

“ Music was my first love. And it will be my last.
Music of the future. And music of the past.” John Miles

WHD®



WHD PRODUCT RANGE 2015/2016

SOUND SOLUTIONS

Sound Solutions for commercial und residential buildings.

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ICONS DEFINITION



Suitable for speech reproduction. A speech transm. factor of 90 % can be achieved in the frequ. range of 500-4000 Hz.



Suitable for background music: low level with a frequency range of 200-10 000 Hz.



Suitable for Fullrange reproduction with a frequency range of 50-15 000 Hz.



Moisture proof cone: Protection against humidity. Direct water contact is not recommended.



Weather proof: For long time outdoor use.



IP-protection: 1st number: protection against touch of high tension parts. 2nd number: protection against water.



Shock-proof: for use in sport halls.



The grill is walkable but not to ride over with a vehicle.



Special painting: in all RAL colours for extra charge.



Volume control: optional for extra charge or regular equipment: -Re: 6 W without stopper; -Re50: 6 W / 50 ohm potentiometer with stopper.



Program selector: 6 programs, without stopper.



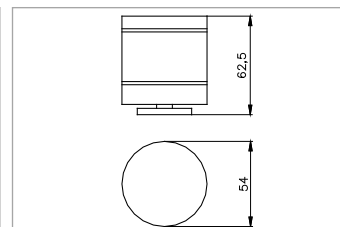
24 V mandatory relays: for extra charge.



With integrated Amplifier (AMP 10) available.

Temperature range speaker: -20 to +60°C

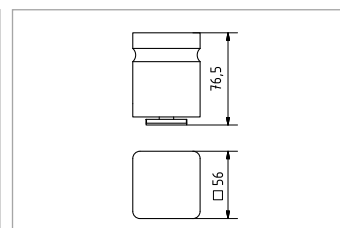
Technical data see www.whd.de

SOUNDWAVER**Bluetooth Receiver and Exciter**

The SOUNDWAVER is an innovative Exciter. Any hard surface such as wood, glass or metal can be turned into a resonance object playing your music with an amazing sound. It can be used with any equipment such as computers, laptops, touchpads or smart phones using Bluetooth V2.0 or a 3.5mm audio connector. Charging the built-in rechargeable battery is via USB connector.

Technical Datas		SOUNDWAVER		
Operating Voltage	5V via USB			
Audio IN	3.5 mm jack			
Audio OUT	-			
Connections / Interfaces	Mini USB			
Dimensions	d54x63 mm			
Material	housing: aluminium			
Colors	black			
Accessories	incl. USB cable, optional SF-100: suction cup, TA-100: bag			

model	order-no.	version	packaging unit	price classification
SOUNDWAVER	114-500-01-001-00	Bluetooth speaker with integrated amplifier 4 watts	1	STA
SF-100	114-500-01-002-00	Suction Cup for SOUNDWAVER	1	STA
TA-100, black/silver	114-500-26-009-00	Bag for SOUNDWAVER and SOUNDWAVER+	1	STA

SOUNDWAVER+**Bluetooth Receiver and Exciter**

The SOUNDWAVER+ is one step ahead of the original in exclusive design and sound. It is a fascinating Bluetooth receiver with amplifier, exciter / body sound transducers and built-in battery, which brings each surface to vibrate and transformed into a deceptively powerful speakers. Set the SOUNDWAVER+ is easily set on any surface such as furniture, mirrors, glass or stone. Connect your Bluetooth device such as your smartphone or tablet with the SOUNDWAVER+ and enjoy an amazing sound experience.

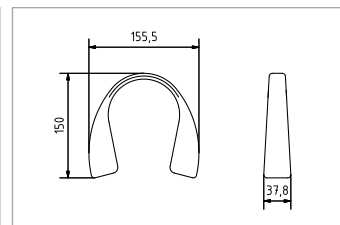
But that's not all: About the touchpad surface, you can use not only the audio features particularly comfortable, but also make calls with the integrated speakerphone.

Technical Datas		SOUNDWAVER+		
Operating Voltage	5V via USB			
Audio IN	3.5 mm jack			
Audio OUT	3.5 mm jack			
Connections / Interfaces	Charging function 5VDC via Micro USB			
Dimensions	54x70x54 mm			
Material	housing: aluminium			
Colors	black			
Accessories	incl. USB cable, optional SF-200: suction cup, TA-100: bag			

model	order-no.	version	packaging unit	price classification
SOUNDWAVER+	114-500-26-001-01	Bluetooth speaker with integrated amplifier 26 watts, hands free	1	STA
SF-200	114-500-26-002-01	Suction Cup for SOUNDWAVER+	1	STA
TA-100, black/silver	114-500-26-009-00	Bag for SOUNDWAVER and SOUNDWAVER+	1	STA

NECKSTER Mini

Bluetooth Receiver and Exciter



The NECKSTER Mini is headphones, speakers, Bluetooth receiver, Smartphone holder and hands-free system in one device.

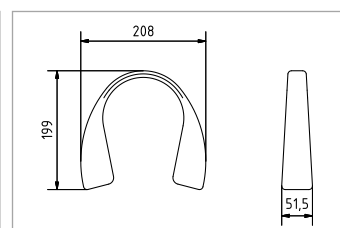
With NECKSTER Mini you can walk, hike or jog while listening to music and phone calls. Depending on the volume of the integrated speakers take in addition to your music or the ambient sounds true.

The NECKSTER Mini fit for smartphones.

Technical Datas		NECKSTER Mini		
Operating Voltage	5V DC			
Audio IN	3.5 mm jack			
Audio OUT	-			
Connections / Interfaces	Charging function 5VDC via USB, NFC			
Dimensions	150x156x38 mm			
Material	plastic			
Colors	black, white			
Accessories	incl. USB cable			
model	order-no.	version	packaging unit	price classification
NECKSTER Mini, white	114-801-03-001-00	Bluetooth speaker with hands free and line-in, Smartphone holder	1	NET
NECKSTER Mini, black	114-801-04-001-00	Bluetooth speaker with hands free and line-in, Smartphone holder	1	NET

NECKSTER

Bluetooth Receiver and Exciter

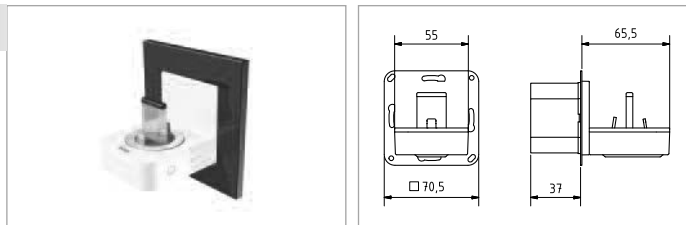


The NECKSTER is headphones, speakers, Bluetooth receiver, Smartphone holder and hands-free system in one device.

With NECKSTER you can walk, hike or jog while listening to music and phone calls. Depending on the volume of the integrated speakers take in addition to your music or the ambient sounds true.

The NECKSTER fit for tablets.

Technical Datas		NECKSTER		
Operating Voltage	5V DC			
Audio IN	3.5 mm jack			
Audio OUT	-			
Connections / Interfaces	Charging function 5VDC via USB, NFC			
Dimensions	208x199x52 mm			
Material	plastic			
Colors	black, white			
Accessories	incl. USB cable			
model	order-no.	version	packaging unit	price classification
NECKSTER, white	114-800-03-001-00	Bluetooth speaker with hands free and line-in, Tablet holder	1	NET
NECKSTER, black	114-800-04-001-00	Bluetooth speaker with hands free and line-in, Tablet holder	1	NET

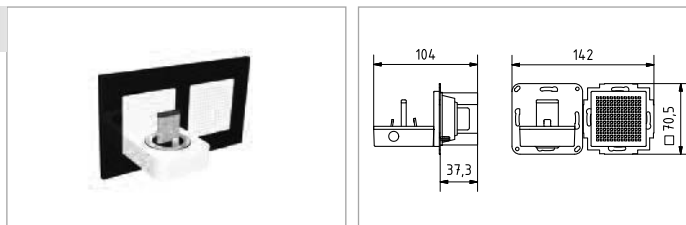
MP 55 BTL**Docking station for smartphones**

The MP 55 BTL is a high quality charger with built-in Bluetooth receiver, stereo amplifier and 230V AC adapter for iPod / iPhone and any other smartphone. The charging station is compatible with all standard switch with 55x55 mm central plate and can be used universally for private rooms, but also in hotels. The MP 55 BTL is equipped with both a Lightning connector for Apple devices as well as a micro USB connector for other smartphones. The trick: You can charge your iPhone first, then simply turn the connector receptacle 180 degrees and charge other devices via Micro USB jack.

For background music, the WHD-wall speaker KEL 55 Music can also be installed in the switch outlet. For the full stereo music playback, you can, for example, connect two WHD Ceiling Speaker of the M/R 240 Series.

You can order the items enabled with a specified name in the mobile device's Bluetooth menu such as "Kitchen", "Bathroom" or hotel room number individually - a clever WHD Namingservice.

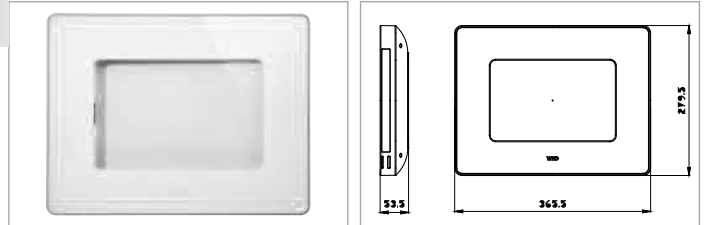
Technical Datas	MP 55 BTL			
Operating Voltage	100-240 V			
Audio IN	-			
Audio OUT	Line-Out/speaker output (stereo)			
Connections / Interfaces	Lightning-plug, Micro USB plug, Bluetooth-Receiver (A2DP, range 10m)			
Dimensions	55x55x36 mm			
Material	Cover plate (55x55mm): plastic			
Colors	pure white shiny			
Accessories	KEL 55-4 Music: flush mounted speaker			
model	order-no.	version	packaging unit	price classification
MP 55 BTL, white	113-012-03-001-00	stereo amplifier and charging function with BT-receiver	1	STA
MP 55 BTL charging unit, white	113-012-03-001-01	Charging unit compatible to MP 55, for easy replacement (not suitable for MP 55 Wireless)	1	STA
MP 55 BTL incl. naming service, white	113-012-03-002-00	stereo amplifier and charging function with BT-receiver, incl.customized BT-name	1	STA

MP 55 BTL Set**Complete set dockingstation and speaker**

The MP 55 BTL Set is a high quality charger with built-in Bluetooth receiver, stereo amplifier and 230V AC adapter for iPod / iPhone and any other smartphone in combination with the WHD-wall speaker KEL 55 Music.

You can order the items enabled with a specified name in the mobile device's Bluetooth menu such as "Kitchen", "Bathroom" or hotel room number individually - a clever WHD Namingservice.

Technical Datas		MP 55 BTL Set		
Operating Voltage	110-240 V			
Audio IN	-			
Audio OUT	Line-Out/speaker output (stereo)			
Connections / Interfaces	Lightning-plug, Micro USB plug, Bluetooth-Receiver (A2DP, range 10m)			
Dimensions	55x55x36 / 55x55x30 mm			
Material	Cover plate (55x55mm): plastic, grille: plastic			
Colors	pure white shiny			
Accessories	incl. KEL 55-4 Music: flush-mounted speaker			
model	order-no.	version	packaging unit	price classification
MP 55 BTL Set, white	113-012-03-001-02	incl. speaker KEL 55-4 Music	1	STA

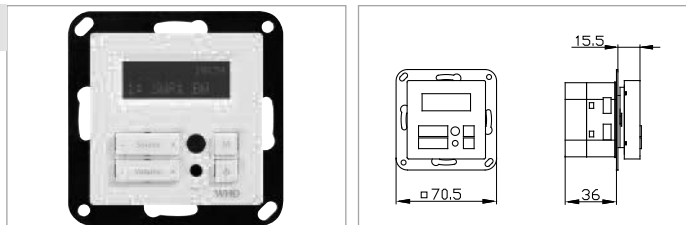
SOUNDPAD**Dockingstation for iPad**

The SOUNDPAD suitable for Apple iPad 1, 2, 3, 4 und Air combines a sound system, docking station, touch panel and video or photograph display. It is easily mountable on-wall and only connected to 230V power supply.

Powerful electric motors pull the iPad is a gentle and throw it on a button again. Clever: For high-scale applications, the SOUNDPAD can be easily rotated 90 °.

Technical Datas	SOUNDPAD	SOUNDPAD 4	SOUNDPAD Air
Operating Voltage	110-240 VAC	110-240 VAC	110-240 VAC
Audio IN	-	-	-
Audio OUT	Line-Out Stereo for connection of external amplifier, e.g. AMP 130	via Bluetooth or airplay from iPad	via bluetooth or airplay from iPad
Connections / Interfaces	-	-	-
Dimensions	365x298x53 mm	365x298x53 mm	365x298x53 mm
Material	housing: zinc die cast, cover: glass	housing: zinc die cast, cover: glass	housing: zinc die cast, cover: glass
Colors	black, white	black, white	black, white
Accessories	AMP130: amplifier, Mini4-Bluetooth:2-way speaker, DBS-SOUNDPAD: theft protection	Mini4-Bluetooth: 2-way speaker, DBS-SOUNDPAD: theft protection	Mini4-Bluetooth: 2--way speaker, DBS-SOUNDPAD: theft protection

model	order-no.	version	packaging unit	price classification
SOUNDPAD, black	113-013-04-000-00	Docking station for iPad 1, 2 and 3 with 30pol. pin connector	1	STA
SOUNDPAD, white	113-013-03-000-00	Docking station for iPad 1, 2 and 3 with 30pol. pin connector	1	STA
SOUNDPAD 4, white	113-013-03-004-00	Dockingstation for iPad 4	1	STA
SOUNDPAD 4, black	113-013-04-004-00	Dockingstation for iPad 4	1	STA
SOUNDPAD Air, white	113-013-03-005-00	Dockingstation for iPad Air	1	STA
SOUNDPAD Air, black	113-013-04-005-00	Dockingstation for iPad Air	1	STA

RDS Radio**Flush mounted RDS-Radio**

The flush-mounted RDS Radio is controllable via the 4 buttons on the front plate or via an IR remote control. On its front AUX input any external audio sources such as mp3 player can be connected. The rear Line In terminal can be connected to e.g. the docking station MP 55 BTL or the Bluetooth receiver BTR 55 MK2. Thus in addition to the nine radio stations two additional external sources can be chosen.

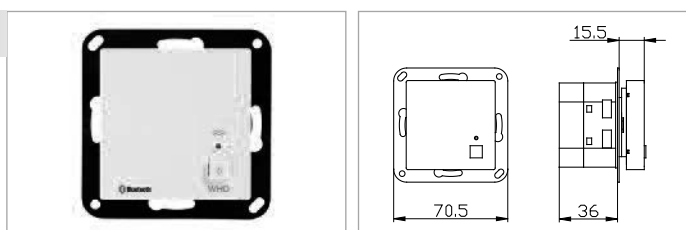
The flush-mounted RDS Radio with its included wire antenna had a good reception. For better reception you may connect an external antenna to the antenna terminal (75 ohms coax) at the rear.

The flush-mounted RDS Radio is also equipped with an alarm and a sleep function. The display can be dimmed in brightness. This is especially useful in bedrooms. The volume limit just like the menu lock is very important for hotel rooms.

The RDS Radio is therefore suitable for residential as well as for hotel application. The integrated amplifier provides the ability to connect two speakers to play background music. For full-range music in high quality and volume an external amplifiers such as the AMP 130 can be connected.

Technical Datas	RDS Radio	RDS Radio Set KEL 55
Operating Voltage	110-230V	110-230V
Audio IN	Line-In front- and backside	Line-In front- and backside
Audio OUT	Line-Out/speaker output	Line-Out/speaker output
Connections / Interfaces	75 Ohm coax aerial input	75 Ohm coax aerial input
Dimensions	55x55x36 mm	55x55x36 / 55x55x30 mm
Material	Cover plate (55x55mm): plastic	Cover plate (55x55mm): plastic
Colors	pure white shiny	pure white shiny
Accessories	incl. RC MP 55: remote control	incl. KEL 55-4 Music: flush speaker and RC MP 55: remote control

model	order-no.	version	packaging unit	price classification
RDS Radio, white	113-010-03-003-00	Flush mounted radio, incl. 55x55 mm-front plate, incl. remote control RC MP 55	1	STA
RDS Radio special edition, white	113-010-03-003-01	Flush mounted radio, incl. 55x55 mm-front plate, without remote control	1	STA
RDS Radio Set KEL 55, white	103-010-03-007-00	incl. 1 x KEL 55-4 Music, incl. 1x remote control RC MP 55	1	STA

BTR 55 MK2**Bluetooth receiver**

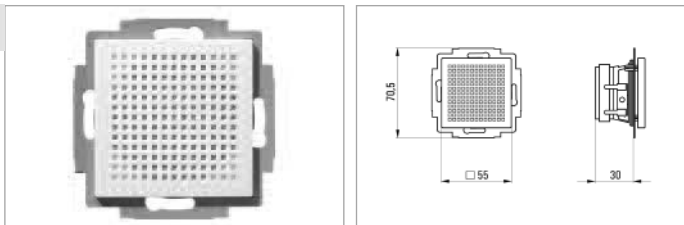
The BTR 55 MK2 is a Bluetooth receiver with stereo amplifier and 230V AC adapter for all standard central switch plates with 55x55 mm. In the current version of the BTR 55 MK2 the ease of use has been further improved. So you can simply switch the device by pressing a button and make the pairing readiness. Upon successful connection to your mobile device, the blue LED is lit continuously. For background music, the WHD-wall speaker KEL 55 Music can also be installed in the switch outlet. For the full stereo music playback, you can, for example, connect two WHD Ceiling Speaker of the M/R 240 Series.

The maximum volume can be limited. This is especially interesting for the hotel business

You can order the items enabled with a specified name in the mobile device's Bluetooth menu such as "Kitchen", "Bathroom" or hotel room number individually - a clever WHD Namingservice.

Technical Datas	BTR 55 MK2	BTR 55 MK2 Set KEL
Operating Voltage	110-230 V	110-230 V
Audio IN	-	-
Audio OUT	Line-Out/speaker output (stereo)	Line-Out/speaker output (stereo)
Connections / Interfaces	incl. Bluetooth-receiver (Version 2.1, Profil A2DP)	incl. Bluetooth-receiver (Version 2.1, Profil A2DP)
Dimensions	55x55x36 mm	55x55x36 mm
Material	Cover plate (55x55mm): plastic	Cover plate (55x55mm): plastic
Colors	pure white shiny	pure white shiny
Accessories	-	incl. KEL 55-4 Music: flush-mounted speaker

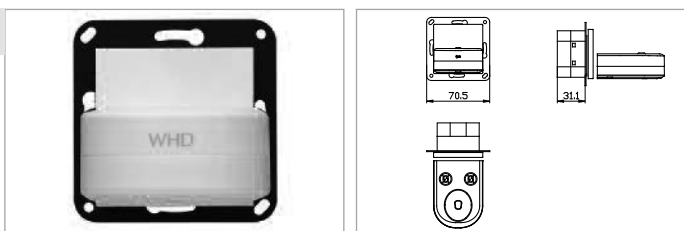
model	order-no.	version	packaging unit	price classification
BTR 55 MK2, white	124-055-03-012-00	Bluetooth receiver	1	STA
BTR 55 MK 2 naming service, white	124-055-03-015-00	Bluetooth receiver, incl. customized BT-name	1	STA
BTR 55 MK2 Set KEL, white	124-055-03-012-01	incl. 1x BTR 55 MK2, 1x KEL 55-4 Music	1	STA

KEL 55 Music**HiFi-Speaker for installation box**

Hi-fi quality for a speaker which is compatible with all common switches: this asks for WHD's superior technology and innovative know-how. The result: terrific sound quality in miniature format. Create the smallest hi-fi system for integration with all common switches by combining the KEL 55 Music with the MP 55 BTL, BTR 55 MK2 or RDS Radio.

Technical Datas	KEL 55 Music
Operating Voltage	-
Audio IN	-
Audio OUT	-
Connections / Interfaces	-
Dimensions	55x55x38 mm
Material	Cover: plastic
Colors	pure white shiny, black shiny
Accessories	fitting to BTR 55 MK2, MP 55 BTL and RDS Radio

model	order-no.	version	packaging unit	price classification
KEL 55 Music, white	103-008-03-000-00	3W/4 ohms, incl. 55x55mm-grille	1	STA
KEL 55 Music, black	103-008-04-000-00	3W/4 ohms, incl. 55x55mm-grille	1	STA

ZBL 55**Inductive charger for toothbrushes and emergency light with night light function**

The ZBL 55 is a inductive charger (contactless) to match with most of the electric toothbrushes from Oral-B and Philips.

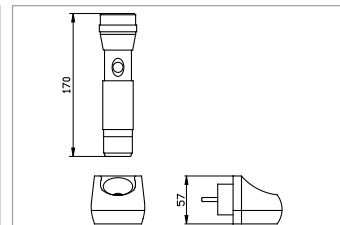
The charger is also compatible with our emergency lighting with night light function "JACKLIGHT".

It is built into standard switch programs. Thus, the annoying clutter omitted from the table chargers. The removable cover and the polished surface makes it very easy to clean ZBL 55.

The ZBL 55 fits in all German standard switch boxes with 55 x 55 mm front plates. Available in the color white.

Technical Datas	ZBL 55
Operating Voltage	110-230 V
Audio IN	-
Audio OUT	-
Connections / Interfaces	-
Dimensions	55x55x32 mm
Material	cover plate (55x55mm) and charger: plastic
Colors	pure white shiny
Accessories	JACKLIGHT, flashlight with night light function

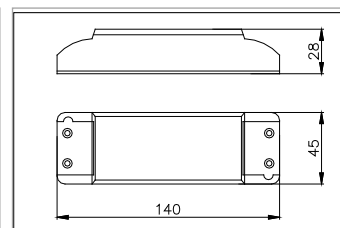
model	order-no.	version	packaging unit	price classification
ZBL 55 BPC, white	147-055-03-000-00	Toothbrush charger, fitting to Braun Oral-B series Professional Care 500, 600, 650, 700, 1000, 3000, Professional TriZone 500, 600, 1000 black, 3000.	1	STA
ZBL 55 BVI, white	147-055-03-001-00	Toothbrush charger, fitting to Braun Oral-B Vitality	1	STA
ZBL 55 PHS, white	147-055-03-003-00	Toothbrush charger, fitting to Philips Sonicare series Easy Clean HX 6511/50, Healthy White HX 6711/02, Healthy White HX 6730/03, Healthy White HX6732/02, Flex Care HX6902/02, Flex Care HX 6932/10.	1	STA
ZBL 55 JACKLIGHT, white	147-055-03-002-00	Flashlight charger, incl. flashlight JACKLIGHT	1	STA

JACKLIGHT**Inductive chargeable flash light with night light function**

The JACKLIGHT is an inductive rechargeable stand-by-LED flashlight with night light function. The charger fits into all standard power outlets. The integrated blue LED provides bright nightlight for orientation in the dark. In case of power failure, the JACKLIGHT comes on automatically and with its integrated SOS light function it is a valuable tool for indoor and outdoor use. The JACKLIGHT comes with 3 inductive chargeable batteries (3 x AAA/HR03) and the charger.

Technical Datas	JACKLIGHT
Operating Voltage	230 V
Audio IN	-
Audio OUT	-
Connections / Interfaces	-
Dimensions	170x55 mm
Material	Flash light: Aluminium, charger: plastic
Colors	Flash light: Titan metallic, charger: black
Accessories	incl. charger and 3 Akkus AAA 800 mAh NI-MH

model	order-no.	version	packaging unit	price classification
JACKLIGHT	114-000-00-000-00	inductive chargeable flash light with night light function	1	STA

BTR 205**Bluetooth Receiver**

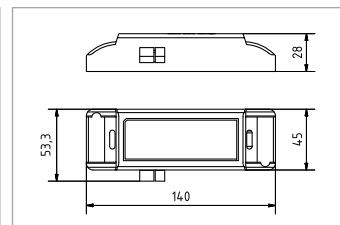
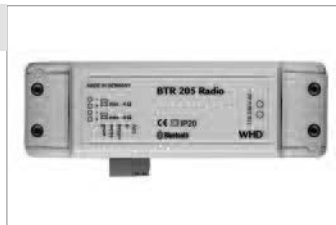
The BTR 205 is a powerful Bluetooth receiver with stereo amplifier and 230V power supply in a compact housing for installation in hollow spaces such as ceilings, walls, furniture, mirrors behind, ... etc. In conjunction with WHD speakers it is perfect for background music, among other things of kitchens, bathrooms and hotel rooms etc.

The BTR 205 is also available as a set with two exciters / body sound transducers X 32 or as a set with two built-in speakers UP 10.

You can order the items enabled with a specified name in the mobile device's Bluetooth menu such as "Kitchen", "Bathroom" or hotel room number individually - a clever WHD Namingservice.

Technical Datas	BTR 205	BTR 205 Set UP10	BTR 205 Set Exciter
Operating Voltage	110-230 V	110-230 V	110-230 V
Audio IN	-	-	-
Audio OUT	speaker, Stereo	speaker, Stereo	speaker, Stereo
Connections / Interfaces	Bluetooth	Bluetooth	Bluetooth
Dimensions	45x28x140 mm	45x28x140 mm	45x28x140 mm
Material	housing: plastic	housing: plastic	housing: plastic
Colors	white	white	white
Accessories		incl. 2x UP 10-8 white: ceiling speaker	incl. 2x X 32-4: Exciter

model	order-no.	version	packaging unit	price classification
BTR 205, white	124-205-03-000-00	Bluetooth-Receiver 2x 5W	1	STA
Naming service BTR 205 and Radio BTR 205	124-205-03-000-01	customized Bluetooth name	1	STA
BTR 205 Set UP 10, silver	124-205-07-003-00	Bluetooth-Receiver 2x 5W incl. 2x speaker UP 10	1	STA
BTR 205 Set UP 10, white	124-205-03-003-00	Bluetooth-Receiver 2x 5W incl. 2x speaker UP 10	1	STA
BTR 205 Set Exciter X 32-4, white	124-025-03-003-00	Bluetooth-Receiver 2x 5W incl. 2x Exciter X 32-4	1	STA

Radio BTR 205**Radio with Bluetooth receiver**

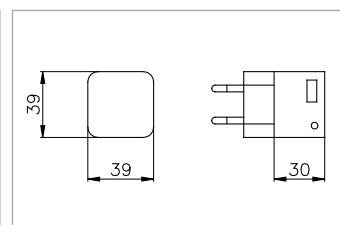
The BTR 205 Radio is a powerful Bluetooth receiver with a stereo amplifier, radio tuner and 230V power supply in a compact housing for installation in hollow spaces such as ceilings, walls, furniture, behind mirrors, ...etc. The operation of the radio is via the included remote control.

In conjunction with WHD speakers it is perfect for background music, among other things of kitchens, bathrooms and hotel rooms etc.

The BTR 205 Radio is also available as a set together with exciters / body sound transducers that turn any surface into a speaker. This creates an invisible audio system.

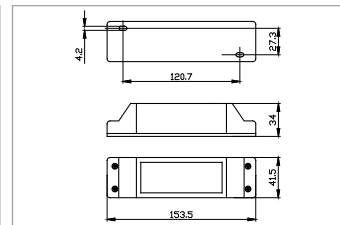
You can order the items enabled with a specified name in the mobile device's Bluetooth menu such as "Kitchen", "Bathroom" or hotel room number individually - a clever WHD Namingservice.

Technical Datas		Radio BTR 205	Radio BTR 205 Set Exciter	
Operating Voltage		110-230 V	110-230 V	
Audio IN		-	-	
Audio OUT		speaker, Stereo 2x5W	speaker, Stereo 2x5W	
Connections / Interfaces		antenna input 75 ohms, Coax-connector, Bluetooth	antenna input 75 ohms, Coax-connector, Bluetooth	
Dimensions		45x28x140 mm	45x28x140 mm	
Material		housing: plastic	housing: plastic	
Colors		white	white	
Accessories		incl. remote control RC HLS 51	incl. X 32-4: Exciter and RC HLS 51: remote control	
model	order-no.	version	packaging unit	price classification
Radio BTR 205, white	124-206-03-000-00	Bluetooth-Receiver 2x 5W with tuner, incl. remote control RC HLS 51	1	STA
Naming service BTR 205 and Radio BTR 205	124-205-03-000-01	customized Bluetooth name	1	STA
Radio BTR 205 Set Exciter X 32-4, white	124-206-03-001-00	Bluetooth-Receiver 2x 5W with tuner, incl. 2x Exciter X 32-4, incl. remote control RC HLS 51	1	STA

BTR 011**Bluetooth receiver**

The BTR 011 is a Bluetooth-receiver for 230V sockets. Additionally it has a Line-Out for connecting an external amplifier and an USB connector (max. 1A) for charging external devices such as mobile phones.

