

# MANGER

P R E C I S I O N I N S O U N D



REFERENCE  
STUDIO MONITOR  
**MSM c 1**

# IT'S SIMPLY A QUESTION OF TIME

Extremely quick recognition or ponderous repetition? Our sense of hearing is not just the frequency analyser it is often described as. On the contrary we humans perceive and evaluate in a temporal sequence first of all the noises, the so-called transients and then the tones (repetitions, frequencies) of the music. Each natural tone is preceded by such a transient noise. These transients communicate to our sense of hearing the location of a sound source, e.g. where an instrument is located, and what type of sound source is involved, including its size. So that music, as a complex mixture of transients and tones, can be reproduced naturally, it needs an extremely fast sound transducer with precision operation.

The Manger sound transducer (MSW) operates using the principle of bending waves and is a broadband sound transducer that reproduces music and other sound events without any delay and without any energy-storing forces. The extremely fast rise time of less than 13µs and the broad frequency range of 80Hz – 40kHz allow extremely fast transients and highly complex musical structures to originate naturally from a single point source. A true spatial representation of the instruments and an extraordinarily trueness to detail in the resolution of the music are the result.

A fast drive is required to achieve the fast reaction time of 13µs. Our power amplifier for the MSW achieves a performance bandwidth of 250kHz, which is equivalent to a rise time of 2µs. This speed is necessary to ensure that the quality between the low-power signal (output mixing console) and high-power signal (output power amplifier) is maintained.

## A progression of ideas

A fast sound transducer, the corresponding power amplifiers and a bass unit for effortless reproduction of even the lowest octaves are certainly not the end of this development. We have thought of various adjustment features to make a sound engineer's life that much easier. These include room adaptation filters, near-field/cinema-screen EQ settings, and an input trimming stage controller, that can accurately set the two-channel or multi-channel equality to within a tenth of a dB. And that's not all: conveniently placed handles for transporting this 30 kilogram heavyweight, a perfect matching, movable stand, available in different heights, a dockable bass unit as an optional extra, a self-explanatory operating console with a clear layout, and finally an attractive design that is still mindful of the needs of the user.

### General Specs

Type	Amplified 2Way System
Frequency Range	30Hz - 40kHz
Crossover Frequency	330Hz
Maximum Output Level	110dB peak
Dimensions (H x W x D)	495 x 270 x 424mm
Weight	30kg

### Speaker Units

HF	Manger Sound Transducer, bandwidth 80 - 40kHz, risetime 13µs
LF	200mm fibreglass-Polyester sandwich cone, 38mm voice-coil
Enclosure	Sealed

### Amplification Unit

Maximum Output Power	LF: 250W at 80hms, 400W at 40hms (with optional LF-Module) HF: 180W at 80hms
Bandwidth	HF: 250kHz (-3dB)
Input Sensitivity	6dBu (1,55V) or 0dBu
Input Impedance	10kOhm
Controls	Input Trim switch: 11 positions (-2,5dB to 2,5dB) Input Sensitivity switch: 6dBu, 0dBu Polarity switch AV-Filter: High Pass Filter (80Hz, 12dB) LF-Module switch: LF -6dB Room Acoustics Correction switch: Highpass at 100Hz (+3dB, 0dB, -3dB, -6dB) Nearfield-/Cinema Screen Correction switch: Bell at 3,25kHz, 1,0oct. (+3dB, 0dB, -1,5dB, -3dB) High Frequency Trim switch: Shelv at 10kHz (+2dB, +1dB, 0dB, -1dB, -2dB)
Input Connector	XLR-3 (balanced)
Power Indicator	LED green
Limiter Indicator	LED green/red

### Accessories

MSM stand, moveable stand, standard height 86cm,
MSM lift, moveable and height adjustable stand, 76 - 106cm
MSMc1 LF-Module, woofer extension for larger rooms or higher SPL