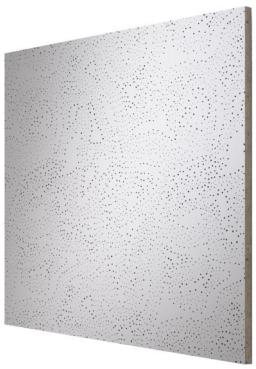
RA-Series

For suspended grid ceilings

NOVASONAR

NOVASONAR - Invisible loudspeaker

RA-Series



Specification sheets

PN = Integrated frequency crossover

Please click on the products to open the respective **data dpecification sheet**

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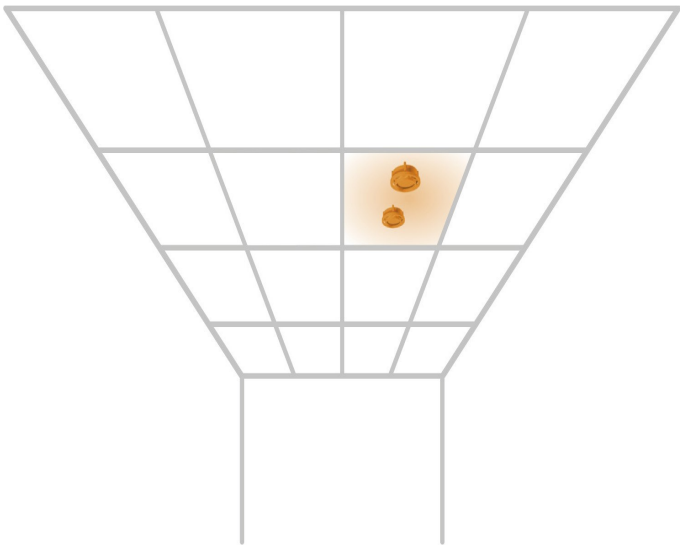
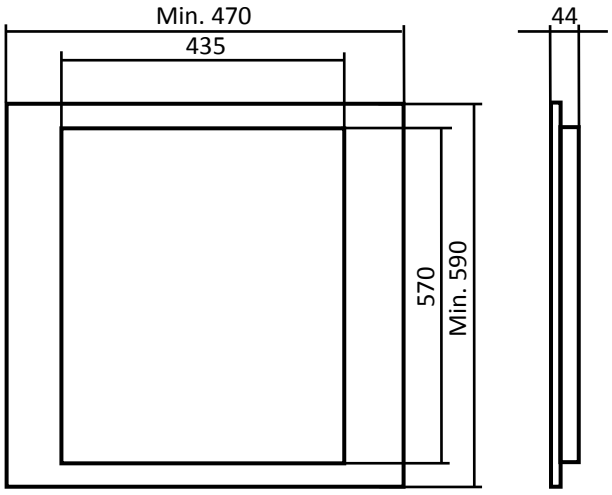
NOVASONAR RA 30

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source





Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back.

The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.

Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	External
Dispersion:	180° x 180°
Power handling:	30 W / 8 Ω
Optional:	70/100 V
Sensitivity:	80 dB (1 w / 1 m)
Max. SPL:	95 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 30

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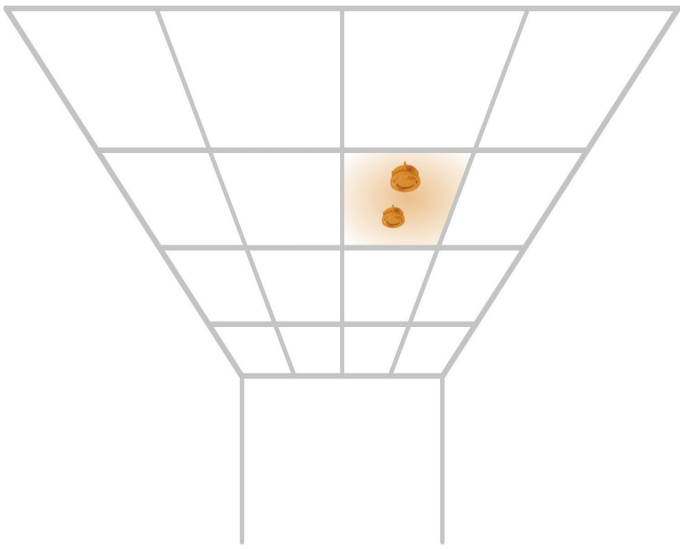
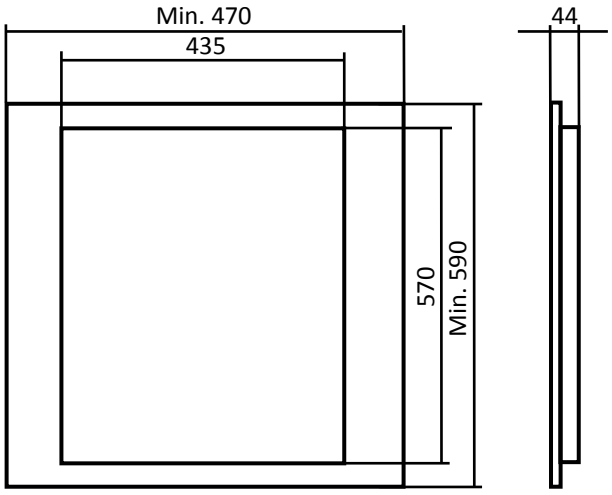
NOVASONAR RA 30 / PN

