



DATA SHEET DS24-02

MUSTANG COMMUNICATIONS LTD

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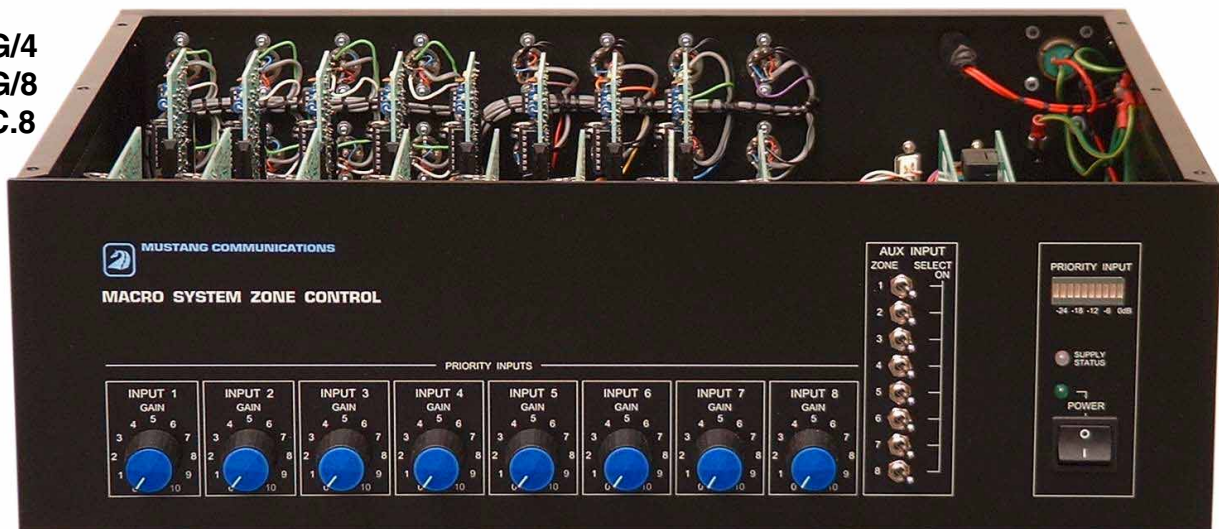
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MACRO SYSTEM ZONE CONTROLS

ZG/4
ZG/8
ZC.8



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 ZG group controllers units combine an input priority chain with multiple zoned priority outputs which may be addressed individually or in groups, resulting in highly versatile signal routing. ZG and ZC units together with appropriate **MACRO** amplification are intended for installations associated with voice-alarm, life safety, security and alarm, and multiple priorities, and 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

- Choice of 4 or 8 output zones
- Output zones may be controlled individually or in groups by simple configuration
- 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.
- Standard 0dB input/output access points for system expansion.
- Priorities per output zone for Auxiliary (music) bus
- Auxiliary(music) bus available to any output zone by fascia control switch
- Internal surveillance tone injection
- Transformer balanced output option (extra)
- Units may be daisy-chained or slaved
- Priority controlled DC current sink on each input, to operate zone relays/busy lamps, etc.
- Laced cableforms throughout
- Stabilised mixer supply and full reporting of AC and DC PSU status
- Tough powder coated steel construction with charcoal and royal blue colour scheme
- Fully cased. Standard 3U rack mounting by optional mount kit
- Robust locking DIN connectors
- 24V DC output to operate remote relays, lamps, etc.
- Removable control knobs and spindles to deter tampering
- Output level indication by discrete LED ladder

