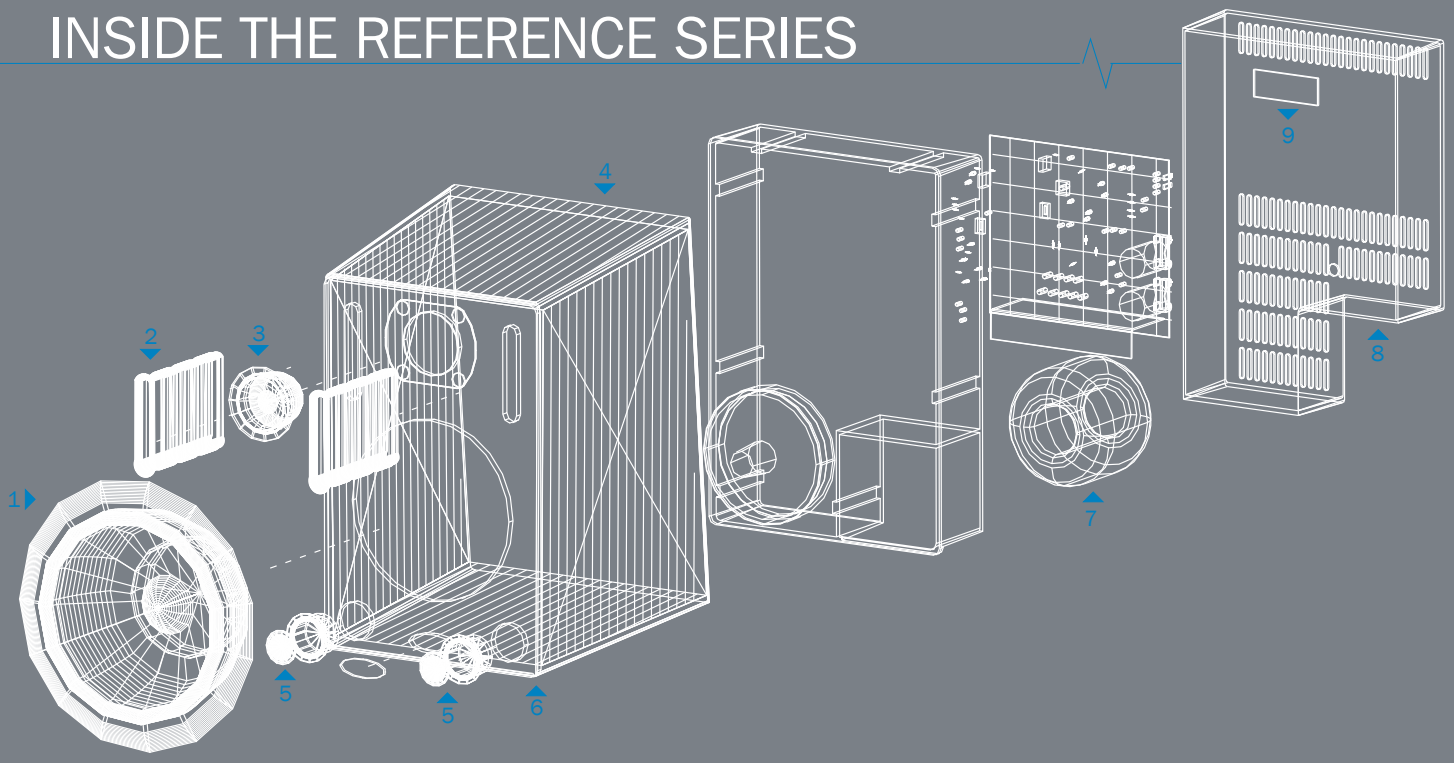
SONODYNE®

REFERENCE SERIES

ACTIVE STUDIO MONITORS 2011-2012

INSIDE THE REFERENCE SERIES



1. Magnetically shielded Kevlar cone woofer with powerful motor and long throw voice coil. A die-cast chassis helps to eliminate resonance **2.** Flared twin bass ports to minimize turbulence **3.** Magnetically shielded ferro fluid cooled silk dome with wave guide for a larger sweet spot **4.** Aluminum die-cast enclosure with non-parallel edges; specially treated inner walls (to prevent ringing) **5.** Easily accessible master volume and power **6.** Inclined front baffle for time alignment **7.** Bi-amplifier with 4th order active crossover. Toroidal transformer, low noise op amps, minimal signal wiring and careful PCB layout for high S/N ratio **8.** Balanced TRS and XLR connectivity (recessed) **9.** LF, HF tilts for workstation boundary compensation

Good quality audio reproduction hinges on the quality of audio production. Sonodyne, India's premier audio design and manufacturing house of 40 years, understands this. To allow for high-grade production values in audio recording and broadcast we present the SM active monitors.

