

ARENA SERIES

INSTRUCTION BOOKLET



ARENA MODELS 6/6-16/6T, 8/8-16/8T, 10/10-16/10T, 12/12-16/12T & 15/15-16/15T
FOR THE CLOSEST APPROACH TO THE ORIGINAL SOUND

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SAFETY INSTRUCTIONS

Safety First!

1. Please read this manual fully before installing and operating this product.
2. Retain a copy of this manual for future reference.
3. Comply with all warning labels and instructions.
4. Do not attempt the installation of this equipment unless you are qualified to do so.
5. Protect your hearing from high sound pressure levels.

Rigging and Suspension

The rigging, suspension or mounting of these products can expose the installer and members of the public to serious health risks and even death.

UNDER NO CIRCUMSTANCES ATTEMPT TO RIG, SUSPEND OR OTHERWISE MOUNT THIS EQUIPMENT UNLESS YOU ARE FULLY QUALIFIED AND CERTIFIED TO DO SO BY RELEVANT LOCAL, STATE AND NATIONAL AUTHORITIES. ALL RELEVANT SAFETY REGULATIONS MUST BE FOLLOWED. IF YOU ARE NOT PROPERLY QUALIFIED OR DO NOT KNOW OF PERTINENT REGULATIONS, CONSULT QUALIFIED PERSONNEL FOR ADVICE AND ASSISTANCE.

Limited Liability

QUAD Industrial assumes no liability whatsoever for any damage or loss, either direct or consequential arising from the installation and use of these products. Liability is limited to replacement of product or refund, at the QUAD Industrial's discretion. Your rights to compensation may vary by territory; consult with your local QUAD Industrial office or distributor.

Warranty & Service

These products are designed to be used as specified, and are warranted to be free from defects in materials or workmanship. Warranty terms and conditions vary by territory. Please contact your local QUAD Industrial sales office or distributor for complete details. Under no circumstances should you attempt to repair these products. Doing so may limit or void warranty coverage.

PRODUCT DESCRIPTION

The Arena range of two-way ceiling mounted loudspeakers are large format high-performance point-source systems designed for the most demanding voice and music reinforcement applications in distributed systems. Each model is built around a genuine QUAD Industrial DuAlign™ precision transducer, offering linear response in both amplitude and phase domains. Drivers are loaded in tuned and ported steel enclosures with integral suspension mounting points and are supplied with round painted steel grilles.

Arena 6

The Arena 6 is a large format two-way ceiling speaker system consisting of an 6" DuAlign™ woofer with integral 2" compression driver mounted inside a vented steel enclosure suited for overhead suspension. A white round steel grille is provided. There are two versions available:

- Arena 6 – Black, 4Ω, 120 Watts
- Arena 6-16 – Black, 16Ω, 120 Watts
- Arena 6T – Black, 70/100V with 120 Watt transformer

Arena 8

The Arena 8 is a large format two-way ceiling speaker system consisting of an 8" DuAlign™ woofer with integral 2" compression driver mounted inside a vented steel enclosure suited for overhead suspension. A white round steel grille is provided. There are two versions available:

- Arena 8 – Black, 4Ω, 120 Watts
- Arena 8-16 – Black, 16Ω, 120 Watts

- Arena 8T – Black, 70/100V with 120 Watt transformer

Arena 10

The Arena 10 is a large format two-way ceiling speaker system consisting of a 10" DuAlign™ woofer with integral 2" compression driver mounted inside a vented steel enclosure suited for overhead suspension. A white round steel grille is provided. There are two versions available:

- Arena 10 – Black, 4Ω, 150 Watts
- Arena 10-16 – Black, 16Ω, 150 Watts
- Arena 10T – Black, 70/100V with 120 Watt transformer

Arena 12

The Arena 12 is a large format two-way ceiling speaker system consisting of a 12" DuAlign™ woofer with integral 2" compression driver mounted inside a vented steel enclosure suited for overhead suspension. A white round steel grille is provided. There are two versions available:

- Arena 12 – Black, 4Ω, 200 Watts
- Arena 12-16 – Black, 16Ω, 200 Watts
- Arena 12T – Black, 70/100V with 200 Watt transformer

Arena 15

The Arena 15 is a large format two-way ceiling speaker system consisting of a 15" DuAlign™ woofer with integral 2" compression driver mounted inside a vented steel enclosure suited for

overhead suspension. A white round steel grille is provided. There are two versions available:

- Arena 15 – Black, 4Ω, 300 Watts
- Arena 15-16 – Black, 16Ω, 300 Watts
- Arena 15T – Black, 70/100V with 240 Watt transformer

QT-250

The QT-250 is a high power constant-voltage line matching transformer designed to adapt the high-powered Arena low-impedance models to constant-voltage operation. Power taps are provided at 250/125/60/30 Watts into 70V or 100V line with secondary impedances of 4 Ω or 8Ω.

