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The Martin Experience



Standards Applied

EMC Emission	EN55103-1:1996
Immunity	EN55103-2:1996
Electrical Safety	EN60065:1993

This equipment conforms to the requirements of the EMC Directive 89/336/EEC, amended by 92/31/EEC and 93/68/EEC and the requirements of the Low Voltage Directive 73/23/EEC, amended by 93/68/EEC.

1 INTRODUCTION

Thank you for purchasing a Martin Audio Wavefront Theatre Series product. The Theatre Series is a dedicated range of powerful yet compact loudspeakers designed to meet the unique demands of theatre sound reinforcement.

2 UNPACKING

Each Martin Audio loudspeaker is built to the highest standard and thoroughly inspected before it leaves the factory. After unpacking the system, examine it carefully for any signs of transit damage and inform your dealer if any such damage is found. It is suggested that you retain the original packaging so that the system can be repacked at a future date if necessary.

Please note that Martin Audio and its distributors cannot accept any responsibility for damage to any returned product through the use of non-approved packaging.

3 OVERVIEW

The Wavefront Theatre WT UB loudspeaker has been specifically designed for under-balcony use in theatres and infill in venues requiring extremely wide horizontal coverage.

The WT UB loudspeaker provides sound reinforcement for speech and music with exceptionally consistent tonal balance over the whole of its coverage angle. It also shares the same tonal characteristics as the larger members of the WT range, the WT2 and 3.

The unusual driver complement and geometry is responsible for the uniform coverage of the enclosure. A triple soft dome, high frequency line array coupled with a proprietary diffusion phase plug gives very wide horizontal and tight vertical dispersion. Its narrow width allows minimal separation between the two 6.5" (165mm) cone drivers. This factor and the drivers' 60° splay are responsible for the seamless horizontal coverage of the WT UB. The two 6.5" (165mm) drivers feature 1.5" (38mm) voice coils and an innovative heat exchange system to reduce power compression. A combination of ferrofluid and a rear mounted heatsink cools the high

frequency line array's neodymium magnet assembly, with extreme high frequency overload being dealt with by an auto-resetting over-current device.

Featuring fully passive operation and requiring no controller, the WT UB is extremely straightforward to deploy. The enclosure input configuration is externally switchable between pins 1 and 2 on the fitted Neutrik NL4MP connectors. This allows daisy-chaining of cabinets via a 4 core cable, even when they are fed with different input signals.

The rugged, multi-laminate birch ply enclosure features M8 inserts for the dedicated mounting bracket and an additional M8 'safety chain' point. The multi-angled cabinet rear allows close proximity ceiling mounting with a downward tilt of up to 45°. A pole mount socket gives the additional option of tripod stand mounting.

4 SAFETY FIRST

It is important that loudspeaker systems are used in a safe manner. Please take some time to review the following points concerning safe use of Wavefront Theatre Series loudspeakers.

Professional loudspeakers are capable of producing extremely high sound levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period. Never stand close to loudspeakers driven at a high level.

4.1 Tripod Mounting

The WT UB incorporates a pole mounting socket to facilitate mounting on tripod stands. When using stands, the following precautions are advised:

Ensure that that stand will support the weight of the speaker by checking the stand manufacturers rating.

Make sure that the stand is placed on a level surface and that its legs are fully extended.

Do not place more than one speaker on each stand.

Run cables so that they do not present a trip hazard which could pull the speaker over.

When used outdoors in the wind, it may be necessary to add some weight to the base of the stand.

When using a pole mount with a sub-bass system, observe similar precautions.

4.2 Rigging and Suspension

WARNING Suspending the system should only be done by qualified personnel following safe rigging practices. Secure fixings to the building structure are vital. Seek help from architects, structural engineers or other specialists if in any doubt.

The WT UB is supplied with threaded inserts and a mounting yoke to allow the suspension of a single enclosure. **Please note that suspending one enclosure from another using these inserts to form an array or cluster is not recommended.**

5 AMPLIFICATION

The WT UB speaker should be used with professional power amplifiers capable of producing 200-400W into 4 ohms.

Whilst the WT UB does not require a controller for crossover or equalisation functions it is advisable to provide signal limiting to avoid amplifier clipping. To perform this function the WX3A, MX5 and DX1 controllers can be configured purely as high performance limiters.

Additional protection of the high frequency line array is provided by an auto-resetting over-current device. This protects against overload as a result of severe amplifier clipping and short high frequency, high power bursts such as microphone feedback. When the over-current device operates it may be necessary to turn down the signal level to the speaker in order to reset the device and restore high frequency output.

It is important to understand that a low power amplifier driven into clipping is more likely to damage a loudspeaker than a higher power amplifier used within its ratings. This is because music signals have a high peak-to-average "crest" factor. When an amplifier is severely overdriven, its output waveform is clipped (its peaks are squared off) – reducing the crest factor. In extreme cases, the waveform can approach that of a square wave. An amplifier is normally capable of producing far more power under these conditions than its undistorted rated power output.

