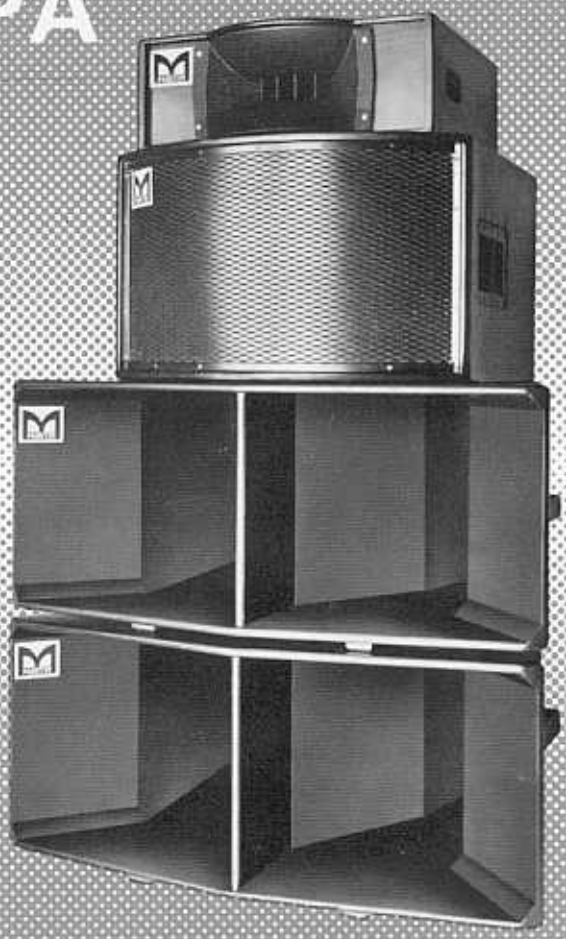
# MODULAR PA



## MODULAR PA

This is the standard Martin P.A. system, comprising two (2) 115 bass bins, one (1) MH212 mid horn, one (1) HF2M treble horn.

The system is normally used with a 3 way electronic crossover, operating at 250Hz and 1.5KHz, with a subsonic filter set to operate at frequencies below 35Hz. Assuming the use of a bass amplifier able to provide 500 watts continuous average sine wave power into 4 ohms at its clipping point, this system may be realistically specified at 800 watts input per channel, or 1600 watts for a stereo rig (bass—500 watts, mid—250 watts, treble—50 watts).

With large systems, there is the option of the 215 for bass. Up to sixty of these bins have been used per side for open air concerts. The 215 is a logical choice for a small, powerful system which can be flown in auditoriums for enhanced coverage of high balconies.

Because the system is modular, the bass bins can be grouped together, thus creating a composite bass bin of very large mouth area. Under these circumstances, low frequency efficiency is improved, and heavy bass can be generated below 50Hz. A cluster of bass bins will substantially outperform "all in one" full range cabinets.

The 115 and 215 bass bins, along with the MH212 mid horn have become established as the industry reference standard. Detail improvements have been made but the basic concept remains unaltered.

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# 115 BASS BIN

## 115 BASS BIN

The 115 Bin is a semi-folded horn of very high efficiency, designed to produce a solid and extended bass response from a single 15" drive unit.

Its distinctive shape is the result of a design approach requiring minimum enclosure, volume and weight consistent with optimum horn length.

The 115 will provide significantly greater low frequency output than conventional rectangular bins that have a short flare in front of the speaker—such bins tend to emphasize the upper bass frequencies whilst being deficient in low bass and consequently lack the bass 'punch' of the 115.

