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RoomMatch® Array Module Loudspeakers

Models RM5505, RM5510, RM5520, RM5540, RM5560, RM7005, RM7010, RM7020, RM7040, RM7060, RM9005, RM9010, RM9020, RM9040, RM9060, RM12005, RM12010, RM12020, RM12040, RM12060 (Symmetrical Versions)

Models RM283505, RM284505, RM286005, RM352805, RM452805, RM602805, RM283510, RM284510, RM286010, RM352810, RM452810, RM602810, RM284520, RM286020, RM356020, RM452820, RM602820, RM603520, RM286040, RM356040, RM602840, RM603540 (Asymmetrical Versions)

Service Manual

Reference Number 343929-SM Rev. 02

CONTENTS

CAUTION: The Bose® RoomMatch Array Module Loudspeakers contains no user-serviceable parts. To prevent warranty infractions, refer servicing to warranty service stations or factory service.

WARRANTY

The Bose RoomMatch Array Module Loudspeakers are covered by a 5-year warranty.

Specifications, Symmetrical Versions

Single Module Performance				
Frequency Response (+ / - 3 dB)	60 – 16k Hz			
Frequency Range (-10 dB)	55 – 16k Hz			
Recommended High-Pass Filter	50 Hz with minimum 24-dB / octave (4th order)			
Nominal Coverage Pattern (H x V)				
Model RM5505	55° x 05°			
Model RM5510	55° x 10°			
Model RM5520	55° x 20°			
Model RM5540	55° x 40°			
Model RM5560	55° x 60°			
Model RM7005	70° x 05°			
Model RM7010	70° x 10°			
Model RM7020	70° x 20°			
Model RM7040	70° x 40°			
Model RM7060	70° x 60°			
Model RM9005	90° x 05°			
Model RM9010	90° x 10°			
Model RM9020	90° x 20°			
Model RM9040	90° x 40°			
Model RM9060	90° x 60°			
Model RM12005	120° x 05°			
Model RM12010	120° x 10°			
Model RM12020	120° x 20°			
Model RM12040	120° x 40°			
Model RM12060	120° x 60°			
Recommended Crossover Frequency	550 and 580 Hz overlapping (acoustic, external DSP required)			
	Low Frequency		**High Frequency**	
Power Handling 100-hour test, continuous	500 W		150 W	
Power Handling 100-hour test, peak	2000 W		600 W	
Nominal Impedance	4 Ω		8 Ω	
Model RM5505	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	111 dB	108 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	133 dB	130 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	139 dB	136 dB
Model RM5510	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	111 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	133 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	139 dB	135 dB
Model RM5520	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	111 dB	105 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	127 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	133 dB
Model RM5540	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	103 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	125 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	120 dB	138 dB	131 dB

Specifications, Symmetrical Versions

Model RM5560	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	108 dB	101 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	130 dB	123 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	136 dB	129 dB
Model RM7005	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	134 dB
Model RM7010	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	127 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	133 dB
Model RM7020	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	103 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	125 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	131 dB
Model RM7040	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	101 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	128 dB
Model RM7060	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	99 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	121 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	127 dB
Model RM9005	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	134 dB
Model RM9010	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	105 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	127 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	133 dB
Model RM9020	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	102 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	124 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	130 dB
Model RM9040	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	108 dB	100 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	130 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	136 dB	128 dB
Model RM9060	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	106 dB	98 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	128 dB	120 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	134 dB	126 dB
Model RM12005	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	108 dB	105 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	130 dB	127 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	136 dB	133 dB

Specifications, Symmetrical Versions

Model RM12010	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	104 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	132 dB
Model RM12020	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	101 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	123 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	129 dB
Model RM12040	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	106 dB	99 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	128 dB	121 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	134 dB	127 dB
Model RM12060	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	105 dB	98 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	127 dB	120 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	133 dB	126 dB
Transducers				
Low Frequency	2 x Bose LF10 ultra-linear 10-inch woofers (3-inch voice coil)			
High Frequency	6 x Bose EMB2 extended midrange compression driver (2-inch voice coil)			
Physical				
Enclosure Material	Baltic Birch plywood, engineered plastics, and steel frame			
Finish	two-part spray polyurethane coating on plywood, black			
Grille	19-gauge (1.0 mm) perforated steel, powder-coated finish, black			
Connectors	2 x Neutrik® NL4 wired parallel			
Suspension Attachment	integrated side-plate rigging hardware; optional array frame accessories			