The use of very high power amplifiers with outputs greater than those recommended is discouraged.

Care should be taken to avoid switch-on surges, which can result in momentary power peaks in excess of specified ratings. When powering up a sound system it is important to switch on the amplifiers after the mixer and control electronics have stabilised. When powering down the system, reverse the sequence and switch off the amplifiers first.

6 CONNECTIONS

The connector panel has two Neutrik NL4MP Speakon connectors wired in parallel with each other. The second connector allows use of a short link lead to power another parallel loudspeaker. The input pin configuration is selected by a rear mounted switch which additionally allows daisy-chaining of cabinets via a four core cable, even when fed with different input signals. The connectors are wired as follows:

NL4 Pin	WT UB	Switch position
1-	Input 1 -ve	UP
1+	Input 1 +ve	UP
2-	Input 2 -ve	DOWN
2+	Input 2 +ve	DOWN

7 CABLE LENGTHS

When connecting loudspeaker systems to an amplifier, it is recommended that the return resistance of the cable used is less than one tenth of the nominal impedance of the system or systems in parallel. The table below gives an indication of the maximum permissible cable runs for various conductor cross-sectional areas.

Conductor CSA	Maximum Cable Run		
	4 ohms	8 ohms	16 ohms
1.0mm ²	11m	22m	44m
1.5mm ²	17m	34m	68m
2.0mm ²	22m	44m	88m
2.5mm ²	29m	58m	116m
4.0mm ²	44m	88m	176m
6.0mm ²	66m	132m	264m

8 SYSTEM CONFIGURATIONS

The WT UB may be used to cover the full-frequency range – either distributed singly or arrayed in multiples. Optimum splay angle is 60° between cabinet sides. In this manner three closely arrayed WT UB speakers can cover 360° in the horizontal plane.

The WT UB loudspeaker exhibits an essentially flat on-axis frequency response. Equalisation to compensate for a particular acoustic environment may be performed where required.

9 WARRANTY

Martin Audio Wavefront WT UB loudspeakers are warranted against manufacturing defects in materials or craftsmanship over a period of 5 years from the date of original purchase. During the warranty period Martin Audio will, at its discretion, either repair or replace products which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorised Martin Audio service agent or distributor.

Martin Audio Ltd. cannot be held responsible for defects caused by unauthorised modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by Martin Audio. Martin Audio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied. This warranty does not affect your statutory rights.

10 TECHNICAL SPECIFICATIONS

WTUB

TYPE	Two-way passive, reflex enclosure
FREQUENCY RESPONSE (1)	80Hz-18kHz \pm 3dB
DRIVERS	2 x 6.5" (165mm) bass mid drivers with 1.5" (38mm) voice coil 3 x 1" (25mm) soft dome HF line array
RATED POWER (2)	200W AES, 800W peak
RECOMMENDED AMPLIFIER	200-400W into 4 ohms
SENSITIVITY (3)	93dB 1 Watt/1 metre
MAXIMUM SPL (4)	115dB continuous, 121dB peak
IMPEDANCE	8 ohms nominal
DISPERSION (-6dB)	120° horizontal, 40° vertical
CROSSOVER	1.2kHz passive
ENCLOSURE	16 litre (0.6 cu foot) multi-laminate birch ply
FINISH	Textured black paint
PROTECTIVE GRILLE	Black perforated steel
CONNECTORS	2 x Neutrik NL4 switchable for input +1, -1 or +2, -2
FITTINGS	2 x M8 threaded inserts for dedicated bracket 1 x M8 insert for safety point 1 x pole mount socket
DIMENSIONS	(W)480mm x (H)212mm x (D)342mm (W)18.9ins x (H)8.4ins x (D)13.5ins
WEIGHT	12kg (26.4 lbs)
SHIPPING DIMENSIONS	(W) 560mm x (H) 320mm x (D) 410mm (W) 22ins x (H)12.5ins x (D)16.1ins
SHIPPING WEIGHT	16kg (35.3lbs)

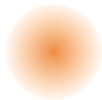
Notes

1. Measured on-axis in half space at 2 metres, then referred to 1 metre.
2. AES Standard ANSI S4.26-1984.
3. Measured in half space conditions at 2 metres with 1 watt input, using band limited pink noise, then referred to 1 metre.
4. Measured in half space conditions at 2 metres using band limited pink noise, then referred to 1 metre.

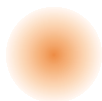
Due to our policy of continuous improvement all specifications are subject to change without notice.

Wavefront Theatre Series

WT UB



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Wavefront Theatre Series

WT UB

User's Guide



ENGLISH



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