The SM series of reference monitors were designed with the utmost attention to detail and feature high-grade components throughout. The SM series key elements:

- **MONOLITHIC ALUMINUM DIE CAST CABINETS:** At Sonodyne, our research into alternate enclosure designs has resulted in the development of rigid aluminum die-cast enclosures for the reference series. The entire cabinet of SM 50Ak and 100Ak is a 6 mm thick monolithic aluminum die-cast. For the SM 200Ak, the front baffle is aluminum, and the sides and rear are made up of 15 mm MDF. Additionally, the interior walls are coated with a specially formulated deadening compound to prevent ringing.
- **MECHANICAL PRECISION:** All sides are non-parallel to discourage the formation of standing waves. The inclined baffle also contributes towards horizontal time alignment. Additionally, all corners are rounded, and all controls well recessed to minimize edge diffraction. The twin bass ports are flared at both ends to minimize turbulence. The vent area has been optimized to prevent power compression at loud levels.
- **KEVLAR WOOFERS IN METAL DIE-CAST CHASSIS:** The woofer for each monitor has been designed with two objectives in mind: As a bass unit, it should provide fast, tight and low distortion bass from the modest sized enclosure, and, as a low mid unit it should yield a smooth frequency response, good transient response and minimum cone break up. Kevlar was the obvious choice of material. The bass performance was achieved by optimizing the T/S parameters to suit the enclosure volume and by equipping it with a powerful motor and long throw voice coil. The mid performance was achieved by optimizing the cone geometry and the dust cup.
- **INTEGRAL WAVEGUIDES:** The 26mm dome tweeter, for the 100Ak, has a wide dispersion at high frequencies made possible by the integral waveguide. In conjunction with the waveguide, the dome produces smooth response out to 22 kHz. A rear chamber design pushes the tweeter resonance peak to below 1 kHz allowing for a low crossover frequency thereby minimizing phase errors due to horizontal time alignment. The SM 200Ak, with a new waveguide design, features excellent off-axis response, that allows it to be placed farther from the console.
- **ADVANCED ELECTRONIC DESIGN:** The LF and HF units are biamped, i.e., powered internally and separated via an active crossover. The internal amplifier and crossover are dimensioned to the respective drive units. This provides for an optimum utilization of amplifier power. The amplifier features very low THD and IMD and exhaustive protection measure to ensure safety and reliability. Use of a Toroidal transformer, selection of low noise op amps, minimal signal wiring and careful PCB layout contribute to a high S/N ratio which creates a very low self generated noise level. The crossover is a 4th order design. The steep attenuation of out of band frequency components creates minimum overlap resulting in smooth off-axis response, as is evident from the polar plots. User operated controls include a gain control and 4 bass tilt and treble tilt DIP switches for workstation boundary compensation. Also included is a master volume control and power switch. Input is via fully balanced XLR or TRS sockets.

The resulting sound obtained is objectively represented in the on-axis frequency response, polar plots, 2nd & 3rd harmonic distortion plots and the cumulative spectral decay (waterfall) plots for each model. The subjective effect is a detailed, transparent sound field with a wide sweet spot and precise imaging.

GOLDEN EARS

RONNIE BROOKSHIRE, GRAMMY AWARD WINNING ENGINEER, USA

Michael W. Smith, Rob Thomas, Boyz II Men, Steven Curtis Chapman

"To say I'm impressed with the new Sonodyne monitors would be an understatement! When I first tried them out I thought, great, another studio monitor. I've heard them all, but these are the most natural sounding speakers I have heard yet. No hype at any frequency and they're smooth from the top to the bottom at any volume level. The imaging is amazing too. I tried to find something I didn't like about them and couldn't. They very well could be the new standard in mixing."

FRANCESCO CAMELI & SIMON BOHANNON, SPHERE STUDIOS, LONDON

"As we were looking for new nearfield monitors. we tried quite a few. Then along came the SM 100Ak and wow! Such details and smoothness, and in our opinion, out-performing some of the far more expensive competitors. So it was a no brainer ... yes, please"

"With tight bass, flat mids and extended highs this is the new reference"

JOSH BLAIR, ENGINEER/PRODUCER, LONDON

Duran Duran, Beyoncë, Take That, Melanie C, Leona Lewis & many more...

