

TECHNICAL SPECIFICATIONS

TOTAL HARMONIC DISTORTION (THD+N):

Less than 0,05% at rated output power at 1 KHz into 4 Ω.

INTERMODULATION DISTORTION:

SMPTE: Less than 0,08% at 60Hz, 7KHz, 4:1 ratio into 4 Ω. at rated output power.
DIM-30: Less than 0,04% into 4 Ω.

INPUT SENSITIVITY:

Internally adjusted with jumper:
 Open jumper: 0 dBv (0.775 V).
 Closed jumper: +8dBv (1.95 V). At rated output power (4 Ω).

INPUT IMPEDANCE::

Balanced: 20KΩ. / Unbalanced: 10KΩ.

C.M.R.R.:

Greater than 70 dB, 20 Hz to 10 KHz.; 90 dB at 50 Hz.

DAMPING FACTOR:

Greater than 700 at 1KHz into 8 Ω.

HUM AND NOISE ("A" weighted):

Greater than 100 dB, 20Hz to 20KHz ref. full output.

FREQUENCY RESPONSE:

20 Hz to 20KHz (-0,5 dB).

OUTPUT SLEW RATE:

Limited by input TIM filter to 30 V/μs.
 Internally 60 V/μs.

CHANNEL SEPARATION:

Greater than 65 dB at 1KHz.

INPUT CONNECTORS PER CHANNEL:

MF8 - MF12	MF16 -MF24
XLR-3-31 Balanced.	XLR-3-31 Balanced.
Jack 1/4" Balanced.	XLR-3-32 Balanced.

OUTPUT CONNECTORS PER CHANNEL:

SPEAKON® and binding post.

INDICATORS:

CLIP LED (one per channel). / SIGNAL LED (one per channel).
 THERMAL LED (one per channel).
 ERROR LED (one per channel).
 ON/STBY LED (one per channel). / BRIDGE LED.

COOLING:

Forced air by continuously variable speed fan.
 Front to back cooling.

PROTECTIONS:

Electronic against short-circuit and open circuit. / Thermal against heatsink and mains transformer overheating.
 DC out by CROW BAR. / Magnetic circuit breaker (only MF16 and MF24).
 Delayed switch on / Inrush transient / Input overvoltage.

OUTPUT POWER IN WATTS:

(RMS, 1 KHz, THD < 0,1%) [1 KHz, THD < 1%]

Stereo mode

(both channel driven)

Bridge mode:

Dynamic power

(EIA RS-490, both channel driven):

POWER SUPPLY:

POWER REQUIREMENTS:

NET/SHIPPING WEIGHT:

DIMENSIONS:

RACK MOUNT:

	MF8	MF12	MF16	MF24
115/230 V. +10%, -30%. 50/60 Hz.			230 V. + 10%, 30%, 50/60 Hz. (115 Volt special order)	
1500 V.A.	2000 V.A.	3000 V.A.	4000 V.A.	
16Kg/20Kg.	17Kg/21Kg.	29Kg/33Kg.	30Kg/34Kg.	
483x89x384 m/m (19"x2u.).		483x133x384 m/m (19"x3 u.).		
450 m/m with input XLR connectors.				

*SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PREVIOUS NOTICE



PROFESSIONAL POWER AMPLIFIERS



EQUIPOS EUROPEOS ELECTRONICOS, S.A.L.

Avda. de la Industria, 50. 28760 TRES CANTOS

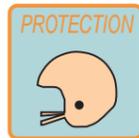
MADRID - SPAIN

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DISTRIBUIDO POR



MOS FET POWER AMPLIFIERS



PROTECTION: Incorporates multiple protection: Switch On/Off transients, delayed inrush current, DC output current, short and open circuit, overheating in the output stage and power supply.



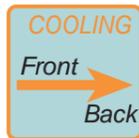
SPEAKON: Besides a 4 m/m diameter twin binding post per channel, (normalized according to EN-60065), amps incorporate SPEAKON® connectors for their high connection capacity and very extended use.



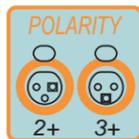
BALANCED: Equipped with electronic balanced input circuits for noise immunity in long wiring set-ups.



2 Ω: MF Series power amplifiers are prepared to work in low impedance conditions, down to 2Ω loads.



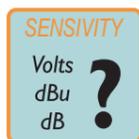
COOLING: Heat evacuation is guaranteed by temperature dependent high flow fan operation (front to back servo assisted fan circuits).