Technical Datas		BTR 011		
Operating Voltage		230 V		
Audio IN		-		
Audio OUT		Line-Out		
Connections / Interfaces		USB-charger (5VDC/max. 1A)		
Dimensions		39x39x68 mm		
Material		Housing: plastic		
Colors		black		
Accessories		-		
model	order-no.	version	packaging unit	price classification
BTR 011, black	124-011-04-000-00	Bluetooth receiver	1	STA

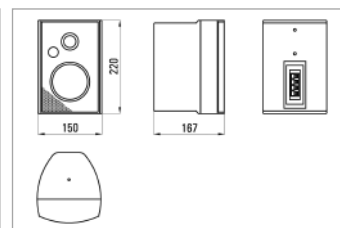
HLS 51 Radio Basic**Halogenspot radio**

The HLS 51 Radio Basic is the ideal sound system for rooms with suspended ceilings, which have built-in halogen spot lights – e.g. kitchens, bathrooms, doctors' practices. The powerful tuner has good reception, even with the most basic dipole aerial. And the quality of the reception can be improved again by connecting the radio to an external aerial. The HLS 51 Radio Basic can be slid into the suspended ceiling through a cut-out for a halogen spot light – just like a halogen light transformer. The IR receiver is placed into the ceiling, so that the device can be fully controlled via infrared remote control. You can connect five halogen spot speakers HLS 51 or any speakers (min. 4 ohms).

The HLS 51 Radio Basic is also available as a set with 2x HLS 51 speakers or 2x UP 10 speakers.

Technical Datas	HLS 51 Radio Basic	HLS 51 Radio Basic Set	HLS 51 Radio Basic Set UP 10-8
Operating Voltage	230 V	230 V	230 V
Audio IN	–	–	–
Audio OUT	1x loudspeaker output	1x loudspeaker output	1x loudspeaker output
Connections / Interfaces	Input for antenna (75 Ohm Koax), connection for external IR-receiver	Input for antenna (75 Ohm Koax), connection for external IR-receiver	Input for antenna (75 Ohm Koax), connection for external IR-receiver
Dimensions	153,5 x 41,5 x 34 mm	153,5 x 41,5 x 34 mm	153,5 x 41,5 x 34 mm
Material	Housing: plastic	Housing: plastic	Housing: plastic
Colors	white	white	white
Accessories	incl. RC HLS 51: remote control, opt. RC HLS 51-UP: flush remote control	incl. RC HLS 51: remote control and 2x HLS 51-20: speaker, opt. RC HLS 51-UP: flush remote control	incl. RC HLS 51: remote control and 2x UP 10-8: speaker, opt. RC HLS 51: flush remote control

model	order-no.	version	packaging unit	price classification
Radio HLS 51 Basic	106-005-00-100-00	incl. 1x remote control RC HLS 51	1	STA
Radio HLS 51 Basic Set, white	106-005-03-100-00	incl. 2x speaker HLS 51 white and 1x remote control RC HLS 51	1	STA
Radio HLS 51 Basic Set, chrome	106-005-07-100-00	incl. 2x speaker HLS 51 chrome and 1x remote control RC HLS 51	1	STA
Radio HLS 51 Basic Set UP 10, white	106-005-03-100-01	incl. 2x speaker UP 10-8 white and 1x remote control RC HLS 51	1	STA
Radio HLS 51 Basic Set UP 10, silver	106-005-07-100-01	incl. 2x speaker UP 10-8 silver and 1x remote control RC HLS 51	1	STA

Mini 4 AMP 2**Active Speakers**

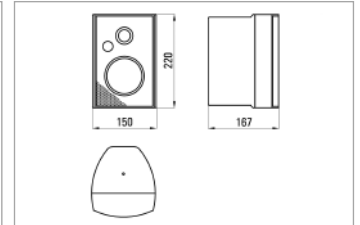
Compact hi-fi active-speaker in 2-way technology with bass reflex channel, ideal for music reproduction in the home, in restaurants, shops, ... The Mini 4 AMP 2 comes with a 10W amplifier and a volume control at the rear. An external power supply comes with the box. The U-type bracket WB Mini and ball joint mounting WH Mini are available as accessories.

Technical Datas	Mini 4 AMP 2
Operating Voltage	110-240 V
Audio IN	Line-In (jack)
Audio OUT	–
Connections / Interfaces	–
Dimensions	150x220x167 mm
Material	housing: plastic, grille: metal
Colors	white (RAL 9016), black (RAL 9005)
Accessories	incl. ext. power supply, opt. WBMini: u-type bracket, WHMini: ball joint mounting

model	order-no.	version	packaging unit	price classification
MINI 4 AMP 2, white	101-102-03-004-01	2-way with integrated 10W amplifier	1	LSP
MINI 4 AMP 2, black	101-102-04-004-01	2-way with integrated 10W amplifier	1	LSP

Mini 4 Bluetooth

2-way bluetooth HiFi speaker



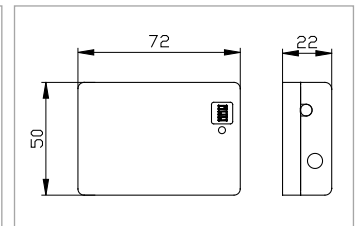
The Mini 4 BT is an active 2 way HiFi speaker with Bluetooth function (IEEE 802.15.1 / v2.1, A2DP) and an integrated Class D amplifier (30 W) and clip limiter. It is used with Bluetooth enabled devices, such as Smartphones, Tablets, Laptops, PCs, ... etc. The Mini 4 BT's sound is characterized through its balance and pleases even sophisticated ears.

Technical Datas	Mini 4 Bluetooth
Operating Voltage	100-240 V
Audio IN	-
Audio OUT	-
Connections / Interfaces	Bluetooth V 2.1, A2DP
Dimensions	150x220x167 mm
Material	housing: plastic, grille: metal
Colors	white (RAL 9016), black (RAL 9005)
Accessories	incl.ext. power supply, optional WBMMini: u-type bracket, WHMini: ball joint mounting

model	order-no.	version	packaging unit	price classification
Mini 4 Bluetooth, white	101-102-03-004-05	with integrated amplifier 30W and bluetooth modul	1	STA
Mini 4 Bluetooth, black	101-102-04-004-05	with integrated amplifier 30W and bluetooth modul	1	STA

WT 2.4

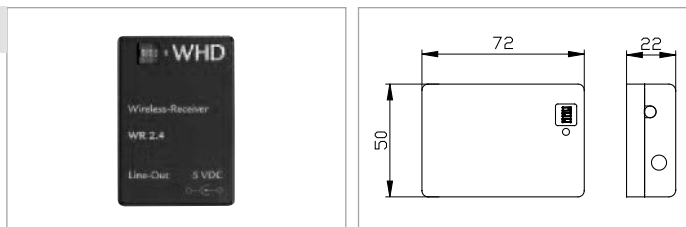
Wireless transmitter



Transmission of audio signals via radio - the ideal solution for wireless music fun! Through the mini-stereo jack, you can connect an audio source with the sender which communicates at 2.4 GHz. This option is a great choice in rooms where wiring is a challenge.

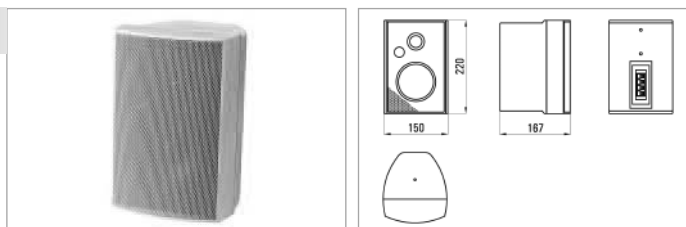
Technical Datas	WT 2.4
Operating Voltage	100-240 V
Audio IN	Line-In (jack) mini-stereo jack
Audio OUT	-
Connections / Interfaces	incl. 2.4 GHz transmitter
Dimensions	50x22x72 mm
Material	Housing: plastic
Colors	black
Accessories	incl. ext. power supply, opt. speaker Mini 4-Wireless, wireless receiver WR 2.4

model	order-no.	version	packaging unit	price classification
WT 2.4	113-014-00-001-00	Wireless transmitter built into box	1	STA

WR 2.4**Wireless receiver**

Transmission of audio signals via radio - the ideal solution for wireless music fun! Through the mini-stereo jack, you can connect active speakers or an amplifier with the receiver which communicates at 2.4 GHz. This option is a great choice in rooms where wiring is a challenge.

Technical Datas		WR 2.4		
Operating Voltage		100-240 V		
Audio IN		-		
Audio OUT		Line-Out (mini stereo jack)		
Connections / Interfaces		incl. 2.4 GHz receiver		
Dimensions		50x22x72 mm		
Material		Housing: plastic		
Colors		black		
Accessories		incl. ext. power supply, optional wireless transmitter WT 2.4		
model	order-no.	version	packaging unit	price classification
WR 2.4	113-014-00-000-00	Wireless receiver built into box	1	STA

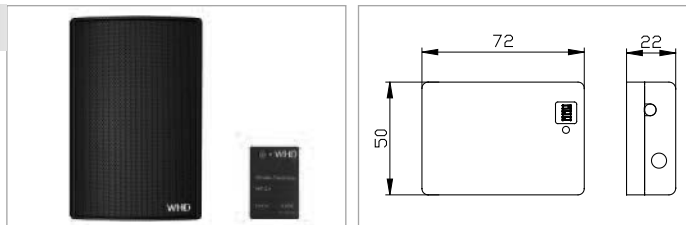
Mini 4 Wireless**2-way HiFi-speaker with receiver**

External parameters and room set up differ in every building and require unique solutions. The compact hi-fi active-speaker in 2-way technology with bass reflex tube and 2.4 GHz receiver is at your service everywhere where wires are not an option. The Mini 4's sound is characterized through its balance and pleases even sophisticated ears.

Technical Datas		Mini 4 Wireless		
Operating Voltage		110-240 V		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		2,4 GHz-receiver integrated		
Dimensions		150x220x167 mm		
Material		housing: plastic, grille: metal		
Colors		white, black		
Accessories		incl. power supply, optional wireless components and speaker brackets		
model	order-no.	version	packaging unit	price classification
Mini 4 Wireless, white	101-102-03-004-00	2-way, 50W, 8 ohms with integrated 10W amplifier and wireless receiver	1	STA
Mini 4 Wireless, black	101-102-04-004-00	2-way, 50W, 8 ohms with integrated 10W amplifier and wireless receiver	1	STA

WT 2.4 Mini 4 Set

Wireless set transmitter and speaker

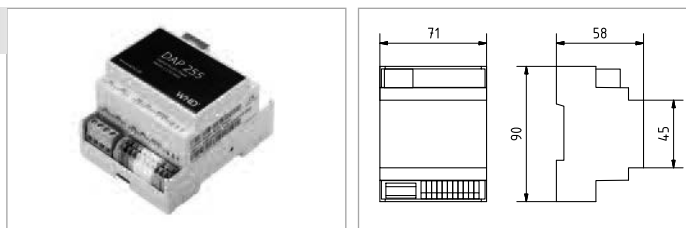


Wireless set consisting of wireless transmitter WT 2.4 and the compact hi-fi active-speaker in 2-way technology Mini 4 Wireless

Technical Datas		WT 2.4 Mini 4 Set		
Operating Voltage	100-240 V			
Audio IN	Line-In (jack) mini-stereo jack			
Audio OUT	-			
Connections / Interfaces	incl. 2.4 GHz transmitter and receiver			
Dimensions	50x22x72 / 150x220x167 mm			
Material	Housing: plastic, grille: metal			
Colors	white, black			
Accessories	incl. external power supply			
model	order-no.	version	packaging unit	price classification
WT 2.4 Mini 4 Wireless Set, white	101-102-03-006-00	Wireless set, consisting of transmitter and speaker Mini 4 wireless	1	STA
WT 2.4 Mini 4 Wireless Set, black	101-102-04-006-00	Wireless set, consisting of transmitter and speaker Mini 4 wireless	1	STA

DAP 255

Digital Audio Player

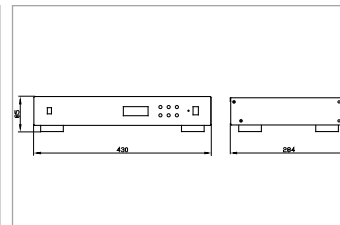


The DAP 255 is a network-enabled digital audio player with stereo amplifier for DIN rail mounting - and a real multi-talent. Music tracks can be uploaded to the internal 32 GB memory, or play on one of two USB sticks. The audio player also plays music from a central server in the house or favourite internet radio station.

The DAP 255 supports Airplay, UPnP, DLNA and FTP. Wireless music can be played directly from your Smartphone or tablet and the volume can be controlled - even via KNX.

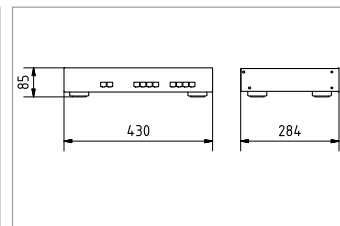
For unlimited music enjoyment, several DAP 255 can be integrated into a network. So you can listen to Internet radio in the kitchen, while another family member in the bathroom enjoys music from a Smartphone via Airplay - with rich 2 x 55 watts.

Technical Datas		DAP 255		
Operating Voltage	24 VDC			
Audio IN	Line-in via USB-plug with jack			
Audio OUT	speaker output 2x55W stereo, subwoofer output			
Connections / Interfaces	LAN, USB, 0...5V, 0...10V, 1...10V-volume control			
Dimensions	90x75x60 mm			
Material	housing: plastic			
Colors	black/grey			
Accessories	HL 401: High-Level Converter			
model	order-no.	version	packaging unit	price classification
DAP 255, grey	111-255-00-001-01	Digital Audio Player	1	OBJ

DAM 4000 Basic**Central Unit**

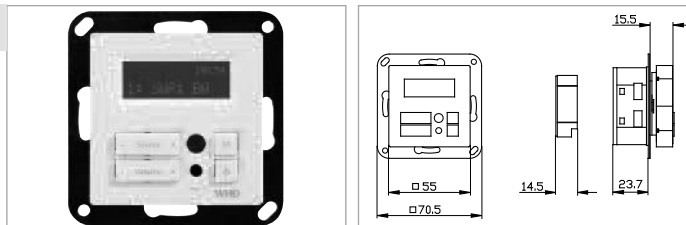
The DAM 4000 Basic is a multi-room-system tailored for private use, doctor's offices, the hotel's spa area, offices, restaurants and shops. Enjoy various titles in up to 9 different sound zones coming from 4 sound sources which are centrally installed in your building. The DAM4000 Basic comes with four integrated radios. It is possible to replace two radios with sound sources of your choice such as CD-player or music-server. There is a special feature: The DAM4000 Basic's main device also works as an output device. Plug in your stereo-speakers or your hi-fi system via line-out and gain an additional sound zone.

Technical Datas		DAM 4000 Basic		
Operating Voltage	110-230 V			
Audio IN	4 tuner included, 2x Line-In			
Audio OUT	Line-Out, speaker output (stereo)			
Connections / Interfaces	4x DAM-Basic audio network (RJ45) for connection of max. 2x DAM Basic IR-key pad each			
Dimensions	430x85x284 mm			
Material	metal housing with 19" angles			
Colors	black			
Accessories	including 19"-angles and remote control			
model	order-no.	version	packaging unit	price classification
DAM 4000 Basic, black	112-400-04-000-00	Central unit	1	STA

DAM 4000 Basic Hub**Active-Hub**

Extension module for the DAM 4000 Basic to connect 8 keypads DAM Basic IR in structured cabling.

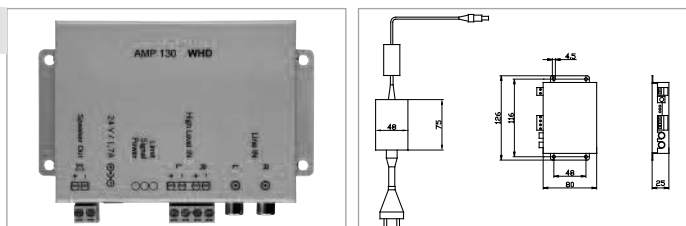
Technical Datas		DAM 4000 Basic Hub		
Operating Voltage	110-230V			
Audio IN	-			
Audio OUT	-			
Connections / Interfaces	8x DAM-Basic audio network (RJ45) for connection of 1x DAM Basic IR-key pad and cascade connection IN/OUT			
Dimensions	430x85x284 mm			
Material	metal housing with 19" angles			
Colors	black			
Accessories	including 19"-angles			
model	order-no.	version	packaging unit	price classification
DAM 4000 Basic HUB-8, black	112-400-04-005-00	Active Hub	1	STA

DAM Basic IR**Keypad module with display**

Easy-to-use control unit DAM Basic IR with individual buttons for volume, source, on/off and the main menu are arranged logically and are self-explanatory. Each control unit has a wake-up function as well as a sleep-timer.

The display shows which sound source you currently use and features i. e. radio frequency or RDS-text of the radio channel. A mini-stereo jack as well as an audio input located at the back of each control unit, allow you to connect two additional sound sources. If the control unit is not in use, the display indicates the time. The control units are so small that the audio control can be integrated and installed just like a common light switch. For flexibility and first class user convenience, you can navigate the whole system with the infrared remote control (RC DAM Basic). The control units have an integrated stereo-amplifier which allows a quick and easy installation: The speakers can be attached to each control unit in the respective room. For the wiring between the DAM Basic IR and the main device we use Cat5-wire. Depending on your needs, the wiring can be arranged in a star shape or from control unit to control unit.

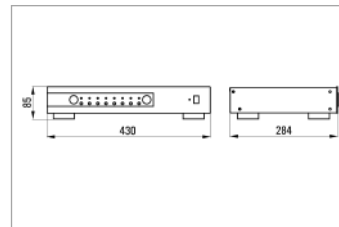
Technical Datas		DAM Basic IR		
Operating Voltage	from DAM 4000 Basic Zentrale/central unit			
Audio IN	Line-In front side: Mini-stereo jack, Line-In back side: screw terminal			
Audio OUT	Stereo speaker output			
Connections / Interfaces	2x DAM-Basic audio network			
Dimensions	55x55x39 mm			
Material	Front cover (55x55mm): plastic			
Colors	pure white shiny			
Accessories	remote control RC DAM Basic			
model	order-no.	version	packaging unit	price classification
DAM Basic IR, white	112-400-01-000-00	Keypad, incl. 55x55 mm-front plate	1	STA

AMP 130**Additional Amplifier**

The AMP 130 is an amplifier for an extension to hi-fi system. It is for example installed in ceilings or walls, providing the possibility to connect two speakers for playing music in higher volume and hi fi quality.

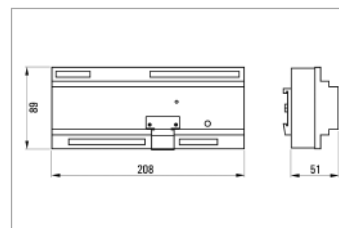
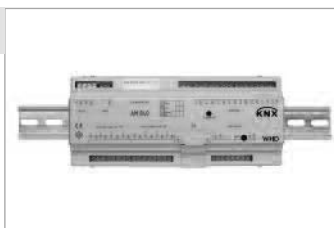
The AMP 130 is switched on and off with the music of the sound source signal. The volume control is also performed on the source.

Technical Datas		AMP 130		
Operating Voltage	100-240 V			
Audio IN	RCA and high level (stereo)			
Audio OUT	Speaker output 1x30W			
Connections / Interfaces	-			
Dimensions	126x80x24 mm			
Material	Housing: metal			
Colors	silver			
Accessories	incl. external power supply			
model	order-no.	version	packaging unit	price classification
AMP 130, silver	111-310-00-130-00	additional amplifier 30W	1	STA

PREAMP 800**8-channel preamplifier**

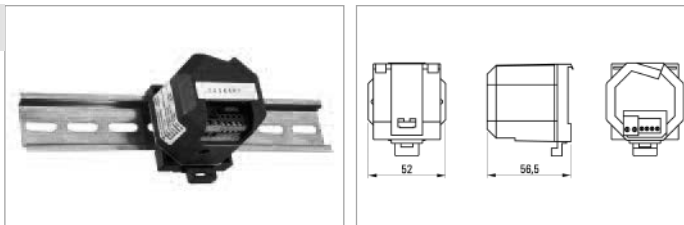
This 8-channel preamplifier PREAMP 800 with identical format to standard commercially-available Hi-Fi devices amplifies the signals of up to 4 stereo or up to 8 mono sources (CD, DVD, radio...), enabling them to be carried across longer lengths of cable without interference. A microphone or a sound source can be connected to channel 8 as you require. Behind the cover on the front, there is a control and LED (for sensitivity adjustment) per input channel. This allows you to balance the volume levels from different sound sources to avoid jumps in volume when switching sources. 19" bracket for rack mounting and mains power supply included in the delivery. A single channel preamplifier for flush boxes is also available (please refer to the chapter on Audio electronics for flush boxes).

Technical Datas		PREAMP 800		
Operating Voltage	230 V			
Audio IN	Ch. 1-7 line (Stereo-RCA), Ch. 8 line or microphone (Stereo RCA/screw socket)			
Audio OUT	8 x mono or 4 x stereo (screw socket)			
Connections / Interfaces	Selector mic/line (ch 8), mute-circuit (to AM 840)			
Dimensions	430x85x284 mm			
Material	Case: metal			
Colors	black			
Accessories	incl. external power supply			
model	order-no.	version	packaging unit	price classification
PREAMP 800, black	112-002-00-800-01	8 channel preamplifier	1	EIB

AM 840**Audio actuator**

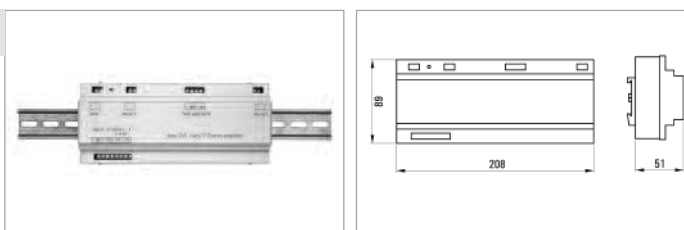
The KNX audio actuator AM 840 distributes the signals from the connected sources (stereo: 4, mono: 8). Functions which can be carried out using KNX sensors: Zone On/Off, volume, source selection, mute, tone control, zone broadcast and priority override (with attention signal/pre-gong). Feedback objects: Amplifier On/Off, volume, source. When using more than 2 stereo or 4 mono zones, several audio actuators can be chained. Setting parameters with ETS. Power supply: 24 V DC via a separate power supply, size of power supply depends on number of power amplifiers connected. Housing for mounting on top-hat rail in REG format, 208 mm wide. Product database: Download from www.whd.de.

Technical Datas		AM 840		
Operating Voltage	24 VDC			
Audio IN	8 x mono or 4 x stereo (screw socket)			
Audio OUT	4 zone mono or 2 zone stereo (screw socket)			
Connections / Interfaces	24 VDC In, control voltage out 4x 0-10 VDC, supply voltage out 4x 24VDC, D-SUB			
Dimensions	208x89x51 mm			
Material	12 REG DIN rail mount metal case			
Colors	silver			
Accessories	D-SUB AM 840 interconnect/Loop-through audio cable			
model	order-no.	version	packaging unit	price classification
AM 840	111-310-02-000-00	EIB/KNX-Audio Actuator, 8 Audio inputs, 4 Audio outputs	1	EIB

AMP 10 DC HS**Power amplifier**

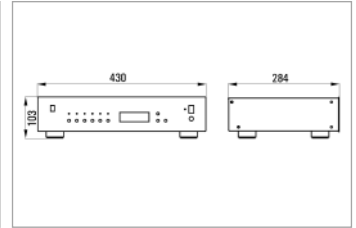
The power amplifier AMP 10 DC HS suitable for top-hat rail mounting offers enough power at 10 Watts for wall-mounted or recessed ceiling speakers. Either one 4 Ohm-, two 8-Ohm- or up to 5x 20 Ohm speakers can be connected in parallel. The AM 840 audio actuator provides the power supply and control. A power amplifier with built-in potentiometer is also available (AMP 10...UP see the chapter on Audio electronics). It is simply connected up in parallel to the standard AMP 10 DC on one of four AM 840 zone outputs, thus allowing for operation in a 5th room. When the "Master" zone is activated, the music signal will also be made available to the subzone; its volume can be controlled via the built-in potentiometer or switched off separately. Speakers with built-in amps are also available.

Technical Datas		AMP 10 DC HS		
Operating Voltage	24 VDC/ 0,8A			
Audio IN	5 VAC or 0.7 VAC (0dB) selectable			
Audio OUT	Speaker level			
Connections / Interfaces	Control voltage 0-10VDC			
Dimensions	52x62x56,5 mm			
Material	DIN rail mount (3U), diecast aluminium			
Colors	black			
Accessories	Power Supply PS 24/1.5			
model	order-no.	version	packaging unit	price classification
AMP 10 DC HS	111-310-01-001-08	0-10V controlled lineamplifier 10W/4 ohms for rail mounting	1	EIB

AMP 250**Stereo audio amplifier**

Powerful stereo audio amplifier for top-hat rail mounting. The metal housing which has been prepared for top-hat rail assembly houses 2 amplifiers with a total output of 100 W (2 x 50 W) in just 12 device widths. The amplifiers have Class D technology - the very latest technology with the best levels of efficiency with low thermal loads. The built-in, switchable loudness function optimises the sound output which means the amplifier sounds just as good at all volumes. Input sensitivity can be switched from 5V (Preamp UP/Preamp 800) to 0dB (line level). This means the device can also be used in direct combination with standard audio components.

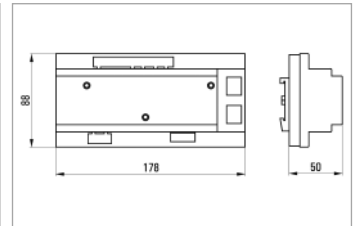
Technical Datas		AMP 250		
Operating Voltage	24 VDC/ 10 A			
Audio IN	5 V or 0 dB stereo (switchable)			
Audio OUT	Speaker level A/B or stereo			
Connections / Interfaces	2x control input 0-10VDC, sense input			
Dimensions	208x89x51 mm			
Material	12 REG DIN rail mount metal case			
Colors	silver			
Accessories	Power supply PS 24/10			
model	order-no.	version	packaging unit	price classification
AMP 250, silver	111-310-00-250-00	lineamplifier stereo, 2x 50W, 4 ohms, with 0-10V control input, for rail mounting	1	EIB

DAM 6000 V3**Central Unit**

The DAM Central unit DAM 6000 is responsible for digitising the connected sound sources and full control of the system. A detailed menu can be used to configure all the settings on the device itself or via the network interface (TCP/IP) using a PC and the integrated web browser. Software to enable the user to control the DAM system using a touch panel is also included in the delivery. Additionally the system can be controlled via an iPhone-APP. The central unit also has the functionality of a learnable remote control. It stores the IR commands and sends the learnt IR commands to the sources via the IR transmitter. The digitalised audio data are subsequently made available to the digital DAM audio interface (RJ 45) together with the control data. Up to 254 zones are possible at this data string with the DAM LS stereo/line out speaker modules via a daisy-chain or star configuration. Other features include: 6 Preset buttons used to save scenarios, timer function/alarm clock, switched network sockets for the sound sources and the PSUs for supplying the LS modules, trigger input detects the status of the sound sources and prevents accidental switch-off when used together with a home cinema system.

Technical Datas	DAM 6000 V3
Operating Voltage	110-250 VAC, 50/60 Hz
Audio IN	5 x analogue (RCA), 1x digital (S/P-DIF optical toslink or coaxial RCA)
Audio OUT	DAM Audio Network to DAM LS-Modules (RJ45) real time uncompressed audio
Connections / Interfaces	switched outlets 110-250 VAC, 50/60 Hz, trigger-out, Ethernet, 6 routed IR ports
Dimensions	430x103x284 mm
Material	Housing: metal
Colors	black
Accessories	RC 6000: IR-remote control, iPhone-APP

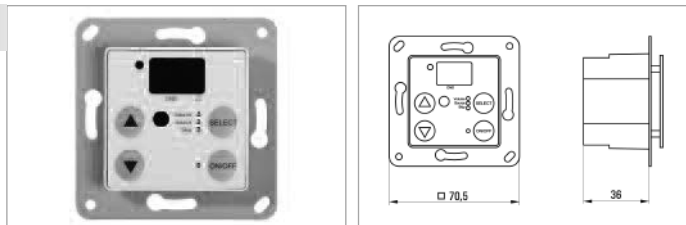
model	order-no.	version	packaging unit	price classification
DAM V3 6000, black	112-001-00-001-03	central unit, incl. remote control DAM RC 6000	1	DAM

DAM V3 LS Stereo**Speaker module**

Speaker module with 2 x 20 W stereo amp and line out output for top-hat rail assembly. Each speaker module represents a zone, selects a stereo audio signal from the DAM network and converts it to an analogue signal before making it available to the line out/speaker outputs. RJ45 sockets for connecting and looping within the DAM audio network. Up to 254 zones are possible. The DAM LS provides a relay contact switch, e.g. to trigger an active speaker or external power amplifier. A connection for up to three control unit DAM-IR is also available. The built-in digital signal processor enables you to make sound settings adjusted to the particular speaker and room. DAM system addresses are assigned by DIP switches.

