

Data sheet
AL-150



Linea-Series

Directional Speakers.





Line source speaker system with 2-way technology. The Fohhn® design line source speaker system Linea AL-150 combines design and functionality. The AL-150 is a real line array speaker system with an elegant, linear design enclosure. The AL-150 captivates with its high-class appearance and shows its full ability especially in architecture with demanding acoustics and long reverberation times such as churches, museums, conference rooms etc.

Description

The Linea AL-150 is equipped with 16 linear arranged high-performance speakers. These speakers generate a very accurate, cylindrical dispersion (line array principle). Within the dispersion range of this cylindrical wave, the sound pressure level remains more constant over long distances than conventional speakers, which ensures even sound dispersion. Because of this, the AL-150 is also more effective than conventional speakers at dispersing the sound directly at the listener. Less sound is reflected off the ceiling or floor, which improves speech intelligibility considerably. Therefore, the Linea AL-150 convinces both with a very natural and clear sound pattern and with its excellent quality in speech transmissions in difficult acoustics.

For more powerful music contributions, the AL-150 can easily and safely be combined with the AS-20, AS-30 or XS-20, XS-30 subwoofers. In churches or events with speech- and music transmissions, the AL-150 guarantees both an outstanding speech intelligibility and powerful sound with sufficient bass for music transmissions.

Fohhn® DSP processor technology modulates the Linea speakers 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 a remote control unit (FR-10). Fohhn therefore offers a perfectly adapted sound system that fulfils all requirements of a modern speaker system regarding design, sound quality and operating comfort in every respect. Available in all RAL-colours, acoustic foam front cover.

Data files for simulation programs ULYSSES and EASE are available.

Accessories

Wall brackets: L-bracket WAL-1, wallbracket WAT-08k / WAT-08, Free Stand III Designer Stand.

Applications

Churches, museums, castles, conference rooms, hotels ...

Optional versions

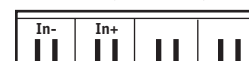
Optional 100 volts version.

Connections

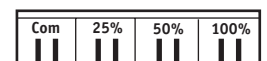
8-way Phoenix terminal strip, two adjacent pins are always connected in parallel to loop through another speaker system. The connector is included in the delivery.

Back-mounted change over switch for speech / music.

LowZ Version (niederohmig)



100 Volt Version mit Abgriffen



Technical specifications

electro-acoustical features

acoustic design	passive line source speaker system, 2-way
components	16x 3,3"
power rating (nominal) ^[1]	300 W
power rating (program) ^[2]	600 W
power rating (peak) ^[3]	1200 W
sensitivity ^[4]	99 dB
maximum SPL ^[3]	129 dB
frequency range ^[5]	110 Hz – 20 kHz
nominal dispersion (h x v) ^[6]	140° x 15° (>1 kHz)
nominal impedance	8 ohms

The manufacturer reserves the right to make technical modifications according to legal regulations stipulating the continual improvement of product features.

^[1] according to IEC-60268-5 long term

^[2] according to IEC-60268-5 short term

^[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

^[4] 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

features

enclosure	MDF design
protection grille	ball impact resistant metal, powder coating
rigging points	4x M6 thread
connections	8-pin Phoenix terminal back-mounted change over switch for speech / music
standard colours	Piano finish black (chrome decoration) or matt white (white decoration)
front design	acoustic transparent foam in enclosure colour
dimensions (W x H x D)	110 x 1460 x 142 mm
weight ^[7]	15 kg

optional features

integrated 100 V-transformer	50/25/12,5 W
optional colours	all RAL-colours

weather resistance -

CAAD simulation data ULYSSES, EASE

^[5] -10 dB under anechoic halfspace-conditions

^[6] horizontal x vertical at -6 dB

^[7] net weight without optional equipment

^[1] Intelligent Protection Circuit. Voltage-controlled semiconductor circuit protecting the HF-driver against overload highly effective and with very short attack time.



Controlling Linea-Series speakers

1. Fohhn system DSP amplifiers

Fohhn offers a range of specially adapted system DSP amplifiers for controlling Arc speaker systems, which guarantee maximum sound performance and operational reliability for your Fohhn products. As manufacturers of speaker, amplifier and DSP technology, we know our systems inside and out right down to the smallest detail and are therefore in a perfect position to provide our users with the best overall system.