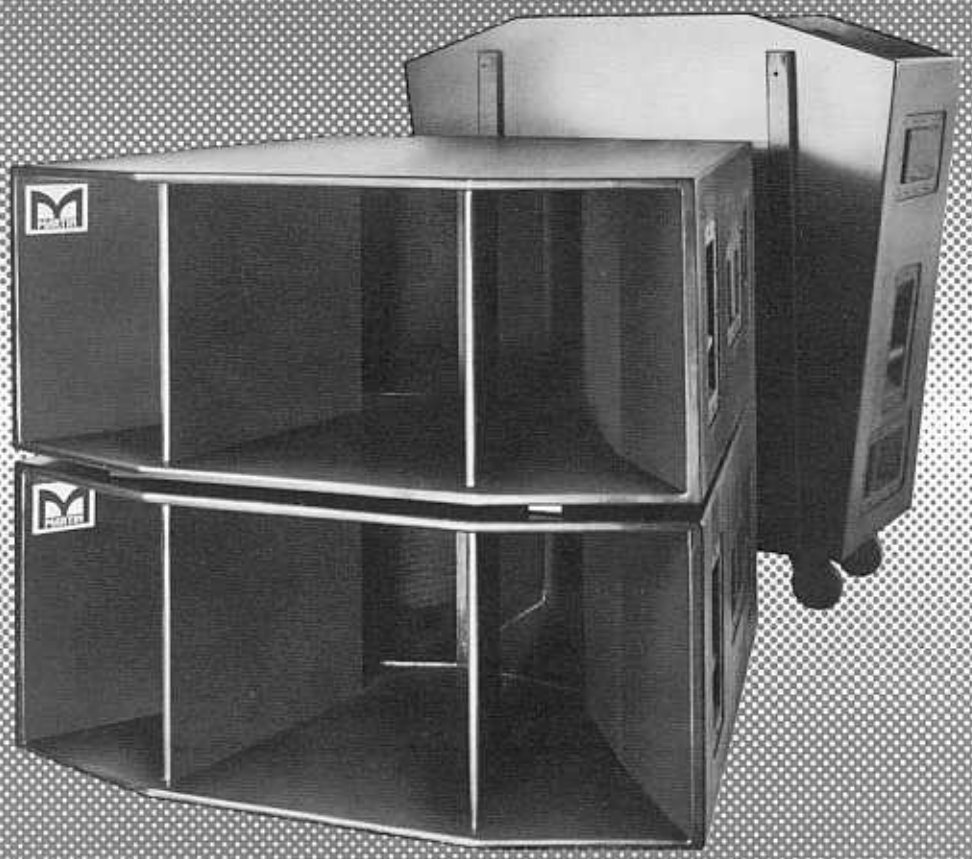
To ensure that no damaging D.C. input can be applied to the drive unit due to amplifier failure, the 115 is fitted internally with a specially manufactured D.C. protection capacitor.

Heavy duty castors and side handles make the 115 easy to transport and stack.

## SPECIFICATION

| | |
|---|---|
| Type: | Exponential Bass Horn |
| Frequency Range: | 40—1000Hz |
| Recommended Crossover Frequency: | 250Hz |
| Driver: | 1 x 38cm (15") unit, suitable for front mounting |
| Power Handling | Dependant on drivers and power amp rating. Nominal 250 watts in 8 ohms |
| Impedance | 8 ohm rated drivers fitted unless otherwise specified |
| Connector: | XLR female |
| Recommended Drivers | Martin B38, TAD TL-1601 |
| Alternative Drivers: | JBL E140<br>Gauss 4583A |
| Dimensions (max W x H x D) | 111 x 49 x 109cm<br>(44" x 19¼" x 43") |
| Weight | Unloaded —56Kg (124lbs)<br>With TAD Driver —67Kg (148lbs) |

# 215 BASS BIN



## 215 BASS BIN

Intended mainly for use in very large P.A. systems, the 215 is a high performance bass horn housing twin 15" drivers in a semi-forward facing configuration. Use of dual drivers in a bin of this size enables a very compact, powerful bass stack to be constructed since each bin will handle 500 watts, depending on the drivers used.

The tapered shape, deflector panels and curved mouth of the 215 will assist in the dispersion of upper bass frequencies.

To avoid costly damage to the drivers, each one is protected by a large non polarised electrolytic capacitor which blocks any D.C. voltage presented by the amplifier.

The 215 is fitted with four heavy swivel castors and a total of six recessed bar handles for ease of handling in either horizontal or vertical positions.

## SPECIFICATION

| | |
|---|---|
| Type: | Multicell Exponential Bass Horn |
| Frequency Range: | 35Hz—1KHz |
| Recommended Crossover Frequency: | 250Hz |
| Drivers: | 2 x 38cm (15") units, suitable for rear mounting |
| Power Handling | Dependant on drivers and power amp rating. Nominal 500 watts in 8 ohms |
| Impedance: | 8 ohm rated drivers fitted unless otherwise specified |
| Connectors: | 2 x XLR female, wired separately to individual drivers |
| Recommended Drivers: | Martin B38, TAD TL-1601 |
| Alternative Drivers: | JBL E140<br>Gauss 4583A |
| Dimensions (max W x H x D): | 110 x 46 x 117cm<br>(43½" x 18" x 46") |
| Weight | Unloaded —64Kg (150lb)<br>With TAD Drivers —84Kg (185lb) |

# MH 212 MID RANGE HORN

## MH212 MID RANGE HORN

The MH212 is a very sophisticated midrange radial horn of unique design, first introduced in 1976.

High handling power and efficiency are achieved by compression loading twin 12" high performance drive units into a 90° fibreglass horn. Exacting construction techniques ensure that the horn is non-resonant even at full power.

The very low distortion of the MH212 ensures smooth, uncoloured vocal projection at all power levels. Whilst its wide, dynamic range enables reproduction of explosive transients with ease.

The MH 212 is fitted with heavy duty castors and bar handles. A steel grille prevents damage to the horn and drivers.

