclosure)**
- Fohhn-Net: 2x in/ thru Phoenix terminals
- Mains connections: 2 pol Phoenix terminal, grounding screwed
- Emergency current: 24 V /16 A
- Audio inputs: 2 independent line inputs with automatic priority, symmetrical transformers
- Audio outputs: 2x link
- Fault contact: relay 2x alter, link

**Controls**
- Power on/ off: button illuminated (standby): green = on, red = standby, red flashing = fault
- Network control: receive/ send remote control LED

**CAAD simulation data**
- EASE (in preparation)

**Make**
- Fohhn Audio AG

**Type**
- LFI-120
Electronically steerable active line source speaker

Powerful active, electronically steerable line source speaker with aluminium enclosure, equipped with 16 coated, long stroke 4” – drivers and digital 16-channel DSP amplifiers. Because of the application of neodymium chassis and an aluminium enclosure, the speaker remains light with only 15 kg. Perfectly suited for dynamic speech- and music transmissions in rooms with demanding acoustics, long reverberation times and challenging architecture. The 16 integrated digital amplifiers with 100W each generate acoustic pressure of maximal 130 dB. The speaker has a wide frequency range of 60Hz to 17kHz. The horizontal dispersion of 110° and the adjustable vertical sound inclination angle of 0° to 40° in steps of 1° allow an exact adjustment onto the audience. The inclination angle of the beam can be adjusted from + 40° to - 40° in steps of 0,5°. The Linea focus system can generate two dispersion beams and is therefore able to reach additional areas such as galleries. It is possible to high-pass filter the beams separately. Unwanted side lobes which occur because of interferences are suppressed effectively through a specially developed Optimize-Algorithm. The adjustment and monitoring of all parameters is controlled in real time with Fohhn Audio Soft V3.0. The handling is easy and intuitive done via mouse click. The dispersion of the speaker, the sound level and the frequency are graphically visualized. To increase the range, two Linea_focus systems can be cascaded. Two symmetrical transformers, independent line inputs, alive contact for an analogue evaluation of the operating status, 24V emergency current, control and intelligent evaluation of all important parameters. Optically appealing, slim and inconspicuous aluminium enclosure with rounded sides, available in black anodized or white matt varnish. Optional available in all RAL-colours. For the protection of the speaker chassis and the electronics, the enclosure is equipped with a ball impact resistant, extremely sound-permeable front grille, which is made of powder-coated steel as well as a moisture- and dust repellent acoustic fleece. Highly efficient Green Power supply with a maximum activity input of 5W in stand-by mode. Seven pieces M6 thread applications are integrated to the admission of system brackets. Connections: internal Phoenix terminals and a cable duct on the back. Specific brackets to assemble the system on ceilings, walls, traverses and stands are optionally available. Simulation data CAAD for EASE are in preparation.

electro-acoustical features

<table>
<thead>
<tr>
<th>acoustic design</th>
<th>electronically steerable line array speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>components</td>
<td>16x 4” impreg. speaker membranes (fully neodymium)</td>
</tr>
<tr>
<td>operating mode</td>
<td>active, 16-channel DSP amplifier, Class D</td>
</tr>
<tr>
<td>sensitivity</td>
<td>112 dB</td>
</tr>
<tr>
<td>power rating (peak)</td>
<td>130 dB</td>
</tr>
<tr>
<td>frequency range</td>
<td>60 Hz - 17 kHz</td>
</tr>
<tr>
<td>nominal dispersion horizontal</td>
<td>110°</td>
</tr>
<tr>
<td>vertical dispersion, electronically steerable 0° - 40°</td>
<td></td>
</tr>
<tr>
<td>vertical sound inclination angle, electronically steerable</td>
<td>-40° - +40°</td>
</tr>
</tbody>
</table>

features

<table>
<thead>
<tr>
<th>enclosure</th>
<th>aluminium design</th>
</tr>
</thead>
<tbody>
<tr>
<td>protection grille</td>
<td>ball impact resistant metal, powder coated</td>
</tr>
<tr>
<td>suspension points</td>
<td>7x M6 thread</td>
</tr>
<tr>
<td>standard colours</td>
<td>black or white powder coated</td>
</tr>
<tr>
<td>front design</td>
<td>metal grille in enclosure colour</td>
</tr>
<tr>
<td>dimensions (W x H x D)</td>
<td>130 x 2250 x 120 mm</td>
</tr>
<tr>
<td>weight</td>
<td>15 kg</td>
</tr>
</tbody>
</table>

optional features

| optional colours | all RAL-colours |

------> episode
**Tender specifications LFI-220**

**electronic performance**
- Amplifier output: 16x 100 W
- Amplifier type: Pure Path Digital PWM
- Audio inputs: 2 independent line inputs with automatic priority, symmetrical transformers
- Audio outputs: 2x link
- DSP channels, Fohhn Audio DSP: 16
- Amplification: 25 dB
- Input sensitivity: 1.4 V
- Frequency response: 20 Hz - 20 kHz
- S/N Ratio: >105 dB/A
- Protective circuit: 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
- Current consumption: standby 5 W, max 800 W
- Low power: Green Power Standby Mode
- Emergency current possible: 24 V / 16 A, 12..64 V external, with external voltage transformer, internal cutout
- Temperature range: 0 - 40°C
- Cooling: temperature-controlled fan
- Weight electronic: ca. 3 kg

**remote control, remote monitoring and simulation**
- Remote control: Fohhn-Net, Fohhn Audio Soft
- Remote monitoring: temperature, protect, signals, power supply, Fohhn-Net, Fohhn Audio Soft
- Fault contact: relay 2x alter
- Simulation Beam: Fohhn-Net, Fohhn Audio Soft

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**CAAD simulation data**
- EASE (in preparation)

**Make**
- Fohhn Audio AG

**Type**
- LFI-220
SOUNDS PERFECT. IS PERFECT.
Fohhn audio systems. The ultimate all-round audio experience.