Fohhn System DSP amplifier are offering following advantages:

Integrated high-performance DSP technology:

- quick set-up,
- minimal space requirements in electronics cabinet,
- minimal cable requirements,
- fewer cable faults,
- controller and amplifier can be controlled and monitored using the same software.

Dual DSP technology

The DSP amplifiers contain 2 separate DSP engines with enormous capacity and processing power for 5 digital audio devices (DSP-1) and Fohhn specific speaker databases (DSP-2).

Remote monitoring and control

Integrated temperature and operating time monitor, status indicator / protection, remote control capability / network compatibility using a laptop, wall installation modules or media control systems.

Fohhn® dual DSP technology

DSP-1: Integrated digital audio devices

Each amplifier channel has a:

- programmable 10 band parametric EQ,
- compressor/limiter/noise gate,
- delay,
- X-over function,
- top-quality pink noise and sweeptone generator

DSP-2: Speaker management

An integrated speaker database guarantees excellent sound quality and protection for all Fohhn speaker types. A sophisticated algorithm developed by Fohhn engineers and adapted to each speaker allows the individual monitoring and adjustment of bass, mid and high ranges.

1.1 Amplifier recommendations for the Linea-Series



D-2.750

2 channel operation, 2x 750 W / 4 ohms,
2x 390 W / 8 ohms

Fohhn Audio DSP, display, remote control

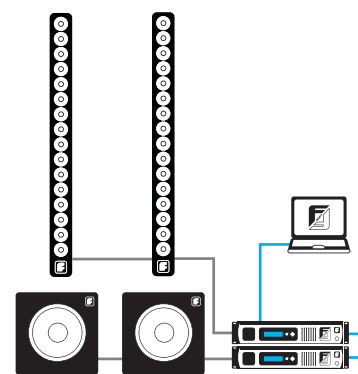
D-4.750

4+2 channel operation, 4x 750 W / 4 ohms,
4x 390 W / 8 ohms

2x DSP line out channels for controlling a conventional amplifier

Fohhn Audio DSP, display, remote control

	Arc-Tops										Linea					Arc-Subs						
	AT-05	AT-06	AT-07	AT-08	AT-09	AT-10	AT-20	AT-21w	AT-30	AT-35	AT-40	AT-50	AT-66	AL-10-150	AS-10	ASP-10	AS-20	ASP-20	AS-30	ASP-30	AS-40	ASP-40
D-2.750	x	x	x	x	x	x	x	x	x					x	x	x	x					
D-4.750	x	x	x	x	x	x	x	x	x					x	x	x	x					
D-2.1500									x	x	x	x	x					x	x	x	x	
A-2.2100										x	x	x	x					x	x	x	x	



2x Sub passive / 2x Top passive
2x DSP amplifier (D-Series or A-Series)

Controlling Linea-Series speakers

2. Standard amplifiers combined with Fohhn controllers

Standard amplifiers / 100V amplifiers / multichannel amplifiers combined with Fohhn FC-8 DSP system controllers

All of the speaker systems in the Fohhn Arc series can be operated in combination with standard amplifiers (e.g. Bittner amplifiers). Each Fohhn speaker model has a linear design, neutral sound adaptation function and is fitted with an integrated crossover with electronic tweeter protection.

We recommend integrating the FC-8 Fohhn DSP system controller for applications involving standard multichannel amplifiers, 100V amplifiers or monitored amplifiers according to EN 60849.

The FC-8 guarantees maximum sound quality, operational reliability and performance features that no other standard controller can offer in combination with our Fohhn speakers.

Advantages of the FC-8 controller:

Perfect adaptation to all standard amplifiers

Automatic amplifier calibration function and integrated amplifier database for perfect adaptation.

Dual DSP technology

The FC-8 contains 2 separate DSP engines with enormous capacity and processing power for Fohhn specific speaker databases and 5 digital audio devices.

Integrated speaker database

Guarantees excellent sound quality and protection for all Fohhn speaker types.

A sophisticated algorithm developed by Fohhn engineers and adapted to each speaker allows the individual monitoring and adjustment of bass, mid and high ranges.

Remote monitoring and control

Remote control capability / network compatibility using a laptop, wall installation modules or media control systems.