NAKUL KAMTE, BOLLYWOOD, INDIA

Bollywood's leading sync sound engineer
Winner of the Filmfare Award for Don 2

"The detailed top end of the 100s translate extremely well when I get to the mix theatre"

MARK 'TUFTY' EVANS, PRODUCER/ MIXER

Imelda May, Girls Aloud, Boyzone, Beverly Knight, Joe Cocker, Elton John

"Because I trust these speakers, I can make mix decisions with confidence"

"I am amazed at the detail that the Sonodyne SM 50Ak's give me. I really can trust them. And they sound so full and smooth for such a compact monitor"

JAMES SAUNDERS & GRAHAM EBBS, THE JUNGLE GROUP, LONDON

"There's something about the combination of aluminum cabinets, self-powered amplification and speaker cone material that delivers high quality monitoring at a very reasonable price ..."

DAVE BRIDGMAN, BRONZEWING STUDIO, NEW ZEALAND

Founder of the hugely successful New Zealand Maori radio station MAI FM

"The Sonodyne SM 100Ak's have the best stereo imaging and 'top to bottom' sound that I have heard in a compact monitor. I can really trust them."

PASCAL MAGDINIER, SMALL BUT COOL STUDIOS, UK

Credits include the Ednita Nazario Grammy nominated album "Real"

SM 300

NEW

With serious home studios and smaller pro studios, the need arises for a compact speaker that can deliver detailed sound at high db levels and over an extended frequency bandwidth.

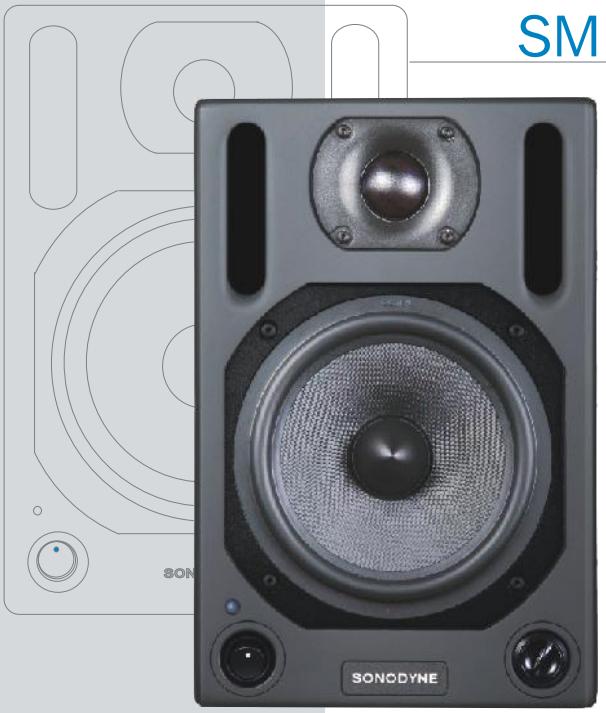
The following innovations in the SM 300 help overcome most of the challenges in the design process:

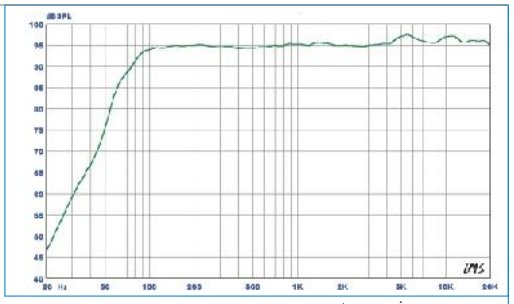
- Aluminum extruded sides provide a rigid build; curved edges help minimize standing waves
- Double MDF front, top, bottom resulting in a compact, rigid enclosure that minimizes extraneous noises
- Aluminum die cast waveguide for HF and MF drivers to achieve controlled dispersion without affecting linearity
- 3 class AB amplifiers rated at LF: 150, MF: 75, HF: 75 Watts for high SPL at very low distortion, DSP controlled 4th order crossover and equalizer for flat frequency response
- 8" high excursion Kevlar woofer with 4" Kevlar cone midrange and 1" silk dome tweeter provide a detailed response from 35 Hz ~ 27 kHz
- DSP controlled (3) EQs, and (2) bass roll- offs to aid in room compensation

