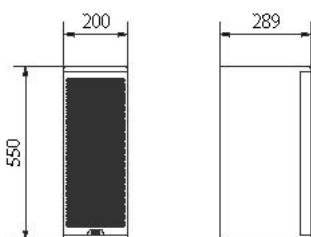# HiFi-/Pa-Speakers

BSB 150:

2-way PA speaker with high fidelity. Closed system for particularly contoured bass reproduction.

Can be used in high quality fixed installations, in which it is important not only that you just understand something, but that listening fun. The cabinet is equipped with a tripod mount, flight attachment and coated with textured paint. The housing is made of solid birch plywood.

Technical Data	BSB 150-T120
Load Rating / Music Power	120 W
Transformer	120/60/30 W
SPL 1W/1m	90 dB
SPL PNenn/1m	110 dB
Frequency Range (-3 dB)	70-20000 Hz
Frequency Range (-10 dB)	50-22000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	140/130/65/60 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	90/100/60/50 °
Component Set	2x PM 166 BS-16, 1x FT 125
Material	Housing: wood (Plywood birch), grille: metal
Net Weight	14.8 kg
Colors	black (RAL 9005)
Accessories	WB 150: U-type bracket, RSM10: screws

200

289

550

AMP 120 / 100V

Amp 120 is 100V mix-amplifier for the professional use e.g., in shops, community centers, restaurants… At the five MIC inputs microphones of most different design are connectable. Each microphone entrance has its own volume control. Beyond that an automatic controller is available for the total volume as well as for bass and treble. Further two external sources are connectable for music transmission. The source choice is made by the front-lateral selection tracer. The mix is done via the front input controls.

The AMP 120 can be used as a desktop device or can be mounted in 19" - Rack (2 HE). It is laid out for continuous use and is provided with a thermal protection as well as an electronic protective circuit.

Technical Data	AMP 120
Audio Input	5x microphone, two of them switchable to Line-In, plus 1 more Line-In
Audio Output	Line-Out, speaker output: 8 ohms, 70V and 100V
Other Interfaces	Mute input for quiet wiring
Operating Voltage	230 V AC / 50 Hz, 24 V DC
Material	Housing metal
Accessories	Microphone desk MIC 100, Audio Source IR 19
Indicators	Power indicator (LED), Output level indicator (5 LEDS) Overload indicator (red LED)
AC power consumption	320W at rated power
DC power consumption	24V/8A at rated power
Dimensions	88mm(H) x 425mm(W) x 305mm(D)
Weight	9.5 Kg
Mounting options	Desktop or 19 '' rack mountable (Rack mountears included)

WHD®
SOUNDS GOOD

AMP 550/100V

The 5-Zonen amplifier comes with an output of 5 x 50 W. The AMP 550 is versatile applicable e.g., in restaurants, wellness ranges, shops,... It is suitable both for the connection of 100 V and of 8 Ohm loudspeakers. The AMP 550 offers the option of choosing 1 of 7 sources per zone: microphone 1, microphone 2/Aux 1, Aux 2-Aux 6. So, in each zone one of the seven chosen source can be heard independently by the other zones. It is further adjustable per zone whether the microphone 1 is to have priority or not; If someone speaks into this microphone, then all other sources of the zones with activated priority are muted and the announcement from microphone 1 is reproduced. The AMP 550 can be used as desktop device or can be mounted in 19" - Rack (2 HE). It is designed for continuous use with tensions of 115V or 230V

Technical Data	AMP 550/100V
Audio Input	2x microphone, 1 of them switchable to Line-In, 5x Line-In
Audio Output	5 zones (optional 8 ohms, 70V or 100V)
Other Interfaces	Mute input for quiet wiring
Operating Voltage	115V AC / 230V AC
Material	Housing metal
Accessories	Microphone desk MIC 100, Audio Source IR 19
Indicators	Power indicator (LED), Output level indicator (5 LEDS) Overload indicator (red LED)
Power Supply	AC 115V/230V, 50/60 Hz _+10% switchable
Output Power	50W x 5
Dimensions	88mm(H) x 425mm(W) x 345mm(D)
Weight	15 Kg
Mounting options	Free standing or 19'' track

WHD®
SOUNDS GOOD

AMP 4200

The AMP 4200 is a 4-channel Class D amplifier for 4 speaker zones (4/8 Ohm / 70V / 100V - selectable per output) with 200 W output power per zone. The device is intuitively configurable through a clear web interface. In addition to DSP presets, equalizer functions in each zone can be freely configured. Up to 20 presets can be stored on the device. Via the web GUI, the 4 inputs can be routed to the 4 outputs as required, the volume can be adjusted, other presets can be read out and loaded again.

The AMP 4200 is also available with already programmed DSP settings for WHD speakers. In addition, the device has a power saving function - it automatically switches to standby mode when no music is being played. The AMP 4200 is suitable for 19" installation or as a standing device.

Technical Data	AMP 4200
Audio Input	4x Line-In (mono) or 2x Line-In (stereo)
Audio Output	4 zones (optional 4-8 ohms, 70V or 100V)
Other Interfaces	Network Interface (RJ45) for configuration
Operating Voltage	115V AC / 230V AC
Material	Housing metal
Accessories	Optionnel multifuntional audio source IR 19
Indicators	Power indicator (LED), Output level indicator (5 LEDS) Overload indicator (red LED)
Power Supply	AC 100V/240V, 50/60 Hz
Output Power	4 x 200 W
Dimensions	44mm(H) x 230mm(W) x 320mm(D)
Weight	5.5 Kg
Mounting options	19'' bracket

WHD®
SOUNDS GOOD

IR 19

The IR 19 is a network-capable multifunctional audio source for Internet/UKW/ DAB + radio with USB player and Aux-In. The network connection is via WLAN or RJ45 socket. The device has a UPnP server for streaming shared network files. It also has a USB host port for direct playback of MP3, AAC, AAC +, WMA, WAVE and FLAC files from the USB stick. The integrated tuner modules for UKW and DAB + reception as well as access to over 20000 Internet radio stations leave no music wishes unfulfilled. The IR 19 also has an integrated Equalizer that can be used to adjust the sound any particular room. Configuration takes place via the control buttons and the illuminated display on the device or via the UNDOK-APP via smartphone.
The device is suitable as a stand-alone or 19 "built-in version. The delivery includes an IR remote control as well as a rod and wire antenna.