Specifications, Symmetrical Versions

Dimensions				
Model RM5505 (H x W x D)	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM5510 (H x W x D)	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM5520 (H x W x D)	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM5540 (H x W x D)	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM5560 (H x W x D)	27.5 x 39.1 x 23.6 in (700 x 993 x 598 mm)			
Model RM7005 (H x W x D)	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM7010 (H x W x D)	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM7020 (H x W x D)	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM7040 (H x W x D)	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM7060 (H x W x D)	27.6 x 39.1 x 23.6 in (700 x 993 x 598 mm)			
Model RM9005 (H x W x D)	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM9010 (H x W x D)	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM9020 (H x W x D)	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM9040 (H x W x D)	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM9060 (H x W x D)	27.6 x 39.1 x 23.6 in (700 x 993 x 598 mm)			
Model RM12005 (H x W x D)	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM12010 (H x W x D)	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM12020 (H x W x D)	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM12040 (H x W x D)	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM12060 (H x W x D)	27.6 x 39.1 x 23.6 in (700 x 993 x 598 mm)			
Net Weight	123 lbs (55.8 kg)			
Shipping Weight	with pallet approximately 180 lbs (81.6 kg)			
Multiple-Module Array LF (10" woofer) Bandpass Performance (with EQ)				
	2 Module	**4 Module**	**6 Module**	**8 Module**
Total Power Handling, Array LF Section	1000 W	2000 W	3000 W	4000 W
60 Hz High-Pass				
Array LF Sensitivity, Free Field (SPL /1 W @ 1 m)	96 dB	99 dB	101 dB	102 dB
Array LF Calculated Max. SPL @ 1m, continuous	126 dB	132 dB	136 dB	138 dB
Array LF Calculated Max. SPL @ 1m, peak	132 dB	138 dB	142 dB	144 dB
16-meter Array LF Calculated Max. SPL, continuous	102 dB	108 dB	112 dB	114 dB
80 Hz High-Pass				
Array LF Sensitivity, Free Field (SPL /1 W @ 1 m)	98 dB	101 dB	103 dB	104 dB
Array LF Calculated Max. SPL @ 1m, continuous	128 dB	134 dB	138 dB	140 dB
Array LF Calculated Max. SPL @ 1m, peak	134 dB	140 dB	144 dB	146 dB
16-meter Array LF Calculated Max. SPL, continuous	104 dB	110 dB	114 dB	116 dB

Specifications, Asymmetrical Versions

Single Module Performance				
Frequency Response (+ / - 3 dB)	60 – 16k Hz			
Frequency Range (-10 dB)	55 – 16k Hz			
Recommended High-Pass Filter	50 Hz with minimum 24-dB / octave (4th order)			
Nominal Coverage Pattern (H x V)				
Model RM283505	28°+35° X 05° LOUDSPEAKER			
Model RM284505	28°+45° X 05° LOUDSPEAKER			
Model RM286005	28°+60° X 05° LOUDSPEAKER			
Model RM352805	35°+28° X 05° LOUDSPEAKER			
Model RM452805	45°+28° X 05° LOUDSPEAKER			
Model RM602805	60°+28° X 05° LOUDSPEAKER			
Model RM283510	28°+35° X 10° LOUDSPEAKER			
Model RM284510	28°+45° X 10° LOUDSPEAKER			
Model RM286010	28°+60° X 10° LOUDSPEAKER			
Model RM352810	35°+28° X 10° LOUDSPEAKER			
Model RM452810	45°+28° X 10° LOUDSPEAKER			
Model RM602810	60°+28° X 10° LOUDSPEAKER			
Model RM284520	28°+45° X 20° LOUDSPEAKER			
Model RM286020	28°+60° X 20° LOUDSPEAKER			
Model RM356020	35°+60° X 20° LOUDSPEAKER			
Model RM452820	45°+28° X 20° LOUDSPEAKER			
Model RM602820	60°+28° X 20° LOUDSPEAKER			
Model RM603520	60°+35° X 20° LOUDSPEAKER			
Model RM286040	28°+60° X 40° LOUDSPEAKER			
Model RM356040	35°+60° X 40° LOUDSPEAKER			
Model RM602840	60°+28° X 40° LOUDSPEAKER			
Model RM603540	60°+35° X 40° LOUDSPEAKER			
Recommended Crossover Frequency	550 and 580 Hz overlapping (acoustic, external DSP required)			
	Low Frequency		**High Frequency**	
Power Handling 100-hour test, continuous	500 W		150 W	
Power Handling 100-hour test, peak	2000 W		600 W	
Nominal Impedance	4 Ω		8 Ω	
Model RM283505	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	135 dB
Model RM284505	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	135 dB
Model RM286005	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	135 dB

Specifications, Asymmetrical Versions

Model RM352805	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	135 dB
Model RM452805	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	135 dB
Model RM602805	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	135 dB
Model RM283510	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	111 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	133 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	139 dB	135 dB
Model RM284510	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	134 dB
Model RM286010	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	134 dB
Model RM352810	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	111 dB	107 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	133 dB	129 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	139 dB	135 dB
Model RM452810	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	110 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	132 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	138 dB	134 dB
Model RM602810	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	106 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	128 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	134 dB
Model RM284520	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	104 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	132 dB
Model RM286020	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	104 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	132 dB