DESCRIPTION	3 way triamplified studio monitor
TRANSDUCER COMPLEMENTS	1 x 8" Kevlar cone woofer; 1 x 4" Kevlar cone midrange 1 x 25 mm soft dome tweeter with integral waveguide
ENCLOSURE TYPE	Vented
OVERALL FREQUENCY RESPONSE	40 Hz ~ 22 kHz
USABLE FREQUENCY RANGE	35 Hz ~ 27 kHz
MAX. LONG TERM SPL, HALF SPACE	116 dB
AMPLIFIER POWER BEFORE CLIPPING	LF: 150 W, MF: 75 W, HF: 75 W
AMPLIFIER THD AT RATED POWER	Less than 0.1%
CROSSOVER	400 Hz, 4 kHz
GAIN CONTROL	-20 dB ~ +8 dB
EQs	Low shelving 50 Hz ~ 250 Hz -3 dB to +3 dB in 0.75 dB steps, High shelving 4 kHz ~ 20 kHz -3 dB to +3 dB in 0.75 dB steps Mid EQ, 1.5 kHz, -3 dB to +3 dB, Q=2 in 0.75 dB steps
SWITCHES	2 bass roll-off DIP switches - 80 Hz and 100 Hz
PROTECTION	Overcurrent, overheat, RFI, switch-on/off transients
MECHANICAL DIMENSION (WxHxD) mm	508 x 300 x 295
NET WEIGHT	25 Kg
MOUNTING OPTIONS	4 x M10 inserts on bottom plate

Due to continuous improvements, all specifications are subject to change

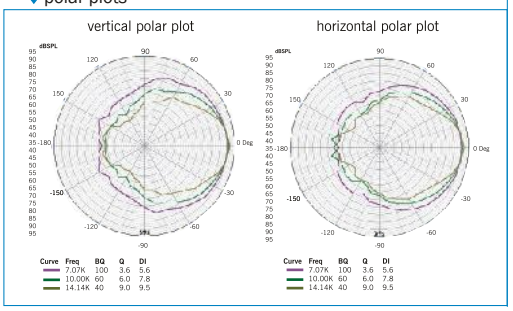
SM 50Ak





▲ on-axis response

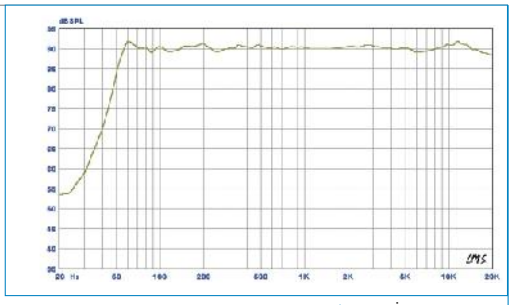
▼ polar plots



Our journey into studio sound began with the SM 50Ak. India, in the wake of embracing a global economy in 2005, issued several hundred FM licenses. This, in conjunction with a thriving cinema industry in Mumbai (Bollywood), prompted the introduction of a new range of cost effective yet high performance studio monitors. Experienced sound engineers, upon hearing the SM 50Ak, remarked that it was among the best small monitors they had ever mixed on.

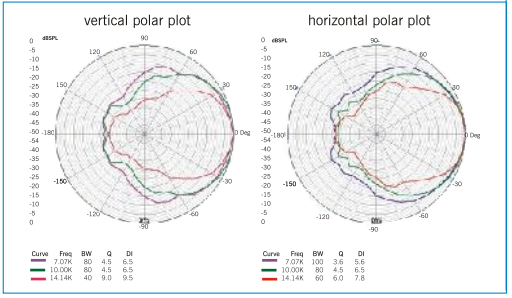
The SM 50Ak is ideal for not only desktop editing but also serious audio monitoring. It provides a well articulated yet full bodied response from its compact enclosure. The highs are open, the mids well resolved, and the bass, detailed and tight. Magnetically shielded, it may be placed beside video monitors. It has facility for both console and wall mount. Floor stands are optional accessories.

