SPECIAL APPLICATION CONTROL MONITOR

SPECIAL APPLICATIONS DIVISION

IMF ELECTRONICS

The Special Application Control Monitor (SACM) is specifically intended as a reference standard for both laboratory and studio control-room application. It is ruthlessly accurate without any consideration or concession to the input signal. Rarely is a transducer found, either by measurement or subjective performance, that approaches the response achieved by this system. The unrivalled and balanced response is apparent from the lowest to the highest frequencies, with phase accuracy and dispersion that creates completely stable stereo imagery with exceptional depth.

The bass enclosure produces fast and accurate low frequency information, which only a true transmission line can do, employing our latest styrene and fibreglass-coned bass driver. The mid-range unit is completely isolated from the bass line, mounted in a wedge-shaped cabinet with minimal frontal area and non-parallel sides. This design avoids the problems associated with mid-range baffle effects, and also enables radiation from the rear of the mid-range unit to be absorbed very efficiently. The enclosure is filled with the latest acoustic damping and absorption materials. Internal bracing of both mid-range and bass enclosures ensures that spurious resonances are minimized which greatly contributes to the avoidance of colouration.

The tweeter and super-tweeter are effectively mounted in free air by a support bracket which allows small adjustments to the vertical polar pattern. The use of ferro-fluid increases the power handling of these units and permits a wide high frequency range with minimal distortion.

The dividing network printed-circuit board is housed at the rear of the mid-range enclosure and is provided with contour controls. Heavy audio cable is used externally to couple the crossover to the bass terminal posts. Low-loss multi-strand heavy copper cable is used for all internal wiring.

Although designed as an integrated loudspeaker system, the mid-range and tweeter assembly may be suspended and the bass enclosure placed remotely, if space or layout restrictions exist. This flexible configuration is provided specifically with studio control room conditions in mind, and permits the bass enclosure to be powered separately if desired.

A fuse can be fitted in series with the posititve lead to provide a degree of protection against accidental sustained overload, particularly applicable where very high power amplifiers are employed. A fuse value of 3 amps (fast blow) is suggested. Unfortunately, this provides no guarantee that the loudspeakers may not be damaged by transient overload before the fuse blows. Experience shows that under normal conditions of use for speech and music (not discotheque or public address), damage is usually caused by low-powered amplifiers overdriven into clipping; not by normal use with high power.

Two controls are incorporated in the circuit: a frequency response TILT control and a SLOPE adjustment. These controls act in conjunction with each other to determine the energy response between 300 Hz and 15 kHz. The TILT control in the "Rise" position causes a lift across these frequencies of about 1 dB whilst the "Fall" setting has the opposite effect. (See Figure 2). The SLOPE control affects the response in the 2 kHz region by ± 1 dB through the use of the "Add" and "Cut" settings. (See Figure 3). It functions at all positions of the TILT control and therefore a wide range of combinations are available. (See Figure 4). By operating the switches on low level random noise these functions can be audibly assessed. Each control setting is deliberately made fine and no configuration will impair the inherent smoothness and phase coherence of the loudspeakers.