Specifications, Asymmetrical Versions

Model RM356020	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	108 dB	103 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	130 dB	125 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	136 dB	131 dB
Model RM452820	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	104 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	132 dB
Model RM602820	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	109 dB	104 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	131 dB	126 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	137 dB	132 dB
Model RM603520	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	108 dB	103 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	130 dB	125 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	136 dB	131 dB
Model RM286040	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	100 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	128 dB
Model RM356040	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	100 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	128 dB
Model RM602840	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	100 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	128 dB
Model RM603540	**No EQ**	**With EQ**	**No EQ**	**With EQ**
Sensitivity, Free Field (SPL / 1W @1 m)	94 dB	93 dB	107 dB	100 dB
Calculated Maximum SPL @ 1 m, continuous	121 dB	120 dB	129 dB	122 dB
Calculated Maximum SPL @ 1 m, peak	127 dB	126 dB	135 dB	128 dB
Transducers				
Low Frequency	2 x Bose LF10 ultra-linear 10-inch woofers (3-inch voice coil)			
High Frequency	6 x Bose EMB2 extended midrange compression driver (2-inch voice coil)			
Physical				
Enclosure Material	Baltic Birch plywood, engineered plastics, and steel frame			
Finish	two-part spray polyurethane coating on plywood, black			
Grille	19-gauge (1.0 mm) perforated steel, powder-coated finish, black			
Connectors	2 x Neutrik® NL4 wired parallel			
Suspension Attachment	integrated side-plate rigging hardware; optional array frame accessories			

Specifications, Asymmetrical Versions

Dimensions				
Model RM283505	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM284505	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM286005	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM352805	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM452805	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM602805	16.9 x 39.1 x 23.6 in (428 x 993 x 598 mm)			
Model RM283510	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM284510	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM286010	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM352810	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM452810	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM602810	17.9 x 39.1 x 23.6 in (455 x 993 x 598 mm)			
Model RM284520	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM286020	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM356020	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM452820	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM602820	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM603520	20.0 x 39.1 x 23.6 in (509 x 993 x 598 mm)			
Model RM286040	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM356040	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM602840	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Model RM603540	24.0 x 39.1 x 23.6 in (610 x 993 x 598 mm)			
Net Weight	123 lbs (55.8 kg)			
Shipping Weight	with pallet approximately 180 lbs (81.6 kg)			
Multiple-Module Array LF (10" woofer) Bandpass Performance (with EQ)				
	2 Module	**4 Module**	**6 Module**	**8 Module**
Total Power Handling, Array LF Section	1000 W	2000 W	3000 W	4000 W
60 Hz High-Pass				
Array LF Sensitivity, Free Field (SPL /1 W @ 1 m)	96 dB	99 dB	101 dB	102 dB
Array LF Calculated Max. SPL @ 1m, continuous	126 dB	132 dB	136 dB	138 dB
Array LF Calculated Max. SPL @ 1m, peak	132 dB	138 dB	142 dB	144 dB
16-meter Array LF Calculated Max. SPL, continuous	102 dB	108 dB	112 dB	114 dB
80 Hz High-Pass				
Array LF Sensitivity, Free Field (SPL /1 W @ 1 m)	98 dB	101 dB	103 dB	104 dB
Array LF Calculated Max. SPL @ 1m, continuous	128 dB	134 dB	138 dB	140 dB
Array LF Calculated Max. SPL @ 1m, peak	134 dB	140 dB	144 dB	146 dB
16-meter Array LF Calculated Max. SPL, continuous	104 dB	110 dB	114 dB	116 dB

PART LIST NOTES

1. The individual parts located on the PCBs are listed in the Electrical Part List.

2. This part is referenced for informational purposes only. It is not stocked as a repair part. Refer to the next higher assembly for a replacement part.

3. ⚠ This part is critical for safety purposes. Failure to use a substitute replacement with the same safety characteristics as the recommended replacement part might create shock, fire and/or other hazards.

PRODUCT DESCRIPTION

Product Overview

The RoomMatch® Array Module Loudspeakers deliver superb audio quality for fixed-installations in almost any room size, shape, acoustic requirement, or budget. Overcoming the acoustic limitations of both line array and point-source conventional designs, RoomMatch modules form a new class of curvilinear array that allow seamless audio quality, with consistent front-to-back and side-to-side tonal balance.

Symmetrical and Asymmetrical Loudspeaker Versions

The RoomMatch speakers come in two high-level versions, in various degrees of dispersion. The original versions have symmetrical horizontal dispersion angles, meaning that the pattern is the same to the left and right of the speaker's centerline as viewed from the front. The asymmetrical version's horizontal dispersion angles are different to the left and right of the centerline of the speaker, as viewed from the front. This allows better directivity of the horizontal dispersion pattern and makes setup easier in difficult installations. Refer to the specifications tables for each version for more information.