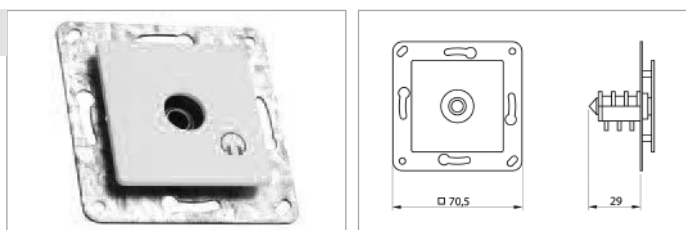
Technical Datas	DAM V3 LS Stereo
Operating Voltage	24 VDC
Audio IN	-
Audio OUT	Speaker level stereo & variable line level stereo
Connections / Interfaces	Relay, IR-Module interface, audio network in/out
Dimensions	178x88x50 mm
Material	10 REG DIN-rail metal case
Colors	silver
Accessories	Power supply 24/2,5

model	order-no.	version	packaging unit	price classification
DAM V3 LS Stereo	112-001-00-005-01	loudspeaker drive unit, stereo	1	DAM

DAM V3 IR**IR-keypad module with display**

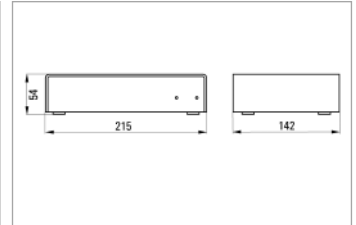
Combined IR-keypad module with display. Connection to the DAM LS speaker module for controlling DAM zones via a keypad or IR remote control. Easy to use: The most important functions can be controlled using 4 keys. The Select button is used to switch between "Volume", "Source" and "Skip". Depending on the source, the Skip button moves to the next track or next radio station. The On/Off-key turns off the zone (short key press) or the whole DAM system (long key press). The second function can be disabled. The DAM IR's film keypad measures 50x50mm and fits almost all standard switch boxes using adapter frames available from any electrical wholesalers. The DAM IR also comes with a headphone amplifier which can be connected to the optional socket for headphones DAM-HP.

Technical Datas		DAM V3 IR		
Operating Voltage	from DAM LS Stereo			
Audio IN	-			
Audio OUT	Stereo headphone (backside screw socket)			
Connections / Interfaces	Interface to DAM V3 LS			
Dimensions	50x50x36 mm			
Material	Membrane keypad 50x50mm, flush housing: aluminium diecast			
Colors	white			
Accessories	Headphone Module DAM V3 HP			
model	order-no.	version	packaging unit	price classification
DAM V3 IR, white	112-001-03-002-00	infrared unit with key pad	1	DAM

DAM V3 HP**Socket for headphones**

Socket for headphones. The loudspeakers in this zone are switched to silent when headphones are plugged in (6.3 mm stereo jack). Connection via DAM combined IR keypad. The DAM HP comes with a 50 mm printed centre plate in pure matt white. It fits almost all standard switch boxes using an adapter frame available from any electrical wholesaler.

Technical Datas		DAM V3 HP		
Operating Voltage	-			
Audio IN	-			
Audio OUT	6.3mm Stereo jack (switched)			
Connections / Interfaces	-			
Dimensions	50x50x29 mm			
Material	Cover plate (50x50mm): plastic			
Colors	pure matt white			
Accessories	-			
model	order-no.	version	packaging unit	price classification
DAM V3 HP	112-001-00-008-00	for connection of headphone, incl. 50x50 mm-front plate	1	DAM

DAM V3 LI**Local-Input module**

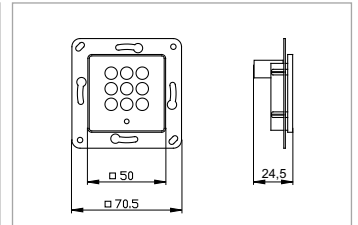
Local Input module for connecting a line source or a microphone to feed an audio signal into the system from any point of the DAM audio network. Changeover switch for LINE/MIC and separate gain controls with clipping LED. The IR output can be used to control the connected source remotely from all zones. CAT 5 In/Out sockets for the DAM audio network loop the digital signal to the following DAM module. A switch input enables the audio signal connected to the DAM LI to be activated at all speaker modules in the network. This enables the system to function as a public address system, e.g. from an ELA system or a microphone connected directly. Up to 127 DAM LI modules can be connected up to a network, for of which can be activated at any one time. DAM system addresses are assigned by DIP switches.

Technical Datas		DAM V3 LI		
Operating Voltage	230 V			
Audio IN	Microphone (XLR), line stereo (RCA)			
Audio OUT	DAM Audio-Network			
Connections / Interfaces	Trigger input, IR port			
Dimensions	215x54x142 mm			
Material	Case: metal, cover: plastic			
Colors	Case: silver, cover: white			
Accessories	incl. 24 VDC power supply			
model	order-no.	version	packaging unit	price classification
DAM V3 LI, white	112-001-00-009-01	Local Input Modul for connection of line source or microphone	1	DAM

RC HLS 51**Infrared remote control**

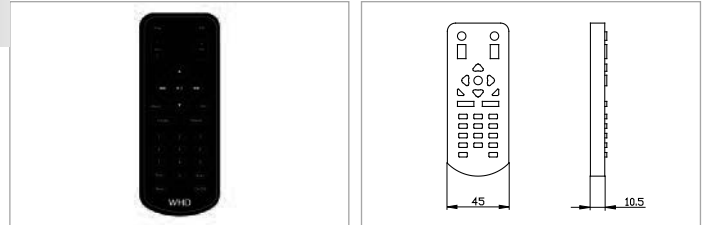
Remote control for HLS 51 Radio Basic and Radio BTR 205.

Technical Datas		RC HLS 51		
Operating Voltage		-		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		45x112x13 mm mm		
Material		plastic		
Colors		black		
Accessories		-		
model	order-no.	version	packaging unit	price classification
RC HLS 51, black	112-001-04-051-00	Remote control for HLS 51 radio Basic and BTR 205 radio	1	STA

RC HLS 51 UP**Infrared remote control for flush mounting**

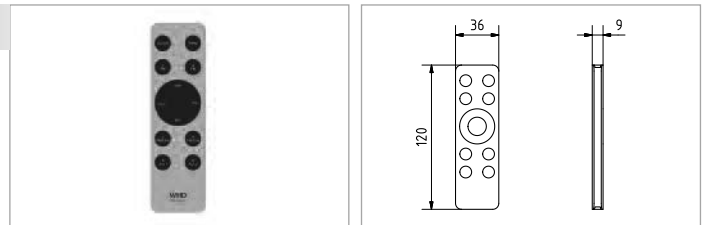
Remote control for HLS 51 Radio Basic and Radio BTR 205.

Technical Datas		RC HLS 51 UP		
Operating Voltage		from HLS 51 LI-Radio		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		Infrared receiver integrated		
Dimensions		50x50x24 mm		
Material		Cover plate (50x50mm): plastic		
Colors		white		
Accessories		-		
model	order-no.	version	packaging unit	price classification
RC HLS 51 UP, white	112-001-00-510-00	Flush mounted remote control fitting to HLS 51 Radio Basic and radio BTR 205	1	STA

RC MP 55**Infrared remote control**

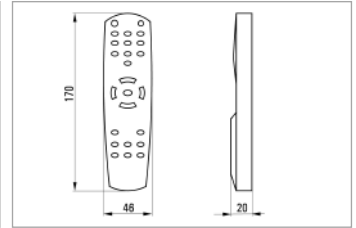
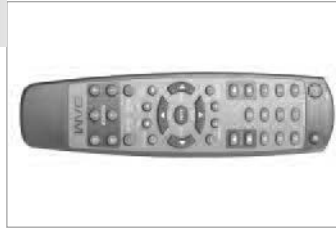
Remote Control for RDS Radio

Technical Datas		RC MP 55 Radio		
Operating Voltage	-			
Audio IN	-			
Audio OUT	-			
Connections / Interfaces	-			
Dimensions	45x112x13 mm			
Material	Plastic			
Colors	black			
Accessories	-			
model	order-no.	version	packaging unit	price classification
RC MP 55, black	112-001-04-055-00	Remote control for RDS radio	1	STA

RC DAM Basic Alu**Infrared remote Control**

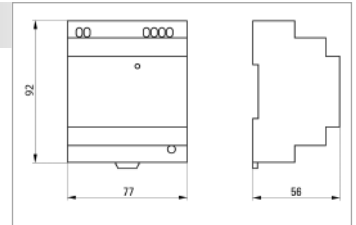
Remote Control for DAM Basic

Technical Datas		RC DAM Basic Alu		
Operating Voltage	-			
Audio IN	-			
Audio OUT	-			
Connections / Interfaces	-			
Dimensions	36x120x9 mm			
Material	Housing: aluminium			
Colors	silver			
Accessories	-			
model	order-no.	version	packaging unit	price classification
RC DAM Basic alu, silver	112-001-04-400-01	Remote control for DAM-Basic	1	STA

DAM V3 RC 6000**Infrared remote control**

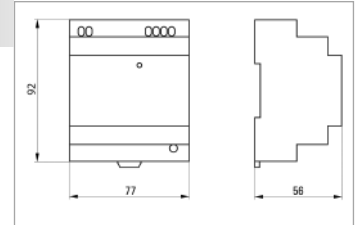
Value-for-money Infrared remote control for the DAM system with all important functions including source control. Each main unit DAM 6000 includes a remote control RC 6000.

Technical Datas		RC 6000		
Operating Voltage		-		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		46x170x20 mm		
Material		Housing: plastic		
Colors		black-grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
DAM V3 RC 6000	112-001-00-007-00	remote control with hard keys	1	DAM

PS 24/1,5**Switched power supply**

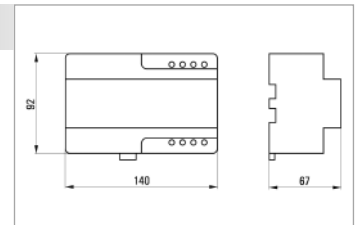
Switched power supply selected by WHD for top-hat rail assembly, stabilised, with short-circuit protection, can be switched in parallel.

Technical Datas		PS 24/1,5		
Operating Voltage		230 VAC		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		77x56x92 mm		
Material		Housing: plastic		
Colors		grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
PS 24/1,5	112-006-00-001-00	power supply 24V-1,5A for rail mounting	1	LSP

PS 24/2,5**Switched power supply**

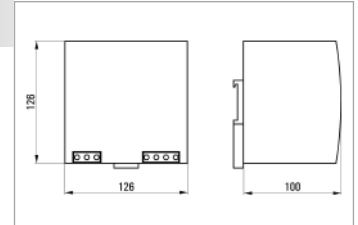
Switched power supply selected by WHD for top-hat rail assembly, stabilised, with short-circuit protection, can be switched in parallel.

Technical Datas		PS 24/2,5		
Operating Voltage		230 VAC		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		77x56x92 mm		
Material		Housing: plastic		
Colors		grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
PS 24/2,5	112-100-60-024-25	power supply 24V-2,5A for rail mounting	1	LSP

PS 24/5**Switched power supply**

Switched power supply selected by WHD for top-hat rail assembly, stabilised, with short-circuit protection, can be switched in parallel.

Technical Datas		PS 24/5		
Operating Voltage		230 VAC		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		140x67x92 mm		
Material		Housing: plastic		
Colors		grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
PS 24/5	112-100-05-000-00	power supply 24V-5A for rail mounting	1	LSP

PS 24/10**Switched power supply**

Switched power supply selected by WHD for top-hat rail assembly, stabilised, with short-circuit protection, can be switched in parallel.

Technical Datas		PS 24/10		
Operating Voltage		230 VAC		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		126x100x126 mm		
Material		Housing: plastic		
Colors		grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
PS 24/10	112-100-00-200-00	power supply 24V-10A for rail mounting	1	LSP

HL 401**High-Level Converter**

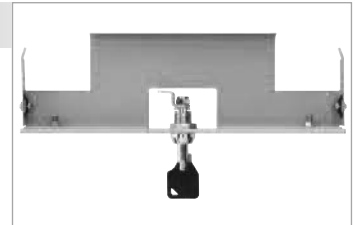
The HL 401 is a high-level Converter and allows the signal adaptation of a low-impedance speaker output to a Line-In signal. The galvanic isolation ensures a trouble-free connection.

Technical Datas		HL 401		
Operating Voltage		-		
Audio IN		High-Level input stereo		
Audio OUT		Line-out stereo		
Connections / Interfaces		-		
Dimensions		63x90x22 mm		
Material		plastic		
Colors		black		
Accessories		-		
model	order-no.	version	packaging unit	price classification
HL 401, black	124-401-00-000-00	High-Level Converter	1	STA

SUB D AM 840**Cascade cable for AM 840**

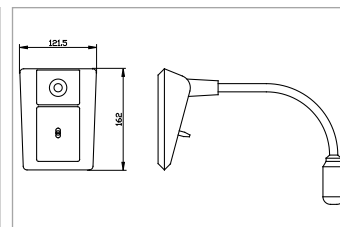
When more than 4 mono (or 2 stereo) zones are needed, at least one other audio actuator AM 840 will have to be used. The AM 840 provides two SUB-D sockets for looping the audio inputs. A suitable SUB-D cable, 0.5m in length is available as an accessory.

Technical Datas		SUB D AM 840		
Operating Voltage		-		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		length of cable 500 mm		
Material		-		
Colors		grey		
Accessories		-		
model	order-no.	version	packaging unit	price classification
SUB D AM 840	148-656-00-840-00	cascade cable	1	EIB

DBS SOUNDPAD**Theft protection for SOUNDPAD**

The lockable metal cover for the charging slot of the Soundpad protects the internal iPad against theft in public areas.

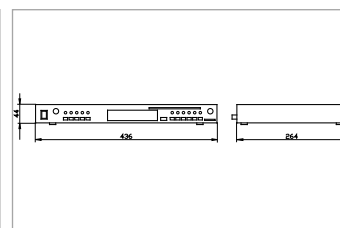
Technical Datas		DBS SOUNDPAD		
Operating Voltage		-		
Audio IN		-		
Audio OUT		-		
Connections / Interfaces		-		
Dimensions		-		
Material		metal		
Colors		silver		
Accessories		-		
model	order-no.	version	packaging unit	price classification
DBS SOUNDPAD	192-013-00-130-00	Theft protection for SOUNDPAD, SOUNDPAD 4 and SOUNDPAD Air	1	STA

MIC 100**Microphone desk**

The MIC 100 makes a fantastic team with the amplifiers AMP 120 and AMP 550. This system allows you to make one general announcement audible for every sound zone or specific announcements which can be heard in selected sound zones only.

Technical Datas	MIC 100
Operating Voltage	-
Audio IN	-
Audio OUT	-
Connections / Interfaces	Mic out via 6.3mm stereo jack
Dimensions	162x121,5x295 mm
Material	Housing: plastic
Colors	black
Accessories	-

model	order-no.	version	packaging unit	price classification
MIC 100, black	111-310-08-000-00	Microphone desk	1	STA

CT 101**Tuner, CD-Player, RDS Radio and AUX-In**

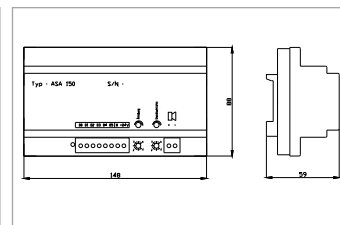
The CT 101 unites RDS-tuner, SD-card reader, USB-player and CD-player with mp3 data recognition in one device. As an universal audio source with an additional AUX-In, it is a great partner for the multi-room-systems DAM 6000 V3, DAM 4000 Basic and KNX-Audio as well as the amplifiers AMP 120 and AMP 550.

Technical Datas	CT 101
Operating Voltage	230 V
Audio IN	AUX-In
Audio OUT	Tuner, CD-Player, RDS-Radio
Connections / Interfaces	75 ohm coax aerial input
Dimensions	436x44x265 mm
Material	Housing incl. 19"-brackets: metal
Colors	black
Accessories	-

model	order-no.	version	packaging unit	price classification
CT 101, black	106-005-04-001-00	19" Audio Source with Tuner, CD-Player, RDS-Radio, AUX-In	1	STA

ASA 150

Voice module



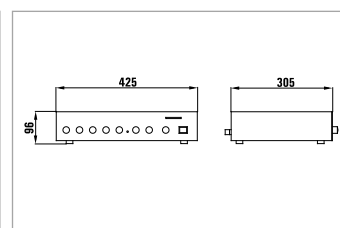
The ASA 150 is an audio storage with built-in amplifier and serves as an acoustic signal output module for defined prompts, audible signs such as a break sign, ... etc. It can be stored up to 32 different mp3 audio files on the internal MMC / SD card and started in 2 different volumes using the 6-bit 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 Datas	ASA 150
Operating Voltage	24 VDC
Audio IN	-
Audio OUT	Mono 15W, min. 4 ohms
Connections / Interfaces	6 digital inputs (32 different spots in 2 different volume steps possible)
Dimensions	148x88x59 mm
Material	housing: sheet metal
Colors	silver
Accessories	optional power supply PS 24/1,5

model	order-no.	version	packaging unit	price classification
ASA 150, silver	114-200-03-020-01	Voice module	1	STA

AMP 120

Mixing amplifier



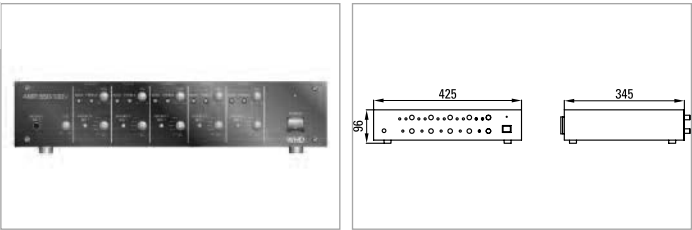
100V mix-amplifier for the professional use e.g. in shops, community centers, restaurants... At the four MIC inputs microphones of most different design are connectable. Each microphone entrance has its own volume control. Beyond that an automatic controller is available for the total volume as well 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 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 Datas	AMP 120
Operating Voltage	230 V AC / 50 Hz, 24 V DC
Audio IN	5x microphone, two of them switchable to Line-In, plus 1 more Line-In
Audio OUT	Line-Out, speaker output: 8 ohms, 70V and 100V
Connections / Interfaces	Mute input for quiet wiring
Dimensions	425x96x305 mm
Material	Housing: metal
Colors	black
Accessories	Microphone desk MIC 100, Audio Source CT 101

model	order-no.	version	packaging unit	price classification
AMP 120, black	111-310-04-120-00	mixing amplifier 120W	1	STA

AMP 550

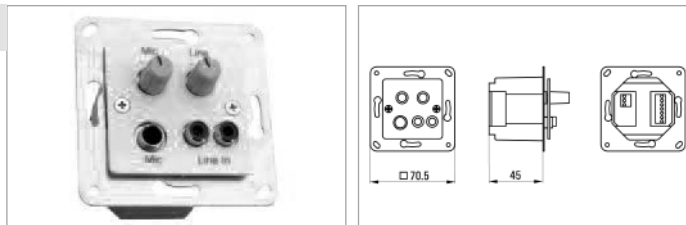
Zone amplifier



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, houses,... 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 (switchable).

Technical Datas	AMP 550
Operating Voltage	115V AC / 230V AC
Audio IN	2x microphone, 1 of them switchable to Line-In, 5x Line-In
Audio OUT	5 zones (optional 8 ohms, 70V or 100V)
Connections / Interfaces	Mute input for quiet wiring
Dimensions	425x96x345 mm
Material	Housing: metal
Colors	black
Accessories	Microphone desk MIC 100, Audio Source CT 101

model	order-no.	version	packaging unit	price classification
AMP 550, black	111-310-00-550-00	5-zones mixing amplifier 5x50W	1	STA

PREAMP UP**amplifier fitting to switch boxes**

Preamplifier for connecting a microphone and a line source, e.g. a CD- or MP3 player. Suitable for homes, small training rooms, doctor's surgeries, etc.... The volume level from each source is separately controllable. The Preamp UP can also be switched on/off. The pre-amplified signal can be forwarded to up to 50x AMP 10 or to a 100V amplifier for example. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. A 50 x 50 mm printed cover plate is included in the delivery. A suitable adapter frame, obtainable from any electrical wholesaler is available for the particular switch program.

Technical Datas		PREAMP UP		
Input Impedance Mic/Line	4.7 kOhm/47 kOhm			
Max. Output Voltage	5 V			
Output Impedance	50 Ohm			
Rated Power	-			
Control Voltage	0-10 V			
Operating Voltage	22 - 26 VDC			
Current Consumption	0.025 A			
depth	45 mm			
Accessories	PS 24/1,5: power supply			
model	order-no.	version	packaging unit	price classification
PREAMP BJ UP, white	111-310-00-100-02	Preamplifier with separately variable microphone-/Line input incl. 50x50 mm-cover plate, fitting to Busch-Jaeger switch ranges with 50x50mm-adapter frame.	1	AEL
PREAMP UP, white	111-310-00-100-01	Preamplifier with separately variable microphone-/Line input incl. 50x50 mm-cover plate.	1	AEL

AMP 10 ... UP**amplifiers fitting to switch boxes**

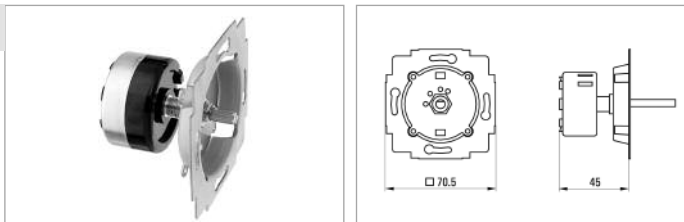
Power amplifier for use with the preamplifier Preamp UP, suitable for homes, small training rooms, doctor's surgeries, etc.... The AMP 10 features a potentiometer with switch allowing you to adjust the volume independently and to switch the amplifier on/off. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. It comes preconfigured for Venetian blind cover plates with rotary dial for the particular switch program. These parts 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 Datas		AMP 10 ... UP		
Input Impedance Mic/Line	47 kOhm/47 kOhm			
Max. Output Voltage	6.3 V			
Output Impedance	4 Ohm			
Rated Power	10 W			
Control Voltage	-			
Operating Voltage	22 - 26 VDC			
Current Consumption	0.77 A			
depth	55 mm			
Accessories	PS 24/1,5: power supply			
model	order-no.	version	packaging unit	price classification
Low impedance				
AMP 10 BE UP	111-310-01-000-11	10W/4 ohms Lineamplifier, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
AMP 10 BJ UP	111-310-01-000-12	10W/4 ohms Lineamplifier, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
AMP 10 GE UP	111-310-01-000-03	10W/4 ohms Lineamplifier, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL

model	order-no.	version	packaging unit	price classification
AMP 10 GMP UP	111-310-01-000-05	10W/4 ohms Lineamplifier, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kalloysto, Exclusiv-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
AMP 10 JU UP	111-310-01-000-06	10W/4 ohms Lineamplifier, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design and ELSO FASHION, NOVIA, SCALA.	1	AEL

LR 15 mono ... UP

volume control for 4-, 8-, 20 ohm speakers fitting to switch boxes



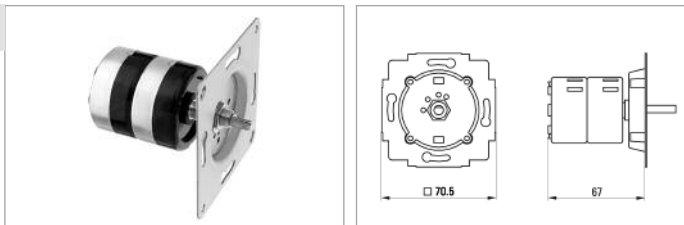
Analogue volume control, suitable for homes, doctor's surgeries, etc...The LR 15 Mono comes with a potentiometer with stopper. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. It comes preconfigured for Venetian blind cover plates with rotary knob for the particular switch program. These parts can be obtained from any electrical wholesaler. For exact order data according to the switch program please refer to the table at the end of this chapter.

Technical Datas	LR 15 mono ... UP
Impedance	50 Ohm
Rated Power	15 W
depth	45 mm
Component Set	1 potentiometer with stopper, minimum level might stay when set to zero

model	order-no.	version	packaging unit	price classification
Low impedance				
LR 15 mono BE UP	115-005-15-003-11	50 ohms/15W with potentiometer, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LR 15 mono BJ UP	115-005-15-003-13	50 ohms/15W with potentiometer, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LR 15 mono GE UP	115-005-15-003-14	50 ohms/15W with potentiometer, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
LR 15 mono GMP UP	115-005-15-003-10	50 ohms/15W with potentiometer, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kallysto, Exclusiv-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
LR 15 mono JU UP	115-005-15-003-08	50 ohms/15W with potentiometer, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL

LR 15 stereo ... UP

volume control for 4-, 8-, 20 ohm speakers fitting to switch boxes

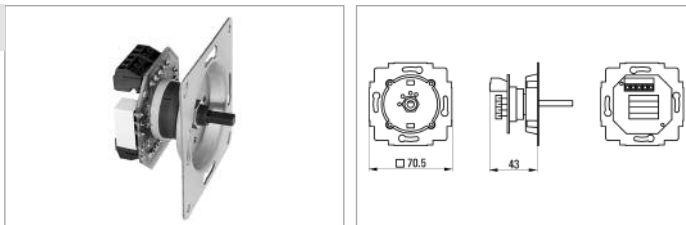


Analogue volume control, suitable for homes, doctor's surgeries, ...The LR 15 Stereo features two potentiometers with stoppers. The metal support plate is screwed onto a flush-mounted box. It comes preconfigured for Venetian blind cover plates with rotary knob for the particular switch program. These parts can be obtained from any electrical wholesaler. For exact order data according to the switch program please refer to the table at the end of this chapter.

Technical Datas		LR 15 stereo ... UP			
Impedance	2x50 Ohm				
Rated Power	2x15 W				
depth	67 mm				
Component Set	2 Potentiometer with stopper, minimum level might stay when set to zero				
model	order-no.	version	packaging unit	price classification	
Low impedance					
LR 15 stereo BE UP	115-005-15-103-01	50 ohms/15W with potentiometer, fitting to:Berker ARSYS, B.1, B.3, B.7, K.1, K.5	1	AEL	
LR 15 stereo BJ UP	115-005-15-103-06	50 ohms/15W with potentiometer, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL	
LR 15 stereo GE UP	115-005-15-103-07	50 ohms/15W with potentiometer, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL	
LR 15 stereo GMP UP	115-005-15-103-02	50 ohms/15W with potentiometer, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kalloysto, Exclusiv-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL	
LR 15 stereo JU UP	115-005-15-103-04	50 ohms/15W with potentiometer, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL	

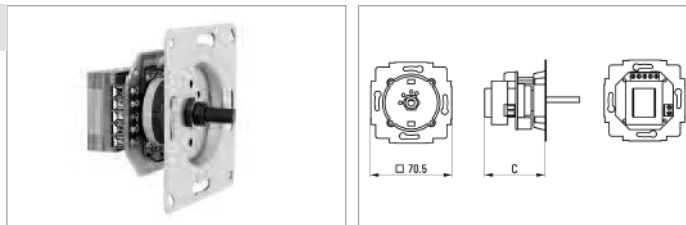
LR 20 ... UP

volume control for 4-, 8-, 20 ohm speakers fitting to switch boxes



Volume control, suitable for restaurants, hotel bathrooms....The LR 20 Mono features a rotary dial without limit stop and a resistor network. This makes it especially suitable for use in public buildings. The metal support plate is screwed onto a standard flush-mounted box 61/63 mm in depth. It comes pre-configured for Venetian blind cover plates with rotary knob for the particular switch box. These parts can be obtained from any electrical wholesaler. For exact order data according to the switch box please refer to the table at the end of this chapter.