- QT-250 – 250 Watt 70/100V Line matching transformer

FULL GRILLE 6, 8 & 10

Select the appropriate FULL GRILLE model for applications where Arena speakers require a square grille in place of the round grille supplied.

- FULL GRILLE-6 – Round, painted, White replacement grille for Arena 6
- FULL GRILLE-8 – Round, painted, White replacement grille for Arena 8
- FULL GRILLE-10, 12 & 15 – Square, painted, White replacement grille for Arena 10, Arena 12 and Arena 15

PRODUCT FEATURES

All Arena models are supplied as complete speaker systems with all required components and come preassembled. Each model includes a DuAlign™ coaxial driver with passive crossover and round steel grille, mounted inside a vented steel enclosure. Arena models are intended for overhead mounting and are fitted with four steel mounting tabs welded to the rear of the enclosure.

All models are fitted with isolated barrier strips for direct termination of power amplifier wiring. Barrier strips are covered with a removable metal cover fitted with conduit entry knockouts.

NOTE: Please ensure that you are familiar with all of the mounting hardware and that you possess the needed experience and certification in rigging before beginning the installation.

INSTALLATION

Arena speaker models are designed to be suspended by means of the four welded steel suspension points on the rear of the enclosure. Proper suspension requires the use of all four points for even weight distribution and safety. Other installation schemes are possible with third-party accessories and enclosures. Consult with your local distributor or QUAD Industrial directly for further information.

NOTE: Suspend speakers using Aircraft cable

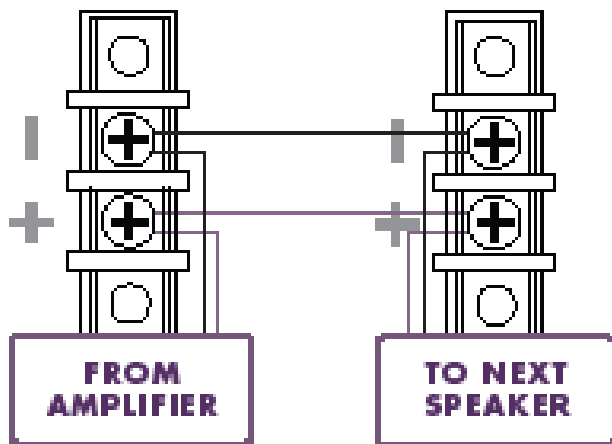
CONNECTION & OPERATION

Low Impedance (16Ω) Connections

Low impedance models are fitted with two terminals for the (+) and (-) incoming amplifier feed.

Speakers may be wired in parallel as shown below. Ensure that the total impedance of connected speakers does not fall below the minimum impedance of the connected amplifier. The following table shows the net impedance when several speakers (16Ω) are combined in parallel.

No. of Speakers in Parallel	Combined Impedance
2	8Ω
3	5.33Ω
4	4Ω
5	3.2Ω
6	2.67Ω
7	2.29Ω
8	2Ω

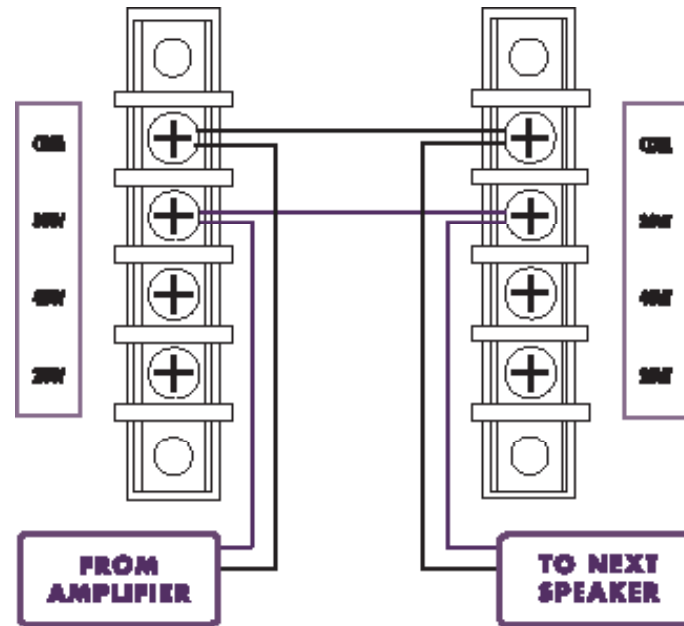


70/100V Connections

70/100V Models use one terminal for the Common (-) connection and the other three terminals for the transformer power taps.