Key Features

- Concert-Quality Sound – New Bose patented technologies combine to provide audio quality equaling that of the best concert-sound systems, in a fixed-installation format.
- RoomMatch™ Waveguide Technology – 5 vertical and 4 horizontal coverage pattern choices allow arrays to direct sound precisely to desired listening areas, improving audio quality by reducing unwanted acoustic reflections.
- Progressive Directivity Arrays - A new class of curvilinear array in which the coverage and directivity index of each module is selected to optimize room coverage and system efficiency.
- Continuous-Arc Diffraction-Slot (CADS) Manifold – Bose patented design provides interference-free acoustic summation of 6 compression drivers and acoustically-equal spacing of diffraction slots across multiple modules.
- Bose EMB-2 and LF10 Drivers – Patented new Bose transducers combine to deliver the vocal clarity of 3-way systems with the improved polar response typical of 2-way systems.

Wiring

The RoomMatch array module is equipped with two (2) Neutrik® NL4 connectors wired in parallel to allow loop-through connection to an additional module. The connector is factory wired to provide discrete amplifierchannel drive to each section as follows:

NL4 Connector Pin	Driver Bandpass Section
1+	LF drivers -positive
1 -	LF drivers -negative
2+	HF drivers -positive
2 -	HF drivers -negative

Neutrik® NL4

RoomMatch™ Loudspeaker

Rigging Accessories

RMAFLG - Large Array Frame (4-8 modules)

RMAFSM - Small Array Frame (2 -4 modules)

RMXLNG - Long Extender Bar

RMXSRT - Short Extender Bar

RMPULL - Pull Back Bar

RMBRKT - Surface Mount Bracket Kit

RMSFLY Side-Plate Rigging for RMS215

RMPINS - Quick Release Pins (set of 4)

Also Available - RMSHAD - Gain Shading Kit

PACKAGING PART LIST

RoomMatch® Array Module Loudspeakers (refer to Figure 1)

Item Number	Description	Part Number	Qty.	Note
1	CARTON, RSC, 41.75”x32.5”x28.19”, 350#DW, K	343482-0010	1	
2	PACKING, TRAY, DC ASSY, 51ECT, 2.2#PE, 1.7#PE	343483-0010	1	
3	PACKING, INSERT, DC ASSY, 200C, 4#PE, 1.7#PE	343484-0010	2	
4	PACKING, FOAM,INSERT,1.2#PE,5 DEGREE PACKING, FOAM,INSERT,1.2#PE,10 DEGREE PACKING, FOAM,INSERT,1.2#PE,20 DEGREE PACKING, FOAM,INSERT,1.2#PE,40 DEGREE PACKING, FOAM,INSERT,1.2#PE,60 DEGREE	343485-0010 343486-0010 343487-0010 343488-0010 343489-0010	4	
5	PACKING, SHEET, TOP, 48ECT, 2.2#PE, 5 DEGREE PACKING, SHEET, TOP, 48ECT, 2.2#PE, 10 DEGREE PACKING, SHEET, TOP, 48ECT, 2.2#PE, 20 DEGREE PACKING, SHEET, TOP, 48ECT, 2.2#PE, 40 DEGREE PACKING, SHEET, TOP, 48ECT, 2.2#PE, 60 DEGREE	355537-0010 355538-0010 355539-0010 355540-0010 355541-0010	1	
-	SHEET, POLY, LLDPE, 84”x72”x4mil	347679-0010	1	2
-	GUIDE, INSTALL, ROOMMATCH FULL RANGE	356866-0010	1	
-	STAGING HANDLE	325186-0110	2	
-	AU/NZ WARR SLIP SHEET 8.5 X 5.5	355731-0010	1	