Technical Datas		LR 20 mono... UP		
Impedance	4 Ohm			
Rated Power	20 W			
depth	43 mm			
Component Set	resistance network, rotary switch without stopper, 9 vol. levels, 3 off positions			
model	order-no.	version	packaging unit	price classification
Low impedance				
LR 20 mono BE UP	115-005-20-003-11	8 ohms/20W with resistance network, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LR 20 mono BJ UP	115-005-20-003-10	8 ohms/20W with resistance network, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LR 20 mono GE UP	115-005-20-003-09	8 ohms/20W with resistance network, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
LR 20 mono GMP UP	115-005-20-003-12	8 ohms/20W with resistance network, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
LR 20 mono JU UP	115-005-20-003-08	8 ohms/20W with resistance network, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500 as well as ELSO FASHION, NOVIA, SCALA.	1	AEL

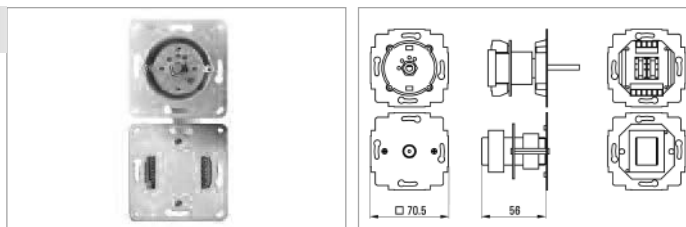
LST 50 ... UP**100V-volume control fitting to switch boxes**

100V volume control, suitable e.g. for offices, restaurants, shops, etc... The LST 50 comes with a rotary dial without limit stop and auto-transformer. Also available with an optional mandatory relay. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. It comes preconfigured for Venetian blind cover plates with rotary dial for the particular switch program. These parts 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 Datas		LST 50 ... UP		
Rated Power	50 W			
Mandatory Relais Voltage	24 V			
Mandatory Relais Current	0.012 A			
depth	54 mm			
Component Set	rotary switch without stopper, 9 volume levels, 3 off positions			
model	order-no.	version	packaging unit	price classification
100V version				
LST 50 BE UP	115-050-02-200-20	100V/50W with auto-transformer, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LST 50 BE UP-R	115-050-02-200-21	100V/50W with auto-transformer and mandatory relay, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LST 50 BJ UP	115-050-02-200-10	100V/50W with auto-transformer, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LST 50 BJ UP-R	115-050-02-200-11	100V/50W with auto-transformer and mandatory relay, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LST 50 GE UP	115-050-02-200-60	100V/50W with auto-transformer, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
LST 50 GE UP-R	115-050-02-200-61	100V/50W with auto-transformer and mandatory relay, fitting to GIRA System 55, E2, Event, Esprit und Standard 55.	1	AEL
LST 50 GMP UP	115-050-02-200-30	100V/50W with auto-transformer, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kallysto, Exclusive-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
LST 50 GMP UP-R	115-050-02-200-31	100V/50W with auto-transformer and mandatory relay, fitting to GIRA Edelstahl, S-Color as well as Merten System M1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kallysto as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
LST 50 JU UP	115-050-02-200-50	100V/50W with auto-transformer, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL
LST 50 JU UP-R	115-050-02-200-51	100V/50W with auto-transformer and mandatory relay, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL

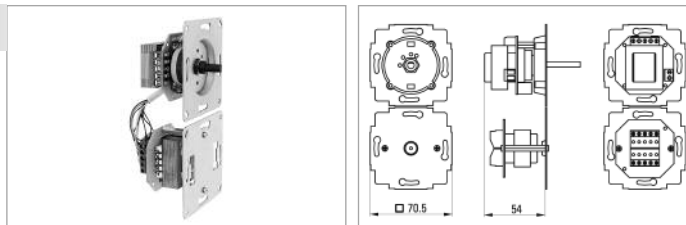
LST 50 AB ... UP

100V-volume control fitting to switch boxes



100V volume control suitable for controlling two speaker circuits (AB cabling), e.g. in offices, department stores, ... The LST 50 AB comes with a rotary dial without limit stop and two 25W auto-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 program. These parts 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 Datas		LST 50 AB... UP		
Rated Power	2x25 W			
Mandatory Relais Voltage	24 V			
Mandatory Relais Current	0.012 A			
depth	56 mm			
Component Set	rotary switch without stopper, 11 volume levels, 1 off position			
model	order-no.	version	packaging unit	price classification
100V version				
LST 50 AB JU UP	115-050-04-000-00	100V/2x25W, for controlling 2 speaker circuits (AB cabling), fitting to JUNG SL 500, LS 990 and Edelstahl. (Further switch programs on request)	1	AEL
LST 50 AB JU UP-R	115-050-04-000-01	100V/2x25W with relais, for controlling 2 speaker circuits (AB cabling), fitting to JUNG SL 500, LS 990 and Edelstahl. (Further switch programs on request)	1	AEL

LST 100 ... UP**100V-volume control fitting to switch boxes**

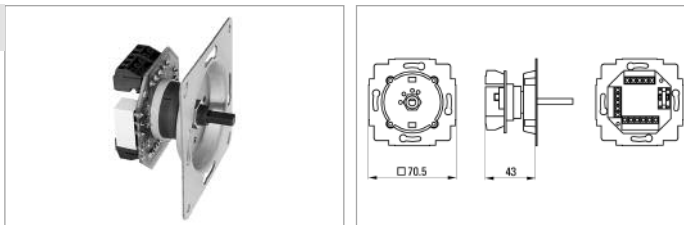
100V volume control, suitable for offices, restaurants, department stores,... The LST 100 comes with a rotary dial without limit stop and two 50W low-voltage transformers. Also available with an optional mandatory relay. The metal support plate is screwed onto two standard flush-mounted boxes 63 mm in 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.

Technical Data		LST 100... UP		
Rated Power	100 W			
Mandatory Relais Voltage	24 V			
Mandatory Relais Current	0.012 A			
depth	54 mm			
Component Set	rotary switch without stopper, 9 volume levels, 3 off positions			

model	order-no.	version	packaging unit	price classification
100V version				
LST 100 BE UP	115-100-02-200-20	100V/100W with auto transformer, fitting to Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LST 100 BE UP-R	115-100-02-200-21	100V/100W with auto transformer and mandatory relay, fitting to Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
LST 100 BJ UP	115-100-02-200-10	100V/100W with auto transformer, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LST 100 BJ UP-R	115-100-02-200-11	100V/100W with auto transformer and mandatory relay, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
LST 100 GE UP	115-100-02-200-42	100V/100W with auto transformer, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
LST 100 GE UP-R	115-100-02-200-43	100V/100W with auto transformer and mandatory relay, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
LST 100 GI UP	115-100-02-200-30	100V/100W with auto transformer, fitting to GIRA Edelstahl and S-Color.	1	AEL
LST 100 GI UP-R	115-100-02-200-31	100V/100W with auto transformer and mandatory relay, fitting to GIRA Edelstahl and S-Color.	1	AEL
LST 100 JCDST UP	115-100-02-200-52	100V/100W with auto transformer, fitting to JUNG CD 500 and ST 550.	1	AEL
LST 100 JCDST UP-R	115-100-02-200-53	100V/100W with auto transformer and mandatory relay, fitting to JUNG CD 500 and ST 550.	1	AEL
LST 100 JU UP	115-100-02-200-50	100V/100W with auto transformer, fitting to JUNG SL 500, LS 990, und Edelstahl.	1	AEL
LST 100 JU UP-R	115-100-02-200-51	100V/100W with auto transformer and mandatory relay, fitting to JUNG SL 500, LS 990, und Edelstahl.	1	AEL
LST 100 ME UP	115-100-02-200-34	100V/100W with auto transformer, fitting to Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1 and OctoColor.	1	AEL
LST 100 ME UP-R	115-100-02-200-35	100V/100W with auto transformer and mandatory relay, fitting to Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1 and OctoColor.	1	AEL
LST 100 PE UP	115-100-02-200-36	100V/100W with auto transformer, fitting to PEHA AURA, DIALOG and STANDARD.	1	AEL
LST 100 PE UP-R	115-100-02-200-37	100V/100W with auto transformer and mandatory relay, fitting to PEHA AURA, DIALOG and STANDARD.	1	AEL

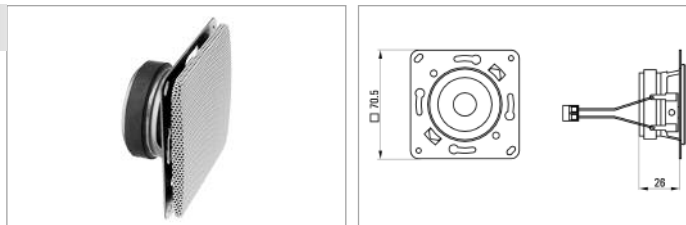
PRO 3 ... UP

program selectors fitting to switch boxes



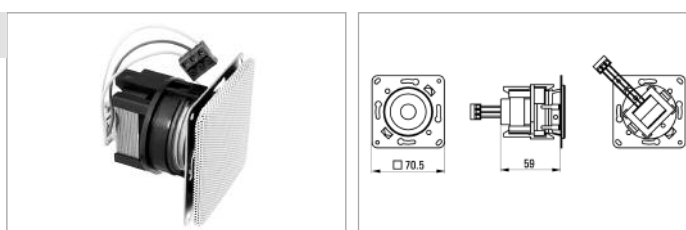
Program selector switch, e.g for restaurants, shops, ... The PRO 3 UP features a rotary dial without limit stop for 6 programmes. Also available with an optional mandatory relay. The metal support plate is screwed onto a standard flush-mounted box 63 mm in depth. It comes preconfigured for Venetian blind cover plates with rotary knob for the particular switch program. These parts can be obtained from any electrical wholesaler. For exact order data according to the switch program please refer to the table at the end of this chapter.

Technical Datas		Pro 3... UP		
Mandatory Relais Voltage	24 V			
Mandatory Relais Current	0.012 A			
depth	43 mm			
Component Set	12 steps for 6 programs without stopper			
model	order-no.	version	packaging unit	price classification
PRO 3 BE UP	115-003-02-200-20	6 programs, 12 steps, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
PRO 3 BE UP-R	115-003-02-200-21	6 programs, 12 steps with mandatory relay, fitting to: Berker ARSYS, B.1, B.3, B.7, K.1, K.5, Modul 2, S.1 and Twinpoint.	1	AEL
PRO 3 BJ UP	115-003-02-200-10	6 programs, 12 steps, fitting to: Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI and solo.	1	AEL
PRO 3 BJ UP-R	115-003-02-200-11	6 programs, 12 steps with mandatory relay, fitting to Busch-Jaeger alpha nea, alpha exclusive, axcent, Busch-Duro, carat, future, future linear, impuls, Reflex SI und solo.	1	AEL
PRO 3 GE UP	115-003-02-200-30	6 programs, 12 steps, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
PRO 3 GE UP-R	115-003-02-200-31	6 programs, 12 steps with mandatory relay, fitting to GIRA System 55, E2, Event, Esprit and Standard 55.	1	AEL
PRO 3 GMP UP	115-002-02-200-30	6 programs, 12 steps, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kallysto, Exclusiv-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
PRO 3 GMP UP-R	115-002-02-200-31	6 programs, 12 steps with mandatory relay, fitting to GIRA Edelstahl, S-Color as well as Merten System M, 1-M, Atelier-M, M-Smart, M-Plan, M-Arc, M-Star, Antik/Fläche, Atelier, Artec, M1, OctoColor, Hager Kallysto, Exclusiv-Design, as well as PEHA AURA, DIALOG, STANDARD.	1	AEL
PRO 3 JU UP	115-002-02-200-50	6 programs, 12 steps, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL
PRO 3 JU UP-R	115-002-02-200-51	6 programs, 12 steps with mandatory relay, fitting to JUNG A 500, AS 500, A Creation, CD 500, CD plus, Edelstahl, LS 990, SL 500, Hager Kallysto, Exclusiv-Design, as well as ELSO FASHION, NOVIA, SCALA.	1	AEL

KEL ... 8 Ohm**8 ohm speakers fitting to switch boxes**

Speaker suitable for speech and background music, e.g. in offices, homes, hotel bathrooms, ... The KEL ... 8/20 Ohm offers outstanding sound for its size. Comes with a 50 mm full-range speaker. The metal support plate is screwed onto a standard flush-mounted box 42 mm in depth, or a surface-mounted housing. 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.

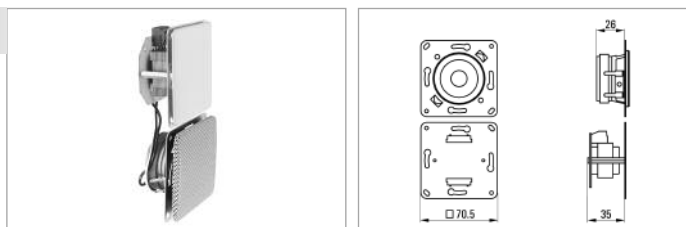
Technical Datas		KEL ... 8 Ohm		
Load Rating / Music Power	3/4 W			
Transformer	–			
SDP 1W/1m	83 dB			
Frequency Range (-3 dB)	150-20000 Hz			
model	order-no.	version	packaging unit	price classification
Low impedance				
KEL BJ-8, white	103-008-00-002-06	3W/8 ohms, fitting to Busch-Jaeger Solo and Future.	1	AEL
KEL GE-8, alu	103-008-00-001-25	3W/8 ohms, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.	1	AEL
KEL GE-8, white	103-008-00-001-15	3W/8 ohms, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.	1	AEL
KEL GBJP-8, white	103-008-00-001-10	3W/8 ohms, fitting to Busch-Jaeger impuls as well as GIRA S-Color as well as JUNG Edelstahl, LS 990 and PEHA DIALOG.	1	AEL
KEL JU-8, white	103-008-00-001-20	3W/8 ohms, fitting to JUNG CD 500 and CD plus.	1	AEL
KEL ME-8, white	103-008-00-002-00	3W/8 ohms, fitting to Merten M1, Atelier, Epoca (System Basis direct fitting), Artec, Antik, Tracent (System Fläche, only with adapter) and OctoColor (only with adapter).	1	AEL
KEL MM-8, alu	103-008-00-002-12	3W/8 ohms, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL
KEL MM-8, anthracite	103-008-00-002-13	3W/8 ohms, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL
KEL MM-8, white	103-008-00-002-11	3W/8 ohms, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL

KEL ... UP T**100V-speakers fitting to switch boxes**

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 Datas		KEL ... UP T		
Load Rating / Music Power	3 W			
Transformer	3/1.5 W			
SDP 1W/1m	83 dB			
Frequency Range (-3 dB)	150-20000 Hz			

model	order-no.	version	packaging unit	price classification
100V version				
KEL BJ-T UP, white	103-008-00-002-04	3W/100V, fitting to Busch-Jaeger Solo and Future.	1	AEL
KEL GE-T UP, alu	103-008-00-001-23	3W/100V, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.	1	AEL
KEL GE-T UP, anthracite	103-008-00-001-16	3W/100V, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.	1	AEL
KEL GE-T UP, white	103-008-00-001-13	3W/100V, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500	1	AEL
KEL GJBJP-T UP, white	103-008-00-001-11	3W/100V, fitting to Busch-Jaeger impuls as well as GIRA S-Color as well as JUNG Edelstahl, LS 990 and PEHA DIALOG.	1	AEL
KEL JU-T UP, white	103-008-00-001-21	3W/100V, fitting to JUNG CD 500 and CD plus.	1	AEL
KEL ME-T UP, white	103-008-00-002-01	3W/100V, fitting to Merten M1, Atelier, Epoca (System Basis direct fitting), Artec, Antik, Tracent (System Fläche, only with adapter) and OctoColor (only with adapter).	1	AEL
KEL MM-T UP, anthracite	103-008-00-001-30	3W/100V, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL
KEL MM-T UP, alu	103-008-00-001-29	3W/100V, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL
KEL MM-T UP, white	103-008-00-001-28	3W/100V, fitting to Merten M-SMART, M-ARC, M-PLAN (not for M-PLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL

KEL ... AP T**100V-speakers fitting to switch boxes**

Speaker suitable for speech and background music, e.g. in offices, homes, hotel bathrooms, ... The KEL ... AP T offers outstanding sound for its size. It features a 50 mm full range speaker and 100V transformer which is housed in a separate flush box. The metal support plates are screwed onto a standard surface-mounted housing. The grille (included in the delivery) is inserted into the metal support plate thus securing the frame. The second metal support plate has been pre-configured for a blanking plate designed for the specific switch program. These 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 ... AP T		
Load Rating / Music Power	3 W			
Transformer	3/1.5 W			
SDP 1W/1m	83 dB			
Frequency Range (-3 dB)	150-20000 Hz			
model	order-no.	version	packaging unit	price classification
100V version				
KEL BE-T AP, white	103-008-00-001-19	3W/100V fitting to Merten MSMART, M-ARC, M-PLAN (not for MPLAN II) and M-STAR as well as Berker B.1, B.3, B.7 and S.1.	1	AEL
KEL BJ-T AP, white	103-008-00-002-05	3W/100V, fitting to Busch-Jaeger Solo and Future.	1	AEL
KEL GE-T AP, white	103-008-01-001-13	3W/100V, fitting to e.g. GIRA System 55, E2, Event, Esprit and Standard 55 as well as JUNG A500.	1	AEL
KEL GI-T AP, white	103-008-00-001-32	3W/100V, fitting to GIRA S-Color.	1	AEL
KEL JU-T AP, white	103-008-00-001-36	3W/100V, fitting to JUNG CD 500 and CD plus.	1	AEL
KEL ME-T AP, white	103-008-00-002-02	3W/100V, fitting to Merten M1, Atelier, Epoca (System Basis direct fitting), Artec, Antik, Tracent (System Fläche, only with adapter) and OctoColor (only with adapter).	1	AEL
KEL PE-T AP, white	103-008-00-001-35	3W/100V, fitting to PEHA DIALOG.	1	AEL

Audio electronics fitting to switch programs without center plates, frames and sockets

Power Type	Order details (... -R: incl. mandatory relay)					
	Berker ARSYS B.1 B.3 B.7 K.1 K.5 Modul 2 S.1 Twinpoint	Busch-Jaeger alpha nea alpha exclusive axcent Busch-Duro carat future future linear impuls pur Edelstahl Reflex SI solo	GIRA High-grade steel S-Color Merten -System M- 1-M Antik/Fläche Atelier Atelier-M Artec Epoca M1 M-Arc M-Plan M-Smart M-Star OctoColor Tracent PEHA AURA DIALOG NOVA STANDARD Hager Kallysto Exclusiv-Design	GIRA -System 55- ClassiX E2 Event Esprit Standard 55	GIRA F-Line	JUNG A 500 AS 500 A Creation CD 500 CD plus Stainless Steel LS 990 SL 500 ELSO FASHION NOVIA SCALA
100 V Volume control						
50 Watt 100 V transformer	LST 50 BE UP LST 50 BE UP -R	LST 50 BJ UP LST 50 BJ UP -R	LST 50 GMP UP LST 50 GMP UP -R	LST 50 GE UP LST 50 GE UP -R	LST 50 GF UP LST 50 GF UP -R	LST 50 JU UP LST 50 JU UP -R
100 Watt 100 V transformer double version	LST 100 BE UP LST 100 BE UP -R	LST 100 BJ UP LST 100 BJ UP -R	for GIRA: LST 100 GI UP LST 100 GI UP -R for Merten: LST 100 ME UP LST 100 ME UP -R for PEHA: LST 100 PE UP LST 100 PE UP -R	LST 100 GE UP LST 100 GE UP -R	LST 100 GF UP LST 100 GF UP -R	for JUNG SL 500, LS 990, Edelstahl: LST 100 JU UP LST 100 JU UP -R for JUNG CD 500, ST 550: LST 100 JCDST UP LST100JCDST UP-R
8 Ω / 50 Ω Volume control						
15 Watt 50 Ω, mono Potentiometer	LR15 mono BE UP	LR15 mono BJ UP	LR15 mono GMP UP	LR15 mono GE UP	LR15 mono GF UP	LR15 mono JU UP
15 Watt 50 Ω, stereo Potentiometer	LR15 stereo BE UP	LR15 stereo BJ UP	LR15 stereo GMP UP	LR15 stereo GE UP	LR15 stereo GF UP	LR15 stereo JU UP
20 Watt 8 Ω, mono resistor network	LR20 mono BE UP	LR20 mono BJ UP	LR20 mono GMP UP	LR20 mono GE UP	LR20 mono GF UP	LR20 mono JU UP
Program selector switch						
6 programs	PRO 3 BE UP PRO 3 BE UP -R	PRO 3 BJ UP PRO 3 BJ UP -R	PRO 3 GMP UP PRO 3 GMP UP-R	PRO 3 GE UP PRO 3 GE UP -R	PRO 3 GF UP PRO 3 GF UP -R	PRO 3 JU UP PRO 3 JU UP -R

All the listed switch programs request the following supplement from the switch manufacturers:

- cover with toggle button for blind rotary switches and suitable outward frames
- for LST100 an additional blind cover and suitable outward frame

Deep-seated in-wall sockets are strictly recommended.

Amplifier for switch programs, without center plates, frames and sockets

Power Type	Order details					
	Berker	Busch-Jaeger	GIRA	GIRA	GIRA	JUNG
	ARSYS B.1 B.3 B.7 K.1 K.5 Modul 2 S.1 Twinpoint	alpha nea alpha exclusive axcent Busch-Duro carat future future linear impuls pur Edelstahl Reflex SI solo	High-grade steel S-Color Merten -System M- 1-M Antik/Fläche Atelier Atelier-M Artec Epoca M1 M-Arc M-Plan M-Smart M-Star OctoColor Tracent PEHA AURA DIALOG NOVA STANDARD Hager Kallysto Exclusiv-Design	-System 55- ClassiX E2 Event Esprit Standard 55	F-Line	A 500 AS 500 A Creation CD 500 CD plus Stainless Steel LS 990 SL 500 ELSO FASHION NOVIA SCALA
Amplifier mono						
Preamplifier incl. center plate (50 x 50 mm) in alpine white	PREAMP UP	PREAMP UP	PREAMP UP	PREAMP UP	PREAMP UP	PREAMP UP
Lineamplifier 10 Watt 4 Ω	AMP 10 BE UP	AMP 10 BJ UP	AMP 10 GMP UP	AMP 10 GE UP	AMP 10 GF UP	AMP 10 JU UP

For the mentioned range of switch boxes you require the following parts from the switch producer:

Preamplifier (PREAMP ...): Intermediate frame for 50 x 50 mm center plates and cover frame.

Lineamplifier (AMP 10 ...): Cover plate with knob and cover frame.

You have always to use deep inwall outlets.

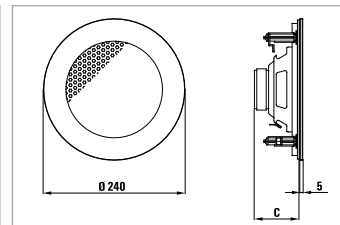
Monitor speaker incl. metal grid, without frames and sockets

Power Type	Order details					
	Busch-Jaeger impuls GIRA S-Color JUNG High-grade steel LS 990 PEHA DIALOG	GIRA -System 55- ClassiX E2 Event Esprit Standard 55 JUNG A500	JUNG CD 500 CD plus	Busch-Jaeger Solo Future	Merten M1, Atelier, Epoca (direct installation) Artec, Antik, Tracent (only with adapter) OctoColor (only with adapter)	Merten M-SMART M-ARC M-PLAN (not for M-PLAN II) M-STAR Berker B.1 B.3 B.7 S.1
100 V Version						
3/1,5 Watt 100 V transformer UP-Version single	KEL GBJP UP T	KEL GE UP T white KEL GE UP T alu KEL GE UP T anthrazit	KEL JU UP T	KEL BJ T UP studiowhite	KEL ME T UP polarwhite	KEL MM T UP polarwhite
3/1,5 Watt 100 V transformer AP-Version double	for GIRA: KEL GI AP T for JUNG: KEL GTJL AP T for PEHA: KEL PE AP T	KEL GE AP T* white KEL GE AP T* alu KEL GE AP T* anthrazit	KEL JU AP T	KEL BJ T AP studiowhite	KEL ME T AP polarwhite	KEL MM T AP polarwhite
8 Ω Version						
3 Watt 8 Ω	KEL GBJP 8 Ω	KEL GE 8 Ω white KEL GE 8 Ω alu KEL GE 8 Ω anthrazit	KEL JU 8 Ω	KEL BJ 8 Ω studiowhite	KEL ME 8 Ω polarwhite	KEL MM 8 Ω polarwhite

*only suitable for GIRA

M/R 240 Basic

2-way HiFi design speaker



Decent-priced 2-way Hi-Fi design recessed speaker, ideal for music reproduction in restaurants, lobbies, conference rooms, ... 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.

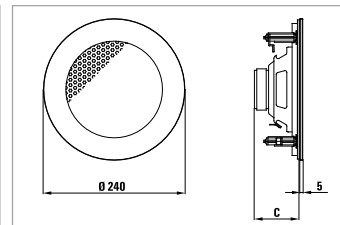
Technical Datas	M/R 240-8 Basic	M/R 240-T6 Basic	M/R 240-T25 Basic
SPL 1W/1m	89 dB	89 dB	89 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/155/70/70 °	180/155/70/70 °	180/155/70/70 °
cut out	ø 214 mm	ø 214 mm	ø 214 mm
depth	76 mm	76 mm	78 mm
Material	baffle and surface housing: plastic, grille: metal	baffle and surface housing: plastic, grille: metal	baffle and surface housing: plastic, grille: metal
Accessories	AG(R) 240: surface housing, flush housing company Kaiser, plastic covers	AG(R) 240: surface housing, flush housing company Kaiser, plastic covers	AG (R) 240, surface housing, flush housing company Kaiser, plastic covers

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
Baffle M/R 240-8 Basic		106-241-00-008-08	2-way, 25W, 8 ohms. Please order covers separately	1	76	LSP
100V version						
Baffle M/R 240-T6 Basic		106-241-00-006-01	2-way, with 6W-transformer. Please order covers separately	1	76	LSP
Baffle M/R 240-T25 Basic		106-241-00-008-25	2-way, with 25W-transformer. Please order covers separately	1	78	LSP

M/R 240

2-way HiFi design speaker

★★★★★



2-way Hi-Fi design recessed speaker, ideal for music reproduction in villas, restaurants, lobbies, conference rooms, ... The M 240 was awarded with a prize for innovation for architecture and technology. The M/R 240 is fitted with a 166 mm woofer and coaxial tweeter arrangement. The huge variety of round and square panels offers endless possibilities for configuration. Panels are available in white- green or black glass, also in brushed high-grade steel and as a plaster board which can be coated with a wall paint of your choice. The grille and the surface-mounted housing AG/AGR 240 (accessory) are available in white or anthracite as required.

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

Technical Datas	M/R 240-8	M/R 240-T6	M/R 240-T25
SPL 1W/1m	86 dB	86 dB	86 dB
Frequency Range (-3 dB)	90-20000 Hz	90-20000 Hz	90-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/160/80/95 °	180/160/80/95 °	180/160/80/95 °
cut out	ø 214 mm	ø 214 mm	ø 214 mm
depth	76 mm	76 mm	78 mm
Material	baffle and surface housing: plastic, grille: metal	baffle and surface housing: plastic, grille: metal	baffle and surface housing: plastic, grille: metal
Accessories	AG(R) 240: surface housing, flush housing company Kaiser, various covers	AG(R) 240: surface housing, flush housing company Kaiser, various covers	AG(R) 240: surface housing, flush housing company Kaiser, various covers

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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Low impedance

Baffle M/R 240-8	106-241-00-008-00	2-way, 40W, 8 ohms. Please order covers separately	1	76	LSP
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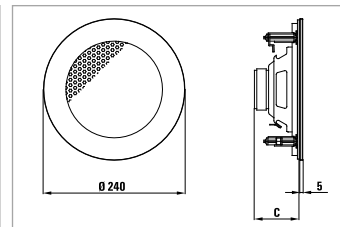
100V version

Baffle M/R 240-T6	106-241-00-006-00	2-way, with 6W-transformer. Please order covers separately	1	76	LSP
Baffle M/R 240-T25	106-241-00-025-00	2-way, with 25W-transformer. Please order covers separately	1	78	LSP

M/R 240 HQ

2-way high-end HiFi design speaker

★★★★★



2-way high-end Hi-Fi design recessed speaker, ideal for music reproduction in villas, home cinemas, conference rooms, ... The square M 240 was awarded with a prize for innovation for architecture and technology. The M/R 240 HQ is fitted with a 166 mm woofer with a carbon fibre cone and a silk dome coaxial tweeter arrangement. The huge variety of round and square panels offers endless possibilities for configuration. Panels are available in white- green or black glass, also in brushed high-grade steel and as a plaster board which can be coated with a wall paint of your choice. The grille and the surface-mounted housing AG/AGR 240 (accessory) are available in white or anthracite as required.

