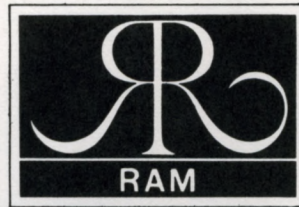


# **RAM 400**

## **Programme Monitoring System Manual**



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## System Design

The RAM 400 Programme Monitoring System is a state-of-the-art 3-way moving coil transducer designed to provide optimum stereo coherent imagery, superior transient response across the audio bandwidth, the virtual elimination of transient interference effects and significant reductions in all known forms of distortion and colouration modes.

A 330x225 mm low frequency unit, mounted in its own acoustically isolated chamber, reproduces bass frequencies with a remarkably analytic quality down to 30hz. Midrange frequencies between 375hz and 3500hz are handled by an advanced 130mm bextrene unit, while a butex-batyl damped 25mm soft dome high frequency unit extends the response smoothly beyond 22khz.

The carefully tailored filter network employs close tolerance, high stability components throughout and has been so designed as to feed the individual units with an optimum terminal voltage characteristic.

In order to make qualitative improvements in the art of spatial definition of programme information, extreme attention has been paid to the design and construction of the cabinet. Each drive unit is mounted in its own enclosure so as to avoid undesirable mechanical vibration coupling as well as allowing the units to be mounted in such a way as to provide correct time arrival compensation; each enclosure is raiused in order to prevent transient 'smearing' effects. The bass enclosure, constructed from selected birch-ply, is rigidly cross-braced and heavily damped with 12mm bituminous linings to inhibit the transmission of stored acoustical energy and reduce panel resonances well below the level of audibility. Similarly our research conclusively demonstrates that even in relatively small enclosures, such as those used for mounting the mid-range and high frequency units, heavy damping of the panel walls, again using 12mm bitumen slabs, is essential. Air-resonances in the mid-range and bass enclosures are controlled by using generous amounts of long-haired wool.

## Room Size

The RAM 400 Programme Monitoring System is suitable for almost any size of room up to 300 cubic metres. Unlike many loudspeaker systems whose bass performance can prove to be over-powering in small rooms, the RAM 400 is capable of clean bass even in rooms of 30 cubic metres.

## Amplifier Requirements

The RAM 400 can be safely used on normal programme material with amplifiers rated at up to 120 watts into 8 ohms. A minimum amplifier power of 15 watts is recommended.

## Phasing and Connections

Connection to the speakers is made via the speaker terminal tray located at the base of the speaker. Polarity is clearly indicated with the positive terminal displaying a + sign. A check on phasing may be simply carried out by placing the two speakers close together and playing a mono signal through both channels. If the phase is incorrect there will appear to be very little bass output. Reversing the connections to one of the speakers will then provide an obvious increase in perceived bass output.

It is strongly recommended that special low-loss speaker cables such as RAM 'Super Hook-up' be used in conjunction with the RAM 400.

## Speaker Placement

Optimum stereo perspective will be obtained by placing the speakers 8-16 feet apart. As the mid-range and high frequency enclosures may be rotated, it may be found that angling these enclosures inwards slightly enhances the solidity of the image.

Due to the fact that rooms exhibit resonances of their own it is advised that care be taken in positioning the speakers; try to avoid corners or alcoves as such situations tend to cause an exaggerated bass response. Siting the speakers approximately 9" away from adjacent walls will usually be found to provide the best results.

## Specification

Power Handling: 120 watts programme

Nominal Impedance: 8 ohms

Frequency response:  $\pm$  2db 50hz - 22 khz, measured at 1 metre on axis with HF unit.

Distortion: Less than 1% THD 100hz - 22khz.

Listening Window Adjustment: 60 degrees overall.

Cross-over frequencies: 375hz, 3500hz.