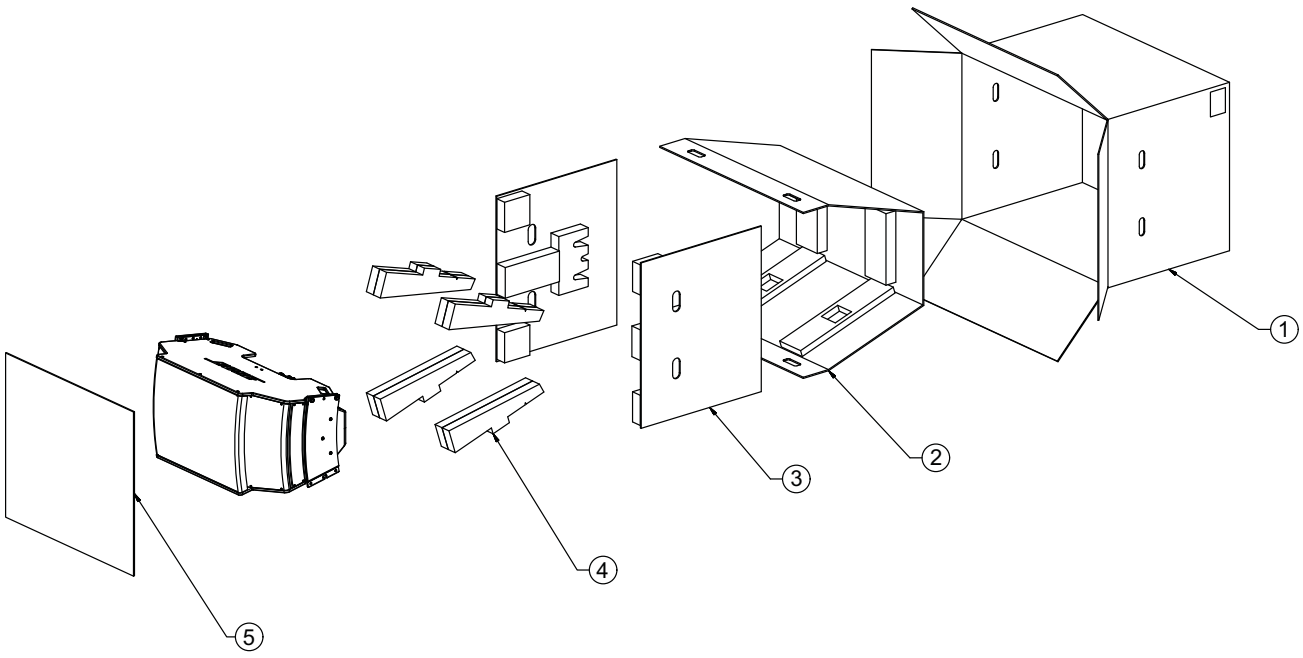


Figure 1. RoomMatch Array Module Loudspeakers Packaging View

MAIN PART LIST

RoomMatch® Array Module Loudspeakers (refer to Figure 2)

Item Number	Description	Part Number	Qty.	Note
1	GRILLE, HORN, METAL, BLK, 5 DEGREE GRILLE, HORN, METAL, BLK, 10 DEGREE GRILLE, HORN, METAL, BLK, 20 DEGREE GRILLE, HORN, METAL, BLK, 40 DEGREE GRILLE, HORN, METAL, BLK, 60 DEGREE	345921-0510 345921-1010 345921-2010 345921-4011 345921-6011	1 1 1 1 1	
2	SCREW, TAPP, 6-13x.5, PAN, XREC/SQ (WOOFER GRILLE SCREWS)	290294-08	16	
3	GRILLE, BASS, CONICAL, BLK, 5 DEG GRILLE, BASS, CONICAL, BLK, 10 DEG GRILLE, BASS, CONICAL, BLK, 20 DEG GRILLE, BASS, CONICAL, BLK, 40 DEG GRILLE, BASS, CONICAL, BLK, 60 DEG	345273-0510 345273-1010 345273-2010 345273-4010 345273-6010	2 2 2 2 2	
4	GRILLE, BASS, SIDE, 5 DEG GRILLE, BASS, SIDE, 10 DEG GRILLE, BASS, SIDE, 20 DEG GRILLE, BASS, SIDE, 40 DEG GRILLE, BASS, SIDE, 60 DEG	345274-0510 345274-1010 345274-2010 345274-4010 345274-6010	2 2 2 2 2	
5	SCREW,M5X0.8, 20MM LG,BUT HEAD,SHCS,BLK	345852-2010	16	
6	WOOFER, 10 INCH, SERVICE	323085-0010	2	
7	NUT, HEX, M5, THIN, BLK	347307-1210	2	
8	BRACKET, INNER RIGHT, SIDE, BLK	-	1	2
9	BRACKET, OUTER RIGHT, SIDE, BLK	-	1	2
10	SCREW, M5x0.8, 12MM LG, FH SHCS, BLK	345850-1210	10	
11	SCREW, M8X1.25, 25MM LG, FLNGD HEX HEAD, BLK	347375-2510	12	
12	SCREW, M10x1.5, 30MM LG, HH, FLNG, BLK	345849-3010	4	
13	INPUT / OUTPUT PANEL ASSEMBLY	331412-013S	1	
14	SCREW, M4x0.7, 8MM LG, PH, XREC, BLK (I/O PANEL TO BASS MODULES)	345851-0810	4	
15	COMPRESSION DRIVER, SERVICE	342658-0010	6	
16	SCREW,M5X0.8,30MM LG,FLAT HEAD SHCS,BLK (HORN GRILLE SCREWS)	345850-3000	6	
17	NUT, WELL, M5x0.8	343400-0110	6	
18	BRACKET, OUTER LEFT, SIDE, BLK	-	1	2
19	BRACKET, INNER LEFT, SIDE, BLK	-	1	2
-	SCREW, COMPRESSION DRIVER TO ADAPTER	348244-1610	12	
-	NUT, COMPRESSION DRIVER TO ADAPTER	344149-1110	12	
-	INPUT / OUTPUT PCB ASSEMBLY, SERVICE	347480-001S	1	
-	BOLT, INTERMODULE RIGGING	345849-3010	VAR	