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source





Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back and with an integrated frequency crossover/filter.

The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.

Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	PN-integrated crossover
Dispersion:	180° x 180°
Power handling:	30 W / 8 Ω
Optional:	70/100 V
Sensitivity:	80 dB (1 w / 1 m)
Max. SPL:	95 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 30 / PN

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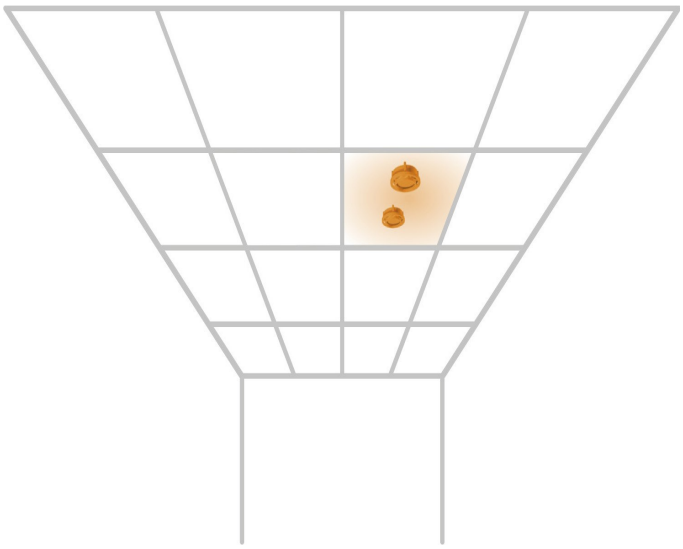
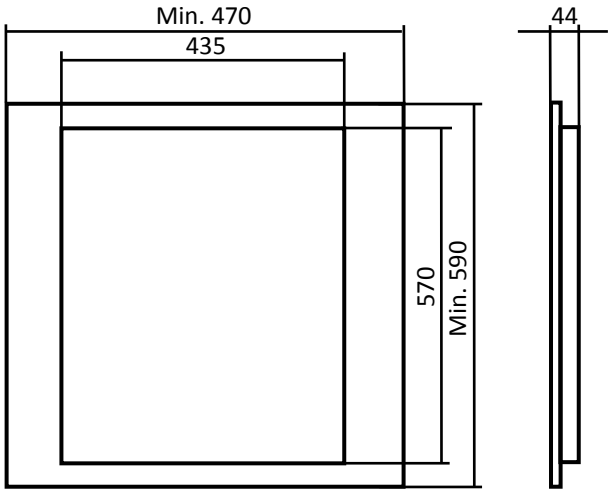
NOVASONAR RA 60

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source





Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back.

The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.

Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	External
Dispersion:	180° x 180°
Power handling:	60 W / 4 Ω (Optional 16 Ω)
Optional:	70/100 V
Sensitivity:	83 dB (1 w / 1 m)
Max. SPL:	101 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 60