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

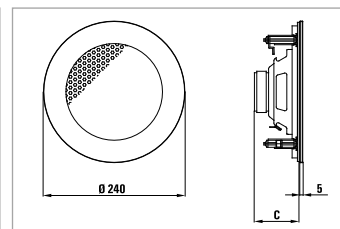
Technical Datas		M/R 240-8 HQ				
SPL 1W/1m		84 dB				
Frequency Range (-3 dB)		50-22000 Hz				
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/100/80/60 °				
cut out		ø 214 mm				
depth		76 mm				
Material		baffle: plastic, surface housing, grille: metal, various covers				
Accessories		AG 240, AG R 240: surface housing, flush housing company Kaiser, various covers				

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
Baffle M/R 240-8 HQ		106-241-00-008-03	2-way, highend, 40W, 8 ohms. Please order covers separately	1	76	LSP

M/R 240 stereo

High-performance 2-way speaker, stereo version

★★★★★



High-performance 2-way stereo recessed speaker, ideal for relatively small rooms such as bathrooms or entrance halls, where two normal stereo speakers could not be properly positioned in the classical way for music reproduction in villas, restaurants, lobbies, conference rooms... The M 240 was awarded with a prize for innovation for architecture and technology. The M/R 240 Stereo comes with a 166 mm two-voice-coil woofer and two tweeters. Both stereo channels come from a single speaker. The huge variety of round and square panels offers endless possibilities for configuration. Panels are available in white- green or black glass, also in brushed high-grade steel and as a plaster board which can be coated with a wall paint of your choice. The grille and the surface-mounted housing AG/AGR 240 (accessory) are available in white or anthracite as required.

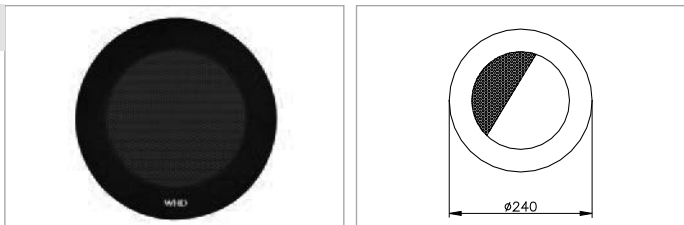
Note: Speakers with plasterboards are not suitable for wet locations.

Technical Datas		M/R 240-8 Stereo				
SPL 1W/1m		86 dB				
Frequency Range (-3 dB)		65-23000 Hz				
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/140/65/110 °				
cut out		ø 214 mm				
depth		78 mm				
Material		baffle: plastic, surface housing and grille: metal, various covers				
Accessories		AG 240, AG R 240: surface housing, flush housing company Kaiser, various covers				

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
Baffle M/R 240-8 stereo		106-241-00-008-02	2-way, stereo, 25W, 8 ohms. Please order covers separately	1	78	LSP

cover R 240 - round

fitting to installation design speakers



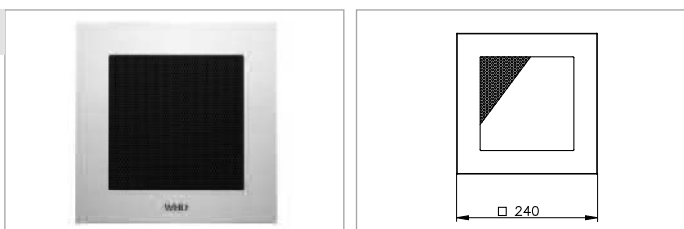
Round panels for built-in design loudspeaker M/R 240 type.

Note: Plasterboard is not suitable for wet locations.

Technical Datas		Cover R 240 - round			
SPL 1W/1m	-				
Frequency Range (-3 dB)	-				
Transmission Angle 1/2/4/8 kHz (-6 dB)	-				
dimensions (mm)	d240x5 mm				
Material	acryl white-, green-, or black glass, high grade steel, plaster, plastic				
Accessories	-				
model	RAL similar to	order-no.	version	packaging unit	price classification
Cover EB R240 A		148-001-07-240-00	Cover stainless steel, round, grille anthracite	1	LSP
Cover EB R240 W		148-001-07-240-01	Cover stainless steel, round, grille white	1	LSP
Cover GBG R240 A		148-001-06-240-00	Acryl green glass cover, round, grille anthracite	1	LSP
Cover GBG R240 W		148-001-06-240-01	Acryl green glass cover, round, grille white	1	LSP
Cover GBS R240 A		148-001-04-240-00	Acryl black glass cover round, grille anthracite	1	LSP
Cover GBS R240 W		148-001-04-240-01	Acryl black glass cover round, grille white	1	LSP
Cover GBW R240 A		148-001-03-240-00	Acryl white glass cover round, grille anthracite	1	LSP
Cover GBW R240 W		148-001-03-240-01	Acryl white glass cover round, grille white	1	LSP
Cover GIB R240 W		148-001-01-240-00	Plaster with mesh round, white	1	LSP
Cover KBRW Basic		148-002-03-240-02	White plastic, round, grille white	1	LSP
Cover KBRA Basic		148-002-04-240-02	Black plastic, round, grille anthracite	1	LSP

cover M 240 - square

fitting to installation design speakers



Square panels for built-in design loudspeaker M/R 240 type.

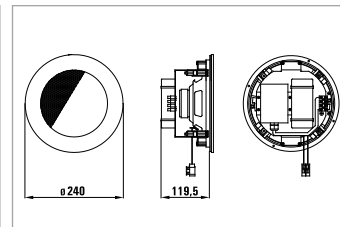
Note: Plasterboard is not suitable for wet locations

Technical Datas		Cover M 240 - square			
SPL 1W/1m	-				
Frequency Range (-3 dB)	-				
Transmission Angle 1/2/4/8 kHz (-6 dB)	-				
dimensions (mm)	240x240x5 mm				
Material	acryl white-, green-, or black glass, high grade steel, plaster, plastic				
Accessories	-				
model	RAL similar to	order-no.	version	packaging unit	price classification
Cover EB M240 A		148-000-07-240-02	Cover stainless steel, square, grille anthracite	1	LSP
Cover EB M240 W		148-000-07-240-03	Cover stainless steel, square, grille white	1	LSP
Cover GBG M240 A		148-000-06-240-02	Acryl green glass, square, grille anthracite	1	LSP
Cover GBG M240 W		148-000-06-240-03	Acryl green glass, square, grille white	1	LSP
Cover GBS M240 A		148-000-04-240-02	Acryl black glass, square, grille anthracite	1	LSP
Cover GBS M240 W		148-000-04-240-03	Acryl black glass, square, grille white	1	LSP
Cover GBW M240 W		148-000-03-240-03	Acryl white glass, square, grille white	1	LSP
Cover GBW M240 A		148-000-03-240-02	Acryl white glass, square, grille anthracite	1	LSP
Cover GIB M240 W		148-000-01-240-02	Plaster with mesh, square, white	1	LSP
Cover KBW Basic		148-002-03-240-01	White plastic, square, grille white	1	LSP
Cover KBA Basic		148-002-04-240-01	Black plastic, square, grille anthracite	1	LSP

R 240 LED

2-way HiFi design recessed speaker with integrated RGB-LEDs

★★★★★



2-way Hi-Fi design recessed speaker, ideal for music reproduction in villas, restaurants, lobbies, doctor's offices/legal practices, ... The R 240 LED is fitted with a 166 mm woofer and coaxial tweeter arrangement. There are two variants available: The "R 240 LED-8" is equipped with a 230V power supply, a wireless radio receiver and a RGB-LED controller. The white glass screen can be brought thus in different colors to shining. The color processes is controlled via the radio remote control contained in the scope of supply. The "R 240 LED-8 Slave" is available with RGB LEDs and can only be operated in connection with one "R 240 LED-8 Controller". Max. 9 "Slaves" can be operated with one "Controller".

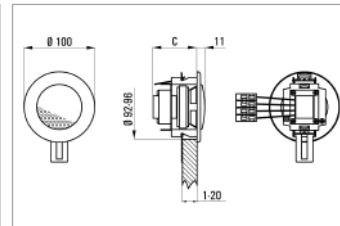
Technical Datas	R 240-8 LED Controller	R 240-8 LED Slave
SPL 1W/1m	86 dB	86 dB
Frequency Range (-3 dB)	90-20000 Hz	90-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/160/80/95 °	180/160/80/95 °
cut out	ø 214 mm	ø 214 mm
Material	baffle: plastic, grille: metal, frame: white-glass	baffle: plastic, surface housing, grille: metal, frame: white-glass
Accessories	Flush housing company Kaiser	AG R 240: surface housing, flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
R 240-8 LED Controller		106-245-03-008-00	2-way, 40W, 8 ohms, with LED/RGB-technic, with power supply and controlling	1	120	LSP
R 240-8 LED Slave		106-245-03-008-01	2-way, 40W, 8 ohms, with LED/RGB-technique	1	76	LSP

UPM 100

Small ceiling speaker, made of metal

★★★★☆



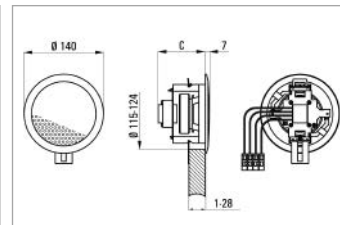
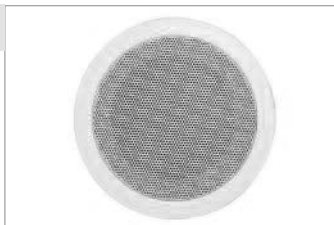
Tiny recessed speakers for ceilings made of metal, with outstanding sound quality. Ideal for speech and background music in low-ceilinged rooms (2.4 - 4 m), such as in the home, offices, doctor's surgeries/legal offices. The UPM 100 stands out due to the very wide radiating characteristics of its 66 mm full range speaker. This enables a large area to be evenly radiated with just a few UP 100 speakers. Other features include: Earthing screw and draw release. The unit can be installed in a ceiling very quickly using unique spring clips.

Technical Datas	UPM 100-8	UPM 100-T6
SPL 1W/1m	86 dB	86 dB
Frequency Range (-3 dB)	250-20000 Hz	250-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/120/140 °	180/-/120/140 °
cut out	ø 92 mm	ø 92 mm
depth	52 mm	67 mm
Material	metal	metal
Accessories	flush housing company Kaiser or company Spelsberg	flush housing company Kaiser or company Spelsberg

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UPM 100-8, white	9003	106-100-03-008-00	6W, 8 ohms	2	52	LSP
100V version						
UPM 100-T6, white	9003	106-100-03-000-00	with 6W-transformer	2	67	LSP

UPM 140

Compact ceiling speaker, made of metal



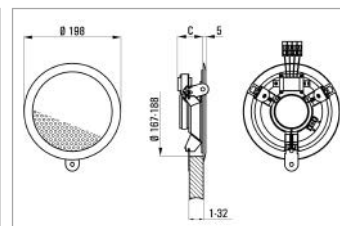
Compact ceiling speakers, ideal for speech and background music reproduction in low-ceilinged rooms (2.4 - 4 m), e.g. in homes, offices, doctor's surgeries/legal practices, etc... Comes with a 87 mm full-range chassis with additional subcone. Thanks to its wide radiation characteristics a large area 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 Datas	UPM 140-8	UPM 140-T6
SPL 1W/1m	87 dB	87 dB
Frequency Range (-3 dB)	170-22000 Hz	170-22000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/130/80 °	180/-/130/80 °
cut out	ø 116 mm	ø 116 mm
depth	63 mm	88 mm
Material	metal	metal
Accessories	Flush housing company Kaiser or company Spelsberg	Flush housing company Kaiser or comany Spelsberg

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UPM 140-8, white	9003	106-140-03-008-00	6W, 8 ohms	2	63	LSP
100V version						
UPM 140-T6, white	9003	106-140-03-000-00	with 6W-transformer	2	88	LSP

UPM 200

Standard ceiling speaker, made of metal



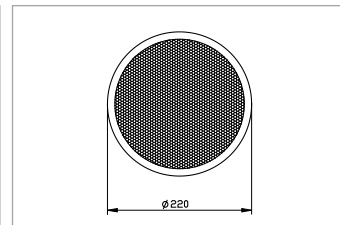
Standard ceiling speaker in an extra-shallow design (5 mm), ideal for the reproduction of speech and background music in high-ceilinged rooms (3...5 m), e.g. department stores ... The UPM 200 impresses with its powerful 135 mm full-range chassis with additional subcone. Other features include: Earthing screw and draw release. The unit can be installed in a ceiling very quickly using unique spring clips.

Technical Datas	UPM 200-4	UPM 200-T6
SPL 1W/1m	90 dB	90 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/60/40 °	180/-/60/40 °
cut out	ø 168 mm	ø 168 mm
depth	54 mm	66 mm
Material	metal	metal
Accessories	Flush housing company Kaiser	Flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UPM 200-4, white	9003	106-200-03-000-04	6W, 4 ohms	2	54	LSP
100V version						
UPM 200-T6, white	9003	106-200-03-000-03	with 6W-transformer	2	66	LSP

UPM 220/2

2-way metal ceiling speaker



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.

Also available as EN 54-24 type.

The steel pot ST 220/2 is available as an accessory.

Technical Datas	UPM 220/2-8	UPM 220/2-T12
SPL 1W/1m	90 dB	90 dB
Frequency Range (-3 dB)	100-22000 Hz	100-22000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	170/150/60 °	170/150/60 °
cut out	ø 200 mm	ø 200 mm
Material	metal	metal
Accessories	ST 220: metal steel pot	ST 220: metal steel pot

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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Low impedance

UPM 220/2-8, white	9003	106-220-03-008-00	2-way, 25W, 8 ohms	1	74	LSP
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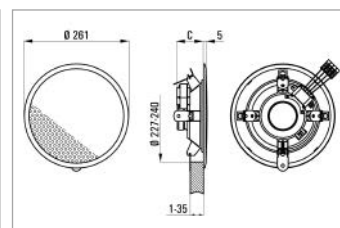
100V version

UPM 220/2-T12, white	9003	106-220-03-012-00	2-way, with 12W-transformer	1	116	LSP
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UPM 220/2-T12 EN, white	9003	106-220-03-006-00	with 12W-transformer, acc. to EN 54-24	1	116	ELA
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UPM 260

Large ceiling speaker, made of metal



Large, highly-efficient flat ceiling speaker, ideal for the reproduction of speech and background music in high-ceilinged rooms (max.4 - 6 m) e.g. in foyers, department stores or indoor shopping arcades. The UPM 260 features a 210 mm full-range chassis with additional subcone. Other features include: Earthing screw and draw release. The unit can be installed in a ceiling very quickly using unique spring clips.

Technical Datas	UPM 260-4	UPM 260-T10
SPL 1W/1m	91 dB	91 dB
Frequency Range (-3 dB)	50-18000 Hz	50-18000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/60/50 °	180/-/60/50 °
cut out	ø 228 mm	ø 228 mm
depth	75 mm	90 mm
Material	metal	metal
Accessories	flush housing company Kaiser	flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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Low impedance

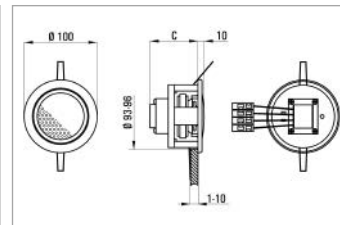
UPM 260-4, white	9003	106-260-03-001-02	10W, 4 ohms	2	75	LSP
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100V version

UPM 260-T10, white	9003	106-260-03-002-00	with 10W-transformer	2	90	LSP
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UP 6

Small ceiling speaker, made of plastic



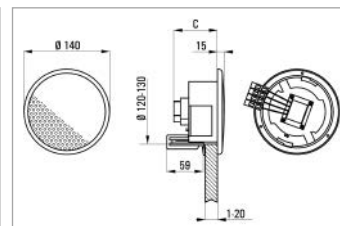
Tiny plastic recessed speaker for ceiling installation with outstanding sound quality, ideal for the reproduction of speech and background music in low-ceilinged rooms (2.4...4 m), for example in homes, in offices, doctor's surgeries/legal practices, ... The UP 6 stands out due to its very wide radiating 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 Datas	UP 6-8	UP 6-T6
SPL 1W/1m	86 dB	86 dB
Frequency Range (-3 dB)	250-20000 Hz	250-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/120/140 °	180/-/120/140 °
cut out	ø 93 mm	ø 93 mm
depth	42 mm	67 mm
Material	housing: plastic, grille: metal	housing: plastic, grille: metal
Accessories	flush housing company Kaiser or company Spelsberg	flush housing company Kaiser or company Spelsberg

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UP 6-8, white	9016	106-006-03-008-00	6W, 8 ohms	5	42	LSP
UP 6-8, chrome	9006	106-006-06-008-00	6W, 8 ohms	5	42	LSP
100V version						
UP 6-T6, white	9016	106-006-03-001-00	with 6W-transformer	5	67	LSP
UP 6-T6, chrome	9006	106-006-06-001-00	with 6W-transformer	5	67	LSP

UP 10

Compact ceiling speaker, made of plastic



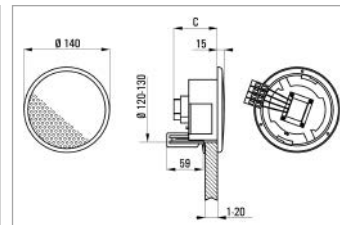
Compact recessed speakers for ceiling installation, ideal for speech and background music reproduction in low-ceilinged rooms (2.4...4 m), e.g. in homes, offices, doctor's surgeries/legal practices,... Comes with a 87 mm full-range chassis with additional subcone. Thanks to its wide radiation characteristics 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 EGT 10 housing for concrete ceilings is an available option.

Technical Datas	UP 10-T6
SPL 1W/1m	87 dB
Frequency Range (-3 dB)	170-22000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/130/80 °
cut out	ø 120 mm
depth	72 mm
Material	front and mounting ring: plastic, grille: metal
Accessories	EGT 10: pour-in pot, flush housing company Kaiser or company Spelsberg

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
100V version						
UP 10-T6, white	9016	106-010-03-001-00	with 6W-transformer	2	72	LSP

UP 10 Music

Compact ceiling speaker, made of plastic



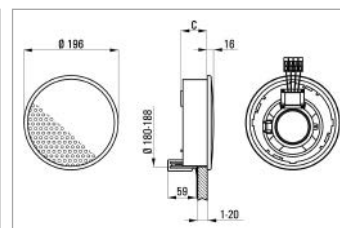
Compact recessed speakers for ceiling installation, ideal for background music reproduction in low-ceilinged rooms (2.4...4 m), e.g. in homes, ... Comes with a highly linear 87 mm full-range chassis. The assembly is secured using two clamps and the front ring is screwed on via a bayonet connection. The EGT 10 housing for concrete ceilings is an available option.

Technical Datas	UP 10 Music-8
SPL 1W/1m	86 dB
Frequency Range (-3 dB)	170-16000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/180/80/60 °
cut out	ø 120 mm
Material	front and mounting ring: plastic, grille: metal
Accessories	EGT 10: pour-in pot, flush housing company Kaiser or company Spelsberg

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
UP 10 Music-8, white	9016	106-010-03-008-00	6W, 8 ohms	2	55	LSP
UP 10 Music-8, silver	9006	106-010-07-008-00	6W, 8 ohms	2	55	LSP

UP 14

Standard ceiling speaker, made of plastic



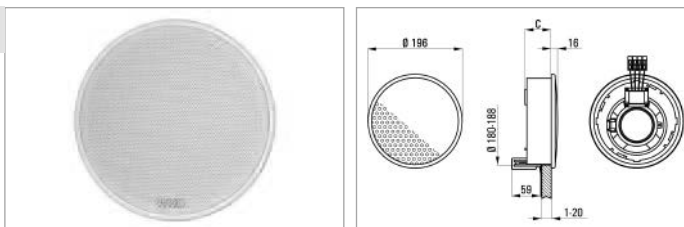
High-performing standard ceiling speaker with plastic frame, ideal for the reproduction of speech and background music in high-ceilinged rooms (3...5 m), e.g. department stores, foyers,... The UP 14 features a powerful 135 mm full-range chassis with additional subcone. The mounting ring is secured using 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 Datas	UP 14-8	UP 14-T6
SPL 1W/1m	90 dB	90 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/60/40 °	180/-/60/40 °
cut out	ø 180 mm	ø 180 mm
depth	54 mm	55 mm
Material	front and mounting ring: plastic, grille: metal	front and mounting ring: plastic, grille: metal
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser	EGT 14/2: pour-in pot, flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UP 14-8, white	9016	106-014-03-008-01	6W, 8 ohms	2	54	LSP
100V version						
UP 14-T6, white	9016	106-014-03-006-00	with 6W-transformer	2	55	LSP

UP 14 AB

Ceiling speaker, made of plastic, for AB cabling



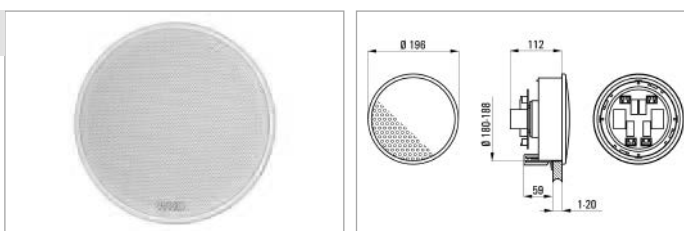
Compact-sized ceiling speaker with plastic frame for AB cabling. Suitable for use in small rooms. Can be used in combination with electrical-acoustic emergency warning systems where two-speaker installation is not possible. The UP 14 AB-T3 comes with a 135 mm two-voice-coil speaker with additional subcone and two 100V/3W transformers. This means it can be operated simultaneously using two cables on two different amplifiers. The signal can still be reproduced even if one of the amps fails or in the event of a defect cable – even if somewhat quieter. It is connected via a ceramic terminal and special stranded wires; the transformers are fitted with a thermofuse in accordance with British standards. The installation is achieved using a bayonet fitting. The housing for concrete ceilings EGT 14/2 (with moveable flange) is available as an accessory.

Technical Datas	UP14 AB-T3
SPL 1W/1m	90 dB
Frequency Range (-3 dB)	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/90/40 °
cut out	Ø 180 mm
depth	55 mm
Material	front and mounting ring: plastic, grille: metal
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
100V version						
UP 14 AB-T3, white	9016	106-014-03-006-08	with 2 x 3W transformer suitable for AB-cabling	2	55	LSP

UP 14 SUB

Subwoofer for recessed ceiling installation



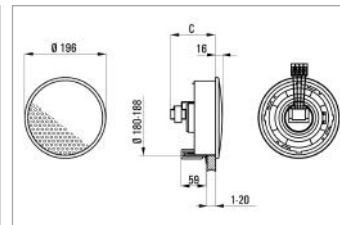
Powerful subwoofer for recessed ceiling installation, ideal as backups for small ceiling speakers, e.g. in the home, in restaurants, boutiques,... The UP 14 SUB comes with a 166 mm double-voice-coil woofer and a high-quality crossover. This provides a stereo satellite output and is designed for the small 20 Ohm WHD ceiling loudspeakers. Two 20 Ohm loudspeakers or one 8 Ohm speaker can be connected to each satellite output. 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 Datas	UP 14-SUB-8
SPL 1W/1m	86 dB
Frequency Range (-3 dB)	50-200 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	-
cut out	Ø 180 mm
Material	front and mounting ring: plastic, grille: metal
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UP 14 SUB-8, white	9016	106-014-03-008-00	25W, 8 ohms, double voice coil	1	112	LSP

UP 14/2

2-way HiFi ceiling speaker, made of plastic



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 Datas	UP 14/2-8	UP 14/2-T6	UP 14/2-T25
SPL 1W/1m	89 dB	89 dB	89 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/50/40 °	180/-/50/40 °	180/-/50/40 °
cut out	ø 180 mm	ø 180 mm	ø 180 mm
depth	71 mm	110 mm	71 mm
Material	front and mounting ring: plastic, grille: metal	front and mounting ring: plastic, grille: metal	front and mounting ring: plastic, grille: metal
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser	EGT 14/2: pour-in pot, flush housing company Kaiser	EGT 14/2: pour-in pot, flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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Low impedance

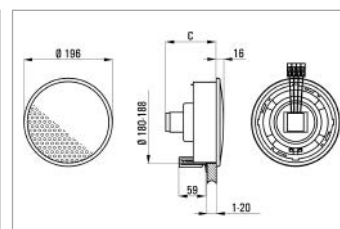
UP 14/2-8, white	9016	106-014-03-200-05	2-way, 40W, 8 ohms	1	71	LSP
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100V version

UP 14/2-T6, white	9016	106-014-03-206-01	2-way, with 6W-transformer	1	110	LSP
UP 14/2-T25, white	9016	106-014-03-206-00	2-way, with 25W-transformer	1	71	LSP

UP 14/2 Marine

2-way ceiling speaker, made of plastic for use in damp rooms



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 shop window displays). Comes with a 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 Datas	UP 14/2-8 Marine	UP 14/2-T6 Marine	UP 14/2-T25 Marine
SPL 1W/1m	87 dB	87 dB	87 dB
Frequency Range (-3 dB)	100-21000 Hz	100-21000 Hz	100-21000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/60/50 °	180/-/60/50 °	180/-/60/50 °
cut out	ø 180 mm	ø 180 mm	ø 180 mm
depth	73 mm	117 mm	76 mm
Material	front, mounting ring and basket: plastic, grille: high-grade steel	front, mounting ring and basket: plastic, grille: high-grade steel	front, mounting ring and basket: plastic, grille: high-grade steel
Accessories	EGT 14/2: pour-in pot, flush housing company Kaiser	EGT 14/2: pour-in pot, flush housing company Kaiser	flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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Low impedance

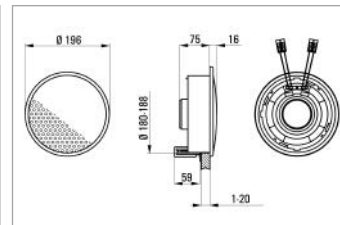
UP 14/2-8 Marine, white	9016	106-014-03-206-05	2-way, 25W, 4 ohms, weatherproof	1	73	LSP
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100V version

UP 14/2-T6 Marine, white	9016	106-014-03-206-02	2-way, with 6W-transformer, weatherproof	1	117	LSP
UP 14/2-T25 Marine, white	9016	106-014-03-206-04	2-way, with 25W-transformer, weatherproof	1	76	LSP

UP 14/2 stereo

2-way ceiling speaker, made of plastic, stereo version



High-performance 2-way stereo ceiling speaker with plastic frame. Ideal for relatively small rooms such as bathrooms or entrance halls, where two normal stereo speakers could not be properly positioned in the classical way. The UP 14/2 Stereo comes with a 166 mm two-voice-coil woofer and two tweeters. 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.

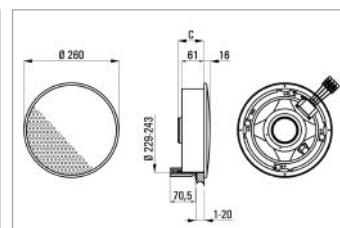
Technical Datas		UP 14/2-8 stereo				
SPL 1W/1m		86 dB				
Frequency Range (-3 dB)		60-23000 Hz				
Transmission Angle 1/2/4/8 kHz (-6 dB)		170/-/60/120 °				
cut out		ø 180 mm				
Material		front and mounting ring: plastic, grille: metal				
Accessories		EGT 14/2: pour-in pot, flush housing company Kaiser				
model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification

Low impedance

UP 14/2-8 stereo, white	9016	106-014-03-200-02	2-way, stereo, 25W, 8 ohms	1	75	LSP
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UP 22

Large ceiling speaker, made of plastic



Large ceiling speaker with plastic frame, ideal for the reproduction of speech and background music in high-ceilinged rooms (max. 4 - 6 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 Datas		UP 22-4, -20		UP 22-T6		
SPL 1W/1m		91 dB		91 dB		
Frequency Range (-3 dB)		50-18000 Hz		50-18000 Hz		
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/60/50 °		180/-/60/50 °		
cut out		ø 230 mm		ø 230 mm		
depth		72 mm		72 mm		
Material		front and mounting ring plastic, grille: metal		front and mounting ring plastic, grille: metal		
Accessories		flush housing company Kaiser		flush housing company Kaiser		
model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification

Low impedance

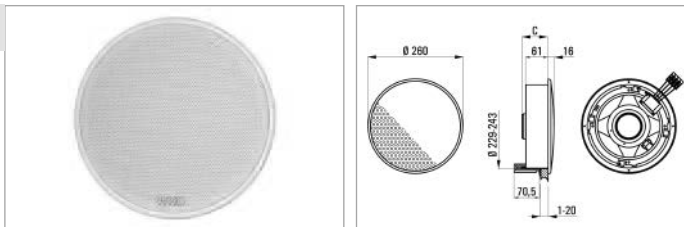
UP 22-4, white	9016	106-022-03-000-00	10W, 4 ohms	2	72	LSP
UP 22-20, white	9016	106-022-03-020-00	10W, 20 ohms	2	72	LSP

100V version

UP 22-T6, white	9016	106-022-03-006-00	with 6W-transformer	2	72	LSP
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UP 23

Large, ceiling speaker, made of plastic, shock-proof



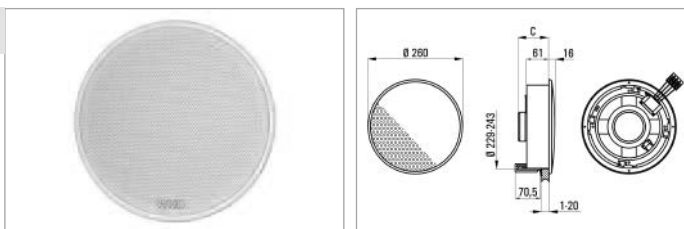
Large, shock-proof ceiling speaker with plastic frame, ideal for the reproduction of speech and background music in high-ceilinged rooms (max. 4 - 6 m) in public areas, such as schools and indoor gyms for example. The UP 23 features a 210 mm full-range chassis with additional subcone. The mounting ring is secured by four clamps and the front ring is screwed in using a bayonet connection, a safety screw prevents the loosening of the bayonet connection.