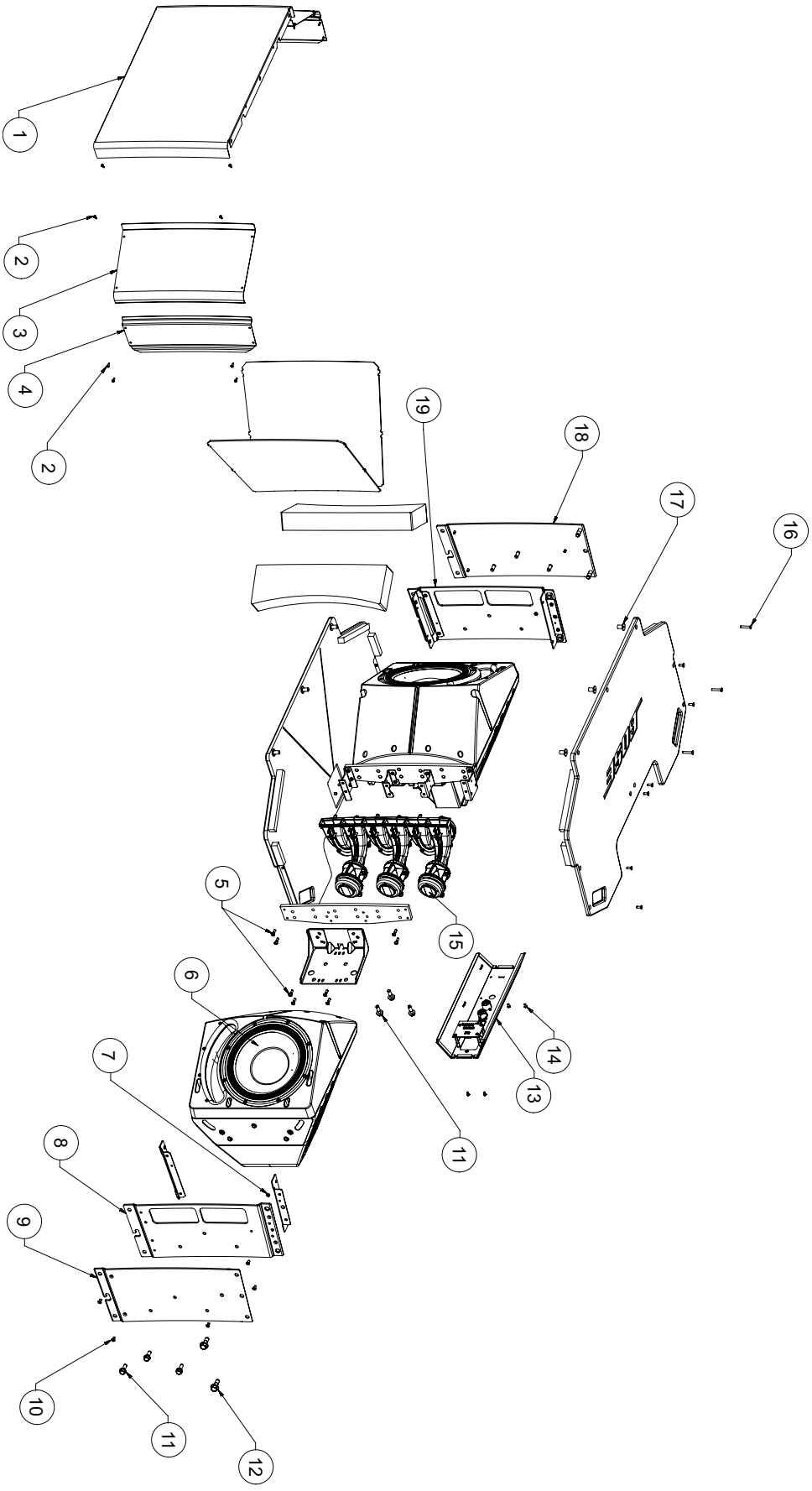


Figure 2. RoomMatch® Array Module Loudspeakers Exploded View

DISASSEMBLY PROCEDURES

Note: Refer to Figure 2 for the following procedures.

1. Horn Grille Removal

1.1 Remove the six screws (16) that secure the horn grille (1) to the speaker end panels. Lift off the grille.

2. Conical Bass Grille Removal

2.1 Remove the four screws (2) that secure the conical bass grille (3) to the front of the end panel. Lift off the grille.

3. Side Bass Grille Removal

3.1 Perform procedure 2.

3.2 Remove the four screws (2) that secure the side bass grille (4) to the end panel. Lift off the grille.

4. Woofer Removal

4.1 Perform procedure 3.

4.2 Remove the eight screws that secure the woofer (6) to the bass module cabinet. Lift out the woofer. Disconnect the two Faston connectors from the terminals on the back of the woofer.

5. Input / Output Panel Removal

5.1 On the back of the speaker, remove the four screws (14) that secure the I/O panel (13) to the bass modules. Lift the I/O panel away from the speaker, and unplug the wiring harness from the PCB assembly.