SM 100Ak



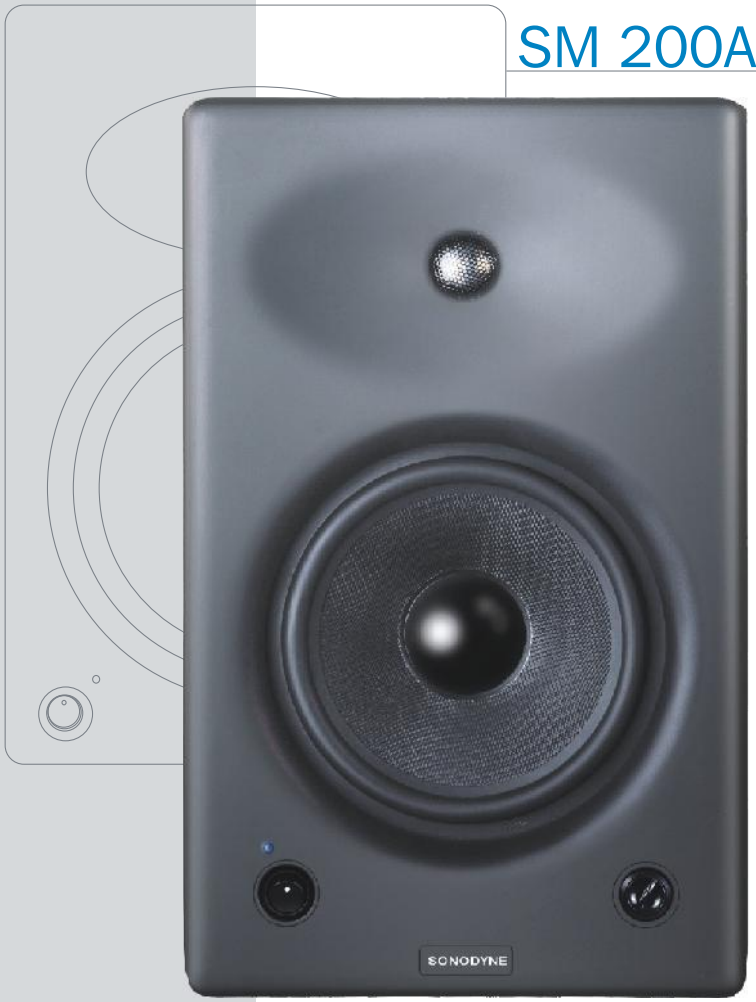
▲ on-axis response

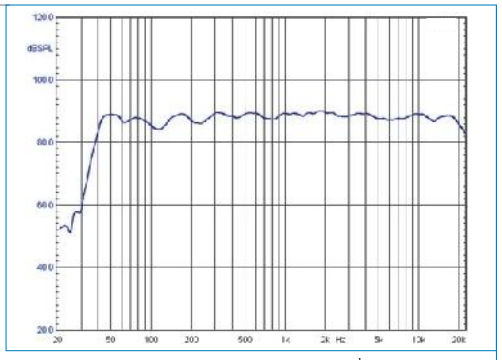
polar plots ▼



The SM 100Ak has an extended LF response compared to the SM 50Ak and also a wider sweet spot. This, in conjunction with a higher SPL, readies it for the more demanding applications like multi-channel audio monitoring in larger rooms. We have also found that many musician-engineers prefer the tonal quality and 'musicality' of these rock-solid speakers. Magnetically shielded it may be placed beside video monitors. It has facility for both console and wall mount.

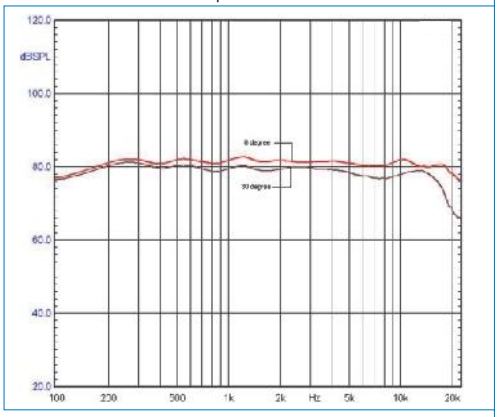
SM 200Ak





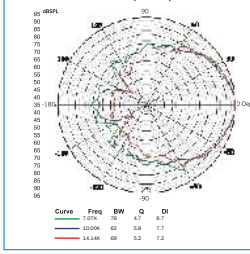
▲ on-axis response

30∞horizontal off-axis response ▼

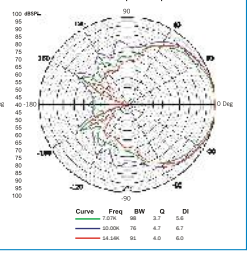


polar plots ▼

vertical polar plot



horizontal polar plot



The new SM 200Ak is a 2 way studio reference monitor with exceptional frequency bandwidth and sound pressure level making it an ideal solution for broadcast, and professional studios.

The SM 200Ak enclosure combines the best of two worlds: wood and aluminum. The sturdy aluminum die cast baffle ensures that the 8" Kevlar LF and the 1" metal dome HF are firmly mounted and vibration is minimized. Additionally the curved edges of this solid baffle also minimizes diffraction. This baffle also features an integral waveguide for the HF, resulting in precise imaging and exceptional on and off axis response.