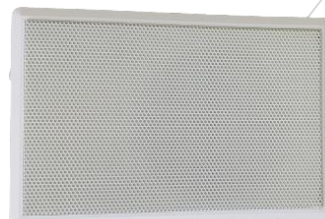| Technical Data	AMP 4200
Audio Input	AUX-In, USB
Audio Output	1x Line-Out
Other Interfaces	75 ohm coax aerial input
Operating Voltage	230 V
Material	Housing incl. 19"-brackets: metal
Component Set	Internet-/UKW/DAB+ Radio with USB-Player and Aux-In

WHD®
SOUNDS GOOD

On-Wall Speakers

Technical Data	WL 6-8	WL 6-T6
Load Rating / Music Power	6/8 W	6 W
Impedance	8 Ohm	
Transformer		6/3/1.5 W
Component Set	1x PM 135	1x PM 135
Material	Housing: plastic, grille: metal	Housing: plastic, grille:metal
Net Weight	1.1 kg	1.5 kg
Accessories	RW WL 6: plastic rear panel	RW WL 6: plastic rear panel

Technical Data	DLS 12-T12
Load Rating / Music Power	12 W
Transformer	12/6/3 W
SPL 1W/1m	89 dB
SPL PNenn/1m	100 dB
SPL PNenn/1m/f	108 dB/4 kHz
Frequency Range (-3 dB)	120-20000 Hz
Frequency Range (-10 dB)	70-22000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/-/120/50 °
Material	Housing: plastic, grille: metal
Net Weight	2 kg

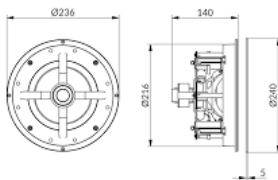| Technical Data	ZL 135 G-8
Load Rating / Music Power	6/8 W
Impedance	8 Ohm
Component Set	1 x PM 135-8
Material	Housing: plastic, grille: metal
Net Weight	1 kg
Accessories	RW ZL 135: plastic rear panel

Installation Speakers

DEL 240- T25

The DEL 240 loudspeaker in 100V (25 watts) is the next masterpiece from WHD for the highest sound enjoyment in the best quality: A rimless 2-way high-end built-in loudspeaker for installation in the ceiling or on the wall, via the You can listen to the music in a very powerful and excellent Hi-Fi sound quality. Thanks to the timeless and unobtrusive design, the speaker is also the perfect addition to any facility and ideal for music playback in high-end commercial buildings.

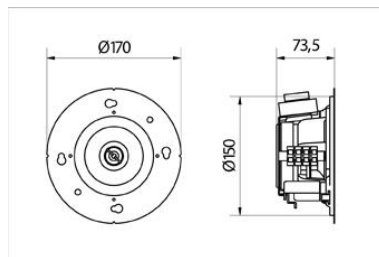| Technical Data	DEL 240 – T25
Rated / Music Power	25 W
Transformer	25/12.5/6.25 W
Material	Front and mounting ring : plastic Perforated sheet: metal
Net Weight	2.5 kg
Accessories	B-System Backbox

KBRW Basic R180

Round white plastic cover with white grid for M/R 180 loudspeakers

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KBA Basic

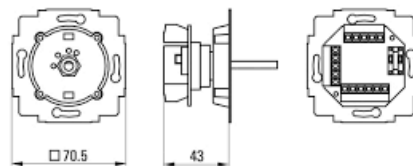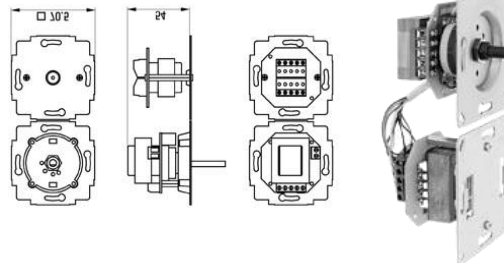KBA Basic M180 - plastic panel in anthracite with black grid for the M/R 180 loudspeaker

Volume Controls

PRO 3 BE uP-R

Program selector switch for eg restaurants, shops, ... The PRO 3 UP is equipped with a rotary switch for 6 programs. It is also optionally available with a mandatory call relay. The metal support plate is screwed to a standard flush-mounted box with a depth of 63 mm. It is prepared for the blind switch cover with rotary knob of the respective switch range. These parts are available from electrical wholesalers.

LST 100 ... UP:

100V volume control, suitable for offices, restaurants, department stores,... The LST 100 comes with a rotary dial without limit stop and two 50W low-voltage transformers. Also available with an optional mandatory relay. The metal support plate is screwed onto two standard flush-mounted boxes 63 mm in depth. Comes pre-configured for the Venetian blind cover plate with rotary knob for the blanking plate suitable for the particular switch box. These parts can be obtained from any electrical wholesaler. For exact order information according to the switch box please refer to the table at the end of this chapter.
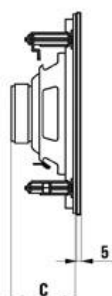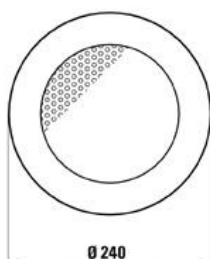
Installation Speakers

M/R 240-8 Basic

Decent-priced 2-way Hi-Fi design recessed speaker, ideal for music reproduction in hallways, service areas, ... The M 240 was awarded with a prize for innovation for architecture and technology. The M/R 240 Basic is fitted with a 166 mm woofer and coaxial tweeter arrangement. The frame, the grille and the surface-mounted housing AG/AGR 240 (accessory) are available in white or anthracite. The sound baffle is also available in white colour on extra charge.