Technical Datas	UP 23-4	UP 23-T10
SPL 1W/1m	91 dB	91 dB
Frequency Range (-3 dB)	50-18000 Hz	50-18000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/60/50 °	180/-/60/50 °
cut out	ø 230 mm	ø 230 mm
depth	72 mm	72 mm
Material	front and mounting ring plastic, grille: solid perf. sheet steel cover	front and mounting ring plastic, grille: solid perf. sheet steel cover
Accessories	flush housing company Kaiser	flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UP 23-4, white	9016	106-023-03-000-00	10W, 4 ohms, shock proof	2	72	LSP
100V version						
UP 23-T10, white	9016	106-023-03-006-02	with 10W-transformer, shock proof	2	72	LSP

UP 26

Large, 2-way HiFi ceiling speaker, made of plastic



Large 2-way Hi-Fi ceiling speaker with plastic frame for enhanced performance, ideal for the reproduction of music in high-ceiling rooms (4 - 6 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.

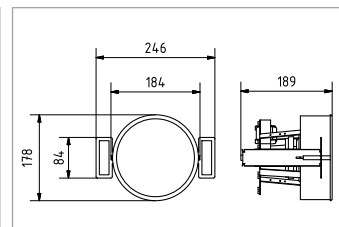
Technical Datas	UP 26-8	UP 26-T25
SPL 1W/1m	91 dB	91 dB
Frequency Range (-3 dB)	50-18000 Hz	50-18000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/90/80 °	180/-/90/80 °
cut out	ø 230 mm	ø 230 mm
depth	85 mm	85 mm
Material	front and mounting ring: plastic, grille: metal	front and mounting ring: plastic, grille: metal
Accessories	flush housing company Kaiser	flush housing company Kaiser

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
UP 26-8, white	9016	106-026-03-008-00	2-way, 40W, 8 ohms	2	85	LSP
100V version						
UP 26-T25, white	9016	106-026-03-025-00	2-way, with 25W-transformer	2	85	LSP

FL 180

Frameless ceiling speaker

★★★★★



For applications where quality sound is to be combined with inconspicuous as possible optics, the FL 180 R is the perfect solution. It is a frame-less loudspeaker with high-end full range speaker that is flush plastered into plasterboard ceilings. The grille is slightly offset to the rear so that the speakers integrated almost invisibly into the ceiling.

Technical Datas	FL 180 R-T12
SPL 1W/1m	90 dB
Frequency Range (-3 dB)	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/110/70/25 °
cut out	ø 185 mm
depth	170 mm
Material	mounting ring: plastic, grille: metal
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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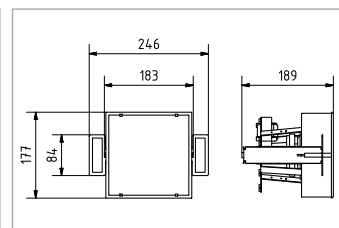
100V version

FL 180 R-T12, white	9016	106-180-03-000-00	with 12W-transformer, round version	1	170	OBJ
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FL 180 Q

Frameless ceiling speaker

★★★★★



For applications where quality sound is to be combined with inconspicuous as possible optics, the FL 180 Q is the perfect solution. It is a frame-less loudspeaker with high-end full range speaker that is flush plastered into plasterboard ceilings. The grille is slightly offset to the rear so that the speakers integrated almost invisibly into the ceiling.

Technical Datas	FL 180 Q-T12
SPL 1W/1m	90 dB
Frequency Range (-3 dB)	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/110/70/25 °
cut out	185 x 185 mm
depth	170 mm
Material	mounting ring: plastic, grille: metal
Accessories	-

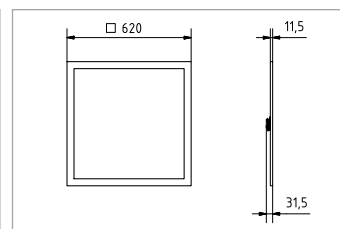
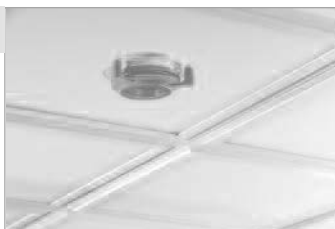
model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
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100V version

FL 180 Q-T12, white	9016	106-180-03-001-00	with 12W-transformer, square version	1	170	OBJ
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LED-P Audio

LED Panels



The LED Acoustic Panel is a luminous light source, which is at the back equipped with a WHD Exciter. It thus ensures a uniform distribution of light and sound wherever best possible lighting and optimal sound are asked, for example, in hair salons, clinics and hotels.

The LED Acoustic Panels are available as standard in a size of 620 x 620 mm in the light color "normally white" available - also available with RGB color changer.

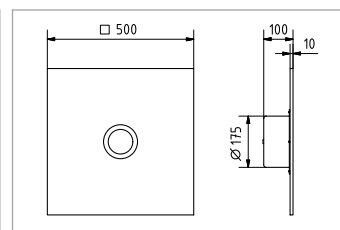
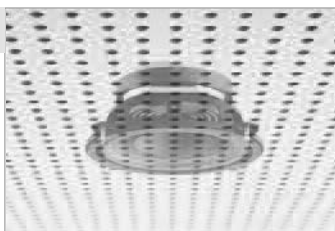
Other versions (size, light color, RGB) and even round LED Panels are also available on request.

Technical Datas	LED-P Audio	LED-P-T Audio
SPL 1W/1m	78 dB	78 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	-	-
cut out	-	-
depth	-	-
Material	-	-
Accessories	-	-

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
LED-P Audio 6262 NW		106-620-03-048-02	Audio 6W, LED 48W	1		OBJ
100V version						
LED-P Audio 6262 NW-T		106-620-03-048-03	Audio 6W, LED 48W	1		OBJ

SW 500

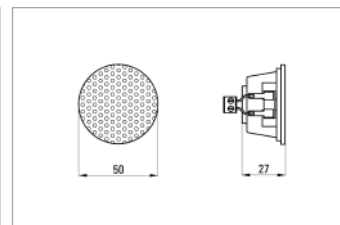
Baffle speaker



The invisible speakers SW 500 is mounted behind acoustic ceilings and is perfect for restaurants, exhibitions, conference rooms, ... It is equipped with a high-end range chassis and comes with a precisely tuned enclosure.

Technical Datas	SW 500
SPL 1W/1m	90 dB
Frequency Range (-3 dB)	115-21000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/110/70/25 °
cut out	-
depth	-
Material	chipboard
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification
Low impedance						
SW 500		106-500-01-001-00	30W, 8 ohms	1		OBJ

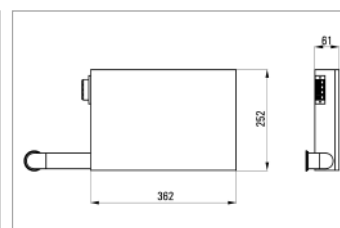
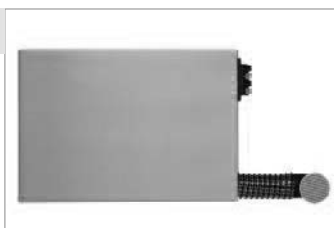
HLS 51**Halogen speaker**

Halogen spotlight speaker with outstanding sound quality for its size, ideal for the reproduction of speech and background music in low-ceilinged rooms (2.4 - 4 m), for example in the home, in offices, doctor's offices/legal practices, etc.... The HLS 51 fits in all halogen installation spotlights designed for lights 51 mm in diameter. This allows you to combine light and sound to optimal effect providing uniform coverage. Comes with a 51 mm full-range chassis with neodymium magnet. As accessory we recommend subwoofer HLS 51 SUB and HLS 51 Radio Basic.

Technical Datas		HLS 51-20				
SPL 1W/1m		82 dB				
Frequency Range (-3 dB)		200-16000 Hz				
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/120/140 °				
cut out		-				
Material		housing, grille: metal, delivery without frame				
Accessories		Subwoofer HLS 51 SUB, HLS 51 Radio Basic				
model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification

Low impedance

HLS 51-20, chrome	9006	106-005-00-001-00	3W, 20 ohms	1	27	LSP
HLS 51-20, white	9016	106-005-00-001-03	3W, 20 ohms	1	27	LSP

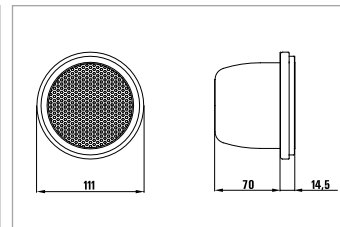
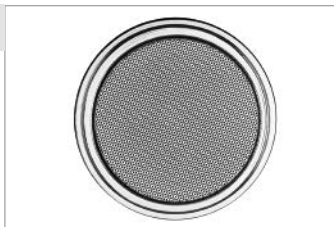
HLS 51 SUB**Halogen spot subwoofer**

Bandpass subwoofer to be built into suspended ceilings especially for use with the halogen spot speaker HLS 51. The HLS 51 SUB has a 130mm woofer with a Neodym magnet and a satellite output which can be connected to one or two halogen spot speakers HLS 51. Stereo sound will need two HLS 51 SUBs. The sound exits the housing of the HLS 51 SUB via a tube that fixes into any standard 51 mm diameter halogen luminaire. As accessory we recommend the HLS 51 Radio.

Technical Datas		HLS 51 SUB-8				
SPL 1W/1m		85 dB				
Frequency Range (-3 dB)		80-200 Hz				
Transmission Angle 1/2/4/8 kHz (-6 dB)		-				
cut out		-				
Material		housing: steel				
Accessories		satellites HLS 51 chrome or white, HLS 51 Radio Basic, AMP 130				
model	RAL similar to	order-no.	version	packaging unit	depth in mm	price classification

Low impedance

HLS 51 SUB-8		106-005-00-008-00	15W, 8 ohms	1	61	LSP
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KLS 111**Cardan speaker**

Cardan speakers, ideal for speech and background music reproduction in low-ceilinged rooms (2.4 - 4 m), e.g. in shops/boutiques, homes, etc... The KLS 111 fits in all cardan spotlights designed for a light 111 mm in diameter. This allows you to combine light and sound to optimal effect providing uniform coverage. Features a 87mm full-range chassis with subcone and neodymium magnet. Thanks to its wide radiation characteristics a large area can be evenly radiated with just a few of these boxes. For backup in the bass range we recommend the subwoofer UP 14 SUB.

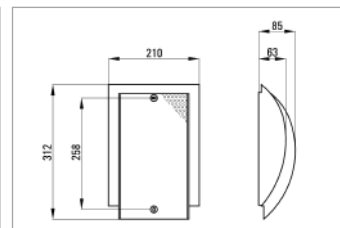
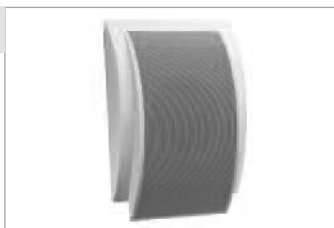
Technical Datas		KLS 111-20		KLS 111-T6			
SPL 1W/1m		86 dB		86 dB			
Frequency Range (-3 dB)		150-20000 Hz		150-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/130/80 °		180/-/130/80 °			
cut out		-		-			
Material		housing and grille: metal chrome plated		housing and grille: metal chrome plated			
Accessories		Subwoofer UP 14 SUB		-			
model	RAL similar to	order-no.	version		packaging unit	depth in mm	price classification

Low impedance

KLS 111-20, chrome	106-005-00-002-00	6W, 20 ohms	1	70	LSP
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100V version

KLS 111-T6, chrome	106-005-00-006-00	with 6W-transformer	1	70	LSP
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WL 6**Wall design speaker**

Design speaker for wall-assembly, suitable for the reproduction of speech and background music e.g. in offices, doctor's practices/legal practices, government offices, This speaker's appealing, asymmetric design is a real trendsetter.

The WL 6 comes with 135 mm full-range chassis with additional subcone. As an option a volume control and/or programme selector switch can be integrated unobtrusively.

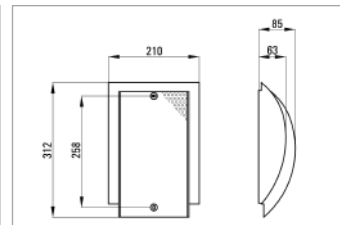
Technical Datas		WL 6-8		WL 6-T6	
SPL 1W/1m		91 dB		91 dB	
Frequency Range (-3 dB)		200-20000 Hz		200-20000 Hz	
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/90/40 °		180/-/90/40 °	
dimensions (mm)		210x312x85 mm		210x312x85 mm	
Material		housing: plastic, grille: metal		housing: plastic, grille: metal	
Accessories		RW WL 6: plastic rear panel		RW WL 6: plastic rear panel	
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

WL 6-8, white	9016	103-136-03-008-00	6W, 8 ohms	2	LSP
WL 6-8-Re, white	9016	103-136-03-008-01	6W, 8 ohms with volume control	2	LSP

100V version

WL 6-T6, white	9016	103-136-03-041-01	with 6W-transformer	2	LSP
WL 6-T6-Re, white	9016	103-136-03-042-01	with 6W-transformer and volume control	2	LSP
WL 6-T6, silver	9006	103-136-07-041-01	with 6W-transformer	2	LSP
WL 6-T6-Re, silver	9006	103-136-07-041-02	with 6W-transformer and volume control	2	LSP

WL 6 HQ**Highend Wall design speaker**

Design speaker for wall-assembly. This speaker's appealing, asymmetric design is a real trendsetter.

The WL 6 HQ is equipped with a high-range speaker and achieved a good bass response and a very flat frequency response. It is very suitable for homes, restaurants, ...

A rear panel is available as an accessory.

Technical Datas	WL 6 HQ-8	WL 6 HQ-T10	WL 6/2-T25
SPL 1W/1m	90 dB	90 dB	90 dB
Frequency Range (-3 dB)	115-21000 Hz	115-21000 Hz	115-21000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/110/70/25 °	160/110/70/25 °	160/110/70/25 °
dimensions (mm)	210x312x85 mm	210x312x85 mm	210x312x85 mm
Material	housing: Plastic, grille: metal	housing: Plastic, grille: metal	housing: Plastic, grille: metal
Accessories	incl. plastic rear panel RW WL 6	opt. plastic rear panel RW WL 6	opt. plastic rear panel RW WL 6

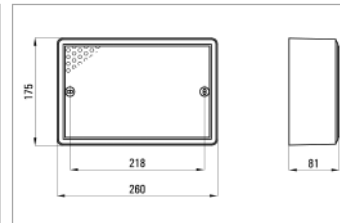
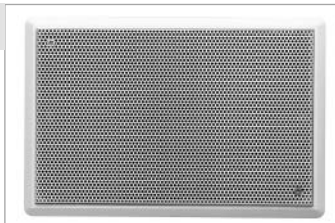
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

WL 6 HQ-8, white	9016	103-136-03-300-01	30 W, 8 ohms	2	LSP
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100V version

WL 6 HQ-T10, white	9016	103-136-03-300-17	with 10W-transformer	2	LSP
WL 6 HQ-T25, white	9016	103-136-03-400-02	with 25W-transformer	2	LSP

ZL 135 G**Wall speaker**

Decent-priced wall-mounted speaker, suitable for the reproduction of speech and background music, e.g. in stores, stairwells The ZL 135 G offers high efficiency and a wide transmission angle on account of its 135 mm full-range chassis with additional subcone. As an option a volume controller and/or programme selector switch, with a 24 V mandatory relay can also be integrated. Mounting is achieved by two screws.

Also available as EN 54-24 type.

A plastic rear panel is available as an accessory, which can be screwed onto the ZL 135 G.

Technical Datas	ZL 135 G-8	ZL 135 G-T6
SPL 1W/1m	91 dB	91 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	180/-/90/40 °	180/-/90/40 °
dimensions (mm)	260x175x81 mm	260x175x81 mm
Material	housing: plastic, grille: metal	housing: plastic, grille: metal
Accessories	RW ZL 135: plastic rear panel	RW ZL 135: plastic rear panel

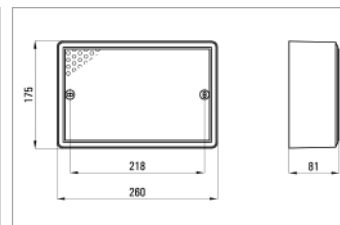
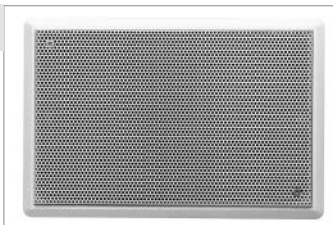
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

ZL 135 G-8, white	9016	103-135-03-008-00	6W, 8 ohms	5	LSP
ZL 135 G-8-Re, white	9016	103-135-03-008-01	6W, 8 ohms with volume control	5	LSP

100V version

ZL 135 G-T6, white	9016	103-135-03-041-01	with 6W-transformer	5	LSP
ZL 135 G-T6-Re, white	9016	103-135-03-042-01	with 6W-transformer and volume control	5	LSP
ZL 135 G-T6-Re-R, white	9010	103-135-03-042-04	with 6W-transformer, volume control and relays	5	LSP
ZL 135 G-T6-Re-Pr-R, white	9016	103-135-03-042-07	with 6W-transformer, volume control, program selector and relays	5	LSP
ZL 135-T6 EN, white	9016	103-135-03-044-00	with 6W-transformer, acc. to EN 54-24	5	ELA

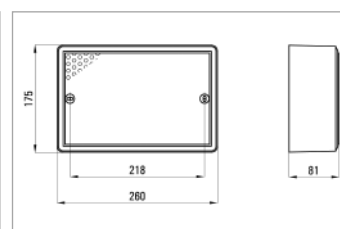
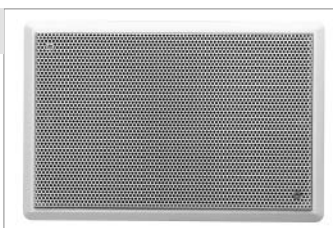
ZL 135 BWS**Wall speaker, shock-resistant**

Shock-resistant wall-mounted speaker, suitable for background music and speech reproduction in public areas, such as schools and gyms, for example. The ZL 135 BWS offers high efficiency and a wide transmission angle on account of its 135 mm full-range chassis with additional subcone. Mounting is achieved by two screws. The perforated metal cover must first be removed to do this. Also attached with two visible screws.

Technical Datas		ZL 135 BWS-T6			
SPL 1W/1m		91 dB			
Frequency Range (-3 dB)		100-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/90/40 °			
dimensions (mm)		260x175x81 mm			
Material		housing: plastic, grille: metal			
Accessories		RW ZL 135: plastic rear panel			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

ZL 135 BWS-T6, white	9016	103-135-03-041-09	with 6W-transformer, shock-proof	5	LSP
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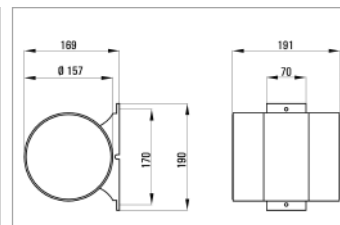
ZL 135 BWS AB**Wall speaker for AB cabling**

Wall-mounted speaker for AB cabling. Suitable for use in small rooms, can be used in combination with electrical-acoustic emergency warning systems where two-speaker installation is not possible. The ZL 135 AB-T3 comes with a 135 mm double-voice-coil speaker with additional subcone and two 100V/6W transformers. This means it can be operated simultaneously via two cables on two different amplifiers. The signal can still be reproduced even if one of the amps fails or in the event of a defect cable – even if somewhat quieter. It is connected via a ceramic terminal and special stranded wires; the transformers are fitted with a thermofuse in accordance with British standards. The perforated metal cover is secured using two visible screws.

Technical Datas		ZL 135 BWS AB-T3			
SPL 1W/1m		91 dB			
Frequency Range (-3 dB)		100-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/90/40 °			
dimensions (mm)		260x175x81 mm			
Material		housing: plastic, grille: metal			
Accessories		RW ZL 135: plastic rear panel			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

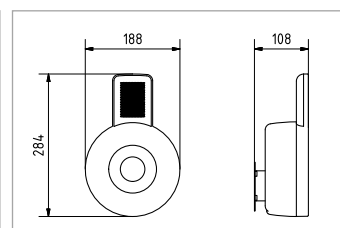
ZL 135 BWS AB-T3, white	9016	103-135-03-041-17	with 2x 3W-transformer, shock-proof, suitable for AB-cabling	5	LSP
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DLS 12**Double radiator speaker**

Bi-directional speaker for the radiation of long, narrow rooms such as corridors and stairwells. This speaker is equipped with two 135 mm full-range chas-sis with additional subcones. These are connected in phase opposition thereby forming cancellations at 90 degrees to the main radiation direction, which gives rise to a cone-shaped radiation characteristic. Mounting is achieved by two screws.

Technical Datas	DLS 12-T12
SPL 1W/1m	89 dB
Frequency Range (-3 dB)	120-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/-/120/50 °
dimensions (mm)	190x169x191 mm
Material	housing: plastic, grille: metal
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	price classification
100V version					
DLS 12-T12, white	9016	104-012-03-001-00	with 12W-transformer	1	LSP

S 350**Highend-designspeakers**

The S 350 not only pampers your ears by brilliant sound, but also your eyes with an attractive design and quality materials - whether at home (home cinema), in high-end boutiques, fine restaurants, trendy lounges.

The S 350 is a 2-way high-end loudspeaker design with long-throw bass driver and ribbon tweeter. The case of S 350 is made of zinc die-cast, the cover of the ribbon tweeter and the rear aluminium housing, the tweeter cover and the ring around the woofer made of high quality acrylic glass.

Available as:

- standing version with a sturdy stand
- wall version (90°) incl mounting material
- wall version (inclined) incl mounting material
- corner version incl mounting material

Technical Datas	S 350
SPL 1W/1m	81 dB
Frequency Range (-3 dB)	100-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	160/140/120/135 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	160/125/150/85 °
dimensions (mm)	188x292x180 mm
Material	frontring: zinc die cast, housing: aluminium, cover: acrylic glass
Accessories	incl. brackets or base, optional A 500: Activ-Subwoofer

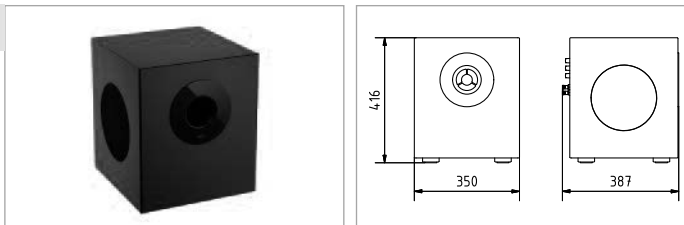
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

S 350-8 S, white	9016	101-350-03-000-00	2-way, 30W, 8 ohms, with base	1	HIF
S 350-8 S, black	9005	101-350-04-000-00	2-way, 30W, 8 ohms, with base	1	HIF
S 350-8 W90, white	9016	101-350-03-001-00	2-way, 30W, 8 ohms, with wall bracket 90°	1	HIF
S 350-8 W90, black	9005	101-350-04-001-00	2-way, 30W, 8 ohms, with wall bracket 90°	1	HIF
S 350-8 WN, white	9016	101-350-03-002-00	2-way, 30W, 8 ohms, with wall bracket inclined	1	HIF
S 350-8 WN, black	9005	101-350-04-002-00	2-way, 30W, 8 ohms, with wall bracket inclined	1	HIF
S 350-8 E, white	9016	101-350-03-003-00	2-way, 30W, 8 ohms, with long bracket for edge installation	1	HIF
S 350-8 E, black	9005	101-350-04-003-00	2-way, 30W, 8 ohms, with long bracket for edge installation	1	HIF

A 500

Active-Subwoofer



The A 500 is an active subwoofer for high performance. Combined with the high-end design speakers S 350 you get a premium sound system for unadulterated music in high-resolution detail. Despite its compact housing, the A 500 provides remarkable depth at minimum distortion and is therefore perfectly suited for your home theater applications. In addition, the sensitivity, crossover frequency and the phase of the signal are continuously adjustable, so the A 500 can be optimally configured for each application, for each game partner and for each spatial situation.

Technical Datas	A 500
SPL 1W/1m	83 dB
Frequency Range (-3 dB)	28-200 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	-
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	-
dimensions (mm)	416x350x387 mm
Material	housing: chipboard, inlayed
Accessories	optional S 350: Highend-Design speaker

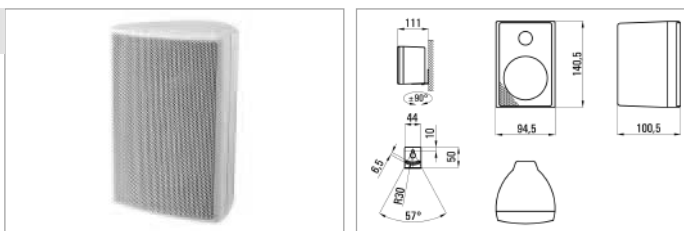
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

A 500, white		101-500-03-001-00	Active-subwoofer, 100W	1	HIF
A 500, black		101-500-04-001-00	Active-subwoofer, 100W	1	HIF

Micro 2

Small 2-way HiFi speaker



Tiny 2-way Hi-Fi box, ideal for speech and background music wherever space is limited which still require a neutral sound reproduction, e.g. in museums, in the home, in restaurants, ... The speaker comes with a 70 mm mid range-bass speaker and a 13 mm dome tweeter. To supplement the bass range we recommend the subwoofer SUB 200. Assembly is achieved using the wall bracket included with delivery.

Technical Datas	Micro 2-T6
SPL 1W/1m	86 dB
Frequency Range (-3 dB)	150-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	360/-/360/160 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	360/-/360/160 °
dimensions (mm)	94,5x140,5x100,5 mm
Material	housing: plastic, grille: metal
Accessories	incl. wall mounting

model	RAL similar to	order-no.	version	packaging unit	price classification
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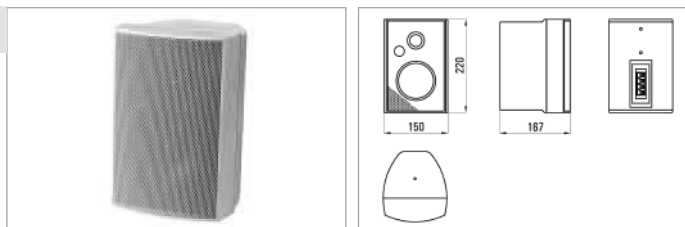
Low impedance, 100V version

Micro 2-T6, white	9003	100-100-03-100-00	2-way, 10W, with switch for 8 ohms or 6W/100V	1	LSP
Micro 2-T6, black	9004	100-100-04-100-00	2-way, 10W, with switch for 8 ohms or 6W/100V	1	LSP

Mini 4

Compact 2-way HiFi speaker

★★★★★



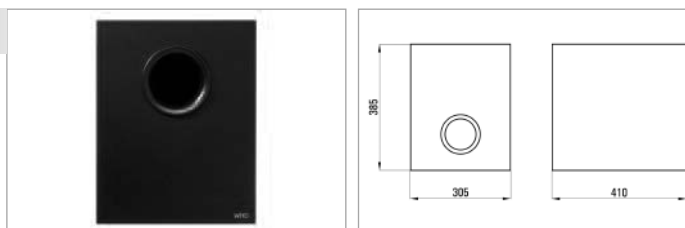
Compact 2-way Hi-Fi box with bass reflex channel, ideal for music reproduction in the home, in restaurants, shops, ... The Mini 4 comes with a 100 mm mid range-bass speaker and a 10 mm dome tweeter. We recommend the subwoofer SUB 200 for supplementing the bass range. The U-type bracket WBMini and ball joint mounting are available as accessories.