The inbuilt low distortion amplifier module continuously provides 150 Watt to the HF and 100 Watt to the HF and feature room compensating bass and treble tilts useful in difficult acoustical environments.

The SM 200Ak has both wall mount and stand mount options, and has lockable XLR input and link.

"I tried the SM 100Ak's with every style of music available to me, and frankly, I was stunned" **STUART BRUCE, FUTURE MUSIC**

"These little speakers are pretty neutral and resonance-free, and the level of fast accurate detail through the mid-range was impressive" **HUGH ROBJOHNS, SOUND ON SOUND (SM 50Ak)**

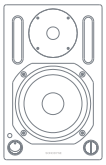
"The Sonodyne's offered positional information and clues that had previously escaped me. And the great thing about that is that you can separate what is going on in the mix much more easily."
ALISTAIR McGHEE, AUDIO MEDIA (SM 100Ak)

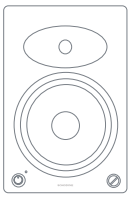
"They are outstanding value for money and a great alternative to slightly more expensive aluminum models"
ZED BROOKES, NEW ZEALAND MUSICIAN MAGAZINE (SM 200Ak)

FutureMusic Value Award

FutureMusic Platinum Award

SPECIFICATIONS





	SM 50Ak	SM 100Ak	SM 200Ak
DESCRIPTION	2 way nearfield active monitor	2 way nearfield active monitor	2 way active monitor
TRANSDUCER COMPLEMENTS	LF: Magnetically shielded 5.25" Kevlar cone woofer in die-cast chassis HF: Magnetically shielded 26mm silk dome tweeter with integral waveguide	LF: Magnetically shielded 6.5" Kevlar cone woofer in die-cast chassis HF: Magnetically shielded 26mm silk dome tweeter with integral waveguide	LF: Magnetically shielded 8" Kevlar cone woofer in die-cast chassis HF: Magnetically shielded 1" metal dome tweeter with customised waveguide
ENCLOSURE TYPE	Vented, through twin front-firing aerodynamic ports	Vented, through twin front-firing aerodynamic ports	Vented, through rear firing aerodynamic ports
SYSTEM			
OVERALL FREQUENCY RESPONSE	70 Hz ~ 22 kHz, (± 2 dB)	60 Hz ~ 22 kHz, (± 2 dB)	40 Hz ~ 22 kHz, (± 2 dB)
USABLE FREQUENCY RANGE	60 Hz ~ 25 kHz, (- 10 dB)	50 Hz ~ 30 kHz, (- 10 dB)	35 Hz ~ 30 kHz, (- 10 dB)
MAX. LONG TERM SPL, HALF SPACE	104 dB	108 dB	112 dB
HORIZONTAL BEAM WIDTH	75° (averaged between 5 ~ 14 kHz)	85° (averaged between 5 ~ 14 kHz)	92° (averaged between 5 ~ 20 kHz)
VERTICAL BEAM WIDTH	70° (averaged between 5 ~ 14 kHz)	80° (averaged between 5 ~ 14 kHz)	73° (averaged between 5 ~ 20 kHz)
TOTAL HARMONIC DISTORTION (@ 95 dB SPL)	80 Hz ~ 200 Hz < 3% > 200 Hz < 1%	65 Hz ~ 200 Hz < 3% > 200 Hz < 1%	50 Hz ~ 200 Hz < 3% > 200 Hz < 1%
AMPLIFIER AND CROSSOVER			
AMPLIFIER POWER BEFORE CLIPPING	LF: 45 W, HF: 45 W	LF: 80 W, HF: 40 W	LF: 150 W, HF: 100 W
S/N RATIO (AT UNITY GAIN)	> 90 dB, referred to full output	> 90 dB, referred to full output	> 90 dB, referred to full output
AMPLIFIER THD AT RATED POWER	< 0.04 %	< 0.04 %	< 0.04 %
INPUT	Fully balanced through XLR & TRS sockets	Fully balanced through XLR & TRS sockets	Fully balanced through XLR sockets
INPUT LEVEL FOR 90 dB SPL AT 1M	- 20 dBU	- 25 dBU	- 22 dBU
GAIN CONTROL RANGE	± 6 dB, with respect to U position	± 6 dB, with respect to U position	± 6 dB, with respect to U position
VOLUME CONTROL RANGE	> 70 dB	> 70 dB	> 70 dB
CMRR	> 65 dB	> 65 dB	> 65 dB
CROSSOVER	4th order, Linkwitz Riley, 2.5 kHz	4th order, Linkwitz Riley, 1.8 kHz	4th order, Linkwitz Riley, 1.7 kHz
BASS TILT	- 2 dB, - 4 dB, - 6 dB @ 80 Hz	- 2 dB, - 4 dB, - 6 dB @ 80 Hz	- 2 dB, - 4 dB, - 6 dB @ 100 Hz
BASS ROLL-OFF	100 Hz, 6 dB/ octave	80 Hz, 6 dB/ octave	70 Hz, 6 dB/ octave
TREBLE TILT	- 2 dB @ 15 kHz	- 2 dB @ 15 kHz	- 2 dB @ 15 kHz
CONTROLS : FRONT	Power Switch and Volume Control	Power Switch and Volume Control	Power Switch and Volume Control
CONTROLS : REAR	Gain control, 4 DIP switches for bass/ treble tilts & bass roll-off	Gain control, 4 DIP switches for bass/ treble tilts & bass roll-off	Gain control, 4 DIP switches for bass/ treble tilts & bass roll-off
INDICATOR	Power ON /OFF	Power ON /OFF	Power ON /OFF
PROTECTION	Over current, Overheat , RFI, Switch on/ off transients	Over current, Overheat , RFI, Switch on/ off transients	Over current, Overheat , RFI, Switch on/ off transients
POWER REQUIREMENT	230 V AC, ± 10 % , 50 Hz *	230 V AC, ± 10 % , 50 Hz *	230 V AC, ± 10 % , 50 Hz *
POWER CONSUMPTION	100 VA Max.	200 VA Max.	400 VA Max.
MECHANICAL			
CABINET MATERIAL	Die-cast aluminum	Die-cast aluminum	Die-cast aluminum front baffle With 15mm MDF sides
FINISH	Black texture	Black texture	Black texture
MECHANICAL DIMENSION (WxHxD)	180 x 262 x 220 mm	230 x 335 x 300mm	314 x 430 x 322 mm
NET WEIGHT	6.5 Kg	10.5 Kg	18 Kg
MOUNTING OPTIONS	Floor stand, wall mount	Floor stand, wall mount	Floor stand, wall mount