Note: Speakers with plasterboards are not suitable for wet locations.

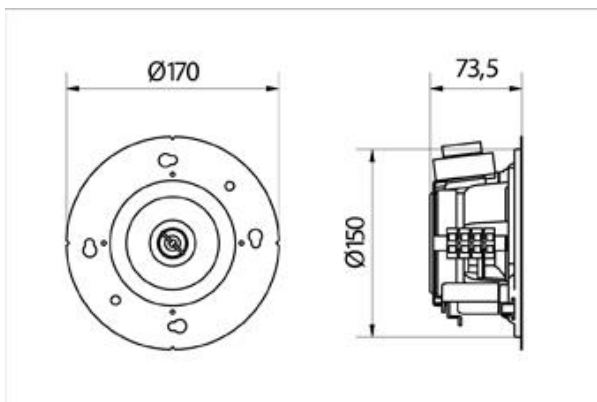| Technical Data	M/R 240-8 Basic
Rated / Music Power	25/40 W
Impedance	8 Ohm
Material	baffle: plastic
Net Weight	1.4 kg
Accessories	AG(R) 240: surface housing, flush housing company Kaiser, plastic covers

Ø 240

5

C

Installation Speakers

M/R 180-T6

2-way coaxial ceiling speaker with Kevlar diaphragm and silk ring radiator tweeter in.
Can be used in high-quality commercial construction, where it comes to most sound and superior design. The M/R 180 clings without shadow on the ceiling. Many different covers in round and square shape design leaves nothing to desire. You are in acrylic glass, plastic (white or black respectively) as well as in stainless steel and build only 4 mm.

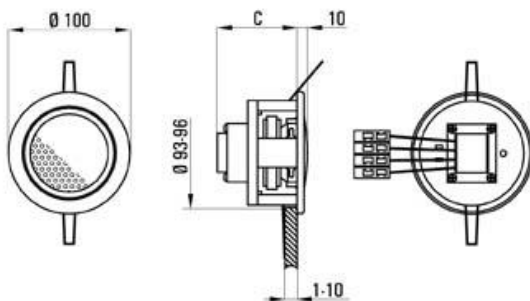| Technical Data	M/R 180-T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1x CM 105/2-8
Material	baffle: plastic
Net Weight	1.6 kg
Accessories	flush housing company Kaiser, various covers

Ø170   73,5
Ø150

Installation Speakers

UP 6 - T6

Tiny plastic recessed speaker for ceiling installation with outstanding sound quality, ideal for the reproduction of speech and background music in low-ceilinged rooms (2.4...3 m), for example in hallways, offices, doctor's surgeries/legal practices, ... The UP 6 stands out due to its very wide radiating characteristics on account of its 66 mm full range speaker, a large area can be radiated with just a few speakers of this type. The unit can be quickly installed in a ceiling using the spring clip system.

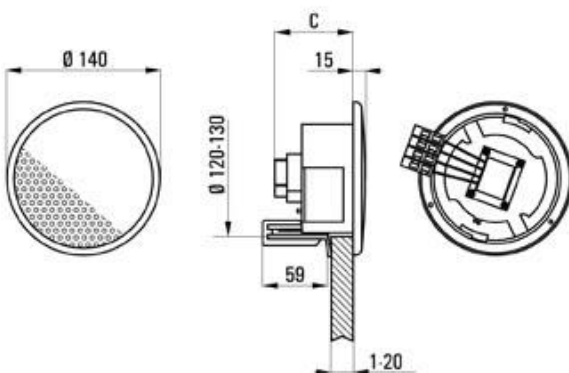| Technical Data	UP 6 – T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x B 66 BB
Material	Housing: plastic, grille: metal
Net Weight	0.6 kg
Accessories	flush housing company Kaiser or company Spelsberg

Installation Speakers

UP 10 - T6

Compact recessed speakers for ceiling installation, ideal for speech and background music reproduction in low-ceilinged rooms (2.4...3 m), e.g. in hallways, offices, doctor's surgeries/legal practices,... Comes with a 87 mm full-range chassis with additional subcone. Thanks to its wide radiation characteristics a large area can be evenly radiated with just a few UP 10s. The assembly is secured using two clamps and the front ring is screwed on via a bayonet connection.

The speaker is also available as a weatherproof marine version for eaves, terraces, spa areas, ...

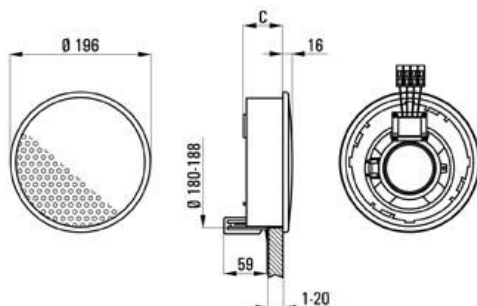| Technical Data	UP 10 – T 6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x PM 87 BB-8
Material	Front and mounting ring: plastic, grille: metal
Net Weight	1.1 kg
Accessories	Flush housing company Kaiser or company Spelsberg

WHD®
SOUNDS GOOD

Installation Speakers

UP 14 - T6

High-performing standard ceiling speaker with plastic frame, ideal for the reproduction of speech and background music in high-ceilinged rooms (3...4 m), e.g. department stores, foyers,... The UP 14 features a powerful 135 mm full-range chassis with additional subcone. The mounting ring is secured using four clamps and the front ring is screwed in via a bayonet connection. The housing for concrete ceilings EGT 14/2 (with moveable flange) is available as an accessory.