4 inputs / 6 outputs (24 nodes)

A programmable 10-band parametric EQ, compressor/ limiter/noise gate, delay, X-over function, top-quality pink noise and sweptone generator are available at each output, allowing you to conveniently adapt the Fohhn system to the room acoustics or your own personal requirements.

FC-8 DSP system controller



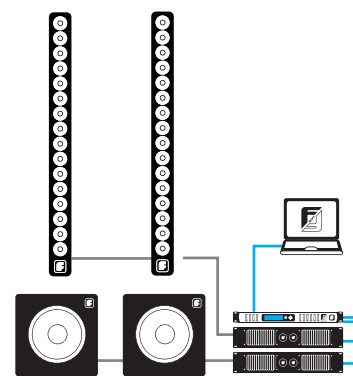
DIN EN 60849 (VDE 0828)

Bittner amplifiers



BITTNER
AUDIO

In addition to our special Fohhn® DSP amplifiers, we also offer the complete range of **amplifiers manufactured by Bittner Audio** for low-ohm or 100 volt applications. Bittner Audio offers solutions such as multichannel amplifiers with eight standard channels and **important features for integration in electroacoustic emergency warning systems according to DIN EN 60849 (VDE 0828)**. Contact us for more information!



2x Sub *passive* / 2x Top *passive*
2x standard amplifiers
1x DSP system controller FC-8

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

Die Bedienung der FR-10 ist äußerst einfach und übersichtlich. Sie erfolgt über 8 beleuchtete Taster. Bei Tastendruck werden Presets in den angeschlossenen Fohhn Geräten zeitgleich umgeschaltet und die Einstellungen für verschiedene Szenarien wie beispielsweise Sprache, Musik, leerer Raum, voller Raum uvm. aufgerufen.

Auch die Gesamtlautstärke eines Systems bzw. die Lautstärke von verschiedenen Zonen kann durch die FR-10 schnell und bequem verändert werden. Außer den 8 beschriftbaren Tastern sind keine weiteren Steuerelemente vorhanden.

Bedienfehler sind für den Endanwender damit ausgeschlossen. Durch den Druck einer einzelnen Taste können bis zu 31 im Netzwerk angeschlossene Fohhn-Geräte zeitgleich umgeschaltet werden.

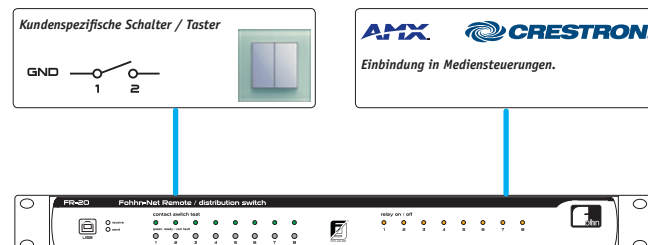
Applications

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.



