



MUSTANG COMMUNICATIONS LTD

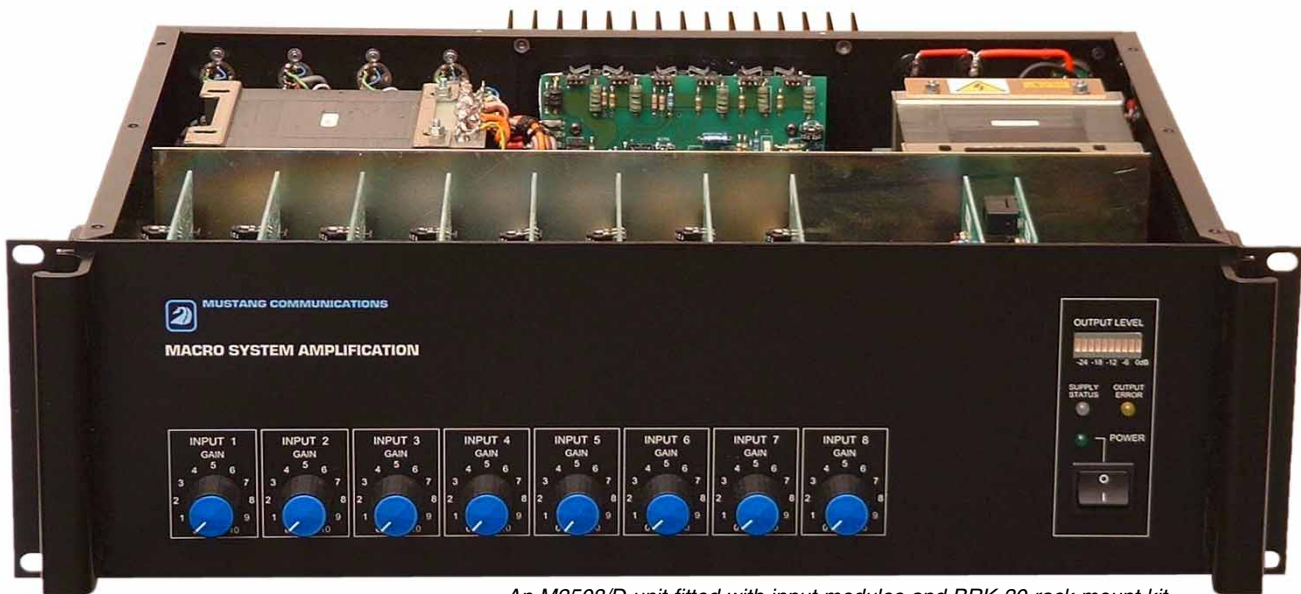
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MACRO SYSTEM AMPLIFIERS & MIXERS



An M2508/D unit fitted with input modules and BRK-30 rack mount kit

The Mustang **MACRO** system encompasses a comprehensive range of both AC and AC/DC powered amplifier, zone control, surveillance, and alarm units, designed for use by the emergency services or in high integrity communications and alarm systems. Equipment is manufactured to the highest standards of electronic and mechanical performance, and with Quality Assurance procedures to ISO.9002. Systems may be configured using standard **MACRO** units and allied equipment to meet the requirements of BS.5839 and BS.7443.

MACRO amplification is intended for installations associated with voice-alarm, life safety, security and alarm, and multiple priorities, and is therefore ideally suited to large public buildings, industrial sites, security and emergency service buildings, larger entertainment and leisure venues, and retail outlets.

Use of the finest electronic and mechanical components ensures a long and maintenance-free life, dramatically reducing the long-term 'cost of ownership'.