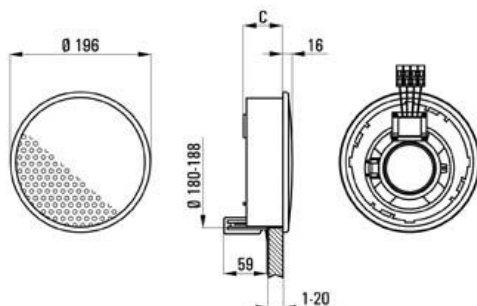| Technical Data	UP 14 – T 6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x PM 135-8
Material	Front and mounting ring: plastic, grille: metal
Net Weight	1.2 kg
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser

Installation Speakers

UP 14/2 - T6

High-performance 2-way Hi-Fi ceiling speaker with plastic frame for high-end applications, ideal for the reproduction of music in homes, restaurants, boutiques/stores... The UP 14/2 comes with a 166 mm woofer chassis and coaxial tweeter arrangement. The unit stands out thanks to its thin front ring. The mounting ring is secured using four clamps and the front ring is screwed in via a bayonet connection. The EGT 14/2 housing (with moveable flange) for concrete ceilings is available as an accessory.

Technical Data	UP 14/2 – T 6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x PM 166 A/2
Material	Front and mounting ring: plastic, grille: metal
Net Weight	1.5 kg
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser

**SPL:
89db/108db**
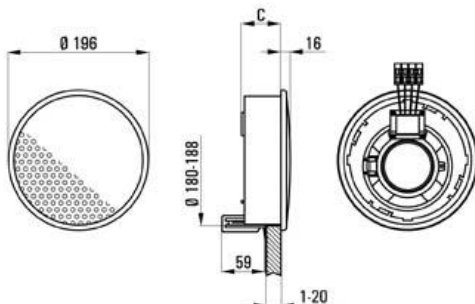
Ø 196   C   16
Ø 180-188
59
1-20

Installation Speakers

UP 14/2 Marine MK 2

High-performance 2-way ceiling speaker for demanding conditions. Thus, suitable for use in damp rooms (e.g. public swimming baths, wellness centres) or outdoors (e.g. for installation in eaves and terraces). Comes with a tuned 166 mm woofer chassis and additional tweeter. The cone of the woofer is made of polypropylene and the transformers (version -T6, -T25) are cast. The perforated metal cover is made of high-grade steel. The UP 14/2 Marine can also be used at foot level in saunas (max. temperature 40°C). The mounting ring is secured using four clamps and the front ring is screwed in via a bayonet connection. The EGT 14/2 housing (with moveable flange) for concrete ceilings is available as an accessory.

Technical Data	UP 14/2 Marine MK 2
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1x PPM 166-8-, 1x MT-8
Material	Front, mounting ring: plastic, grille: high-grade steel
Net Weight	1.5 kg
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser

SPL: 87db/96db
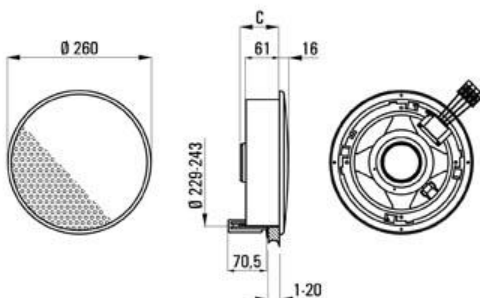
Ø 196 | C | 16
Ø 180-188
59
1-20

Installation Speakers

UP 22

Large ceiling speaker with plastic frame, ideal for the reproduction of speech and background music in high-ceilinged rooms (max.4 - 5 m) e.g. in foyers, department stores or indoor shopping arcades. The UP 22 features a 210 mm full-range chassis with additional subcone. The unit stands out thanks to its extra-thin front ring. The mounting ring is secured by four clamps and the front ring is screwed in using a bayonet connection.

Technical Data	UP 22-T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1x PM 210 BB-4
Material	front and mounting ring plastic, grille: metal
Net Weight	1.7 kg
Accessories	flush housing company Kaiser

SPL: 91db/110db

Ø 260

61 16

C

Ø 229-243

70,5
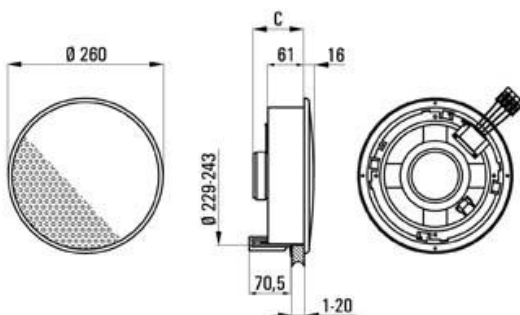
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WHD®
SOUNDS GOOD
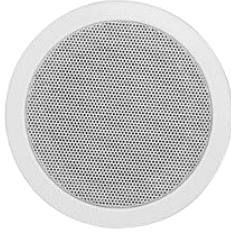
Installation Speakers

UP 26

Large 2-way Hi-Fi ceiling speaker with plastic frame for enhanced performance, ideal for the reproduction of music in high-ceiling rooms (4 - 5 m) where demands on sound quality are high, e.g. in the home, in restaurants, boutiques/stores... The UP 26 comes with a 205 mm woofer and coaxial tweeter arrangement. The unit stands out thanks to its extra-thin front ring. The mounting ring is secured by four clamps and the front ring is screwed in using a bayonet connection.