## SPECIFICATION

| | |
|---|---|
| Horn Type: | Compound Exponential |
| Horn Mouth: | Radial 90° segment |
| Nominal Dispersion Pattern: | 90° horizontal, 40° vertical |
| Frequency Range: | 180Hz—2.5KHz |
| Recommended Crossover Points: | 250Hz, 1.5KHz |
| Impedance: | Adjustable 4, 6 or 8 ohms for optimising power transfer to selected amplifier (normally set to 6 ohms, internally adjustable) |
| Power Handling: | 250 watts, into selected impedance |
| D.C. Protection: | Crowbar Choke |
| Connector: | XLR Female |
| Dimensions (max W x H x D) | 77 x 46 x 91cm (30¼" x 18¼" 36") |
| Weight: | 70Kg (154lb) |

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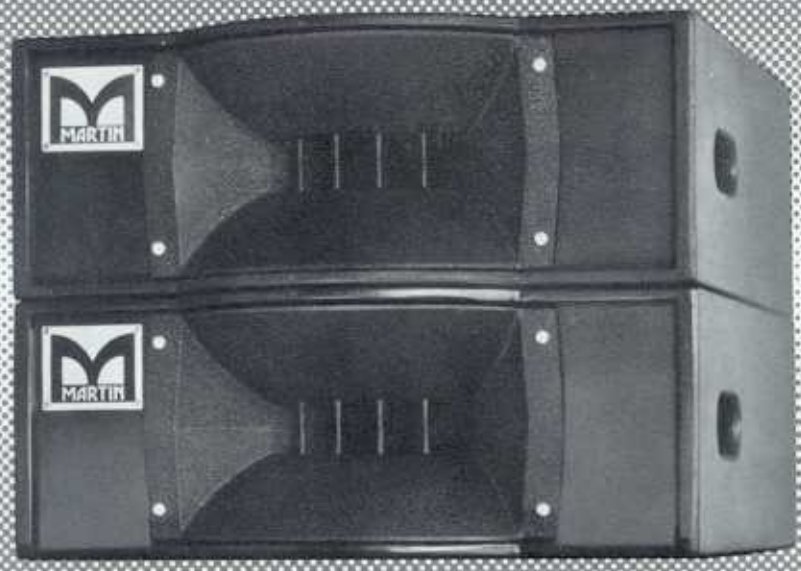
# HF2M HIGH FREQUENCY HORN




## HF2M

The HF2M is a high performance dispersive horn and driver package capable of producing extremely high sound levels with a clarity and smoothness not found in large conventional radial horns.

A power matching auto-transformer restricts driver input power to the manufacturer's rating, for extended driver life. A 12dB/octave high pass filter protects the driver from accidental application of low frequency input. This operates below 1Khz and does not cause interactive effects with the electronic crossover. Impedance compensation improves driver transient performance. Excellent reliability is assured, with none of the usual failure problems associated with metal diaphragm drivers.

## SPECIFICATION

| | |
|---|---|
| Horn Type: | Compound Exponential |
| High Frequency Dispersion: | Radial Vanes |
| Nominal Dispersion Pattern: | 90° horizontal, 40° vertical |
| Entry Diameter: | 50mm (2") 4 bolt flange |
| Driver: | JBL 2441 |
| Frequency Range: | 1KHz—18KHz |
| Recommended Crossover Frequency: | 1.5KHz |
| High Pass Filter: | —3dB at 1KHz, 12dB/octave |
| Input Impedance: | 22 ohms |
| Drive Power Input: | 50 watts average sinewave at 45 volts RMS input |
| Input Connector: | XLR female, linked to XLR male for connection to additional HF2M horns |
| Dimensions (max W x H x D) | 63.5 x 25 x 61cm (25" x 9" x 24") |
| Weight: | 28Kg (62lb) |
| Options: | (a) may be fitted with JBL 2482, 2440 or TAD 4001 drivers |

# ST4, ST2 TWEETER ARRAYS (not illustrated)

## ST4, ST2

Used to extend or enhance the high frequency performance of a P.A. system. Particularly useful when using drivers of limited high frequency ability, e.g. JBL 2440, but useful for enhancing top end when using JBL 2441 drivers.

Can be used passively by plugging into the super-tweeter outlet of the HF2M, or with an 8KHz electronic crossover and separate power amplifier.

It is available with either 4 or 2 supertweeters, mounted on an arc for even horizontal distribution.

## SPECIFICATION

| | |
|---|---|
| ST4: | 4 x JBL 2402 Bullet Tweeters |
| ST2: | 2 x JBL 2402 Bullet Tweeters |
| Frequency Range: | 7KHz—18KHz |
| Crossover: | —3dB at 7KHz, 12dB/octave high pass, other frequencicies to order |
| Dispersion | ST4—90° horizontal<br>30° vertical<br>ST2—60° horizontal<br>30° vertical |
| Rated Power | ST4—40 watts<br>ST2—20 watts |
| Dimensions (max W x H x D) (with protective lid in place) | 58 x 21 x 60cm<br>(23" x 8¼" x 23½") |
| Weight: | ST4—25Kg (57lb)<br>ST2—22Kg (48½lb) |

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