

CORAL

PROFESSIONAL SERIES
DRIVER UNITS

M-103

*© beim Hersteller
Archiv Michael-Otto*



The M-103 compression driver unit has been developed for use with a monitor system or a high-quality public address system. It has an ultra-wide frequency response that ranges over five octaves from 500Hz to 18,000Hz. The allowable maximum input is an extremely high 100W (program source), which meets essential professional requirements. It is a top-quality unit that reproduces sounds ranging from the dynamic rich medium range to the clear sharp high range.

● DIAPHRAGM

A new rigid and lightweight alloy, composed of nine chemical substances—including aluminum, titan, and magnesium—has been successfully developed as the most ideal diaphragm material following experiments with regard to physical properties, mechanical vibration phenomena, and sound quality, that involved various materials, shapes, heat treatments, etc. The alloy is formed by a unique method that is free of local stress, and is completely hardened and aged in a superior 600°C±2° C electric furnace. The diaphragm thus produced is highly stabilized both physically and mechanically, and satisfies the vital requirements for a diaphragm, in which material and shape play an important role in acoustic reproduction.

● VOICE COIL

Newly developed high-conductivity aluminum alloy ribbon wire is wound edgewise to provide a higher air gap occupying ratio and conversion efficiency. All voice coils that are produced are thoroughly inspected by microscopes on the spot—and those in which even a single turn of winding is not to specification are rejected. The bobbin incorporates a polymer fiber which has a high rigidity that can withstand a large input and a high temperature of several hundred degrees.

● MAGNETIC CIRCUIT

A high magnetic flux density and a highly accurate air gap are required in order to obtain excellent transient characteristics, efficiency, amplitude linearity, and frequency response. Moreover, the plate is minutely polished to microns in a super-fine finishing process to ensure that a stabilized direct-current magnetic field is obtained.

● PHASING PLUG (WE-TYPE)

A phasing plug, comprised of double slits made of zinc diecast, is employed to permit the wide (500Hz~18,000Hz) frequency response range. The M-103 diaphragm is mounted in the rearmost section of the unit, and sounds are emitted in reverse to the normal direction. The sound waves emitted from the diaphragm are transmitted through the double slits of the phasing plug, which is accurately positioned inside the diaphragm, and reach the throat, located in the front of the unit, with no phase shifts. This is the most delicate and vital part of a driver unit and it affects the various characteristics of the unit. In the M-103, this part is precision-built for perfection by CORAL's outstanding engineering capability and exact calculations based on acoustic theories.

■ SECTORAL HORNS AH-500, AH-501 & AH-502

The Sectoral Horns have been developed for exclusive use with the M-103 and M-100.

The AH-500/M-103, AH-501/M-103 and AH-502/M-103 combination provides sound reproduction from 500Hz, 700Hz and 800Hz to super-high frequencies that greatly exceed the upper limits of the audible range.

■ INCORPORATING THE M-103 WITH HORNS OTHER THAN THE AH-500, AH-501, AH-502

Adaptors are available for mounting the M-103 in horns other than the AH-500. It should be remembered, however, that sound-wave radiation varies due to differences in the basic design of the acoustic lens or sectoral—as well as differences in the shape of the opening—even if the flare cut frequency of the horn is in conformance. For this reason, tones cannot always be in perfect conformity.

■ ADAPTOR AD-1

The M-103 can be connected with the following horns made by Altec Lansing by means of the AD-1 adaptor:

811B (sectoral horn) with a crossover frequency of 800Hz

511B (sectoral horn) with a crossover frequency of 500Hz

NOTE: J.B. Lansing horns can be directly connected with the M-103.

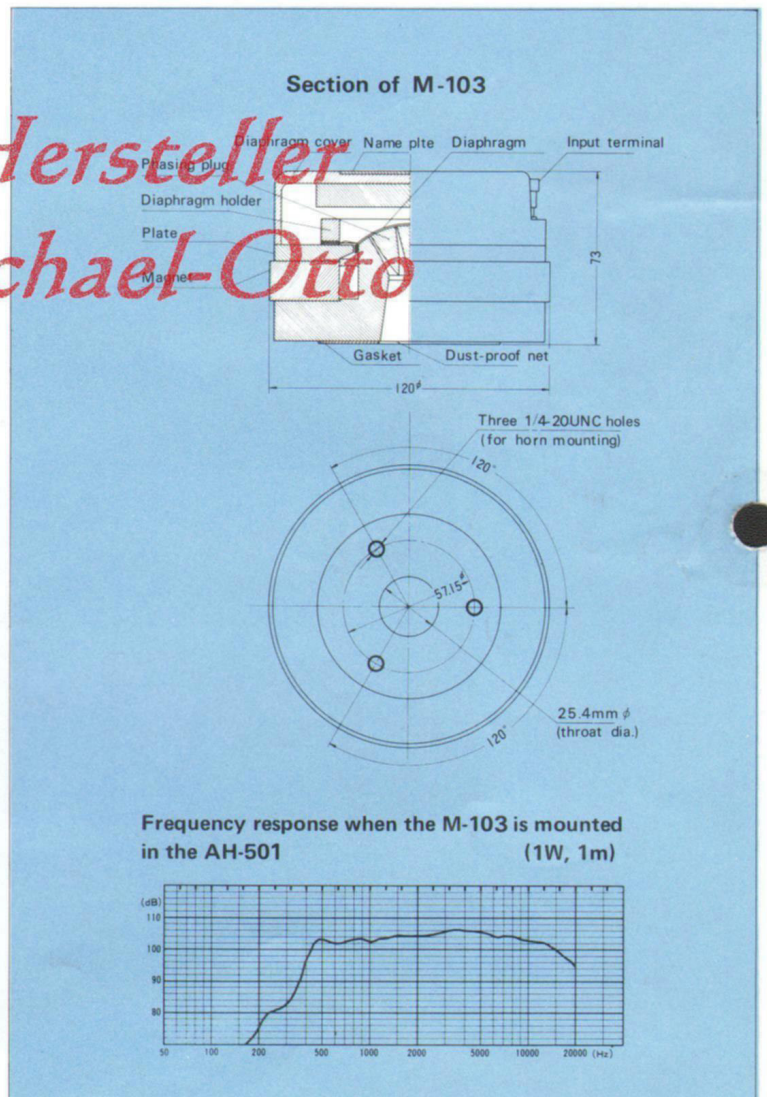
■ ADAPTOR AD-2

The throat portion, which is not easy to make by oneself, is available for those who like to make a horn to their liking. The AD-2 adaptor has a square outlet, from which the horn may be extended.

● M-103 SPECIFICATIONS

Frequency response	500Hz~18,000Hz
Impedance	8Ω, 16Ω
Rated input	30W RMS
Maximum input (music)	100W
Magnetic flux density	18,000 gauss
Throat diameter	25.4mm
Sound pressure (when mounted on AH-500)	104dB
Dimensions (Dia. x Depth)	120mm x 74mm
Weight	3.3kg

*© beim Hersteller
Archiv Michael-Otto*



CORAL AUDIO CORPORATION
1-1-6, Shibashimo, Kawaguchi-shi, Saitama-ken, Japan