Technical Data	UP 26-T25
Load Rating / Music Power	25 W
Transformer	25/12.5/6.25 W
Component Set	1x CX-850 (Coax)
Material	front and mounting ring: plastic, grille: metal
Net Weight	2.1 kg
Accessories	flush housing company Kaiser

**SPL:
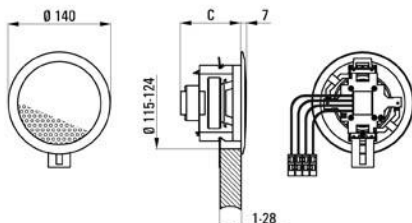91db/111db**

Installation Speakers

UPM 140

Compact ceiling speakers, ideal for speech and background music reproduction in low-ceilinged rooms (2.4 - 3 m), e.g. in homes, offices, doctor's surgeries/legal practices, etc... Comes with a 87 mm full-range chassis with additional subcone. Thanks to its wide radiation characteristics a large area can be evenly radiated with just a few UPM 140s. Other features include: Earthing screw and draw release. The unit can be installed in a ceiling very quickly using unique spring clips.

Technical Data	UPM 140-T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x PM 87 BB
Material	Metal
Net Weight	0.9 kg
Accessories	Flush housing company Kaiser or comany Spelsberg

SPL: 87db/102db
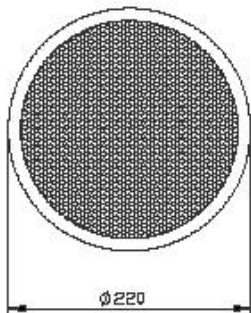
WHD®
SOUNDS GOOD
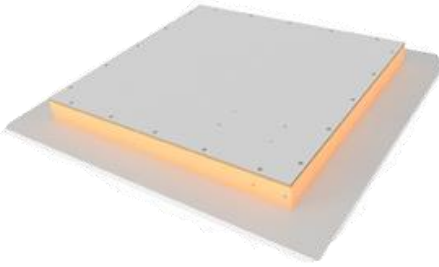
Installation Speakers

UPM 220/2

Powerful 2-way ceiling speaker in metal for the high standard, ideal for music reproduction in the home, restaurants, boutiques / shops, ... The UP 220/2 is equipped with a 166 mm woofer and coaxial tweeter arrangement. Visually, it is distinguished by its particularly flat design. Other features include: Earthing screw and draw release. The unit can be installed in a ceiling very quickly using unique spring clips.
The steel pot ST 220/2 is available as an accessory.

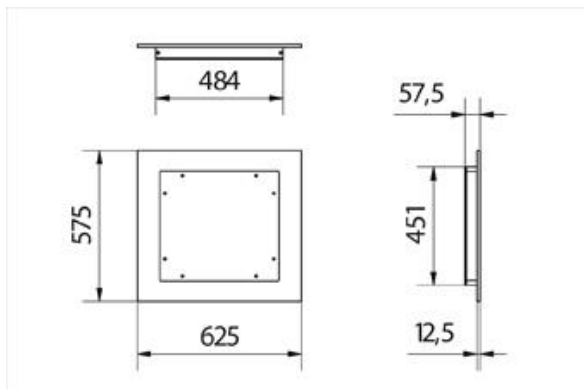| Technical Data	UPM 220/2-T12
Load Rating / Music Power	12 W
Transformer	12/6/3/1.5 W
Component Set	1x PM 166 A/2-8
Material	Metal
Net Weight	2.1 kg
Accessories	ST 220: metal steel pot

**SPL:
90db/104db**

Ø 220

Installation Speakers

Wavebreaker

The Wavebreaker is an excellent flat-panel speaker. Special about it is its structure, its materials and its dimensions. The front consists of a thin plasterboard, which can be painted, plastered and even overpainted. This is followed by a sandwich structure made of a wide range of materials.
The positioning of the exciter is a separate science in itself; As well as the dimensioning of the frequency divider and the dimensions of the oscillating surface. Here, a lot must be calculated, heard and measured until a plasterboard actually sounds like a real loudspeaker.

Technical Data	Wavebreaker-T25
Load Rating / Music Power	25 W
Transformer	25/12.5/6.25 W
SPL 1W/1m	75 dB
Frequency Range (-3 dB)	80-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/180/180/160 °
Component Set	Exciter
Material	plaster plate impregnated 12.5mm
Net Weight	5.7 kg

484

57,5

575

451

625

12,5

Pendat Speakers

KL 1603

Standard, powerful spherical speaker, ideal for the reproduction of speech and background music in DIY centres, indoor markets, .. (mounting height 3 - 5 m). Comes with a 166 mm full-range chassis. The KL 1603 is suspended from the ceiling via a draw release attached to the cable. A canopy conceals the suspension point and ensures a harmonious appearance.

KL 1603/2:

2-way high-end Hi-Fi spherical speaker, ideal for the reproduction of background music, such as in motorway service stations, foyers, ... (mounting height 3 - 5 m). The KL 1603/2 comes with a 166 mm woofer chassis and coaxial tweeter arrangement. It is suspended from the ceiling via a draw release fixed to the cable. A canopy conceals the suspension point and ensures a harmonious appearance.

Technical Data	KL 1603-T12	KL 1603/2-T12
Load Rating / Music Power	12 W	12 W
Transformer	12/6/3/1.5 W	12/6/3/1.5 W
Component Set	1x PM 166 KLM-4	1 x PM 166-A/2 (Coax)
Material	Housing: plastic, grille: metal	Housing: plastic, grille: metal
Net Weight	2.2 kg	2.4 kg
Accessories	incl. strain relief and canopy	incl. strain relief and canopy

Technical Data	KL 1900-T12
Load Rating / Music Power	12 W
Transformer	12/6/3/1.5 W
Component Set	1 x B 175-4, 4 x PM 166-16
Material	Housing: plastic, grille: metal
Net Weight	5 kg
Accessories	incl. strain relief and canopy

2-way high-end Hi-Fi spherical speaker, ideal for the reproduction of music, such as in hotel lobbies, shops, ... (mounting height 3 - 5 m). It comes with a 170 mm woofer and 4 dome tweeters. The result are wide radiation characteristics. The bass reflex technology provides an enhanced low-frequency reproduction. It is suspended from the ceiling by a cable strain relief fastened to the cable with a wire rope. A canopy conceals the suspension point and ensures a harmonious appearance.