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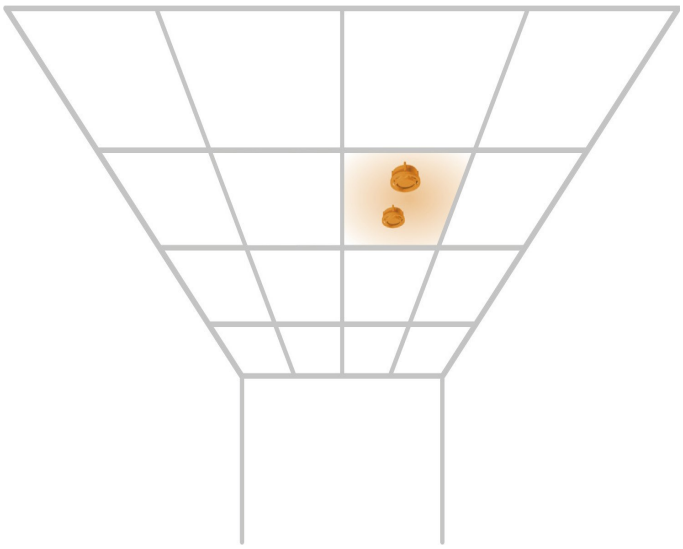
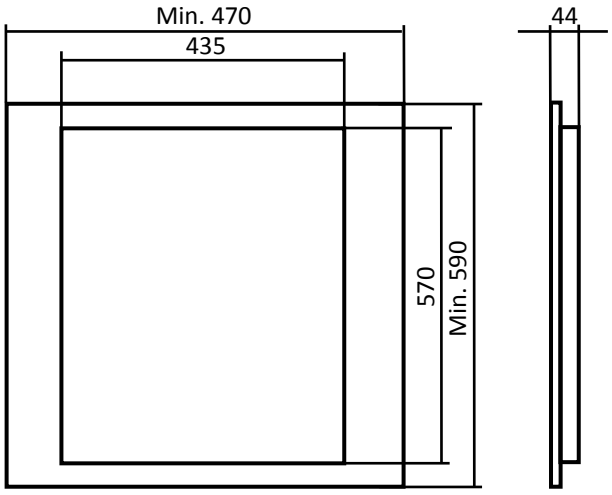
NOVASONAR RA 60 / PN

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source





Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back and with an integrated frequency crossover/filter.

The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.

Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	PN– integrated crossover
Dispersion:	180° x 180°
Power handling:	60 W / 4 Ω
Optional:	70/100 V
Sensitivity:	83 dB (1 w / 1 m)
Max. SPL:	101 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 60 / PN

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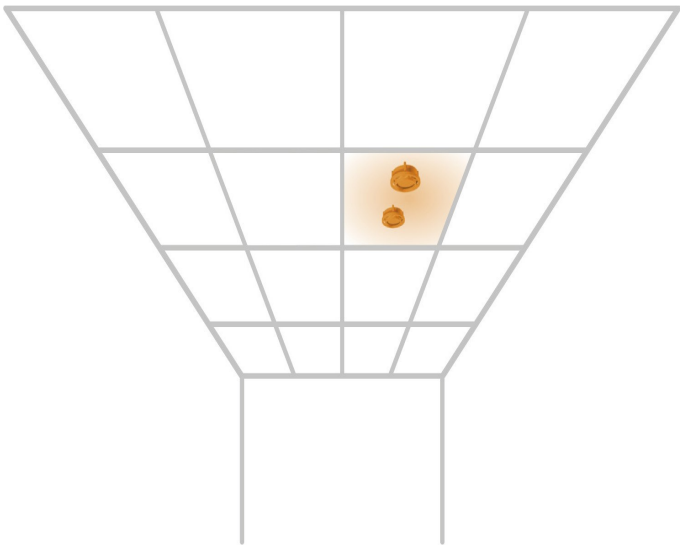
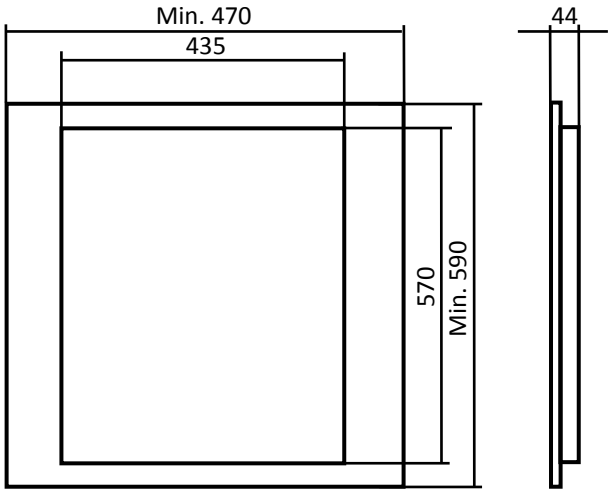
NOVASONAR RA 60 Stereo

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source





Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back and dual channel input for stereo applications.

The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.

Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	External
Dispersion:	180° x 180°
Power handling:	2 x 30 W / 2 x 8 Ω
Optional:	70/100 V
Sensitivity:	83 dB (1 w / 1 m)
Max. SPL:	101 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 60 Stereo