NOTE: Power taps are labeled for 70V operation. Connection of 100V amplifiers requires use of the next lower wattage tap to prevent damage to the speaker.

Connect speakers in parallel as shown below:



Select the power tap by dividing the amplifier's available power by the number of speakers to be connected. Always select the next lower wattage tap. For example:

$$200\text{W amplifier} \div 20 \text{ speakers} = 10 \text{ Watts};$$

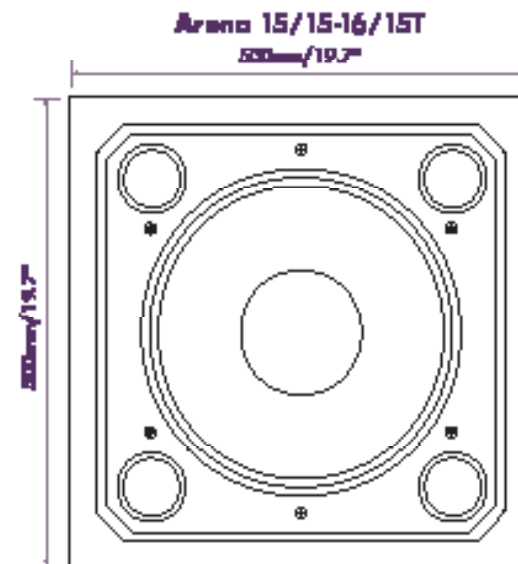
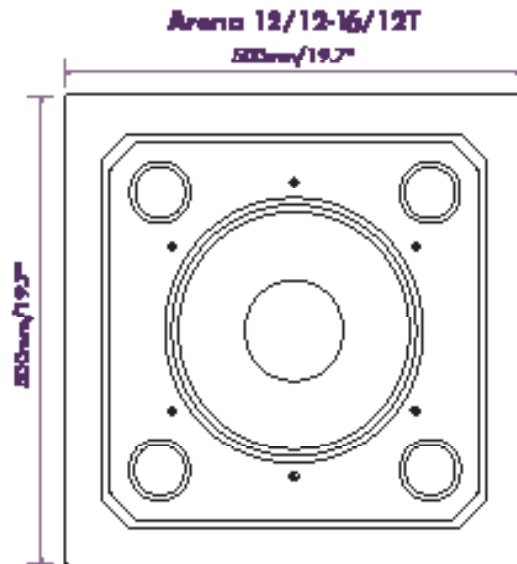
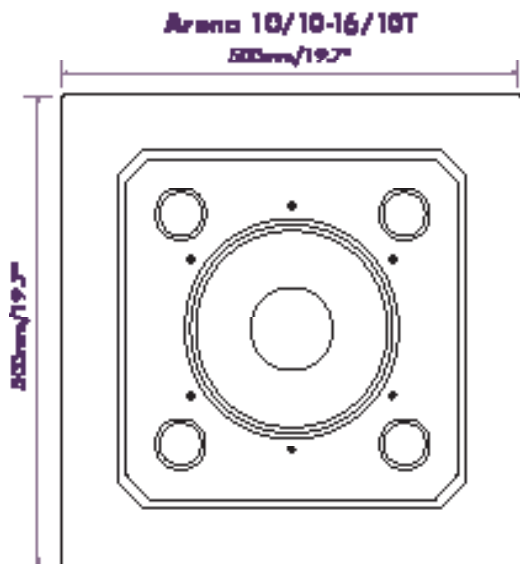
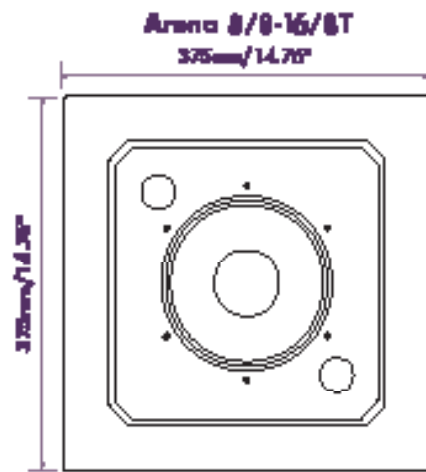
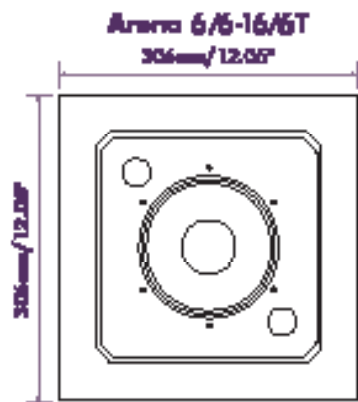
use the 7.5W terminal