WHD®
SOUNDS GOOD

Garden Speakers

R 1900 WPL:

2-way omnidirectional speaker with light, ideal for the reproduction of music indoors and out, e.g. in amusement parks, in gardens or terraces in hotels or for domestic use, outdoor swimming pools, pub gardens,... The R 1900 WPL is fitted with a 166 mm woofer and coaxial tweeter arrangement. The integrated light (230 V) ensures the ball is uniform illuminated. The speaker is mounted on a plate screwed onto the surface which provides anti-theft protection.

The R 1900 WPL is also available as an active speaker with Bluetooth/WLAN receiver and DSP (digital signal processor).

For the DSP chip, a proprietary algorithm was developed, which makes a dynamic sound adjustment in the speaker. Among other things, this technology, the WHD Adaptive Sound Plus, ensures that the listener experiences high-quality sound even at low volumes.
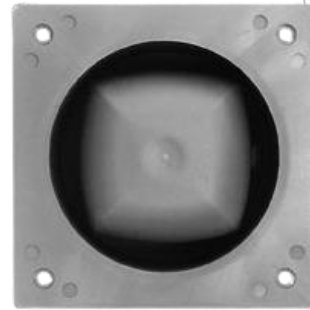
Technical Data	R 1900 WPL-T25
Load Rating / Music Power	25 W
Transformer	25/12.5/6.25 W
SPL 1W/1m	87 dB
SPL PNenn/1m	101 dB
SPL PNenn/1m/f	112 dB/0.6 kHz
Frequency Range (-3 dB)	80-20000 Hz
Frequency Range (-10 dB)	60-22000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	60/-/190/360 °
Component Set	1 x PM 166 A/2 Marine (Coax), lamp: 1 x E 27/11 W (230 V)
Material	spherical: Polyethylene, stand: PVC, mounting plate: metal, zinc plated
Net Weight	5.3 kg
Colors	spherical white-transparent, stand granite-grey
Accessories	incl. lamp

Horn Speakers

ETL 5:

Compact horn speaker for recessed installation, suitable for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, roadside emergency telephones, railways, ... Unlike normal horn speakers this model is fitted with a 66 mm cone type full-range loudspeaker rather than a driver. This produces a larger bandwidth, which makes loudspeaker voices sound very authentic. The speaker is screwed into place using the four drill holes in the flange. Cable entry is via an M12 screw connection.

Technical Data	ETL 5-T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Transmission Angle 1/2/4/8 kHz (-6 dB)	360/-/60/50 °
Component Set	1 x B 66 BB
Material	Housing: plastic
Net Weight	0.7 kg

Technical Data	TL 5-T6
Load Rating / Music Power	6 W
Transformer	6/3/1.5 W
Component Set	1 x B 66 BB
Material	Housing: plastic, u-type bracket: aluminum
Net Weight	0.7 kg
Accessories	MB 1/2: mast attachment for mast diameter 70-210 mm

TL 5:

Compact horn speaker, ideal for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, underground car parks, etc ... Unlike normal horn speakers this model is fitted with a 66 mm cone type full-range loudspeaker rather than a driver. This produces a larger bandwidth, which makes loudspeaker voices sound very authentic. Assembly is via a U-type bracket. It can also be mounted on a stand using an MB 1/2 optional mast attachment. Cable entry is via an M12 screw connection. Cable entry is via an M12 screw connection.

Horn Speakers

TL 130–2:

High-end extremely effective horn speaker, made of plastic, ideal for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, underground car parks, etc school playgrounds ... The TL 130-2 comes with a standard driver. This makes it highly efficient. Assembly is achieved by the U-type bracket included in the delivery. It can also be mounted on a stand using an MB 1/2 optional mast attachment. Cable entry is via an M20 screw connection. A second entry blind plug is also provided.

Technical Data	TL 130-2-T30
Load Rating / Music Power	30 W
Transformer	30/15/7.5 W
Material	Housing: plastic, u-type bracket: aluminum
Transmission Angle 1/2/4/8 kHz (-6 dB)	190/-/130/70 °
Net Weight	3.3 kg
Accessories	MB 1/2: mast attachment for mast diameter 70-210 mm

Technical Data	TL 230-T30
Load Rating / Music Power	30 W
Transformer	30/15/7.5 W
Component Set	1 x PM 166-A, 1 x HO 25
Material	Housing: plastic, u-type bracket: aluminium
Net Weight	6.5 kg
Accessories	MB 3: mast attachment (70-210 mm), MB 3 N: declining mast attachm. (70-210 mm)

TL 230:

High-end, 2-way plastic music horn for speech and background music indoors and out, e.g. in indoor eventing arenas, outdoor swimming pools, on football fields, speedways. The TL 230 features a 166 mm woofer chassis and a horn tweeter. The bass reflex technology extends the frequency range down to low frequencies; the horn tweeter helps it achieve brilliant reproduction. Assembly is via the U-type bracket included in the delivery or via the optional mast attachment MB 3/MB 3 N (tiltable). Cable entry is via an M20 screw connection. A second entry blind plug is also provided.

Outdoor Speakers

AL 10/1:

Compact, highly-efficient and weather-proof sound column for use indoors and out. Ideal for the reproduction of speech and background music, e.g. in amusement parks, outdoor installations, warehouses, production sites, info columns, ... The speaker, featuring two 87mm full-range chassis with polypropylene cone creates a light vertical focussing. Assembly is achieved by the U-type bracket included in the delivery. Cable entry is via an M12 screw connection.

The AL 10/1 is also available as a seawater-resistant version.

