ILA412

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

Each, three-way, full range line array element shall incorporate four (4), McCauley 8132 12" (305mm) diameter, 4" (102mm) dual voice coil LF transducers, four (4), McCauley 77087 8" (203mm), 2" (51mm) voice coil Midrange transducers, and six (6), McCauley 77069 2.0" (51mm) diaphragm, 1.0" (25.4mm) exit, HF compression drivers.

The high frequency transducers shall feed a high gain, slot loaded, waveguide optimized to reduce resonance modes. The waveguide shall be coupled to a combined midrange phase-plug and horn mouth assembly engineered such that the directivity is matched at the crossover frequency. The -6dB pattern when measured at 20m shall be 80° x 10°. The total vertical coverage pattern of an array will vary with the number of enclosures and curvature selected.

The 77087 8" Midrange transducers shall be mounted individually in a sealed chamber of such volume to have maximally flat output in their operating band from 250Hz – 1200Hz. The 77087 transducers shall be phase plug loaded to increase sensitivity and to match the directivity of the HF section in the crossover band. The 8132 12" LF transducers shall be mounted in a ported chamber tuned for a maximally flat output when a minimum of four (4) enclosures are used in an array. The 8132 transducers shall be manifold loaded to increase sensitivity in their operating band from 40Hz – 250Hz.

The unprocessed system frequency response shall vary no more than ±3 dB from 40 Hz to 18 kHz measured on axis. The LF section shall produce a Sound Pressure Level (SPL) of 105dBSPL at a distance of 1 meter with an electrical input of 2.83V, and shall be capable of producing a program output of 134 dBSPL on axis at 1 meter. The MF section shall produce an SPL of 104 dBSPL on axis at 1 meter with an electrical input of 2.83V, and shall be capable of producing a program output of 133 dBSPL on axis at 1 meter. The HF section shall produce an SPL of 109 dBSPL on axis at 1 meter with an electrical input of 2.83V, and shall be capable of producing a program output of 140 dBSPL on axis at 1 meter.

The LF section shall have a power rating of 2450W (per AES Standard AES2-2012) and shall have a nominal impedance of 4 Ω inside the operating band. The midrange section shall have a power rating of 800W and a nominal impedance of 8 Ω inside the operating band. The high frequency section shall have a power rating of 300W and a nominal impedance of 10 Ω inside the operating band.

The loudspeaker enclosure shall have a maximum weight of 230 lbs. (104.3 kg) and shall measure 20.0 in. (508mm) high at the front, 43.3 in. (1100mm) in width, and 26.0 in. (660mm) in depth. The enclosure top and bottom shall taper at 5° from a maximum frontal height, narrowing in the vertical plane toward the rear. The enclosure shall be constructed of multi-ply void-free birch hardwood plywood and shall have a weather and wear resistant ProCoat™ polyuria hybrid finish. Components in the front of the enclosure are to be protected by a compound-curved grill made from perforated steel that is coated with heat cured epoxy powder, and lined with acoustically transparent foam.

Input connectors shall be two locking Neutrik NL8 or Phoenix PC4 wired in parallel with 10 AWG wire. The connectors shall have a contact resistance of less than 3 mΩ, insulation rating of at least 250 Vrms, and rated continuous current rating of 20 A per contact. The lifetime of the connectors shall be at least 1000 mating cycles. The connectors shall meet or exceed UL flammability standards.

Pins 1+ ,1- , and 2+, 2- shall be wired to LF1 and LF2 8Ω sections. Pins 3+, 3- shall be wired to the 8Ω MF section, and Pins 4+, 4- shall be wired to the 10.5Ω HF section.

The three-way full range line array element shall be the McCauley Sound ILA412.