POLARITY: An inboard switch is included, in order to select the input polarity. Although the A.E.S organization recommends 2+norm, at present time, an important percentage of sound equipment is wired with 3+polarity.



H CLASS: The MF24, (highest power of the Series), incorporates H class configuration output stages for improved amplifier and power supply efficiency, offering as a result an increase in power and a reduction in weight.



SENSITIVITY: Through internal adjustments on the input module board, several input sensitivities can be selected, in order to adapt the amp to the rest of the equipment.



CLIPPING CIRCUIT LIMITER

Since most of the damage caused to loudspeakers, and even in the power amplifiers, is normally the result of the permanence of the power unit during long periods of time in clipping, it is necessary to have limiter mechanisms that assure their reliable operation.

For this purpose, all the MF series power amplifiers has a "soft-clipping" circuit that acts on the output power by comparing the input and output signals. Once it detects a distortion or other noticeable cut, it stabilizes the integrity of the output signal thereby avoiding overloading and saturation levels than might damage the system.

MULTIPLE PROTECTION

As global protection, the amps incorporate switch-on devices including magnetic circuit breaker (models MF16 and MF24). These switches, located at the front panel substitute to the old fuses with clear advantages: they hold their own curve indefinitely, it that is unchanged with the temperature, show the shooting by means of the lever state and avoids locating and substitute the typical blown fuse.

DC output protection has been improved with the incorporation of CROW-BAR circuits or solid state relays. The conventional relays incorporate contacts associated with electromechanical elements that with the time are subject to failures. This is no longer possible with the solid state devices. Guiding directly the power transistors output to the loudspeakers binding post has improved several characteristics of the signal quality, the damping factor and the global reliability.

Equally, the conventional thermal switches (based on contacts and bimetals) on the power modules has been substituted by solid state sensors whose information completes the double condition of speed fan control and shoot-down the thermal protection circuits.

The power supply transformer is protected also against excessive heating, disconnecting both inputs until their normal temperature of operation is reached.

All the protection situations are displayed in the power amplifier front panel.

Our broad experience in the design and manufacture of high power amplifiers culminate with the introduction of the new MF Series, our most recent generation of amplifiers



INPUT CONNECTIONS FLEXIBILITY

The amps are fitted with an input system configured as a panel that integrates two male-female XLR connectors per channel and a mode switch. (A female XLR + Jack in the models MF8 / MF12 on the chassis structure).

By means of this system, the polarity and the sensitivity of the power amplifier can be changed in order to allow its integration in any sound system. This segregation of the elements around the input signal area opens the possibility of incorporating with ease, remote control circuits and crossovers, as well as simplifies maintenance work.

MONOBLOCK CHASSIS

The chassis frame is built around a single piece: the efforts of the different sub-assemblies fall on an only piece of welded laminated great thickness steel and reinforced toward their union to the rack wings. As a result, this rugged construction can withstand all the abuse encountered by touring sound systems.

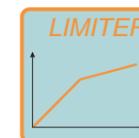
OUTPUT POWER in Watts RMS 1KHz, THD+N 0,1% [1KHz, THD+N 1%]

MODEL	Stereo Mode (per channel)			Bridge Mode				Stereo Mode 70,7 V
	8 Ω	4 Ω	2Ω	8 Ω	4 Ω	70,7 V	100 V	
MF 8	240	400	500	800	1000	700	---	---
MF 12	360	600	750	1200	1500	---	1200	---
MF 16	480	800	[1050]	1600	[2100]	---	---	---
MF 24	720	1200	[1500]	2400	[3000]	---	---	2x1200

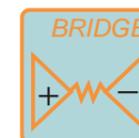


UNDER CONTROL

The conception of the new loudspeakers, especially for low frequency applications is based on that the amplifiers that govern them behave as ideal voltage amplifiers, or with zero output impedance. The MF series approaches to this nearly zero value presenting a damping factor better than 700 what redounds in a perfect control of the position of the voice coils along all their excursion.



LIMITER: Limiter circuits with fixed threshold. These limiters will lengthen notably loudspeakers and power amplifier's life without appreciable deterioration of sound quality.



BRIDGE: The BRIDGE configuration is for PUBLIC ADDRESS applications and in order to adapt the power amplifier to certain load conditions.



MOS-FET: All MF Series amplifiers incorporate MOS-FET technology power transistors with LATERAL geometry. These devices assure high reliability and maximum sound quality.