Technical Data	AL 10/1-T12
Load Rating / Music Power	12 W
Transformer	12/6/3/1.5 W
Material	Housing: plastic, grille: aluminium
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	220/-/60/60 °
Net Weight	2 kg
Accessories	incl. u-type bracket, as an option MB 1/2: mast attachment (70-210mm)

Wall Installation

Touch panel TP 4200

The WHD Touch Panel, TP 4200 is a programmable control element for W(LAN/POE)-based sound systems that can be installed in a flush-mounted box. The combination of touch & action keys gives you the best convenience in terms of control with a quick selection of certain important functions. In addition, the control panel includes a timer function and password protection for unwanted access.

Easy for everyone

Modern connection

Remote smart amp control

Suitable for every interior

Audio Electronic

KEL ... UP T:
Speaker suitable for speech and background music, e.g. in offices, homes, hotel bathrooms, ... The KEL ... UP T offers outstanding sound for its size. It features a 50 mm full range speaker and 100V transformer attached to the rear of the unit. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. The grille (included in the delivery) is available in white, anthracite or silver and is inserted into the metal support plate thus securing the frame of the switch. This can be obtained from any electrical wholesaler. For exact order information according to the switch program please refer to the table at the end of this chapter.

Technical Data	KEL ... UP T
Load Rating / Music Power	3 W
Transformer	3/1.5 W
SPL 1W/1m	83 dB
SPL PNenn/1m	88 dB
SPL PNenn/1m/f	92 dB/12 kHz
Frequency Range (-3 dB)	150-20000 Hz

KEL GE-T UP, anthracite   3W/100V, fitting to e.g.. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.

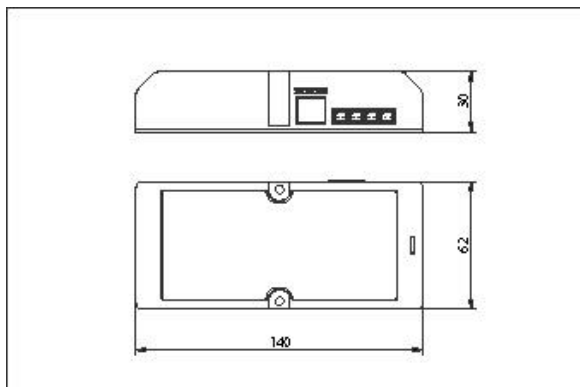# Multiroom System

The BTR 405

The BTR 405 is a powerful Bluetooth receiver with digital signal processor (DSP) stereo amplifier and 230V power supply in a compact housing for installation in hollow spaces such as ceilings, walls, furniture, behind mirrors, ... etc. In conjunction with WHD speakers it is perfect for background music, among other things of kitchens, bathrooms and hotel rooms etc.

With the Android app "BTRConfig" you can the adjust the Bluetooth name, the access pin, the max. Volume and select one of 6 sound presets.

The BTR 405 is also available as a set with two exciters X 32–4 or as a set with four exciters X 32–8.

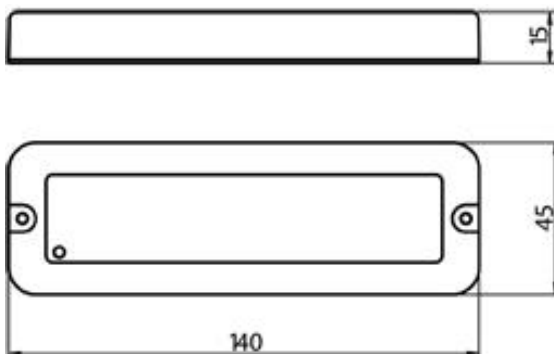| Technical Data	BTR 405
Audio Output	2x10W/4Ohm, 4x5W/8Ohm (stereo)
Other Interfaces	Bluetooth
Operating Voltage	110-230 V
Material	housing: plastic
Accessories	incl. 2x speaker cable, length 2m

Multiroom System

The BTR 405 LV

The BTR 405 LV is a powerful Bluetooth receiver with Line-In, Digital Signal Processor (DSP), stereo amplifier. It is powered by an external 12...24V power supply and, thanks to its very compact housing, is suitable for installation in cavities such as ceilings, walls, furniture, behind mirrors, ... etc. In conjunction with WHD loudspeakers, it is perfect for background music and other purposes in kitchens, bathrooms and hotel rooms etc.

The source is switched from line-in to Bluetooth by pressing play on the connected smartphone / tablet. If pause is selected, the BTR 405 LV automatically switches to line-in.

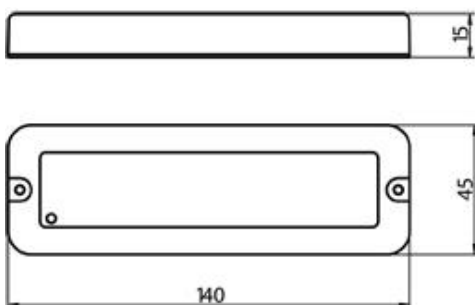| Technical Data	BTR 405
Audio Input	Aux-In
Audio Output	2x10W/4Ohm, 4x5W/8Ohm (stereo)
Other Interfaces	Bluetooth
Operating Voltage	12-24 VDC
Material	housing: plastic
Accessories	2x speaker cable, length 2m

Multiroom System

BTR203 Exciter Set

Use what you already have and make objects, furniture and surfaces sound with our technical plug & play Bluetooth master solution! With our BTR203 Exciter Set, consisting of a 12-24 V Bluetooth receiver and 2x Exciter X32-8 Ohm, each with a 2m speaker cable length, you now get an invisible and exciting sound. Connected to the surface - listen to music without traditional speakers through false ceilings, walls and existing furniture. Enjoy your favorite music from your smartphone, tablet or laptop via Bluetooth without having to see the sound system.