Technical Datas	Mini 4-8	Mini 4-T30
SPL 1W/1m	88 dB	88 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	220/-/190/130 °	220/-/190/130 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	180/-/160/130 °	180/-/160/130 °
dimensions (mm)	150x220x167 mm	150x220x167 mm
Material	housing: plastic, grille: metal	housing: plastic, grille: metal
Accessories	WBMini: u-type bracket, WHMini: ball joint mounting	WBMini: u-type bracket, WHMini: ball joint mounting

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
Low impedance					
Mini 4-8, white	9016	101-102-03-008-01	2-way, 50W, 8 ohms	1	LSP
Mini 4-8, black	9005	101-102-04-008-01	2-way, 50W, 8 ohms	1	LSP
100V version					
Mini 4-T30, white	9016	101-102-03-030-01	2-way, with 30W-transformer	1	LSP
Mini 4-T30, black	9005	101-102-04-030-01	2-way, with 30W-transformer	1	LSP

SUB 200

Band pass subwoofer



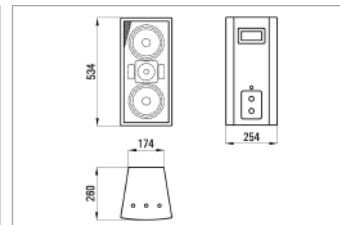
Band pass subwoofer perfect for supporting WHD satellites from the WL-, Mini- and Micro-series. The SUB 200 comes with a 200 mm dual-voice coil chassis. It features a stereo connection terminal with two inputs and two outputs. The outputs are switched by a special tuned crossover network for the satellites mentioned above. Other satellites (8 Ohm) can also be connected at this point.. The built-in volume control allows you to adjust the ratio of bass and satellites.

Technical Datas	SUB 200
SPL 1W/1m	88 dB
Frequency Range (-3 dB)	50-130 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	-
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	-
dimensions (mm)	305x385x410 mm
Material	housing: chipboard, inlayed
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
Low impedance					
SUB 200, black		100-200-04-008-00	50W, 8 ohms	1	LSP

BSB 80

Compact, shock-resistant PA-box



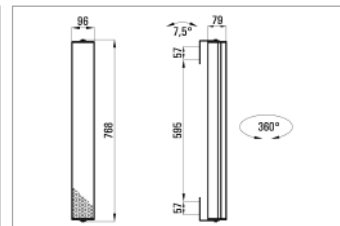
Compact, shock-resistant PA-box, ideal for reproducing speech and background music in acoustically problematic rooms, such as sports halls, hotel lobbies, exhibition halls... It features two 175 mm chassis and a horn tweeter. A d'Appolito arrangement enables the box to achieve a vertical focusing, making it a perfect match for resonant rooms. The U-type bracket WBM 80 and wall bracket WH 120 with tilt/rotate feature are available as accessories. The box can also be hung from its three mounting points using M10 eyelet slots. In addition the enclosure base incorporates a flange adapter for standard speaker stands.

Technical Datas		BSB 80-T80			
SPL 1W/1m		96 dB			
Frequency Range (-3 dB)		120-16000 Hz			
Transmission Angle, horizontale		280/-/40/70 °			
1/2/4/8 kHz (-6 dB)					
Transmission Angle, verticale		150/-/50/40 °			
1/2/4/8 kHz (-6 dB)					
dimensions (mm)		254x534x260 mm			
Material		housing: wood (MDF), grille: metal			
Accessories		WBM80: u-type bracket, WH120: wall mounting, RSM10: screws			

model	RAL similar to	order-no.	version	packaging unit	price classification
100V version					
BSB 80-T80, white	9010	103-080-03-001-00	2-way, shock proof, connection for 4 ohms, 80W:100V and 40W:100V	1	LSP
BSB 80-T80, black	9005	103-080-04-001-00	2-way, shock proof, connection for 4 ohms, 80W:100V and 40W:100V	1	LSP

TS 25/4

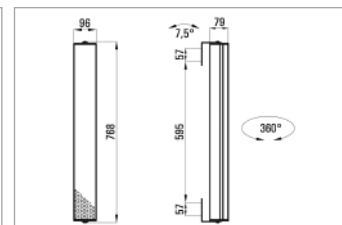
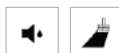
2-way sound column



2-way sound column, ideal for speech and background music in churches, conference rooms, lecture theatres, ... The TS 25/4 features four 87 mm full-range chassis and two 66 mm dome tweeters. This produces focussed vertical radiating characteristics which is reinforced at high frequencies by the additional tweeters. Assembly is via two brackets included in the delivery. The housing underside has a 1/2" thread and M6 insert.

Technical Datas		TS 25/4-T25			
SPL 1W/1m		95 dB			
Frequency Range (-3 dB)		250-20000 Hz			
Transmission Angle, horizontale		120/-/70/60 °			
1/2/4/8 kHz (-6 dB)					
Transmission Angle, verticale		80/-/70/60 °			
1/2/4/8 kHz (-6 dB)					
dimensions (mm)		96x768x79 mm			
Material		housing: aluminium, grille: metal			
Accessories		incl. 2 mounting stirrups			

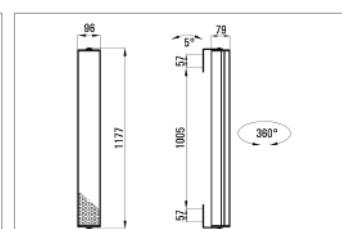
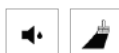
model	RAL similar to	order-no.	version	packaging unit	price classification
100V version					
TS 25/4-T25, white	9010	103-025-03-004-00	2-way, with 25W-transformer	1	LSP
TS 25/4-T25, black	9005	103-025-04-004-00	2-way, with 25W-transformer	1	LSP

TS 25 S 1**2-way sound column with optimized tweeters**

2-way sound column, ideal for speech and background music in churches, conference rooms, lecture theatres, ... The TS 25/ S-1 features four 87 mm full-range chassis and two horn tweeters. This produces focussed vertical radiating characteristics which is reinforced at high frequencies by the additional tweeters. Assembly is via two brackets included in the delivery. The housing underside has a 1/2" thread and M6 insert.

Technical Datas	TS 25 S1-T25
SPL 1W/1m	95 dB
Frequency Range (-3 dB)	200-16000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	280/-/40/70 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	150/-/50/70 °
dimensions (mm)	96x768x79 mm
Material	housing: aluminium, grille: metal
Accessories	incl. 2 mounting stirrups

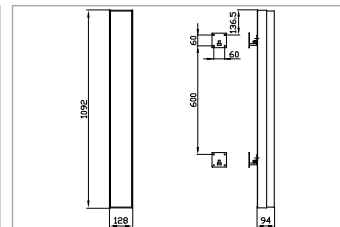
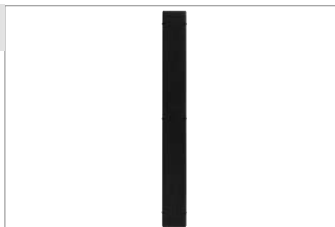
model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
100V version					
TS 25 S1-T25, white	9010	103-026-03-002-00	2-way, with 25W-transformer	1	LSP
TS 25 S1-T25, black	9005	103-026-04-002-00	2-way, with 25W-transformer	1	LSP

TS 25/40 S**Long 2-way sound column with optimized tweeters**

2-way sound column, ideal for speech and background music in churches, conference rooms, lecture theatres, ... The TS 25/40 S features eight 87 mm full-range chassis and two horn tweeters. This produces strongly focussed vertical radiating characteristics, reinforced at high frequencies by the additional tweeters. Assembly is via two brackets included in the delivery. The housing underside has a 1/2" thread and M6 insert.

Technical Datas	TS 25/40 S-T25
SPL 1W/1m	93 dB
Frequency Range (-3 dB)	200-16000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	220/-/60/60 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	140/-/100/30 °
dimensions (mm)	96x1177x79 mm
Material	housing: aluminium, grille: metal
Accessories	incl. 2 mounting stirrups

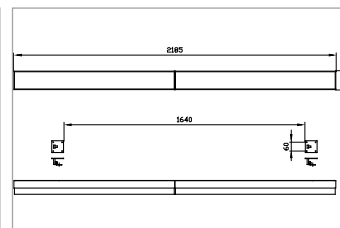
model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
100V version					
TS 25/40 S-T25, white	9010	103-254-03-001-00	2-way, with 25W-transformer	1	LSP
TS 25/40 S-T25, black	9005	103-254-04-001-00	2-way, with 25W-transformer	1	LSP

LA 1000**Line Array**

2-way design sound column for churches, conference rooms and other representative premises. By the middle, slightly oblique angled tweeter, the LA 1000 reaches a wide horizontal dispersion, even at high frequencies. The mounting hardware is included in delivery.

Technical Datas	LA 1000
SPL 1W/1m	93 dB
Frequency Range (-3 dB)	200-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	250/200/160/110 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	25/15/20/15 °
dimensions (mm)	120x1085x80 mm
Material	housing: metal, cover: black glass
Accessories	incl. mounting accessories

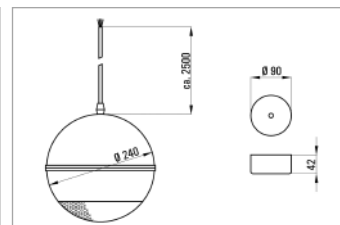
model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
100V version					
LA 1000, black		103-011-04-100-00	2-way, with 25W-transformer	1	LSP

LA 2000**Line Array**

Long 2-way design sound column for churches, conference rooms and other representative premises. By the middle, slightly oblique angled tweeter, the LA 2000 reaches a wide horizontal viewing angle, even at high frequencies. Because of the small vertical, over the frequency range equal to the angle, this column speaker is well suited for rooms with long reverberation times. The mounting hardware is included in delivery.

Technical Datas	LA 2000
SPL 1W/1m	93 dB
Frequency Range (-3 dB)	200-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	250/200/160/110 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	20/15/15/10 °
dimensions (mm)	120x2160x80 mm
Material	housing: metal, cover: black glass
Accessories	incl. mounting accessories

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
100V version					
LA 2000, black		103-011-04-200-00	2-way, with 25W-transformer	1	LSP

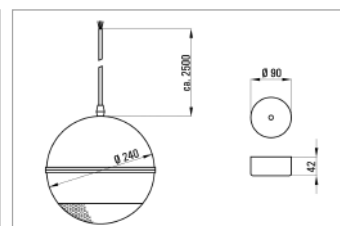
KL 1603**Standard spherical speaker**

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.

Technical Datas		KL 1603-T12			
SPL 1W/1m		91 dB			
Frequency Range (-3 dB)		100-12000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		200/-/60/40 °			
dimensions (mm)		d240 mm			
Material		housing: plastic, grille: metal			
Accessories		incl. strain relief and canopy			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

KL 1603-T12, white	9016	104-164-03-041-02	with 12W-transformer	1	LSP
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KL 1603/2**2-way HiFi spherical speaker**

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.

Also available as EN 54-24 type.

Technical Datas		KL 1603/2-T12		KL 1603/2-T25	
SPL 1W/1m		89 dB		89 dB	
Frequency Range (-3 dB)		100-20000 Hz		100-20000 Hz	
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/50/40 °		180/-/50/40 °	
dimensions (mm)		d240 mm		d240 mm	
Material		housing: plastic, grille: metal		housing: plastic, grille: metal	
Accessories		incl. strain relief and canopy		incl. strain relief and canopy	
model	RAL similar to	order-no.	version	packaging unit	price classification

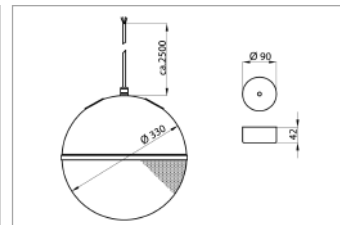
100V version

KL 1603/2-T12, white	9016	104-165-03-041-02	2-way, with 12W-transformer	1	LSP
KL 1603/2-T12 EN, white	9016	104-165-03-012-00	2-way, with 12W-transformer, acc. to EN 54-24	1	ELA
KL 1603/2-T25, white	9016	104-165-03-041-03	2-way, with 25W-transformer	1	LSP

KL 1900

Large 2-way HiFi spherical speaker

★★★★★



2-way high-end Hi-Fi spherical speaker, ideal for the reproduction of music, such as in hotel lobbies, ... (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 via a draw release fixed to the cable. A canopy conceals the suspension point and ensures a harmonious appearance.

Technical Datas	KL 1900-T12	KL 1900-T25
SPL 1W/1m	88 dB	88 dB
Frequency Range (-3 dB)	63-16000 Hz	63-16000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	200/-/140/200 °	200/-/140/200 °
dimensions (mm)	d330 mm	d330 mm
Material	housing: plastic, grille: metal	housing: plastic, grille: metal
Accessories	incl. strain relief and canopy	incl. strain relief and canopy

model	RAL similar to	order-no.	version	packaging unit	price classification
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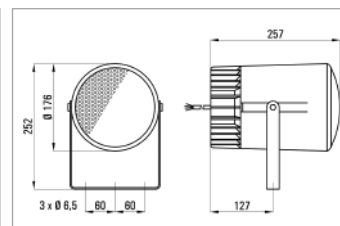
100V version

KL 1900-T12, white	9016	104-190-03-000-03	2-way, connection for 4 ohms and 12W:100V	1	LSP
KL 1900-T25, white	9016	104-190-03-041-02	2-way, connection for 4 ohms and 25W:100V	1	LSP

SP 12

Standard sound projector

★★★★☆



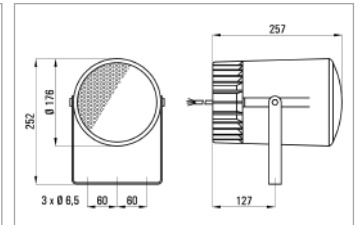
Standard, highly-effective sound projector, ideal for speech and background music indoors and out, e.g. in warehouses, multi-storey car parks and amusement parks... The SP 12 features a 166 mm full-range chassis. Mounting is via a U-type bracket included in the delivery. Can also be mounted to a stand via the optional mast attachment MB 1/2. Cable entry is via an M12 screw connection.

Technical Datas	SP 12-T12
SPL 1W/1m	93 dB
Frequency Range (-3 dB)	140-12000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	160/-/80/50 °
dimensions (mm)	d176x257 mm
Material	housing, acoustic wall: plastic (weatherproof), grille: aluminium
Accessories	MB 1/2: mast attachment for mast diameter 70-210 mm

model	RAL similar to	order-no.	version	packaging unit	price classification
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100V version

SP 12-T12, white	9010	104-010-03-001-00	with 12W-transformer, weatherproof	1	LSP
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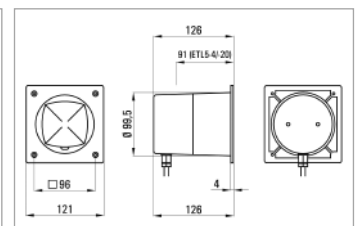
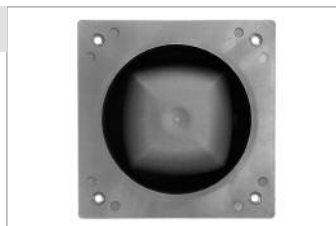
SP 25/2**2-way sound projector**

2-way sound projector, ideal for background music indoors and out, e.g. in warehouses, production spaces, amusement parks,... The SP 25/2 comes with a 166 mm woofer chassis and coaxial tweeter arrangement. Mounting is via a U-type bracket included in the delivery. Can also be mounted to a stand via the optional mast attachment MB 1/2. Cable entry is via an M12 screw connection.

Technical Datas		SP 25/2-T25			
SPL 1W/1m		89 dB			
Frequency Range (-3 dB)		100-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/50/60 °			
dimensions (mm)		d176x257 mm			
Material		housing, acoustic wall: plastic (weatherproof), grille: aluminium			
Accessories		MB 1/2: mast attachment for mast diameter 70-210mm			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

SP 25/2-T25, white	9010	104-025-03-001-00	2-way, with 25W-transformer, weatherproof	1	LSP
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ETL 5**Compact horn speaker for recessed installation**

Compact horn speaker for recessed installation, suitable for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, roadside emergency telephones, ... 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 Datas		ETL 5-4		ETL 5-T6	
SPL 1W/1m		97 dB		97 dB	
Frequency Range (-3 dB)		400-13000 Hz		400-13000 Hz	
Transmission Angle 1/2/4/8 kHz (-6 dB)		360/-/60/50 °		360/-/60/50 °	
dimensions (mm)		121x121x128 mm		121x121x128 mm	
Material		housing: plastic		housing: plastic	
Accessories		-		-	
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

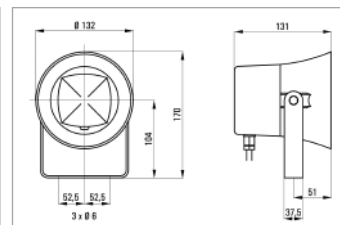
ETL 5-4, grey	7037	103-105-04-108-00	6W, 4 ohms, weatherproof	1	LSP
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100V version

ETL 5-T6, grey	7037	103-105-04-108-01	with 6W-transformer, weatherproof	1	LSP
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TL 5

Compact horn speaker



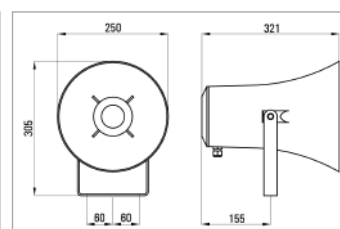
Compact horn speaker, ideal for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, underground car parks, etc ... Unlike normal horn speakers this model is fitted with a 66 mm cone type full-range loudspeaker rather than a driver. This produces a larger bandwidth, which makes 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.

Technical Datas	TL 5-4	TL 5-T6
SPL 1W/1m	97 dB	97 dB
Frequency Range (-3 dB)	400-13000 Hz	400-13000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	360/-/60/50 °	360/-/60/50 °
dimensions (mm)	d132x131 mm	d132x131 mm
Material	housing: plastic, u-type bracket: aluminium	housing: plastic, u-type bracket: aluminium
Accessories	MB 1/2: mast attachment for mast diameter 70-210 mm	MB 1/2: mast attachment for mast diameter 70-210 mm

model	RAL similar to	order-no.	version	packaging unit	price classification
Low impedance					
TL 5-4, grey	7037	103-105-04-008-00	6W, 4 ohms, weatherproof	1	LSP
100V version					
TL 5-T6, grey	7037	103-105-04-008-01	with 6W-transformer, weatherproof	1	LSP

TL 130-2

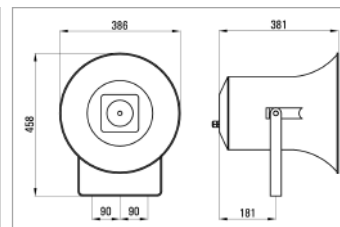
High-end horn speaker



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 Datas	TL 130-2-T30
SPL 1W/1m	103 dB
Frequency Range (-3 dB)	370-6500 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)	190/-/130/70 °
dimensions (mm)	d250x321 mm
Material	housing: plastic, u-type bracket: aluminium
Accessories	MB 1/2: mast attachment for mast diameter 70-210 mm

model	RAL similar to	order-no.	version	packaging unit	price classification
100V version					
TL 130-2-T30, grey	7035	103-130-04-001-02	with 30W-transformer, weatherproof	1	LSP

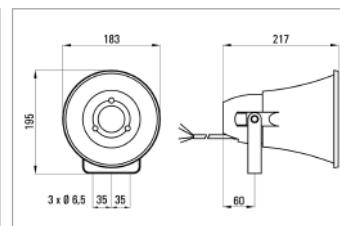
TL 230**2-way music horn speaker**

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,... 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.

Technical Datas		TL 230-T30			
SPL 1W/1m		100 dB			
Frequency Range (-3 dB)		350-16000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		70/-/100/40 °			
dimensions (mm)		d386x381 mm			
Material		housing: plastic, u-type bracket: aluminium			
Accessories		MB 3: mast attachment (70-210 mm), MB 3 N: declining mast attachm. (70-210 mm)			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

TL 230-T30, grey	7035	103-230-04-001-02	2-way, with 30W-transformer, weatherproof	1	LSP
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TL 310**Small, attractively-priced horn speaker**

Small, attractively-priced and highly-effective horn speaker, ideal for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, underground car parks, etc ... The TL 310 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.

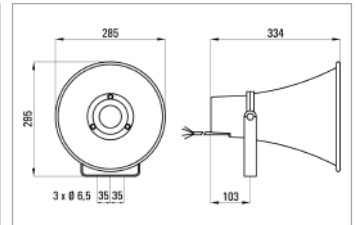
Technical Datas		TL 310-T10			
SPL 1W/1m		105 dB			
Frequency Range (-3 dB)		600-7000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		160/-/50/30 °			
dimensions (mm)		d183x217 mm			
Material		housing: plastic, u-type bracket: aluminium			
Accessories		MB 1/2: mast attachment for mast diameter 70-210 mm			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

TL 310-T10, grey	7042	103-110-04-031-01	with 10W-transformer, weatherproof	1	LSP
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TL 330

Large, attractively priced horn speaker



Large, attractively-priced and extremely effective horn speaker; ideal for loudspeaker- and alarm systems indoors and out, e.g. in production spaces, underground car parks, etc ... The TL 330 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.

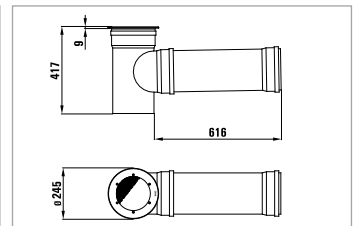
Technical Datas		TL 330-T30			
SPL 1W/1m		105 dB			
Frequency Range (-3 dB)		420-3500 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		120/-/50/40 °			
dimensions (mm)		d285x334 mm			
Material		horn, u-type bracket: alu, transformer housing: plastic			
Accessories		MB 1/2: mast attachment for mast diameter 70-210 mm			
model	RAL similar to	order-no.	version	packaging unit	price classification

100V version

TL 330-T30, grey	7042	103-130-04-031-01	with 30W-transformer, weatherproof	1	LSP
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IG 220

Outdoor speaker



Built-in floor loudspeakers for playing music outside, in the garden, on restaurant terraces, in theme parks... The housing is dug or cemented directly into the soil. Then the loudspeaker unit is inserted into the housing and the bezel with the durable grille will be screwed into it. Weather-proof 2-way coaxial driver, which is built into the ground at a 90° angle. A special sound channeling system reflects the sound upwards. Water and dirt can seep into the ground via the reflector. We recommend providing the speakers with drainage.

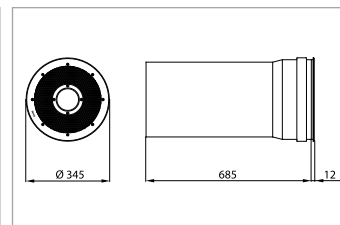
Technical Datas		IG 220-4			
SPL 1W/1m		87 dB			
Frequency Range (-3 dB)		100-18000 Hz			
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)		180/-/60/50 °			
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)		180/-/60/50 °			
dimensions (mm)		d245x417 mm			
Material		housing: plastic, bezel and grille: stainless steel			
Accessories		-			
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

IG 220-4, stainless steel		105-220-07-004-00	25W, 4 ohms, weatherproof	1	LSP
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IG 340 LED

Outdoor speaker



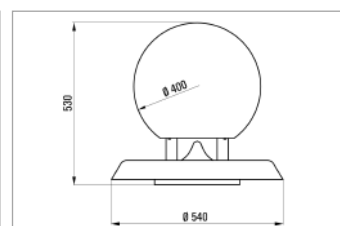
Built-in floor loudspeakers with integrated LED (230 V) for playing music outside, in the garden, on restaurant terraces, in theme parks... The housings are dug or cemented directly into the soil. Then the loudspeaker unit is inserted into the housing and the bezel with the durable grille will be screwed into it. Weather-proof full-range driver, which is built into the ground at a 180° angle. A special sound channeling system on both models reflects the sound upwards. Water and dirt can seep into the ground via the reflector. We recommend providing the speakers with drainage.

Technical Datas	IG 340 LED-4
SPL 1W/1m	90 dB
Frequency Range (-3 dB)	150-12000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	70/-/100/40 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	70/-/100/40 °
dimensions (mm)	d345x685 mm
Material	housing: plastic, bezel and grille: stainless steel
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	price classification
IG 340 LED-4, stainless steel		105-340-07-004-00	25W, 4 ohms, with integrated LED unit, weatherproof	1	LSP

R 1900 WPL

Outdoor speaker



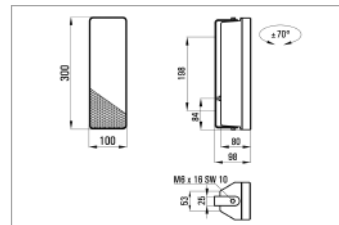
2-way omnidirectional speaker with light, ideal for the reproduction of music indoors and out, e.g. in amusement parks, in gardens or terraces in hotels or for domestic use, outdoor swimming pools, pub gardens,... The R 1900 WPL is fitted with a 166 mm woofer and coaxial tweeter arrangement. The two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

Technical Datas	R 1900 WPL-T25
SPL 1W/1m	87 dB
Frequency Range (-3 dB)	80-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	60/-/190/360 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	60/-/190/360 °
dimensions (mm)	d540x530 mm
Material	spherical: Polyethylene, stand: PVC, mounting plate: metal, zinc plated
Accessories	incl. lamp

model	RAL similar to	order-no.	version	packaging unit	price classification
R 1900 WPL-T25, weiß		104-190-03-035-03	2-way, with 25W-transformer and light, weatherproof	1	LSP

100V version

Outdoor speaker



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, ... 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. Also available as EN 54-24 type.

Technical Datas	AL 10/1-4	AL 10/1-T12
SPL 1W/1m	94 dB	94 dB
Frequency Range (-3 dB)	220-16000 Hz	220-16000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	220/-/60/60 °	220/-/60/60 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	140/-/100/30 °	140/-/100/30 °
dimensions (mm)	100x300x98 mm	100x300x98 mm
Material	housing: plastic, grille: aluminium	housing: plastic, grille: aluminium
Accessories	incl. u-type bracket, as an option MB 1/2: mast attachment (70-210mm)	incl. u-type bracket, as an option MB 1/2: mast attachment (70-210mm)

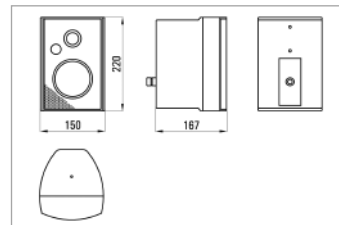
model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
Low impedance					
AL 10/1-4, white	9016	103-010-03-000-01	12W, 4 ohms, weatherproof	1	LSP
AL 10/1-4, black	9005	103-010-04-000-01	12W, 4 ohms, weatherproof	1	LSP

Low impedance

100V version

AL 10/1-T12, white	9016	103-010-03-001-01	with 12W-transformer, weatherproof	1	LSP
AL 10/1-T12, black	9005	103-010-04-001-02	with 12W-transformer, weatherproof	1	LSP
AL 10-T12 EN, white	9016	103-010-03-002-00	with 12W-transformer, weatherproof, acc. to EN 54-24	1	ELA

Outdoor speaker



Compact, weatherproof 2-way Hi-Fi box, ideal for music reproduction, such as in pub gardens, for terraces, for shop window displays, for example,... The Mini 4 WP comes with a 100 mm mid range-bass speaker and a 10 mm dome tweeter. The U-type bracket WBMinit and ball joint mounting WHMini are available as accessories.