Individual speakers may be tapped higher or lower in order to better balance the system sound pressure level in different areas. Ensure that the combined power draw does not exceed the rated power of the amplifier or else damage to the amplifier and speakers may occur.

COMPLIANCE

This product is in compliance with CE directives and bears the CE mark. For detailed information on specific directives please contact your local QUAD Industrial sales office or distributor.

DIMENSIONS



SPECIFICATIONS

Power Handling:	ARENA 6	ARENA 8	ARENA 10	ARENA 12	ARENA 15
Continuous	80W	120W	150W	200W	300W
Program	160W	250W	300W	400W	600W
Peak	320W	500W	600W	800W	1200W
Frequency Response (-10dB):	80Hz–20kHz	55Hz–20kHz	50Hz–20kHz	50Hz–20kHz	45Hz–20kHz
Frequency Response (+/-3dB):	100Hz–16kHz	80Hz–20kHz	60Hz–20kHz	55Hz–20kHz	50Hz–20kHz
Sensitivity (@ 1W/1M):	88dB	90dB	94dB	96dB	98dB
Max SPL:	113dB	117dB	122dB	125dB	129dB
Coverage (H x V):	130° Conical	105° Conical	75° Conical	85° Conical	100° Conical
Directivity (DI) (H x V):	4.53	7.39	7.46	6.92	7.28
Impedance:	4Ω nominal	4Ω nominal	4Ω nominal	4Ω nominal	4Ω nominal
Regulatory Approvals (9UL, CE):	CE	CE	CE	CE	CE
Transducers:					
LF Driver Size	6" Coaxial	8" Coaxial	10" Coaxial	12" Coaxial	15" Coaxial
HF Driver Size	2" Compression Driver	2" Compression Driver	2" Compression Driver	2" Compression Driver	2" Compression Driver
Crossover Frequency:	2.5kHz	2.2kHz	2.1kHz	2kHz	2kHz
Enclosure Material:	Rustproof Steel	Rustproof Steel	Rustproof Steel	Rustproof Steel	Rustproof Steel
Connector Type:	Barrier Strip	Barrier Strip	Barrier Strip	Barrier Strip	Barrier Strip
Dimensions (H x W x D):	306 x 306 x 191.5mm 12.05" x 12.05" x 7.5"	375 x 375 x 219.5mm 14.7" x 14.7" x 8.6"	500 x 500 x 295.5mm 19.7" x 19.7" x 11.6"	500 x 500 x 345mm 19.7" x 19.7" x 13.6"	500 x 500 x 425.5mm 19.7" x 19.7" x 16.7"
Net Weight:	9.5kg 20.9lbs.	13.1kg 28.8lbs.	24.5kg 53.9lbs.	25.2kg 55.4lbs.	29.5kg 64.9lbs.