Advantageous installation options

Would you like to listen to the music wirelessly via Bluetooth, but due to your room concept - for reasons of space or for aesthetic reasons - should the Bluetooth system and the loudspeakers not be visible? Then our powerful Bluetooth receiver BTR 203 in combination with the exciter from our "Invisible Sound System" category is perfect for you: Attach the 2 surface sound converters supplied to the desired surface behind ceilings, walls, mirrors, cupboard doors, furniture or even in counters and install the audio receiver in the desired cavity.
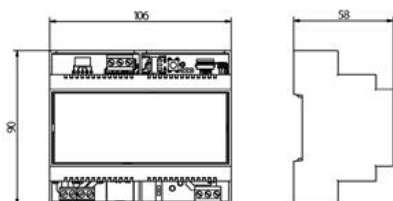
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Multiroom Systems

WR 250

The WR 250 DSP HS is a Bluetooth/(W)LAN receiver with 2x50W stereo amplifier and DSP (Digital Signal Processor) for mounting in the distribution cabinet on the DIN rail. For the DSP chip, a proprietary algorithm was developed, which makes a dynamic sound adjustment in the speaker. Among other things, this technology, the WHD Adaptive Sound Plus, ensures that the listener experiences high-quality sound even at low volumes. 3 presets can be selected: Neutral, Loudness, Extra Bass. An external audio source can be connected to the line-in. The WR 250 DSP HS can be operated via the Ethernet socket or via WLAN and also via Bluetooth.

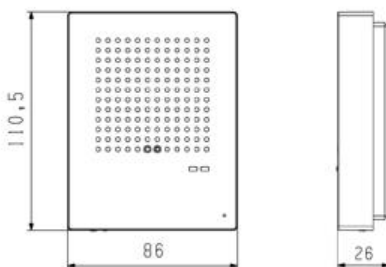| Technical Data	WR 250 DSP HS
Audio Input	Line-In (stereo)
Audio Output	speaker, stereo 2x50W
Other Interfaces	AirPlay*, DLNA, UPnP, Bluetooth
Operating Voltage	24 VDC
Material	housing: plastic
Accessories	PS 24/5A: power supply

WHD®
SOUNDS GOOD

Multiroom Systems

VoiceBridge
Standard 2Gen

The VoiceBridge intercom system helps companies to keep communication clear and understandable at cash registers and information desks despite protective measures, safety distance, hygiene walls and protective masks, and thus stand out from the competition in terms of advice, service and security. . The VoiceBridge is a contactless, fully automatic intercom set. It helps entrepreneurs to keep communication with customers at cash registers and information desks clear and understandable despite protective measures, safety distance, hygiene walls and protective masks.

The set consists of two microphone units (one on the customer / personnel side), a power supply unit and the necessary cables. A complex integration into existing systems is not necessary. The VoiceBridge is easy to install and runs completely independently, safely and stably.

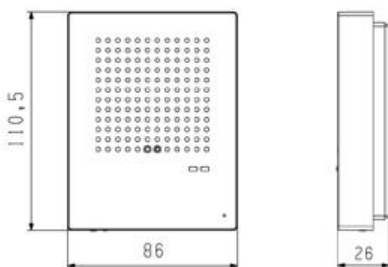| Technical Data	VoiceBridge
Other Interfaces	conncetion sockets for included cable
Operating Voltage	12VDC
Component Set	1 x call station for customer, 1 x microphone unit for staff, 1 x power supply unit
Material	Housing: plastic

Multiroom Systems

VoiceBridge Blutooth

The VoiceBridge intercom system helps companies to keep communication clear and understandable at cash registers and information desks despite protective measures, safety distance, hygiene walls and protective masks, and thus stand out from the competition in terms of advice, service and security.

Satisfied customers, smooth processes:
To ensure that communication is as understandable as possible in any environment despite the protective mask, safety distance and protective wall, we have equipped the VoiceBridge with the latest technology. Clear communication can be guaranteed in all types of environments.

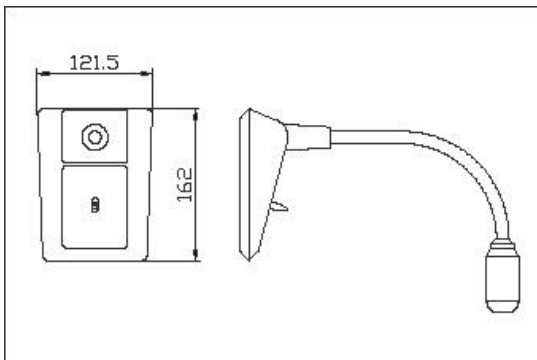| Technical Data	VoiceBridge
Other Interfaces	conncetion sockets for included cable
Operating Voltage	12VDC
Component Set	1 x call station for customer, 1 x microphone unit for staff, 1 x power supply unit
Material	Housing: plastic

Multiroom Systems

MIC 100

The MIC 100 makes a fantastic team with the amplifiers AMP 120AMP 550 and PREAMP UP.

Technical Data	MIC 100
Other Interfaces	Mic out via 6.3mm stereo jack
Material	Housing: plastic

Multiroom Systems

ASA 150

The ASA 150 is an audio storage with built-in amplifier and serves as an acoustic signal output module for defined prompts, audible signs such as a break sign, ... etc. It can be stored up to 32 different mp3 audio files on the internal MMC / SD card and started in 2 different volumes using the 6-bit bus. It is controlled via a 24VDC signal. The ASA 150 is mounted on a DIN rail (8.5 HP) and has six data inputs. The integrated amplifier provides a speaker output of 15 watts into 4 ohms.

Technical Data	ASA 150
Audio Output	Mono 15W, min. 4 ohms
Other Interfaces	6 inputs digital for 32 announcements in 2 switchable volumes
Operating Voltage	24 VDC
Material	housing: sheet metal
Accessories	optional power supply PS 24/5