6. Input / Output PCB Assembly Removal

6.1 Perform procedure 5.

6.2 Unplug the wiring harness that runs from the PCB to the Neutrik connectors.

6.3 Remove the four screws that secure the PCB assembly to the standoffs on the I/O panel. Lift off the PCB assembly.

7. Compression Driver Removal

7.1 Perform procedure 5.

7.2 Disconnect the two wiring harness Faston connectors from the driver you wish to replace.

7.3 Remove the two screws that secure the compression driver to the adapter. Take care to not lose the screws or the nuts that secure the driver in place. Lift off the driver.

TEST PROCEDURES

1. Driver DC Resistance Test

Note: This test will verify that the voice coils for the tested drivers are in the correct DC resistance range. Use this test if you suspect a driver with a failed voice coil.

1.1 Loosen the two screws that secure the Service Access Panel (1 below) to the Input/ Output Panel. Slide the panel over the screws and lift it off.

1.2 Once you have removed the access panel, you will see a PCB with two connectors on it. Unplug the 8 pin input connector from the left hand connector on the I/O PCB.

1.3 The connector on the right hand side of the board has connections to each individual driver. Using a digital multimeter, measure the DC resistance of each driver at the points shown in the diagram below.
Note: The HF-1 to HF-6 drivers are the compression drivers, and are numbered 1 - 6 from top to bottom. The LF10 drivers are the woofers, left and right as you face the front of the speaker.

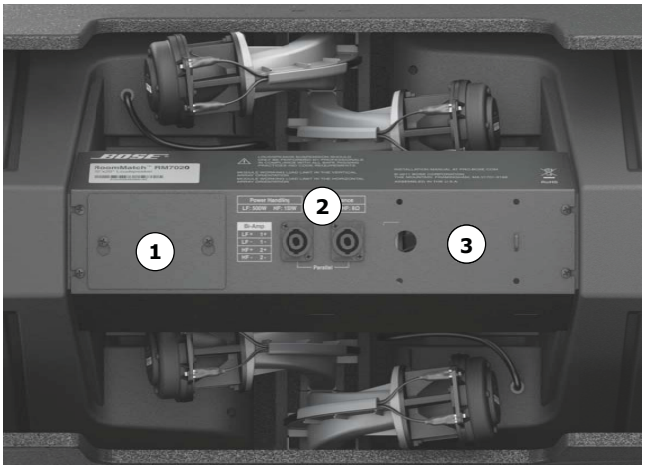
1.4 Verify that the DC resistance values are within the ranges shown below in the diagram. If they are not, check the wiring harness for damage or broken connections to the drivers. If the harness is okay, replace the failed driver.

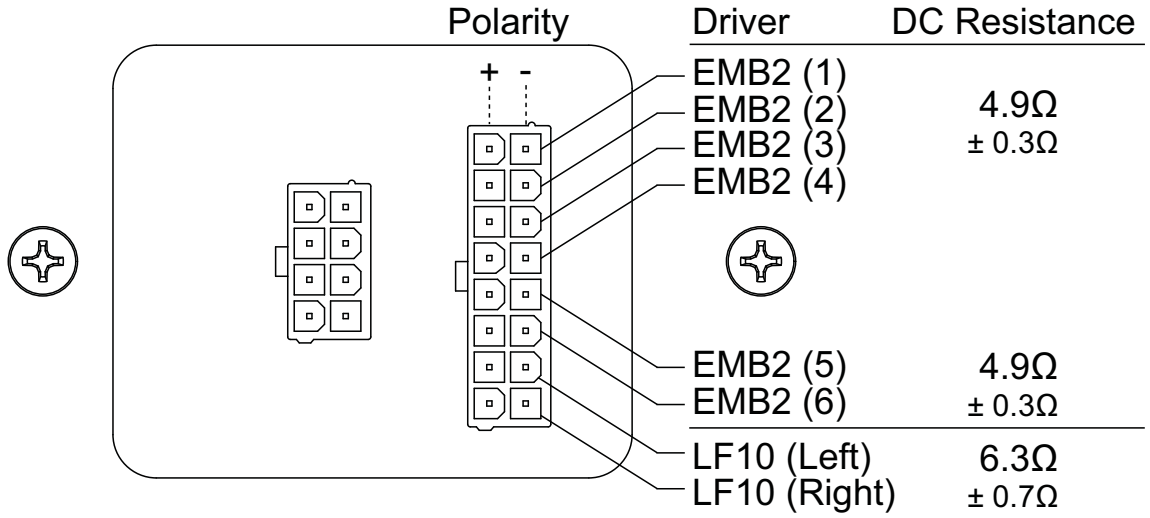
1.5 Reconnect the 8 pin input harness and reattach the access panel.

1. Service Test Panel

2. Input Connectors

3. Gain Shading Kit Mounting Holes





TEST PROCEDURES

2. Woofer Phase Test

2.1 Momentarily apply a positive 5 volt DC level to the 1+ and 1- terminals of one of the Neutrik NL4 connectors.

2.2 While applying the DC level, ensure that the woofers move outward, away from the cabinet. If they move inward, remove the driver and correct the wiring connections.