Accessories for AL-150

WAL-1

pair of L-brackets for Linea AL-50/100/150 and LX-100/150



WAT-08k

Wall bracket short for Linea AL-50/100/150



WAT-08

Wall bracket for Linea AL-50/100/150



SA-5

Pivot reducing flange, 36mm dia. with 2x M6 screw for Linea AL-50/100/150

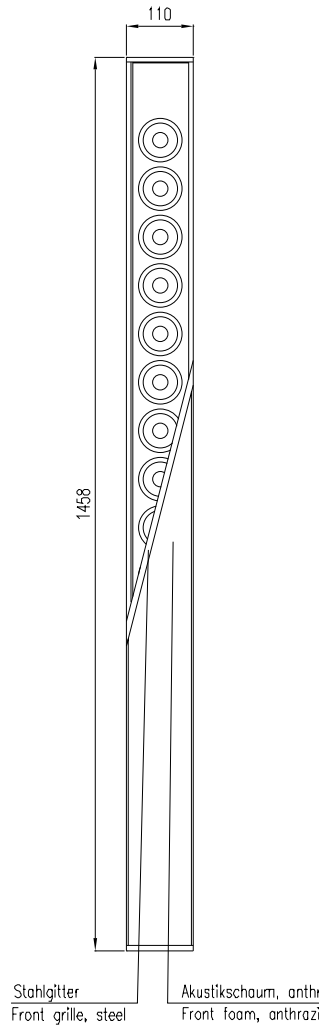


Free Stand III

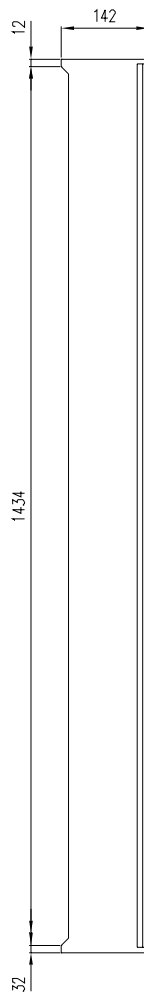
Designer stand with heavy round steel base with rubber feet for maximum stability obscured cable guide in the stand and round base. Wt: 14 kg, H: 1600 mm, base-diameter: 360 mm. Round base: black or white, stand tube: matt black. Appropriate for AL-50/100/150 and LX-100/150