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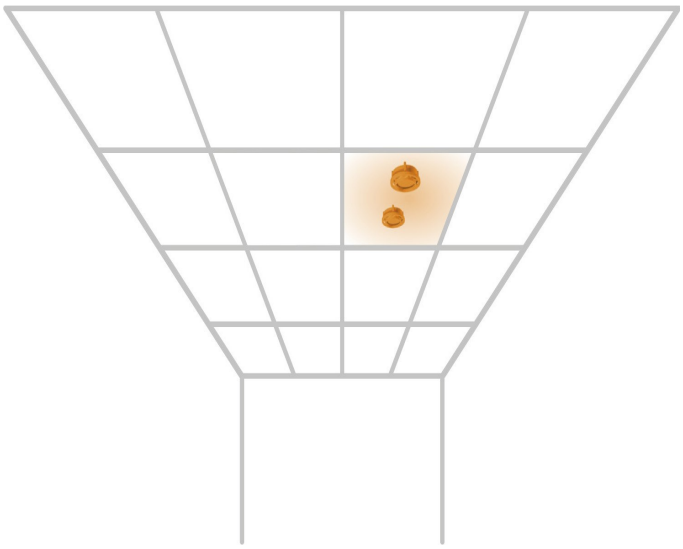
NOVASONAR RA 60 Stereo / PN

Invisible sound system for suspended grid ceilings

Building material and the sound system from a single production source



Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs

Integration also into existing ceiling tiles

Other materials, such as, for example, metal on request

Description / Technical data

Flat-panel loudspeaker on the principle of the bending wave transducer with a flat panel membrane, which is brought to vibration by electrical exciters mounted to the back and with two integrated frequency crossovers/ filters for dual channel input for stereo applications.

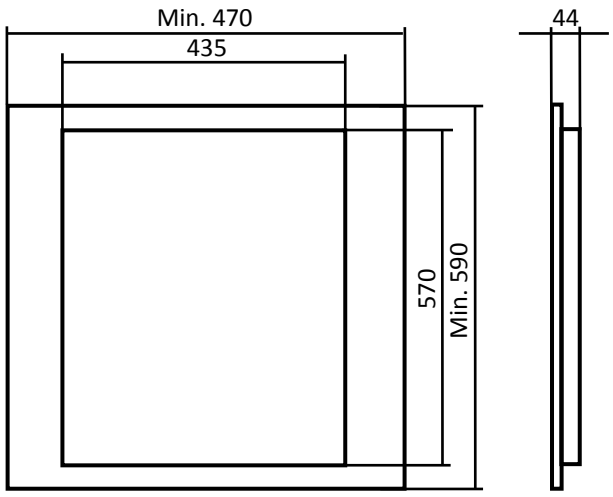
The loudspeaker comprises a conventional ceiling tile made of mineral materials with a factory-integrated flat-panel loudspeaker. The ceiling tile is stripped down to a minimum thickness on the back in the area of the loudspeaker membrane by means of milling and thus causes sound-neutrality.

Materials and assembly do not differ from other construction materials used and as a result, there are no „alien bodies“ in the grid ceiling.

Factory integration of the flat-panel loudspeaker in the building material precludes any errors in installation and guarantees continously assembly and processing technology in drywall work without material change, therefore ensuring smooth progress on the building site.

Use of conventional original ceiling tiles will ensure continuous surface design with all conventional grid ceilings.

The flat-panel loudspeaker can also be factory-integrated into existing tiles which are already mounted.



Dimensions (standard):	Minimum 470 mm x 590 mm (depending on the ceiling tile)
Building material:	Ceiling tile made of mineral materials
Frequency response:	80 Hz – 20000 Hz
EQ:	PN– integrated crossovers
Dispersion:	180° x 180°
Power handling:	2 x 30 W / 2 x 8 Ω
Optional:	70/100 V
Sensitivity:	83 dB (1 w / 1 m)
Max. SPL:	101 dB (1 m)

Manufacturer:	ML-Audio und Carbons GmbH
Model:	Novasonar RA 60 Stereo / PN

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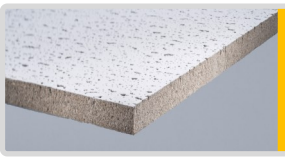


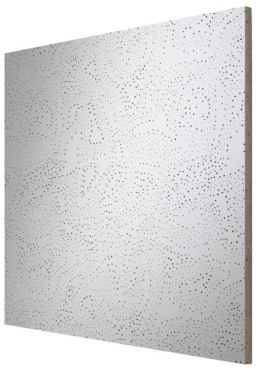
RA-Series

For suspended grid ceilings

NOVASONAR

NOVASONAR - Invisible loudspeaker

RA-Series



Product overview

Power handling: 30 Watts
Dimensions: Min. 470 mm x 590 mm

RA 30 (Ext. DSP recommended)

RA 30 / PN (Incl. frequency crossover)

Power handling: 30 Watts
Dimensions: Min. 470 mm x 590 mm

RA 60 (Ext. DSP recommended)

RA 60 / PN (Incl. frequency crossover)

RA 60 Stereo (Ext. DSP recommended)

GF 60 Stereo / PN (Incl. frequency crossover)

PN = Integrated frequency crossover

Available for all conventional grid ceilings made of mineral materials in all usual dimensions and designs.

Integration also into existing ceiling tiles.

Other materials on request.

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