3. Woofer Rub and Tick Test

Test Signal: Shaped Sine Wave Sweep 10-1khz with 400 Hz 2nd order Butterworth LP, 600 Hz first order Butterworth LP filters.

3.1 Remove the bass grilles using disassembly procedure 2.

3.2 Apply a 20Vrms, test signal to the 1+ and 1- terminals of one of the Neutrik NL4 connectors.

3.3 Listen to the woofers for any rubbing, ticking or other extraneous noise. Replace any defective woofer. Small ticks are acceptable if they cannot be heard at a distance of one foot.

Note: There is a normal suspension noise. To distinguish between a rub or a tick and suspension noise, displace the cone slightly with your finger. If the rubbing can be made to go away or get worse, it is a rub or a tick. If the noise stays the same, it is suspension noise.

4. System High Frequency Sweep Test

CAUTION: Hearing protection is required to prevent potential hearing loss duing this test.

Test Signal: Shaped Sine Wave Sweep 300-2khz with 300 Hz 1st order Butterworth LP, 900 Hz second order Butterworth LP filters.

4.1 Apply a 20Vrms (maximum), test signal to the 2+ and 2- terminals of one of the Neutrik NL4 connectors.

4.2 Sweep the loudspeaker from 50Hz to 16kHz. Listen to the drivers for any rubbing, ticking or other extraneous noise. Replace any defective driver. Small ticks are acceptable if they cannot be heard at a distance of one foot.

Connector Wiring

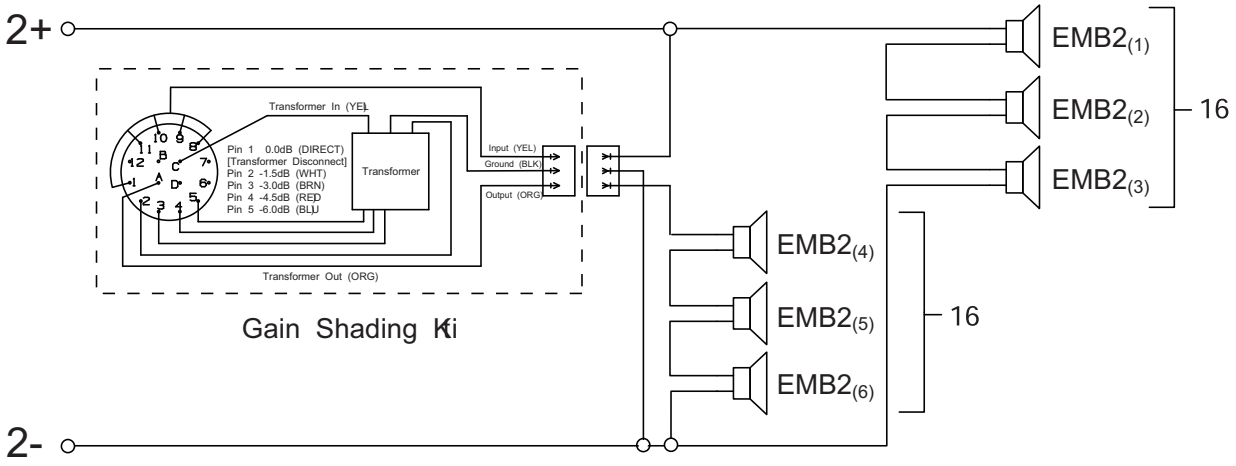
The RoomMatch® array module is equipped with two (2) Neutrik® NL4 connectors wired in parallel to allow loop-through connection to an additional module. The connector is wired to provide separate amplifier channels to the high-frequency (HF) and low-frequency (LF) transducers as follows:

NL4 Connector Pin	Driver Bandpass Section
1+	LF drivers - positive
1 -	LF drivers - negative
2+	HF drivers - positive
2 -	HF drivers - negative

Neutrik® NL4

Optional Gain-Shading Kit Installation

An optional gain shading kit (RMSHADE) is available for RoomMatch™ modules to attenuate the lower-3 compression drivers relative to the upper-3 drivers. This option may provide more uniform coverage in array configurations with large changes in directivity index from module to module. An electrical diagram for the mid/high compression drivers illustrating the gain shading kit circuit is shown below.



Electrical Diagram of Compression Drivers with Gain Shading Kit Installed

SERVICE MANUAL REVISION HISTORY

Date	Revision Level	Description of Change	Change Driven By	Pages Affected
8/11	00	Document released at revision 00.	Service manual release	All
7/12	01	- New product versions added. - Packaging part number changes. - Install guide part number change. - New 40 and 60 degree horn grilles.	New product versions and part number changes	3 – 6 9 10 10
9/13	02	- Added new RoomMatch asymmetrical version loudspeakers - New Input / Output panel assembly part number, item 13 in main parts list	New product versions New part number	All 14

SPECIFICATIONS AND FEATURES SUBJECT TO CHANGE WITHOUT NOTICE

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