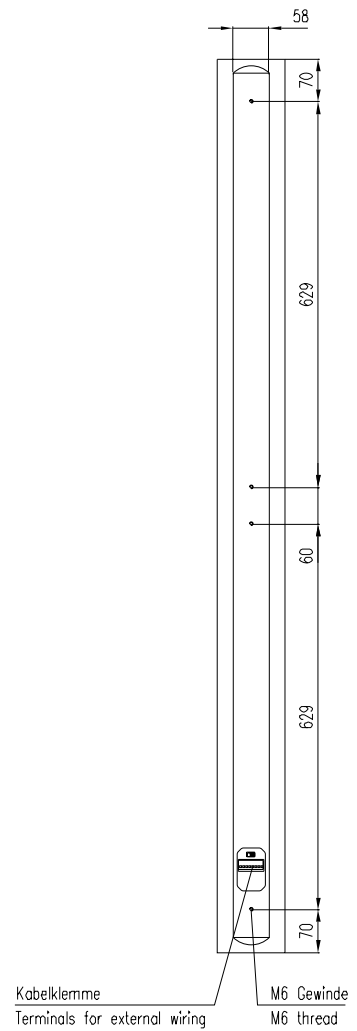
Front view



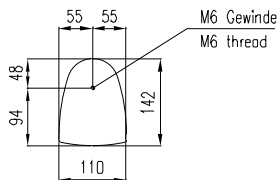
Side view



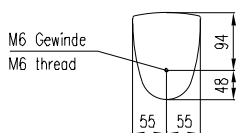
Rear view



Top View



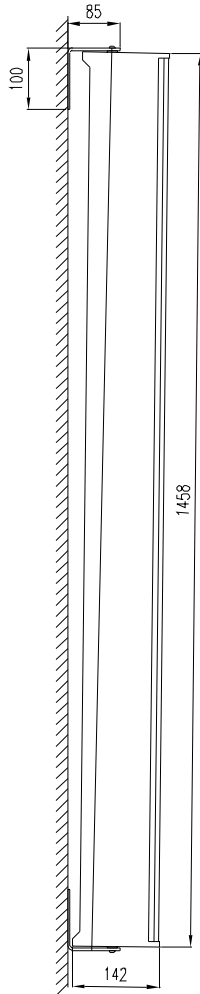
Bottom view



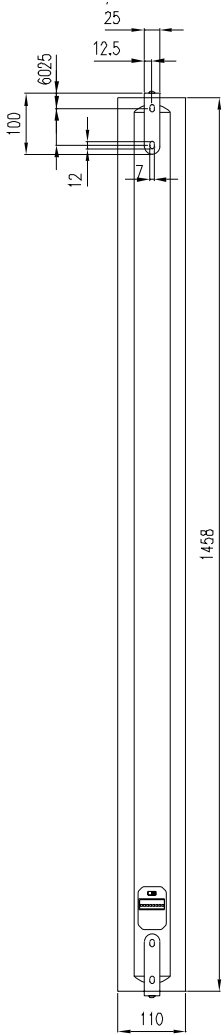
WAL-1

Wall mount

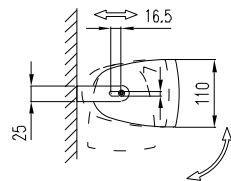
Front view



Rear view



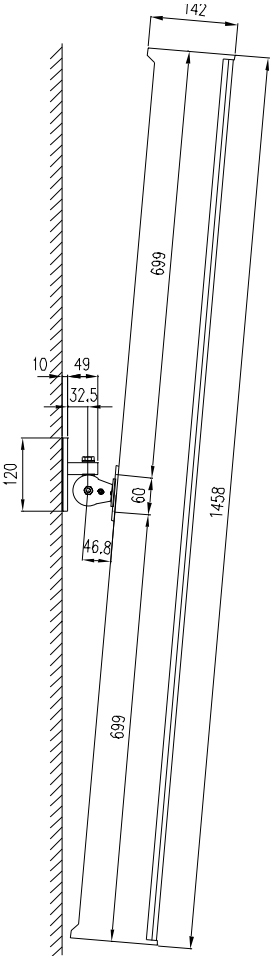
Top View



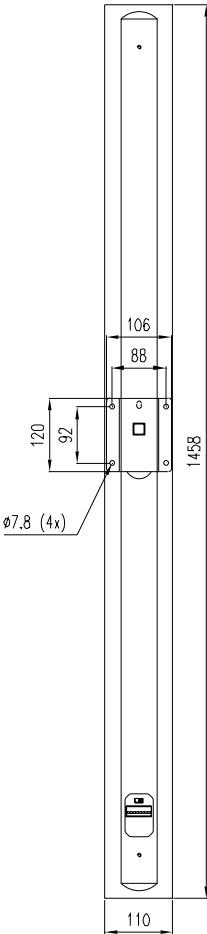
WAT-08k

Wall mount

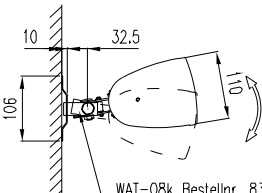
Front view



Rear view



Top View

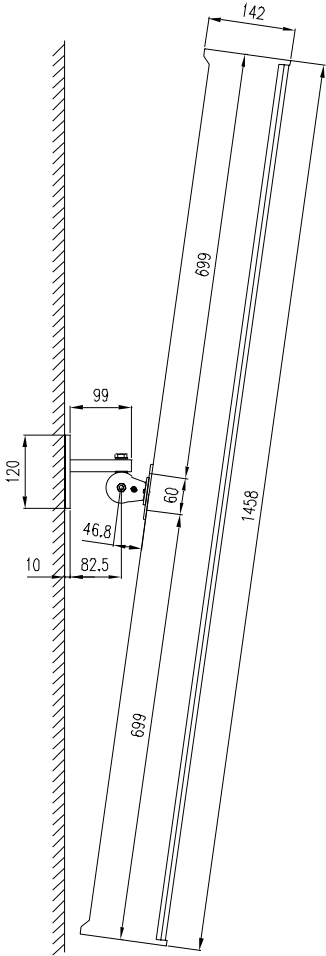


WAT-08k Bestellnr. 830 385
 WAT-08k Order number 830 385

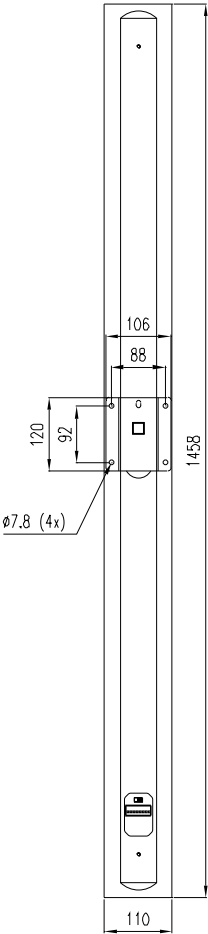
WAT-08

Wall mount

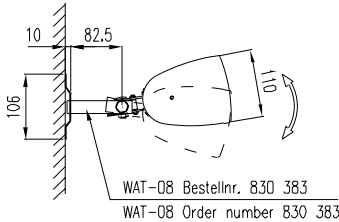
Front view



Rear view

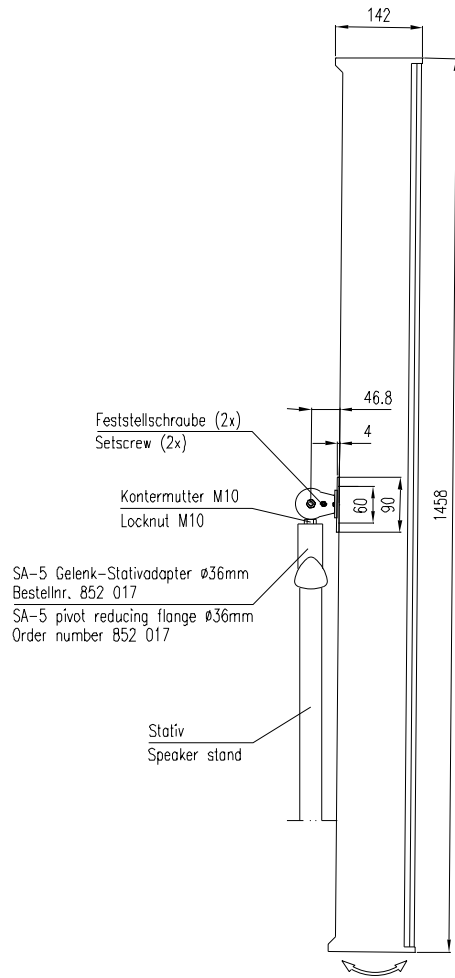


Top View

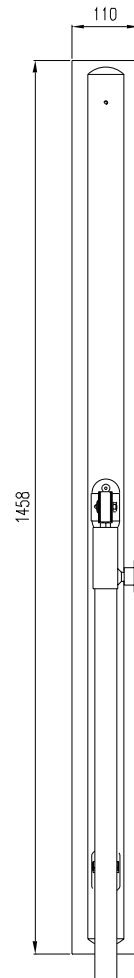


Stand mount

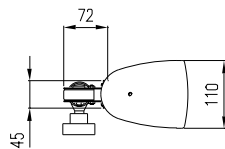
Front view



Rear view



Top View



Tender specifications

Premium passive 2-way line source speaker system in design enclosure

Premium passive 2-way line source speaker system in design enclosure, equipped with 16 premium 3,3" broadband speakers. Perfectly suited for applications in rooms with demanding acoustics, long reverberation times and challenging architecture. The speaker is temporary able to work under 1200 W and generates acoustic pressure of maximal 129 dB. In a frequency range of 110 Hz to 20 kHz, the speaker has a precise and minimal-phase dispersion of 140° x 15° (>1 kHz) (h x v). The MDF- design enclosure with rounded sides is either available in precious black piano finish with chrome decoration or white matt finish with white decoration. 