MAIN FEATURES

- Robust output circuit block with massive convection cooled heatsink for supreme reliability. No fan cooling
- Choice of 100 Watt or 250 Watt variants
- Choice of AC or AC/DC powered units
- Accommodation for up to 8 plug-in input modules with associated ladder or equal access priority chain, or conventional mixing
- Full range of module specifications to meet all system requirements, including pre-amp, tones, and chimes, etc.
- Complementary matching slave and mixer units
- Standard 0dB input/output access points system expansion.
- Priority controlled DC current sink on each input, to operate zone relays/busy lamps, etc.
- Laced cableforms throughout
- Tough powder coated steel construction with charcoal and royal blue colour scheme
- Generous power and output transformers provide effortless performance.
- Stabilised mixer supply and full reporting of AC and DC PSU status
- Battery charge facility on AC/DC powered amplifiers
- Fully cased. Standard 3U rack mounting by optional mount kit
- Full electronic protection and silent switch-on
- Robust locking DIN connectors
- 24V DC output to operate remote relays, lamps, or remote pre-amplifiers, etc.
- Removable control knobs and control spindles to deter tampering
- Output level indication by discrete LED ladder

MACRO SYSTEM AMPLIFIERS & MIXERS

TECHNICAL SPECIFICATION

DATA SHEET DS20-02

	M8/MD	M1008	M1008/D	M2508	M2508/D	M100/S	M100/SD	M250/S	M250/SD
Format	8 input mixer	8 input mixer-amplifier				slave amplifier			
Power requirement	AC & DC	AC	AC & DC	AC	AC & DC	AC	AC & DC	AC	AC & DC
AC/DC power relationship	Instantly powered by DC supply when AC fails, and reverts automatically. No glitch. Tri-colour fascia LED displays the supply status								
Power output. (RMS Continuous sine wave rated)	-	100 Watts RMS		250 Watts RMS		100 Watts RMS		250 Watts RMS	
Output matching	-	100V centre-tapped floating and 50V							
Output circuitry	-	Detachable, fully serviceable output circuit assembly							
Output protection	-	AC & DC fuses; overload detection with instantaneous electronic output clamp with auto-reset and error lamp							
Input module capacity	Any combination of up to 8 modules selected from list below					Fixed unbalanced 0dB input - no module			
Priority chain	Each input module can be assigned to ladder or equal access (lock-out) or any combination. Certain modules may be set for passive non-priority operation					-			
Slave output/input	0dB output (0.775V @ 600 ohms)	0dB output from mixer (0.775V @ 600 ohms) & 0.775V @ 10k input to amplifier section				0.775V @ 22k input			
Auxiliary outputs	DC priority current sinks -250mA; "Any" sink -250mA; 100V line centre-tapped; Chime status sink -250mA; +24V DC Auxiliary. All via 25pin D female panel connector (mating connector supplied)					100V line centre-tapped; +24VDC Auxiliary. All via 25pin D female panel connector (mating connector supplied)			
Fault detection outputs	AC supply failure by volt-free opening contacts; (DC supply failure by volt-free opening contacts;) (amplifier output module fail/error by 50mA current sink)								
User controls	Individual input gain controls; power on-off					Power on-off			
Other internal adjustments	Master gain; priority chain selection switches; module adjustments					-			
Power section - frequency response	-	-3dB @ 30Hz and 21kHz; low impedance ref 1kHz; -3dB @ 30Hz and 18kHz 100V output ref 1kHz							
Power section S/N ratio	-	Better than 95dB							
Power section T.H.D.	-	Typically 0.5% - 100V @ rated output							
100V line regulation	-	Better than 1.0dB @1kHz							
100V Power output	-	Terminal block to take 6mm ² flexibles							
Treble & bass adjustment	± 12dB @ 100Hz and 10kHz ref 1kHz (internal adjustments)					-			
Input connectors	Locking DIN 5 pin 180° (not supplied). Mustang part No. 5-180								
Auxiliary DC output	+24V DC unregulated (via Aux D connector), for use with current sinks, external accessories, etc. Fused internally F1A x 20mm. May surge to +35V when AC powered and off load.								
AC supply requirement (230V 50/60Hz)	10VA - 15VA dependent upon modules fitted; 40VA if Aux DC fully used	25VA quiescent and 300VA fully loaded/driven. Limits: +5%,-15%		25VA quiescent and 700VA fully loaded/driven. Limits: +5%,-15%		25VA quiescent and 300VA fully loaded/driven. Limits: +5%,-15%		25VA quiescent and 700VA fully loaded/driven. Limits: +5%,-15%	
AC connector	Standard 3-pin 6A IEC (cableset supplied)								
24V DC supply requirement - maximum when fully loaded and fully driven by sine wave	50mA-250mA dependent on modules fitted. Add 1A if Aux DC fully used	300-500mA quiescent (depending on modules); 6A max		300-500mA quiescent (depending on modules); 18A max		250mA quiescent; 6A fully max		250mA quiescent; 18A max	
DC inrush current	Minimal	-	1A 100mS	-	1A 100mS	-	1A 100mS	-	1A 100mS
DC connector	MIL 97 (supplied)	-	MIL 97 (supplied)	-	MIL 97 (supplied)	-	MIL 97 (supplied)	-	MIL 97 (supplied)
Battery charge facility	Not featured		Max 1.5A: Pulsed trickle charge. 0.5 sec. ON-OFF. Not intended for BS.5839 or BS.7443. Selectable on-off						
Indicators	10x 3dB segment output bargraph display; AC & DC supply status; power 'on' LED; (amplifier 'output error' condition)								
Other features	** Removable control knobs - blanking plugs supplied ** Power switch isolates both AC poles and DC+ ** 2.5 seconds silent switch-on delay ** Regulated supply for input modules ** Optional extra rack mount bracket kit - BRK-30 with pull handles								
Net Weight (Gross +1.5Kg)	6kg excluding modules	16kg excluding modules	19kg excluding modules	15kg	18kg				
Dimensions	432 x 133 x 370mm (WxHxD) including heatsink; add 20mm at front for controls or 30mm for rack mount handles. Add 40mm extra at rear to accommodate connectors & cables. Add 4mm for removable feet. Shipping: 540 x 225 x 470mm. Volume 0.057cu.M								

