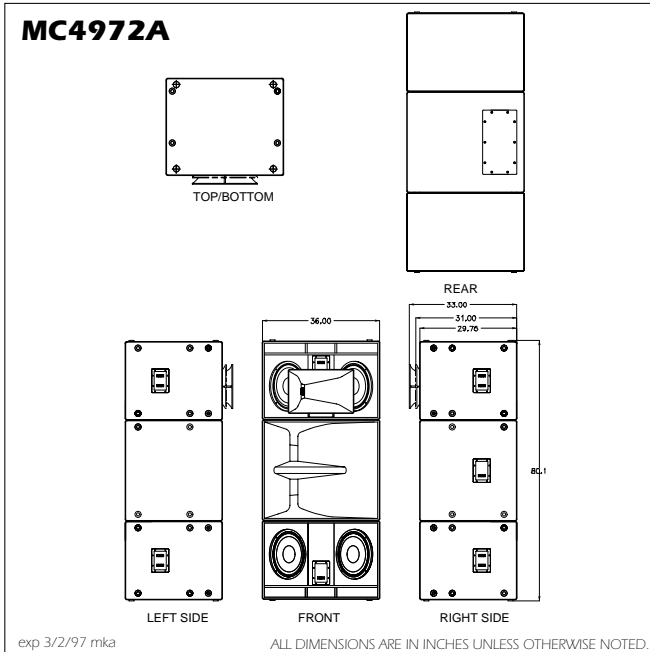


### PRODUCT INFORMATION



The MC4972A asymmetrical full-range stage/screen loudspeaker system brings the future of cinema audio – 3-way loudspeaker design – to the largest premier exhibition spaces. It is intended for use as a right- or left-channel loudspeaker in a three- or five-channel sound system.

Its asymmetrical mid and high frequency horns let the total loudspeaker system be placed flush to a back wall while still focusing its output to the audience area ensuring even coverage. The enclosures can be inverted to provide a right or left-handed angle.

This system provides extremely high output and must be powered by a minimum of three power amplifiers (tri-amplification).

The MC4972A combines many of EAW's breakthrough technologies including the mathematically correct mid/bass horn with phase/displacement plug, the Tuned Dipolar Array and the "short-throat" high frequency horn.

The three enclosure system includes two low frequency systems separated by a single mid frequency enclosure. The upper LF enclosure also houses the high frequency system.

Three-way design dramatically advances cinema audio quality by improving the naturalness and intelligibility of dialog, eliminating distortion from excessive driver excursion and extending pattern control into the lower octaves.

The low frequency subsystems employ slot loading of each 15-in driver pair to create Tuned Dipolar Arrays separated vertically to provide optimal LF pattern control at 300 Hz. Optimally tuned enclosure venting increases LF response while limiting driver excursion. This method produces less distortion and minimizes driver strain while extending LF response to the lowest octaves.

The MC4972's dedicated midrange frequency subsystem solves many of cinema audio's long standing problems. Moving crossover points out of the vocal region eliminates the acoustical anomalies which degrade the naturalness and intelligibility of dialog. EAW's complex, mathematically correct MF horn with phase plug drastically reduces the horn-throat cancellation distortion typical of two-way cinema loudspeakers. And by dividing the mid/high material between two horn-loaded subsystems, pattern control over the entire frequency range is enhanced.

The HF element - an HK294A asymmetrical HF system mounted within the upper LF enclosure - features a 2-in exit compression driver loaded with a short-throat 90° x 40° HF horn ensuring even distribution of HF information throughout the auditorium.

The high power input signals require the use of two-terminal barrier strip input connectors to create gas-tight connections, minimizing corrosion and maximizing signal transfer. The barrier strips accommodate bare wire, tinned leads or spade lugs. Each enclosure is provided with its own input connector. Input for the HF section is

(cont.)

# Technical Specifications MC4972A

located on the input panel of the enclosing LF system. The input panels are located on the sides of the enclosures for convenient access in cramped installation areas.

All external components feature a "dead" flat black finish to eliminate the reflection of light through perforated cinema screens.