* 115 V optional

Due to continuous improvements, all specifications are subject to change

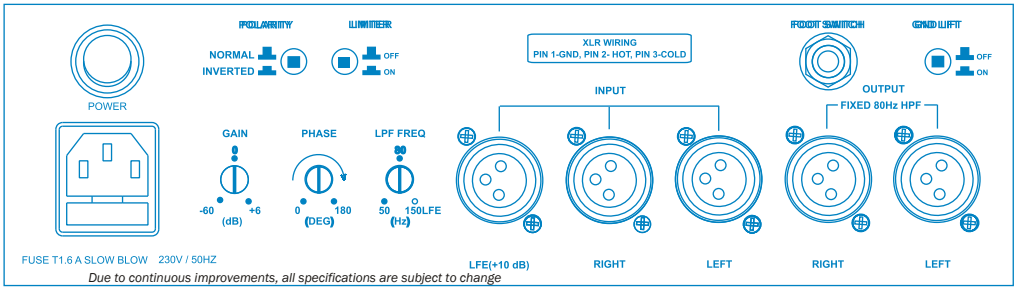
SLF SERIES

The SLF 312 and SLF 210 V2 add some exciting, new features to the proven workhorse subwoofer, the SLF 210. These new features are:

- ∑ 2.1 channel bass management
- ∑ Discrete phase control from 0∞180∞
- ∑ Polarity switch
- ∑ Ground lift switch
- ∑ The kicker - external (foot-switch) controlled bass management.

The SLF 210 features a 10" subwoofer transducer powered by a Sonodyne Class D 200 Watt amp; and the SLF 312 features a 12" subwoofer transducer powered by a Sonodyne Class D 300 Watt amp.