Technical Datas	Mini 4 WP-8	Mini 4 WP-T30
SPL 1W/1m	88 dB	88 dB
Frequency Range (-3 dB)	100-20000 Hz	100-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	220/-/190/130 °	220/-/190/130 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	180/-/160/130 °	180/-/160/130 °
dimensions (mm)	150x220x167 mm	150x220x167 mm
Material	housing: plastic, grille: aluminium	housing: plastic, grille: aluminium
Accessories	WBMini: u-type bracket, WHMini: ball joint mounting	WBMini: u-type bracket, WHMini: ball joint mounting

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
Low impedance					
Mini 4 WP-8, white	9016	101-102-03-008-00	2-way, 50W, 8 ohms, weatherproof	1	LSP
Mini 4 WP-8, black	9005	101-102-04-008-00	2-way, 50W, 8 ohms, weatherproof	1	LSP

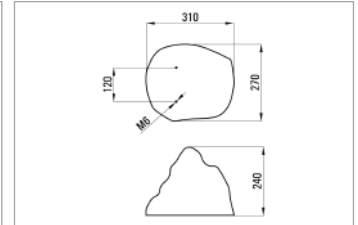
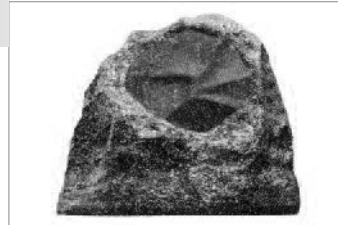
Low impedance

100V version

Mini 4 WP-T30, white	9016	101-102-03-030-00	2-way, with 30W-transformer, weatherproof	1	LSP
Mini 4 WP-T30, black	9005	101-102-04-030-00	2-way, with 30W-transformer, weatherproof	1	LSP

SL 25/2

Outdoor speaker



High-quality 2-way Hi-Fi speakers in a stone look for uncompromising applications indoors and out. Typical areas of application include hotel lobbies, health spa resorts, amusement parks, pub gardens, ... or in the garden or on the patio at home. The SL 25/2 features a powerful 165 mm woofer and 13 mm dome tweeter. The SL 25/2 can be fixed and secured against theft using the two M6 insert threads provided.

Technical Datas	SL 25/2-T25
SPL 1W/1m	85 dB
Frequency Range (-3 dB)	80-20000 Hz
Transmission Angle, horizontale 1/2/4/8 kHz (-6 dB)	160/-/40/40 °
Transmission Angle, verticale 1/2/4/8 kHz (-6 dB)	160/-/40/40 °
dimensions (mm)	310x240x270 mm
Material	housing: plastic, grille: aluminium
Accessories	-

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
100V version					
SL 25/2-T25, granite-grey		100-200-04-025-00	2-way, with 25W-transformer, weatherproof, low voltage connection possible	1	LSP

Additional charge for special painting

Classification 1

10-19 pcs	price on request
20-49 pcs	price on request
from 50 pcs	price on request

UP 6, UP 10, UP 14, UP 14 SUB, UP 14/2, UP 14/2 Marine, UP 22, UP 23, UP 26, UP 135, UPM 100, UPM 140, UPM 200, UPM 260, WL 6, WL 6/2, ZL 135, plastic cover M/R 240 Basic

Classification 2

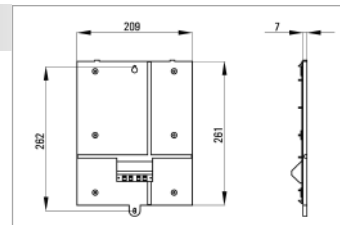
10-19 pcs	price on request
20-49 pcs	price on request
from 50 pcs	price on request

AL 10/1, KL 1400, KL 1603, KL 1603/2, KL 1900, SP 12, SP 25/2, DLS 12, WL 10, WL 10/2

Classification 3

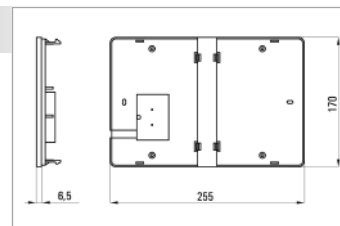
10-19 pcs	price on request
20-49 pcs	price on request
from 50 pcs	price on request

all TS 25

RW WL 6**Accessories wall-speakers**

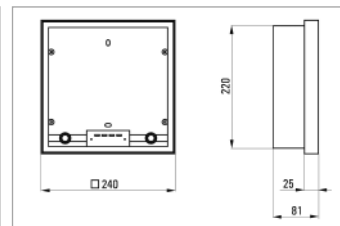
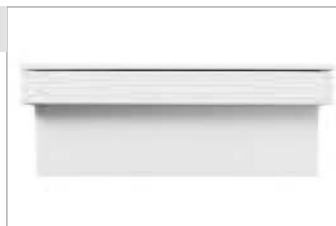
Plastic rear panel (grey) for wall-mounted design speaker WL 6 and WL 6 HQ. Please note with the order: "for 100V-" or "low impedance-version".

model	RAL similar to	order-no.	version	packaging unit	price classification
RW WL 6-low voltage, silver		109-136-03-000-00	plastic wall panel for WL 6-8 and WL 6 HQ-8	1	LSP
RW WL 6- 100V, silver		109-136-03-001-00	plastic wall panel for WL 6-T and WL 6 HQ-T	1	LSP

RW ZL 135**Accessories wall-speakers**

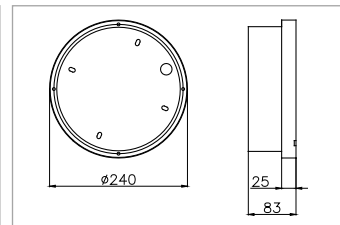
Plastic rear panel (white) for wall-mounted speaker ZL 135.

model	RAL similar to	order-no.	version	packaging unit	price classification
RW ZL 135, white		109-135-03-001-00	plastic wall panel for ZL 135 G and ZL 135 BWS	1	LSP

AG 240**Accessories installation speakers**

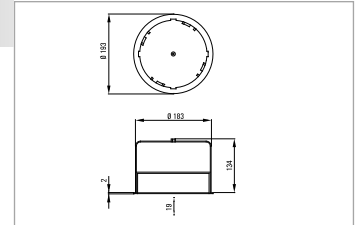
Square plastic on-wall housing for design speaker M/R 240 in colour white or anthracite.

model	RAL similar to	order-no.	version	packaging unit	price classification
AG 240, white	9016	116-240-03-000-00	surface housing square, fitting to M/R 240	1	LSP
AG 240, anthracite	7016	116-240-04-000-00	surface housing square, fitting to M/R 240	1	LSP

AGR 240**Accessories installation speakers**

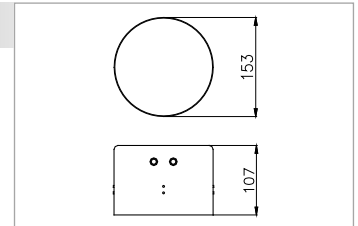
Round metal on-wall housing for design speaker M/R 240 in colour white or anthracite.

model	RAL similar to	order-no.	version	packaging unit	price classification
AGR 240, white	9016	116-240-03-001-00	surface housing round, fitting to M/R 240	1	LSP
AGR 240, anthracite	7016	116-240-04-001-00	surface housing round, fitting to M/R 240	1	LSP

EGT 14/2**Accessories installation speakers**

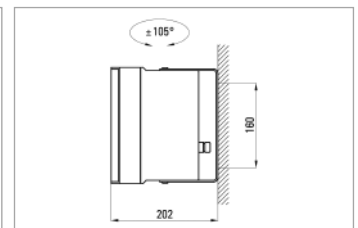
Plastic housing for concrete ceilings including a moveable flange for ceiling speaker UP 14 and UP 14/2.

model	RAL similar to	order-no.	version	packaging unit	price classification
EGT 14/2, white		149-014-01-001-00	pour-in pot for UP 14, UP 14/2 and UP 14/2 Marine	1	LSP

ST 220**Accessories installation speakers**

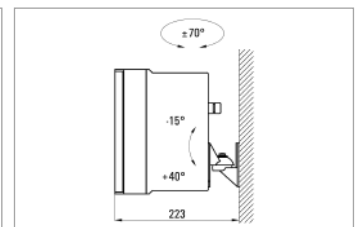
Fire-retardant steel dome for ceiling speaker UPM 220.

model	RAL similar to	order-no.	version	packaging unit	price classification
ST 220		149-220-00-000-00	steel pot for UPM 220/2	1	LSP

WB Mini**Accessories HiFi-/PA speakers**

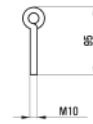
Aluminum U-bracket in colour white or black for 2-way HiFi-box Mini 4 and Mini 4 WP.

model	RAL similar to	order-no.	version	packaging unit	price classification
WB Mini, black	9005	175-080-10-400-40	wall bracket, u-type, fitting to box Mini 4 (WP)	1	LSP
WB Mini, white	9016	175-080-10-300-40	wall bracket, u-type, fitting to box Mini 4 (WP)	1	LSP

WH Mini**Accessories HiFi-/PA speakers**

Plastic ball joint bracket in colour white or black for 2-way HiFi-box Mini 4 and Mini 4 WP.

model	RAL similar to	order-no.	version	packaging unit	price classification
WH Mini, black	9005	175-004-04-001-01	wall bracket with ball joint fitting to box Mini 4 (WP)	1	LSP
WH Mini, white	9016	175-004-03-001-01	wall bracket with ball joint fitting to box Mini 4 (WP)	2	LSP

RSM10-BSB80**Accessories HiFi-/PA speakers**

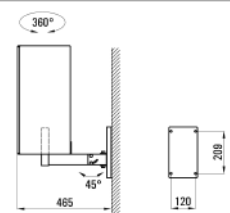
Eye bolt M10 for suspended mounting of PA speaker BSB 80 (Packing unit = 3 pce.).

model	RAL similar to	order-no.	version	packaging unit	price classification
RSM10-BSB80		180-080-01-000-00	set with 3 eylet solt M 10	1	LSP

WBM 80**Accessories HiFi-/PA speakers**

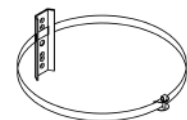
Metal U-bracket in colour white or black for PA speaker BSB 80.

model	RAL similar to	order-no.	version	packaging unit	price classification
WBM 80, black	9005	175-080-04-000-00	u-type bracket fitting to BSB 80	1	LSP
WBM 80, white	9010	175-080-03-000-00	u-type bracket fitting to BSB 80	1	LSP

WH 120**Accessories HiFi-/PA speakers**

Horizontal and vertical adjustable metal bracket (black) for PA speaker BSB 80.

model	RAL similar to	order-no.	version	packaging unit	price classification
WH 120, black	9005	175-081-01-120-00	wall bracket BSB 80	2	LSP

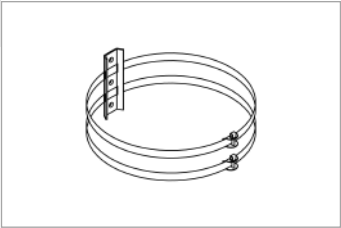
MB 1/2**Accessories SP-, TL-, TS speakers**

Mast attachment for various speakers suitable for pole diameter 70 - 210 mm.

model	RAL similar to	order-no.	version	packaging unit	price classification
MB 1/2		175-001-00-002-00	mast attachment for TL-speakers	1	LSP

MB 3

Accessories SP-, TL-, TS speakers

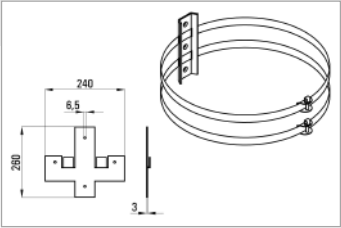


Mast attachment for 2-way music horn TL 230 suitable for pole diameter 70 -210 mm.

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
MB 3		175-001-00-003-00	mast attachment for TL 230	1	LSP


MB 3N





Accessories SP-, TL-, TS speakers



Adjustable mast attachment for 2-way music horn TL 230 suitable for pole diameter 70 -210 mm.

model	RAL similar to	order-no.	version	packaging unit	price classifi- cation
MB 3N		175-001-00-003-01	mast attachment movable for TL 230	1	LSP

Speaker	Flamox	Halox	Kompax			Universal housing with mineral fibre board	Enox housing		
									
WHD Product	Fire protection housing	Halox-O (Onsite-mixed concrete)	Onsite-mixed concrete			Slab ceilings	Concrete construction	Brick wall	Hollow wall & ceiling
	UPM 100-4/-20 UPM 100T6 UPM 140S-4/-20	9430-01	1290-40+1290-22	1291-22	1294-00 + 1292-06/1294-27	1294-15/1294-28	1298-27	1096-22	9350-21
		9430-01	1290-40+1290-22	1291-22		1294-15/1294-28	1298-27	1096-22	
		9430-02		1291-22		1294-15/1294-28	1297-27	1096-22	
	UPM 140S-T6 UPM 200S-4/-20/-T6	9430-02		1291-22	1294-00 + 1293-18/1294-27	1294-15/1294-28	1298-28	1092-28	9350-21
		9430-02		1291-22	1293-00 + 1293-24/1293-27	1294-15/1293-28	1298-28	1298-28	
	UPM 260S-4/-20/T1/-T10	9430-02							
	UP 6-4/-20	9430-01	1290-40+1290-22	1291-22	1294-00 + 1292-06/1294-27	1294-15/1294-28	1298-27	1096-22	9350-21
	UP 6-T6	9430-01	1290-40+1290-22	1291-22			1298-27	1096-22	
	UP 10-4/-20	9430-02		1291-22			1298-27	1092-28	
	UP10-T6	9430-02		1291-22	1294-00 + 1293-18/1294-27	1294-15/1294-28	1298-27	1092-28	9350-21
	UP 14-4/-20/-T6	9430-02			1294-00 + 1293-18/1294-27	1294-15/1294-28	1298-28	1092-28	
	UP 14/2-8/T25	9430-02			1294-00 + 1293-18/1294-27	1294-15/1294-28	1298-28	1092-28	
	UP14/2-4/-2-8 stereo/-T25 marine	9430-02			1294-00 + 1293-18/1294-27	1294-15/1294-28	1298-28	1092-28	
	UP 14/2 T6 (marine) /-SUB-8	9430-01			1294-00 + 1294-13 + 1293-18/1294-27 + 1294-13	1294-15 + 1294-13 + 1293-18/1294-28 + 1294-13	1297-25	1297-25	
	UP 22-4/-20/-T6	9430-02			1293-00 + 1293-24/1293-27	1293-15/1293-28	1298-28	1298-28	
UP 23-4/-T10	9430-02			1293-00 + 1293-24/1293-27	1293-15/1293-28	1298-28	1298-28		
UP 26-4/-T6/-T25	9430-02			1293-00 + 1293-24/1293-27	1293-15/1293-28	1298-28	1298-28		
M 240-8/-T6/-T25/-8-stereo/8-HQ				1293 + Styroporformteil Ø 214 x 20/1293-27	1293-28	1298-28	1298-28		
R 240-8/-T6/-8-stereo/-8-HQ	9430-02			1293 + Styroporformteil Ø 214 x 20/1293-27	1293-15/1293-28	1298-28	1298-28		
Reference address: KAISER GmbH & Co. KG · D-58579 Schalksmühle www.kaiser-elektro.de									
■ KOMPAX housing with mineral fibre board									
No responsibility is taken for the correctness of this information.									

Speaker		Speisberg IBTronic							
WHD Product									
	IBT		IBT		IBT-TT		IBT-TT		
	Onsite-mixed concrete*		Onsite-mixed concrete*		Onsite-mixed concrete*		Onsite-mixed concrete*		
	Slab ceilings		Slab ceilings		Slab ceilings		Slab ceilings		
	976 004 01 976 004 01 976 604 01** 976 604 01**	976 004 01 976 004 01 976 604 01 976 604 01	976 104 01 976 104 01	976 104 01 976 104 01	976 204 01 976 204 01	976 204 01 976 204 01	976 304 01 976 304 01	976 304 01 976 304 01	
UPM 100-4/-20/-T6 UP 6-4/-20/-T6 UPM 140S-4/-20/-T6 UP 10-4/-20/-T6									
Reference address: Günther Speisberg GmbH & Co. KG · D-58579 Schalksmühle www.spesberg.de		No responsibility is taken for the correctness of this information							
* Accessories 979 218 01 to fix the P-IBTronic Universal installation housing with nails in-situ concrete. 4 nails per housing required. ** only one fixing point									

X 32-4

Exciter



Transform any surface into a speaker - with amazing sound quality. The Exciter (body transducer) X 32-4 enjoys a very good bass response. It can be glued using the already applied as supplied self-adhesive foil vertically on many different surfaces, which then serve as a resonance chamber. Thus, ceilings, cabinets, etc. can be used as a speaker. Also you can screw the Exciter for example on kitchen cabinets, etc.. The imagination knows no limits. Whether kitchen fronts, sides of cabinets or baseboards - even glass doors, mirrors, projection screens and whiteboards can be turned into speakers by the WHD Exciter.

Note: The indicated values for sound pressure level (SPL), frequency range and transmission angle depends on the material used.

Technical Datas		X 32-4			
SPL 1W/1m		80 dB			
Frequency Range (-3 dB)		100-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		-			
dimensions (mm)		d70x26 mm			
Material		-			
Accessories		-			

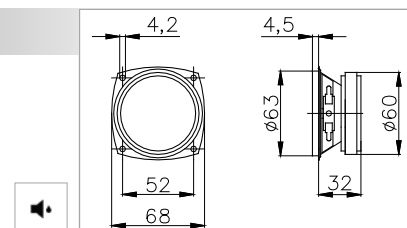
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

X 32-4		130-032-00-004-00	4 ohms, 6 watts	1	STA
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B 66 BB

Installation chassis



Compact highly-effective chassis for recessed installation, high bandwidth.

Technical Datas		B 66 BB-4, -8, -20, -50			
SPL 1W/1m		86 dB			
Frequency Range (-3 dB)		250-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/120/140 °			
dimensions (mm)		68x68x36,5 mm			
Material		-			
Accessories		-			

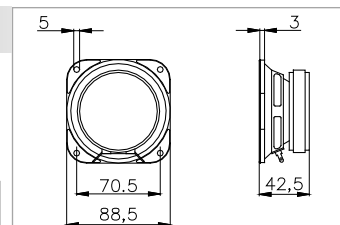
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

B 66 BB-4		131-066-00-202-00	4 ohms	1	LSP
B 66 BB-8		131-066-00-202-01	8 ohms	1	LSP
B 66 BB-20		131-066-00-202-20	20 ohms	1	LSP
B 66 BB-50		131-066-00-202-50	50 ohms	1	LSP

PM 87

Installation chassis



PM 87: Compact, highly-effective speaker for recessed installation. Especially suited for installation in sound columns.

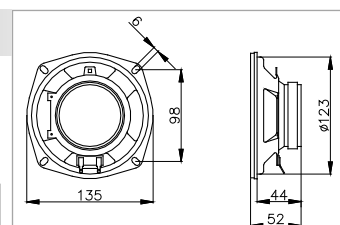
Technical Datas		PM 87-8			
SPL 1W/1m		87 dB			
Frequency Range (-3 dB)		170-15000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		220/-/60/60 °			
dimensions (mm)		88x88x46 mm			
Material		-			
Accessories		-			
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

PM 87-8	130-087-02-000-00	8 ohms	1	LSP
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PM 135

Installation chassis



Highly-effective chassis for recessed installation and subcone. The latter provides improved reproduction at high-frequencies.

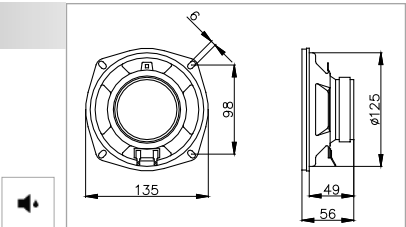
Technical Datas		PM 135-8			
SPL 1W/1m		90 dB			
Frequency Range (-3 dB)		100-20000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/90/40 °			
dimensions (mm)		135x135x54 mm			
Material		-			
Accessories		100 V-transformer 6W			
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

PM 135-8	134-135-00-008-00	8 ohms	1	LSP
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PM 135/2

Installation chassis



2-way coax chassis for enhanced performance. It provides a wide, linear frequency response.

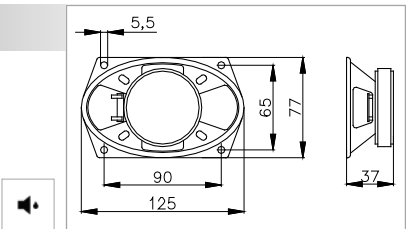
Technical Datas		PM 135/2-8			
SPL 1W/1m		89 dB			
Frequency Range (-3 dB)		90-21000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/70/40 °			
dimensions (mm)		135x135x57 mm			
Material		-			
Accessories		-			
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

PM 135/2-8		134-135-02-001-00	2-way, 8 ohms	1	LSP
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PM 1378

Installation chassis



Oval speakers for optimal usage of available space.

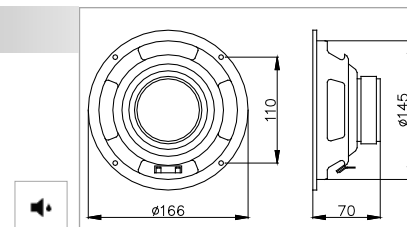
Technical Datas		PM 1378-4			
SPL 1W/1m		90 dB			
Frequency Range (-3 dB)		160-13000 Hz			
Transmission Angle 1/2/4/8 kHz (-6 dB)		-			
dimensions (mm)		125x77x36 mm			
Material		-			
Accessories		-			
model	RAL similar to	order-no.	version	packaging unit	price classification

Low impedance

PM 1378-4		131-137-01-004-00	4 ohms	1	LSP
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PM 166 KLM, PM 166-A/2

Installation chassis



PM 166 KLM: Highly-efficient speaker for recessed installation with mylar membrane. A special copper ring inside the magnetic system reduces distortion. Mylar cone

PM 166-A/2: Coaxial 2-way chassis for high-end performance. The speaker offers wide, linear frequency range for good sound reproduction.

Technical Datas		PM 166 KLM-8	PM 166-A/2-8
SPL 1W/1m		91 dB	89 dB
Frequency Range (-3 dB)		100-12000 Hz	100-20000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)		200/-/60/40 °	180/-/50/40 °
dimensions (mm)		d165x68 mm	d165x68 mm
Material		-	-
Accessories		100 V transformer, 6W	100 V transformer 6W

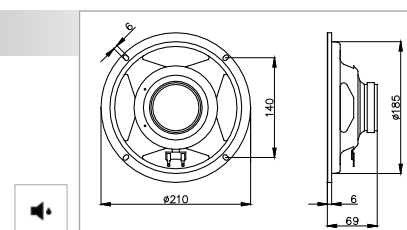
model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

PM 166 KLM-8		130-170-08-023-11	8 ohms, mylar cone	1	LSP
PM 166-A/2-8		130-170-02-023-09	2-way, 8 ohms	1	LSP

PM 210 BB

Installation chassis



Chassis with light-weight, stiff cone with low resonance frequency. This leads to high efficiency and good low frequency reproduction.

Technical Datas		PM 210 BB-4, -20
SPL 1W/1m		91 dB
Frequency Range (-3 dB)		60-18000 Hz
Transmission Angle 1/2/4/8 kHz (-6 dB)		180/-/60/50 °
dimensions (mm)		d210x69 mm
Material		-
Accessories		100 V-transformer 6- or 10W

model	RAL similar to	order-no.	version	packaging unit	price classification
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Low impedance

PM 210 BB-4		134-210-02-000-00	4 ohms	1	LSP
PM 210 BB-20		134-210-02-001-00	20 ohms	1	LSP

T1, T4, T6, T10, T12, T 25, T 50, T 80, T 120

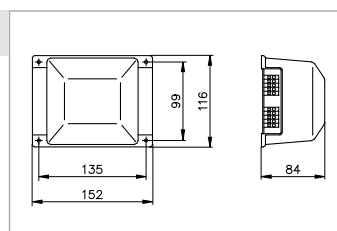
Transformer

The WHD audio-frequency transformers were designed using software and therefore have optimum dimensions with regard to bandwidth, heat development and current uptake. The prescribed specifications are strictly monitored by us. A 100% functional test guarantees maximum safety. The audio-frequency transformers can also be supplied with moisture proofing if required. We can also offer you, for example, special solutions such as speaker/transformer units.

model	RAL similar to	order-no.	version	packaging unit	price classification
T 1		121-100-10-000-00	1 watt, 4 ohms, EI 30, with clamp	3	LSP
T 4		121-400-40-000-00	4 watt, 4 ohms, EI 48, with clamp	1	LSP
T 6		121-400-60-008-00	6 watt, 4+8 ohms, EI 48, with clamp	24	LSP
T 10		121-601-00-005-40	10 watt, 4 + 8 ohms, EI 54, with clamp	1	LSP
T 12		121-601-00-000-00	12 watt, 4 + 8 ohms, EI 60, with clamp	1	LSP
T 25		125-402-50-000-00	25 watt, 4/8/16 ohms, M 74, with clamp	1	LSP
T 50		125-505-00-100-00	50 watt, 4/8/16 ohms, M 85a, with clamp	1	LSP
T 80		125-508-00-100-00	80 watt, 4/8/16 ohms, M 85b, with clamp	1	LSP
T 120		125-612-00-200-00	120 watt, 4/8/16 ohms, M 102b, with clamp	1	LSP

T 100 G

Transformer



T 100 G is a 100 V transformer, fitted in a plastic cabinet. It changes a HiFi system into a 100 V system (for stereo operation there are two T 100 G necessary). So you can fall back easy and cheap on the advantages of the 100 V-technology: small cable cross sections for long distances, volume control through impedance matching, high noise voltage rejection, no impedance problems through parallel connection of many speakers. The maximum transmissible output of a T 100 G is 100 W. It has to be connected on the speaker output of a low voltage amplifier. You have the choice of three different inputs: 4, 8, 16 ohm. On the output section there are three outputs available: 50/70/100 V. It is also possible to fit the T 100 G in a low impedance speaker to use it in a 100 V system.

model	RAL similar to	order-no.	version	packaging unit	price classification
T 100 G		125-610-10-200-01	100 watt, 4/8/16 ohms, EI 96, with housing	1	LSP

KT 1, KT 6

Transformer

Pillow transformer, specifically designed for operation with pillow speakers. They are designed for hospital audio systems of leading manufacturers.

model	RAL similar to	order-no.	version	packaging unit	price classification
KT 1		121-100-10-100-00	1 watt, 4/10/35 volt, EI 30, with clamp	3	LSP
KT 6		121-500-60-100-00	6 watt, 4/10/35 volt, EI 54, with clamp	1	LSP

ST 50, ST 50 G

Transformer

The inductive audio-frequency transmission enables users of hearing aids with additional induction coils to receive sound signals. The loop should be placed so that the listening area is included. The power requirement depends on the area enclosed by the loop. 0,1 W/m² can be regarded as a guideline. It is recommended to divide large areas into partial areas. The impedance value of the loop is app. like the DCR. If a multiple lead cable is used, you can adjust the DCR by parallel or serial connecting of the leads. If you use the ST 50 the DCR should be between 0,5 and 2 ohms. For optimal adjustment of the loopfield a separate poweramplifier is recommended. ST 50: Incl. two mounting stirrups. ST 50 G: Fitted in a plastic cabinet, incl. connecting terminals.

model	RAL similar to	order-no.	version	packaging unit	price classification
ST 50		125-605-00-100-00	50 watt, M 102a, with clamp	1	LSP
ST 50 G		125-605-00-100-01	50 watt, M 102a, with housing	1	LSP



BTR 55 cube

Cardboard cube containing:

- 1x BTR 55 Bluetooth receiver
- 1x KEL 55 Music flush-mounted speaker
- 1x UP 14/2 Q 2-way built-in speaker

Your customers can connect to the BTR 55 with their smartphone via Bluetooth and listen to their music via the KEL 55 Music flush-mounted speaker and the UP 14/2 Q 2-way built-in speaker. A changeover switch is installed in the cube for this purpose.

Your customers will be astounded by how good the flush-mounted speaker sounds and the first-class sound quality that can be achieved with the built-in 2-way speaker.



MP 55 cube

Cardboard cube containing:

- 1x MP 55 iPod/iPhone* docking station
- 1x KEL 55 Music flush-mounted speaker
- 1x UP 14/2 Q 2-way built-in speaker

Your customers can insert their iPhone* or any smartphone into the MP 55 and listen to their music via the KEL 55 Music flush-mounted speaker and the UP 14/2 Q 2-way built-in speaker. A changeover switch is installed in the cube for this purpose.

Your customers will be amazed by the sound of the tiny flush-mounted speaker. The larger 2-way built-in speaker enables you to achieve first-class sound quality.



RDS radio display

Acrylic glass display containing:

- 1x RDS Radio
- 1x BTR 55 Bluetooth receiver
- 1x KEL 55 Music flush-mounted speaker

Showcase the unique RDS Radio and its included remote control to your customers. Your customers can also connect to the BTR 55 with their smartphone via Bluetooth and listen to their music via the KEL 55 Music flush-mounted speaker.



ZBL 55 display

Acrylic glass display containing:

- 1x ZBL 55 (dummy, non-functional)
- 1x cardboard toothbrush

Show your customers how tidy their washstand can be with the inductive charger for electric toothbrushes.



WHD tower

Use our extensive product tower to impress your customers and make the decision to purchase easier. The tower provides you with all the options for presenting the built-in systems and speakers live. The built-in castors make the tower flexible and easy to move.



BTR 205 Display

Demonstration display with bluetooth receiver BTR205 and two exciters for field crew or counter display.

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“ Music is the universal language of mankind. ”

Henry Wadsworth Longfellow (1807-1882)

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