## COMPONENTS & CONSTRUCTION

The MC4972A is a triamplified, three-way, very high-output, full range loudspeaker system composed of three asymmetrical enclosures. It is intended for use in behind-screen cinema applications. Two optimally vented LF enclosures (separated by the MF horn) each house dual slot-loaded 15-in woofers. Dual horn-loaded 10-in midrange drivers are housed in a separate MF enclosure. A 2-in exit compression driver loaded with a 90° x 40° constant directivity horn is mounted to the upper LF enclosure.

The system requires the use of a three band external active electronic crossover. Crossover between the LF and MF subsystems is recommended to be 350 Hz. Crossover between the MF and HF subsystems is recommended to be 1.8 kHz.

The high power input signals require the use of two-terminal barrier strip input connectors to create gas-tight connections, minimizing corrosion and maximizing signal transfer. The barrier strips accommodate bare wire, tinned leads or spade lugs. Each enclosure is provided with its own input connector. Input for the HF section is located on the input panel of the enclosing LF system. The input panels are located on the sides of the enclosures for convenient access in cramped installation areas.

The cabinet is constructed of 15mm void-free, 18-ply-to-the-inch, Baltic birch plywood. Extensive internal bracing is provided to minimize panel resonance resulting from the large acoustical energies generated within the enclosure. The enclosure and all external parts are coated with a flat black polyurethane finish.

The system includes four mounting points on each side of each enclosure for use with vertical stabilizing bars. The LF enclosures also include two additional mounting points on each side to accept optional acoustical baffles.

## PRELIMINARY INFORMATION

### DESCRIPTIVE DATA

|  |   |
|--|---|
| Part Number                                    | 999499                                    |
| LF Subsystem & Loading                         | 4 x 15" vented                            |
| MF Subsystem & Loading                         | 2 x 10" horn loaded                       |
| HF Subsystem & Loading                         | 1 x 2" exit compression driver on CD horn |
| Number of Audio Bands                          | 3-way                                     |
| Type of Audio Bands                            | Full Range                                |
| Powering Mode                                  | tri-amp                                   |
| System Crossover                               | active                                    |
| Controls (switches, knobs)                     | none                                      |
| Recommended High-Pass Frequency (24 dB/Octave) | 30 Hz                                     |
| Cabinet Type (shape)                           | rectangular                               |
| Enclosure Materials                            | 15mm Baltic Birch Plywood                 |
| Finish   | Flat Black                                |
| Connectors                                     | 4 x 2 terminal barrier strip              |

### NOMINAL DATA

|  |                        |
|--|------------------------|
| <b>Frequency Response (Hz)</b>                           |                        |
| ±3 db  | 35 Hz - 18 kHz         |
| <b>Efficiency / Axial Sensitivity (dB SPL/1 Watt/1m)</b> |                        |
| LF   | 101                    |
| MF   | 109                    |
| HF   | 112                    |
| <b>Impedance (Ohm)</b>                                   |                        |
| LF   | 2 x 4 Ohms             |
| MF   | 4                      |
| HF   | 12                     |
| <b>Power Handling (Watts)</b>                            |                        |
| LF AES Standard  | 3200                   |
| MF AES Standard  | 600                    |
| HF AES Standard  | 200                    |
| <b>Calculated Maximum Output (dB SPL)</b>                |                        |
| LF Peak  | 142.1                  |
| MF Peak  | 142.8                  |
| HF Peak  | 141.0                  |
| LF Long Term   | 136.1                  |
| MF Long Term   | 136.8                  |
| HF Long Term   | 135.0                  |
| <b>Nominal Coverage Angle / -6 dB points (degrees)</b>   |                        |
| Horizontal   | 90 (assymetrical)      |
| Vertical   | 40                     |
| <b>Recommended Complementary Systems</b>                 |                        |
| Sub  | SB184C, SB185C, SB284C |
| <b>Dimensions</b>  |                        |
| Height   | 80.13 in 2035 mm       |
| Width  | 36 in 914 mm           |
| Depth  | 30.5 in 775 mm         |
| <b>Weights</b>   |                        |
| Net Weight   | 525 lb 238.9 kg        |
| Shipping Weight  | 570 lb 259.4 kg        |