	SLF 312	SLF 210 V2
DESCRIPTION	Front firing powered subwoofer, vented	Front firing powered subwoofer, vented
FREQUENCY RESPONSE (-6 dB)	30 Hz ~ Crossover Frequency	35 Hz ~ Crossover Frequency
USEABLE FREQ. RESP (-10 dB)	25 Hz	30 Hz
TRANSDUCER COMPLEMENTS	1 x 12" high- excursion subwoofer	1 x 10" high- excursion subwoofer
MAXIMUM SPL	116 dB	112 dB
AMPLIFIER POWER	300 Watt	200 Watt
AMPLIFIER TYPE	Class D	Class D
AMPLIFIER THD	0.1% at rated power	0.1% at rated power
SIGNAL TO NOISE RATIO	98 dB (A-weighted)	95 dB (A-weighted)
INPUT IMPEDANCE	22 kOhm, balanced	22 kOhm, balanced
INPUT LEVEL FOR FULL POWER	+5 dBU (1.38V) level control at max	+5 dBU (1.38V) level control at max
SWITCHES ON REAR PANEL	1. Polarity 2. Limiter On/Off 3. Ground Lift switch	1. Polarity 2. Limiter On/Off 3. Ground Lift switch
REMOTE SWITCHING	1/4" Phone jack for connecting foot-pedal switch	1/4" Phone jack for connecting foot-pedal switch
CONTROLS	1. Crossover frequency 50 Hz ~ 150 Hz 2. Phase, 0∞to 180∞ 3. Gain, -60 dB to +6 dB	1. Crossover frequency 50 Hz ~ 150 Hz 2. Phase, 0∞to 180∞ 3. Gain, -60 dB to +6 dB
INPUT	Left, Right and LFE, fully balanced, through XLR socket	Left, Right and LFE, fully balanced, through XLR socket
OUTPUT (LINE LEVEL)	Left and Right, fixed 80 Hz bypass, fully balanced, through XLR socket	Left and Right, fixed 80 Hz bypass, fully balanced, through XLR socket
PROTECTIONS	Thermal, overload, short-circuit, DC at output	Thermal, overload, short-circuit, DC at output
ENCLOSURE	18 mm MDF	18 mm MDF
FINISH	Black painted	Black painted
GRILL	Black grill cloth stretched over wooden frame	Black grill cloth stretched over wooden frame
POWER SOURCE	230V AC, 50 Hz, via fused IEC inlet/ 115V optional	230V AC, 50 Hz, via fused IEC inlet/ 115V optional
POWER CONSUMPTION	380 VA max	240 VA max
DIMENSIONS (H x W x D) mm	402 x 398 x 555	422 x 349 x 446
NET WEIGHT	29 Kg	18.5 Kg



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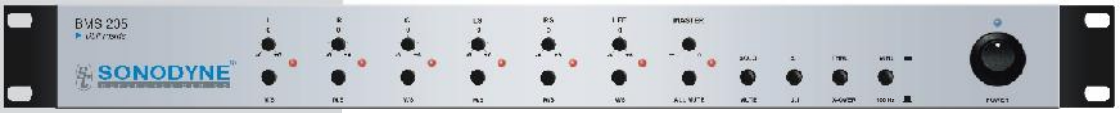
BMS 205



INPUT CONNECTIONS	6 x XLR F (lockable)
OUTPUT CONNECTIONS	6 x XLR M
INPUT SIGNAL - SENSITIVITY	5.1 mode - (0 dB) max.; 2.1 mode - (0 dB) max.
OUTPUT SIGNAL LEVEL	5.1 mode - (0 dB) max.; 2.1 mode - (0 dB) max.
FREQUENCY RESPONSE	Through mode - 20 Hz ~ 20 kHz (-3 dB) X-Over mode - 80 Hz and 100 Hz (LPF & HPF)
TOTAL HARMONIC DISTORTION	< 0.08%
SIGNAL TO NOISE RATIO	> 90 dB
CROSS TALK	> 70 dB
DIMENSIONS (HxWxD)	44 x 482 x 165 mm
NET WEIGHT	2.75 Kg
POWER SOURCE	230 V AC, 50 Hz; 115 V optional

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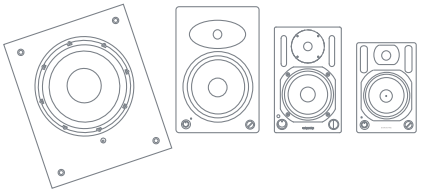
The BMS 205 is a unique bass management system. At a slim 1U, it houses an innovative feature to setup the SMs and SLF in 2.1 or 5.1 modes. The BMS 205 allows you to activate one of 3 HPF for the main channels or play them in full range mode. In 2.1 mode the LFE signal can be derived from a summed L, R. Another exciting feature is the mute / solo option that allows you to mute or solo individual channels. To top it off is the stunning new wired remote control (BMS 205r) that sits neatly on your desktop and allows you to control master level and mute.



SONODYNE®

REFERENCE SERIES

Products of the MUKHERJEE INNOVATION CENTRE

Sonodyne HO: 98 NB Block E New Alipore, Kolkata 700053, INDIA
T: +91 33 23990418, 23983406; F: +91 33 23967243; E: response@sonodyne.com
www.sonodyne.com ∑ www.sonodyne.eu