* Features, details & specifications are subject to change without notice

SPECIFICATIONS

Power Handling:	ARENA 6-16	ARENA 8-16	ARENA 10-16	ARENA 12-16	ARENA 15-16
Continuous	80W	120W	150W	200W	300W
Program	160W	250W	300W	400W	600W
Peak	320W	500W	600W	800W	1200W
Frequency Response (-10dB):	80Hz–20kHz	55Hz–20kHz	50Hz–20kHz	50Hz–20kHz	45Hz–20kHz
Frequency Response (+/-3dB):	100Hz–16kHz	80Hz–20kHz	60Hz–20kHz	55Hz–20kHz	50Hz–20kHz
Sensitivity (@ 1W/1M):	88dB	90dB	94dB	96dB	98dB
Max SPL:	113dB	117dB	122dB	125dB	129dB
Coverage (H x V):	130° Conical	105° Conical	75° Conical	85° Conical	100° Conical
Directivity (DI) (H x V):	4.53	7.39	7.46	6.92	7.28
Impedance:	16Ω	16Ω	16Ω	16Ω	16Ω
Regulatory Approvals (9UL, CE):	CE	CE	CE	CE	CE
Transducers:					
LF Driver Size	6" Coaxial	8" Coaxial	10" Coaxial	12" Coaxial	15" Coaxial
HF Driver Size	2" Compression Driver	2" Compression Driver	2" Compression Driver	2" Compression Driver	2" Compression Driver
Crossover Frequency:	2.5kHz	2.2kHz	2.1kHz	2kHz	2kHz
Enclosure Material:	Rustproof Steel	Rustproof Steel	Rustproof Steel	Rustproof Steel	Rustproof Steel
Connector Type:	Barrier Strip	Barrier Strip	Barrier Strip	Barrier Strip	Barrier Strip
Dimensions (H x W x D):	306 x 306 x 191.5mm 12.05" x 12.05" x 7.5"	375 x 375 x 219.5mm 14.7" x 14.7" x 8.6"	500 x 500 x 295.5mm 19.7" x 19.7" x 11.6"	500 x 500 x 345mm 19.7" x 19.7" x 13.6"	500 x 500 x 425mm 19.7" x 19.7" x 16.7"
Net Weight:	9.5kg 20.9lbs.	13.1kg 28.8lbs.	24.5kg 53.9lbs.	25.2kg 55.4lbs.	29.5kg 64.9lbs.

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SPECIFICATIONS

Power Handling:	ARENA 6T	ARENA 8T	ARENA 10T
	70V: 10W/20W/40W/80W 100V: 20W/40W/80W	70V: 15W/30W/60W/120W 100V: 30W/60W/120W	70V: 15W/30W/60W/120W 100V: 30W/60W/120W
Frequency Response (-10dB):	80Hz–20kHz	55Hz–20kHz	50Hz–20kHz
Frequency Response (+/-3dB):	100Hz–14kHz	80Hz–16kHz	60Hz–16kHz
Sensitivity (@ 1W/1M):	87dB	89dB	93dB
Max SPL:	106dB	110dB	114dB
Coverage (H x V):	130° Conical	105° Conical	75° Conical
Directivity (DI) (H x V):	4.53	7.39	7.46
Impedance:	N/A	N/A	N/A
Regulatory Approvals (9UL, CE):	CE	CE	CE
Transducers:			
LF Driver Size	6" Coaxial	8" Coaxial	10" Coaxial
HF Driver Size	2" Compression Driver	2" Compression Driver	2" Compression Driver
Crossover Frequency:	2.5kHz	2.2kHz	2.1kHz
Enclosure Material:	Rustproof Steel	Rustproof Steel	Rustproof Steel
Connector Type:	Barrier Strip	Barrier Strip	Barrier Strip
Dimensions (H x W x D):	306 x 306 x 191.5mm 12" x 12" x 7.5"	375 x 375 x 219.5mm 14.7" x 14.7" x 8.6"	500 x 500 x 295.5mm 19.7" x 19.7" x 11.6"
Net Weight:	13.5kg 29.7lbs.	17.5kg 38.5lbs.	28.5kg 62.7lbs.

* Features, details & specifications are subject to change without notice

SPECIFICATIONS

Power Handling:	ARENA 12T	ARENA 15T
	70V: 25W/50W/100W/200W 100V: 50W/100W/200W	70V: 30W/60W/120W/240W 100V: 60W/120W/240W
Frequency Response (-10dB):	50Hz–20kHz	45Hz–20kHz
Frequency Response (+/-3dB):	55Hz–16kHz	50Hz–15kHz
Sensitivity (@ 1W/1M):	95dB	97dB
Max SPL:	118dB	121dB
Coverage (H x V):	85° Conical	100° Conical
Directivity (DI) (H x V):	6.92	7.28
Impedance:	N/A	N/A
Regulatory Approvals (9UL, CE):	CE	CE
Transducers:		
LF Driver Size	12" Coaxial	15" Coaxial
HF Driver Size	2" Compression Driver	2" Compression Driver
Crossover Frequency:	2kHz	2kHz
Enclosure Material:	Rustproof Steel	Rustproof Steel
Connector Type:	Barrier Strip	Barrier Strip
Dimensions (H x W x D):	500 x 500 x 345mm 19.7" x 19.7" x 13.6"	500 x 500 x 425mm 19.7" x 19.7" x 16.7"
Net Weight:	29.5kg 64.9lbs.	33.5kg 73.7lbs.

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