**ArenaMatch AM20 DeltaQ array loudspeaker**

ARCHITECTS’ & ENGINEERS’ SPECIFICATIONS

JULY 2023

The outdoor-rated, 2-way full-range, array module loudspeaker shall contain six (6) neodymium 2-inch titanium-diaphragm compression drivers mounted to a continuous-arc diffraction-slot manifold, which provides acoustic summation into a constant-directivity waveguide with effective pattern control down to waveguide acoustic crossover frequency of 950 Hz. The manifold and waveguide will provide a nominal 20° vertical coverage pattern with field-changeable waveguides available in 60°, 80°, or 100° nominal horizontal coverage. The low-frequency section shall contain a single 14-inch neodymium woofer with 4-inch voice coil. The array module loudspeaker will incorporate an internal passive crossover network and 70/100V transformer.

The array module loudspeaker shall meet the following performance specifications: On-axis system frequency response shall be 55 Hz to 18 kHz (-10 dB) with recommended equalization. The low-frequency sensitivity shall be 94 dB SPL in free field with 1 W input and be capable of producing peak output of 128 dB SPL on axis at 1 meter, with recommended equalization. The high-frequency sensitivity shall be 106 dB SPL in free field with 1 W input and be capable of producing peak output of 134 dB SPL on axis at 1 meter, with 60° waveguide and recommended equalization. In passive crossover mode, the system long-term power rating shall be 750 W with a nominal input impedance of 8 ohms or 400 W continuous using the 70/100V transformer. In bi-amp mode, long-term power rating will be 600 W for the low-frequency section and 150 W for the high-frequency section with nominal impedance of 8 ohms for each section. Power handling will be rated using IEC 268-5 pink noise, 6-dB crest factor, for 500 hours, with recommended EQ presets.

The array module shall be constructed with 20° trapezoidal shape using exterior-grade plywood, protected by a two-part polyurea industrial coating. A three-layer stainless steel, powder-coated grille, water-resistant woofer cone coating, and molded input cover shall be provided to allow IEC-60529 environmental rating of IP55, suitable for direct-exposure outdoor installation. The enclosure will incorporate eight (8) M12 threaded inserts for connection to array suspension accessories or installer-provided array frames, with two (2) additional M8 threaded inserts for connection to accessory U-brackets plus two (2) M6 threaded inserts for U-bracket pitch-lock connection. One M10 threaded insert will be provided on the enclosure rear panel for redundant safety cable attachment. The finish will be black (paintable). Input connectors shall be two (2) eight-terminal barrier strip connectors, with jumper settings that provide direct passive crossover, 70/100V transformer, or bi-amp operation. Loudspeaker dimensions (H × W × D) shall be 437 × 783 × 416 mm (17.2 × 30.8 × 16.4 in) and net weight shall be 36.3 kg (80.0 lb).

The outdoor-rated, 2-way, full-range array module loudspeaker shall be the ArenaMatch AM20.