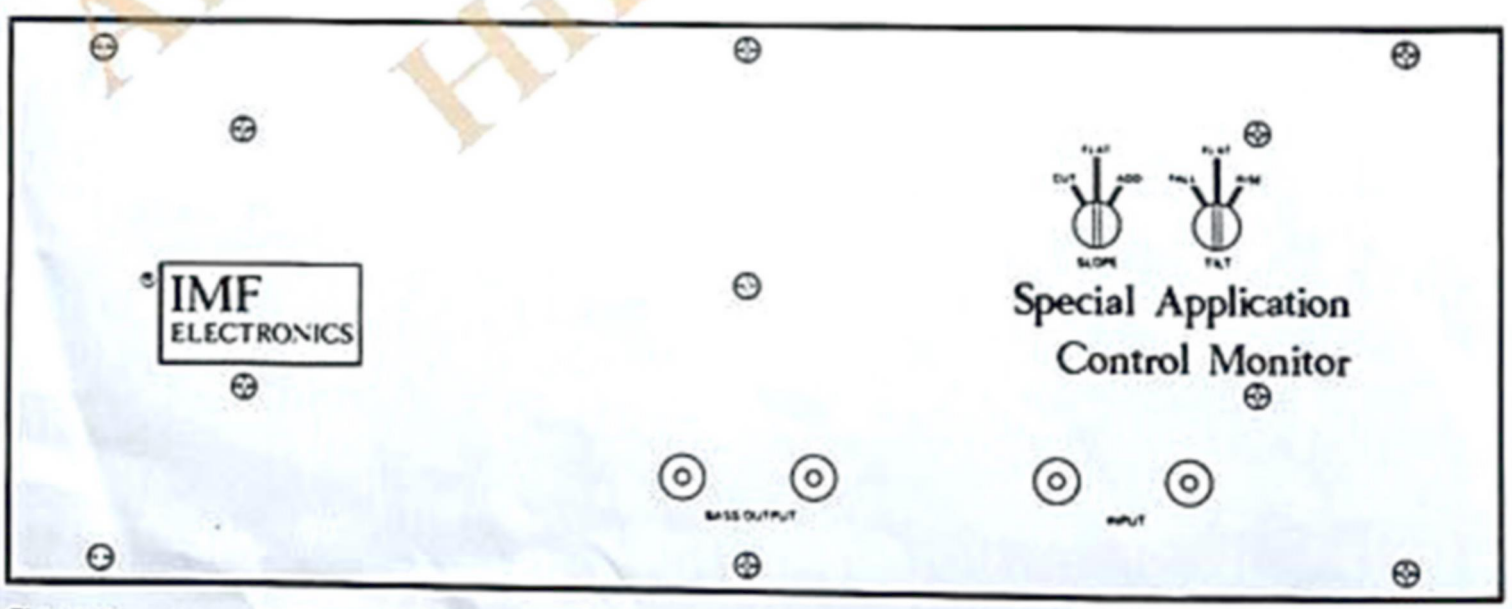

Figure 1

The speakers are supplied with these controls in their "Flat" settings which nominally provides the most uniform response under anechoic test conditions. This may not be optimum where room characteristics, positioning, the response of ancilliary equipment, or even personal preference could dictate different settings. For example, speakers situated near reflective surfaces may benefit from lowering the SLOPE control to "Cut", whilst for dry listening acoustics the preferred setting may be "Add." Use of the loudspeakers under conditions of high ambient noise, or in a bass heavy environment, may benefit from lifting the TILT control to "Rise", then making final adjustments with the SLOPE control.

Possible settings for quiet conditions would be to turn the TILT control to "Fall" and perhaps restore the treble energy by switching the SLOPE control to "Add". Such combinations would produce a marginally receded mid-range — a "loudness" contour that may be preferable at relatively lower listening levels.

It is important that neither of these two pre-set controls, TILT and SLOPE, are used as "tone controls." They provide only subtle forms of adjustment between laboratory settings and those ideal for the loudspeakers when at their location of use and connected to the equipment eventually driving them. Switching should be carried out at low volume settings. Subsequently it is only necessary to re-adjust the pre-set controls if either the location of the loudspeakers, or the equipment driving them, is significantly altered. Regular adjustments of balance that may be required between different programme material should be carried out with the amplifier controls.

The cabinets are supplied with stands, damping separators, brackets and interconnecting harness. They are veneered in the finest American Walnut including the baffle and rear surfaces. The veneer is carefully matched for all four enclosures that make up the system.

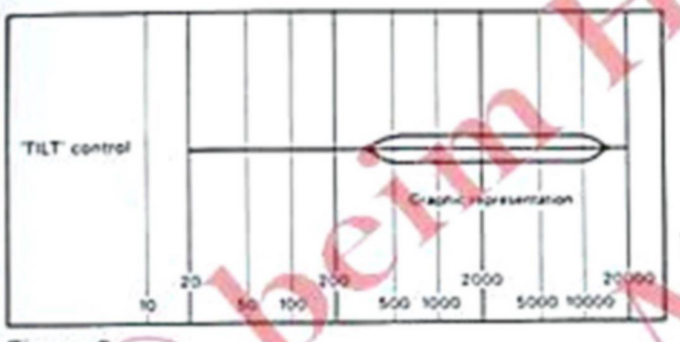

Figure 2

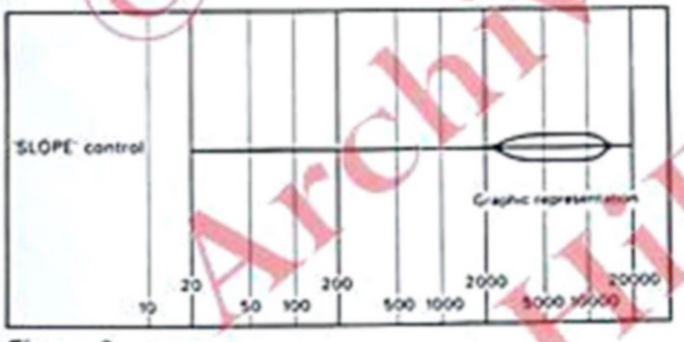

Figure 3

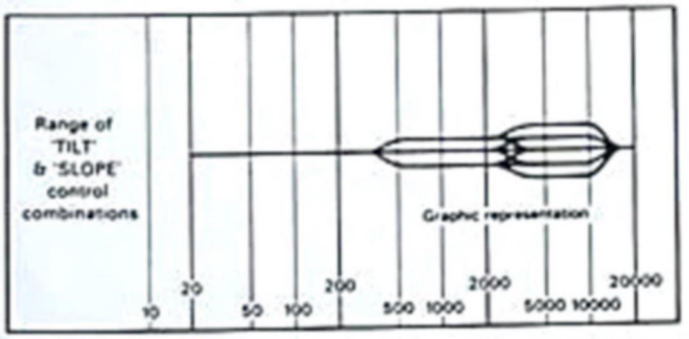

Figure 4

The Special Application Control Monitor (SACM) will be manufactured by our Special Applications Division only against specific orders.

IMF ELECTRONICS

SACM

SPECIFICATIONS

Dimensions:	1290 x 410 x 460 mm (50¼" x 16⅛" x 18¼") wide Overall height on stand 1410 mm (55½")
Drive Units:	300 x 210 mm (11¾" x 8¼") — styrene/fibreglass cone 130 mm (5") Mid-range — engineered polymer cone 45 mm (1¾") Tweeter — high gauss: ferro-fluid damped 20 mm (¾") H.F. Tweeter — chemical dome: ferro-fluid damped
Crossover Frequencies:	350 Hz, 3 kHz, and 13 kHz
Frequency Response:	17 Hz to 40 kHz
Efficiency:	Pink noise at 1 metre — 80 to 82 dB at 1 watt depending on control settings
Controls:	TILT and SLOPE Controls
Matching Impedance:	8 ohms nominal
Recommended Amplifier Power:	Not less that 50 watts per channel RMS
Net Weight:	100 Kgs (220 lbs) (pair with stands)
Gross Weight:	126 Kgs (277.2 lbs) (pair with stands)
Cabinet:	Heavily braced and deadened high-density epoxy saturated particle board. Internally veneered and finished externally with the finest American Walnut veneer.

Subject to alteration without notice

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