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 and equipped with a moisture- and dust repellent acoustic foam. Four pieces M6 thread applications in ground and upper side are integrated to the admission of system brackets. The loudspeaker system is optionally available with an integrated 100V-transformer up to 50 W. Connections: screw- and pluggable 8-pin Phoenix terminal, which is very easy to assemble. All contacts exist twice, to connect very easy and safe to the next speaker. A switch on the back optimizes the frequency range of the speaker for mere speech applications in rooms with extremely demanding acoustics. Specific brackets to assemble the system on ceilings and walls are optionally available. Simulation data CAAD for ULYSSES and EASE are available.

electro-acoustical features

acoustic design	passive line source speaker system, 2-way
components	16x 3,3"
power rating (nominal)	300 W
power rating (program)	600 W
power rating (peak)	1200 W
sensitivity	99 dB
maximum SPL	129 dB
frequency range	110 Hz – 20 kHz
nominal dispersion (h x v)	140° x 15° (>1 kHz)
nominal impedance	8 ohms

features

enclosure	MDF design
protection grille	ball impact resistant metal, powder coating
rigging points	4x M6 thread
connections	8-pin Phoenix terminal
	back-mounted change over switch for speech / music
standard colours	Piano finish black (chrome decoration) or matt white (white decoration)
front design	acoustic transparent foam in enclosure colour
dimensions (W x H x D)	110 x 1460 x 142 mm
weight ^[7]	15 kg

optional features

integrated 100 V-transformer	50/25/12,5 W
optional colours	all RAL-colours

CAAD simulation data

ULYSSES, EASE

Make

Fohhn Audio AG

Type

AL-150

SOUNDS PERFECT. IS PERFECT.

Fohhn audio systems. The ultimate all-round audio experience.



■ German quality
■ engineered and made
■ by Fohhn®

Fohhn Audio AG

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