MODULE RANGE

MODULE	FUNCTION	MAIN FEATURES
M240	Microphone module – transformer balanced	100uV - 100mV sensitivity, phantom supply on-off, bass cut
M260	Microphone module – transformer balanced with three-tone chime	100uV - 100mV sensitivity, phantom supply on-off, bass cut
M280	Microphone module – transformer balanced – Voice operated priority	100uV - 100mV sensitivity, phantom supply on-off, bass cut
L240	Line input – transformer balanced	50mV - 100V sensitivity @ 10k-100k load; 600ohm terminator, bass cut
L270	Line input – transformer balanced, with three-tone chime	50mV - 100V sensitivity @ 10k-100k load; 600ohm terminator, bass cut
L300	Line input – transformer balanced – with Audio operated priority	50mV - 100V sensitivity @ 10k-100k load; 600ohm terminator, bass cut
L330	Unbalanced line input	50mV - 775mV @ 4k7
L340	Unbalanced line input with three-tone chime	50mV - 775mV @ 4k7
E260	Phono input. RIAA equalised	magnetic and ceramic
T260	Repeating gong generator	fully adjustable pitch, timer, memory
T270	Multi-function tone generator	10 various tones, with pitch, memory, timer and and rate adjustments, etc
T300	Trimphone tone generator	adjustable pitch, momentary trigger
T320	Three-tone chime repeating generator	fully adjustable pitch, timer, memory

QUALITY ASSURANCE

Guided by a policy of non-obsolescence, every part for the **MACRO** range of amplification is carefully manufactured direct from raw materials to ensure total control of all aspects of quality and delivery. Every sub-assembly and finished amplifier is exhaustively and individually tested.

All procedures meet our internal Quality Assurance standards, which in turn are maintained to ISO.9002.

CONTACT

We will be pleased to receive enquiries regarding application of the **MACRO** range, either by phone, fax, or email.

In the interests of continuous development, specifications are subject to change without notice. E & OE.
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Electromagnetic compatibility (EMC) directive 89/336/EEC and amendment directive 92/31/EEC
This equipment has been designed and manufactured to the highest standards. If connected and operated as set out in this manual, there should be no Electromagnetic Compatibility problems. If any aspect of operation gives rise to concern, then please contact the manufacturer for advice.