

SMProfessional®

XSM-SERIES **Professional Transducers**



XSM 255



XSM 585

SMProfessional Speakers Guideline

Have you ever blown a loudspeaker? Then you probably don't want to do it again. **Here's how not to shred your cones...**

- There are two ways in which a moving coil drive unit may be damaged. One is to drive it at too high a level for too long. The coil will get hotter and hotter and eventually will melt at one point, breaking the circuit ('thermal damage'). The drive unit will entirely cease to function.
- The other is to 'shock' the drive unit with a loud impulse. This can happen if a microphone is dropped, or placed too close to a theatrical pyrotechnic effect. The impulse won't contain enough energy to melt the coil, but it may break apart the turns of the coil, or shift it from its central position with respect to the magnet 'mechanical damage'. The drive unit will still function, but the coil will scrape against the magnet producing a very harsh distorted sound.
- Many drive units can be repaired, but of course damage is best avoided in the first place. The trick is to listen to the loudspeaker. It will tell you when it is under stress if you listen carefully enough.
- To get the best performance from a loudspeaker, the amplifier should be rated higher in terms of watts. It wouldn't be unreasonable to connect a 200 W amplifier to a 100 W speaker, and it won't blow the drive units unless you push the level too high.
- It is up to the sound engineer to control the level. Suppose, a 100 W amplifier was connected to a 200 W loudspeaker. The sound engineer might push the level so high that the amplifier will start clipping. Clipping produces high levels of high frequency distortion & will easily damage the speaker (especially the HF diaphragms).

TECHNICAL SPECIFICATIONS

MODEL			XSM 255	XSM 585
General specification				
Nominal diameter		mm/inch	300/12	388/15
Rated impedance		Ω	8	8
Peak power		Watts	1000	1600
RMS power		Watts	500	800
Sensitivity (SPL _{1w@1m})		dB	96	95
Frequency range		Hz	55-3000	50-2000
Minimum impedance		Ω	7.6	7.1
Voice coil diameter		mm/inch	100/4	100/4
Voice coil material			Copper	Copper
Voice coil winding depth		mm/inch	14/0.551	21/0.826
Number of layer			2	1
Kind of layer			Inside / Outside	Inside / Outside
Cone material			Press Pulp	No Press Pulp
Cone design			Curved	Curved
Surround Material			Polycotton	Polycotton
Surround Design			Triple Roll	M Roll
Magnet size / Weight		mm/kg	220 X 110 X 25 / 3.54	220 X 110 X 25 / 3.54
Magnet type		mm/kg	Ferrite	Ferrite
Top plate thickness			10/0.39	10/0.394
Basket			Cast Aluminium	Cast Aluminium
Thiele-Small parameters				
Resonance frequency	F _s	Hz	54.78	51.54
DC resistance	R _e	Ω	5.6	5.6
Mechanical Q factor	Q _{ms}	-	10.896	8.774
Electrical Q factor	Q _{es}	-	0.314	0.557
Total Q factor	Q _{ts}	-	0.305	0.534
BL factor	BL	T.M	24.28	21.489
Effective moving mass	M _{ms}	Gr	96.05	141.78
Equivalent cas air load	V _{as}	Liters	35.154	69.85
Effective piston area	S _d	M2 (sqm)	53.09	85.53
Max.linear excursion	X _{max}	mm	±2.5	±4
Voice-Coil inductance @ 1 KHz	L _{elK}	mH	728.56	1078
Mounting & Shipping information				
Overall diameter		mm/inch	316/12.44	394/15.51
Bolt circle diameter		mm/inch	294/11.57	374/14.72
Bolt hole diameter		mm/inch	284/11.18	358/14.09
Depth		mm/inch	128/5.04	163/6.42
Net weight		Kg	9.9	11.8
Shipping box (single carton box)		mm	335 X 335 X 165	415 X 415 X 200

* For easy speaker mounting you may consider front & rear mount baffle cut-out about 2 to 3 mm then mention in above table.

Subscribe to our Channel

Stu**diomaster**[®]  SM**Professional**[®] *On*  **YouTube**



SCAN REGISTER & WIN 

SUBSCRIBE ON YOUTUBE 

FOLLOW US ON INSTAGRAM 

VISIT OUR WEBSITE 

SCAN TO WHATSAPP 

Disclaimer: Designs & Specifications are subject to change without notice. Unauthorized reproduction of this manual is prohibited.

Stu**diomaster**[®]  SM**Professional**[®] are registered trademarks of Audioplus in India. © Copyright Audioplus. All rights reserved. Any unauthorised reproduction or use of logos, images or design elements is strictly prohibited by law. No part of the compilation may be reproduced in any manner or translated without written permission.

For any service-related queries, contact:

Brought to you by: **AUDIOPLUS** A1/A2, Giriraj Industrial Estate, Mahakali Caves Road, Andheri (East), Mumbai - 400 093. India
Tel.: +91-22-42869000 / 001 WhatsApp.: +91-8879028079 E info@audioplus-india.com
W www.audioplus-india.com / www.studiomasterprofessional.com