MACRO SYSTEM ZONE CONTROLS

TECHNICAL SPECIFICATION

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	ZG/4	ZG/8
INPUT SECTION		
Input channels	Up to 8 standard MACRO input modules - see rear cover	
Input sensitivities/equalisation	Dependent upon input modules fitted - see separate datasheet	
Priority chain	Each input module can be assigned to ladder or equal access (lock out) in any combination or sequence. Certain modules may be set for passive non-priority operation.	
Input priority access	Connect control to 0V, where applicable, to seek access per input. 10k load from +15V.	
Control outputs	250mA current sink from each priority input module upon access, continuous rated. 250mA current sink upon 'ANY' module, continuous rated. Maximum total current from sink circuitry 500mA continuous	
Auxiliary output connector	25 pin female D panel connector. Carries:- All Control Output functions - see above; general purpose 0V; Auxiliary +24VDC output - see below. Chime Duration Monitor sink (250mA max load); AC/DC supply fail contact outputs.	
Internal adjustments	Standard input module features: See separate datasheet Treble & bass adjustment: ±12dB @ 100Hz and 10kHz ref 1kHz. Master gain: Zero to unity	
Audio output	Single 0dB (775mV) unbalanced - internally linked to output section. Access at Mixer Facility socket	
OUTPUT SECTION		
Priority audio input	Single source 0dB (adjustable per zone 100mV-775mV) @ nom 4k7 unbalanced - internally linked to input section. Access at Mixer Facility socket	
Auxiliary Audio input level	Single source 0dB (adjustable per zone 100mV-775mV) @ nom 4k7 unbalanced - routed to each output zone via front selector switches	
Auxiliary input freq. Response	20Hz - 20kHz ± 3dB ref 1kHz.	
Audio outputs	4 zone @ 0dB (775mV) 600 ohms unbalanced. Factory option - balanced floating output transformer	8 zone @ 0dB (775mV) 600 ohms unbalanced. Factory option - balanced floating output transformer
Output zone selection	4 groups of up to 4 pre-selected zones per group, and 'all zones'	8 groups of up to 8 pre-selected zones per group, and 'all zones'
Output priority	One priority access to each zone: One common non-priority (Aux) signal to each zone	
Output zone priority access	Connect control to 0V to seek access to a zone. 47k load from +15V.	
Control outputs	Current sink from each accessed output zone. 250mA continuous rating, from sources up to +40V. Routed through corresponding Zone Audio Output connectors.	
Auxiliary input connector	25 pin male D panel connector. Carries all Output Zone priority access control inputs - see above. General purpose 0V; Auxiliary +24VDC output - see below.	
Surveillance	Surveillance tone injection circuit for loudspeaker line monitoring applications. This facility necessitates the use of an appropriate surveillance detection system such as the MACRO SL/10	
Internal adjustments	Each output zone - priority signal sensitivity, and Auxiliary signal sensitivity; 20dB adjustments. Overall surveillance tone injection level - factory set.	
User controls	8 fascia input gain controls; 4(8) auxiliary signal selector switches; power switch	
Audio connectors	Locking DIN 5 pin 180° (not supplied). Mustang part No. 5-180	
Auxiliary DC output	+24VDC unregulated - maximum 1Amp, for use with current sinks, etc. Fused internally F1A. May surge to +35V when AC powered and off load.	
Power requirements	220-240V AC 50-60Hz, 2-5VA. or 22-28V DC. @ 100-250mA (module dependent). Automatic changeover to DC powering when AC fails, and automatic restore to AC. Use of Aux DC supply output will increase the consumption accordingly.	
Power connectors	Standard 3-pin 6A IEC for AC (supplied); MIL 97 for DC (supplied)	
Indicators	10 x 3dB segment output bargraph display monitoring the single output of the input section; AC & DC supply status; Power 'On' LED	
Alarm outputs	AC and DC supply failure - individual changeover contacts: 1A 50VDC non inductive. Contacts open when unpowered. Contacts closed when powered and systems OK	
Other features	** Removable knobs to prevent unauthorised adjustments. ** Power switch isolates AC and DC ** Regulated power supplies ** Optional extra rack mount bracket kit - BRK-30 with pull handles	
Net weight	7.0kg	7.2kg
Shipping weight	8.5kg	8.7kg
Dimensions	432 x 133 x 345mm (WxHxD); add 20mm at front for controls or 30mm for rack mount handles. Add 65mm extra at the rear to accommodate connectors and cables. Add 4mm for removable feet. Shipping dimension 540 x 225 x 470mm. Volume 0.057cu.M	

ZC.8

This unit is similar in concept to the ZG/4 - ZG/8 control units but features a single priority input at 0dB level selectable to any of the 8 output buffers. These are accessed as a result of remote selection of any of the 8 dedicated control line inputs. An auxiliary, non-priority input signal is routed to output buffers selected by front panel switches and maintained unless a priority signal is transmitted to those specific zones. The primary application for the ZC.8 is to act as a 'slave' unit to the ZG/8 to increase the number of zones available to a system.



ZC.8 unit fitted with BRK-30 rack mount kit

TECHNICAL SPECIFICATION

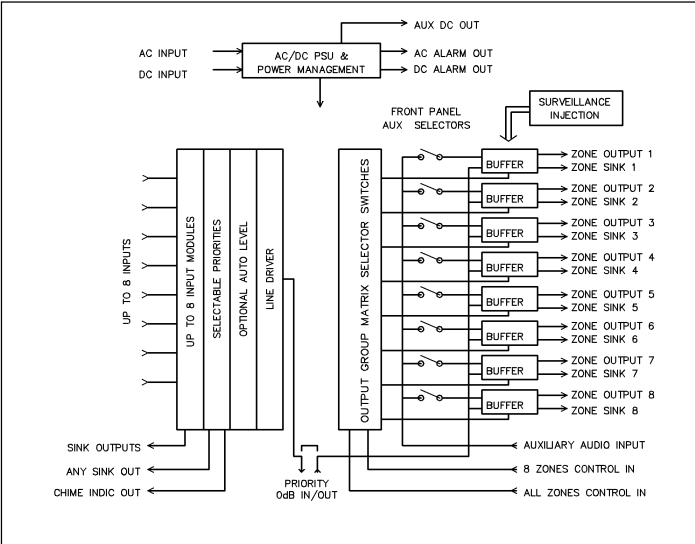
	ZC.8
Priority Audio input	Single source 0dB (adjustable per zone 100mV-775mV) @ nom 4k7 unbalanced. Access at Mixer Facility socket
Auxiliary Audio input	Single source 0dB (adjustable per zone 100mV-775mV) @ nom 4k7 unbalanced - routed to each output zone via front selector switches
Aux audio input freq.response.	20Hz - 20kHz \pm 3dB ref 1kHz
Audio outputs	8 zone @ 0dB (775mV) 600 ohms unbalanced. Factory option - balanced floating output transformer
Output zone selection	8 groups of up to 8 pre-selected zones per group, and 'all zones'
Output priority	One priority access to each zone: One common non-priority (Aux) signal to each zone
Output zone priority access	Connect control to 0V to seek access to an output zone. 47k load from +15V
Control outputs	Current sink from each accessed output zone. 250mA continuous rating, from sources up to +40V. Routed through corresponding Zone Audio output connectors.
Auxiliary input connector	25pin male D panel connector. Carries all Output zone priority access control inputs - see above; general purpose 0V; Auxiliary +24VDC output; AC/DC supply fail contact outputs
Surveillance	Surveillance tone injection circuit for loudspeaker line monitoring applications. This facility necessitates the use of an appropriate surveillance detection system such as the MACRO SL/10
Internal adjustments	Each output zone - priority signal sensitivity, and Auxiliary signal sensitivity: 20dB adjustments. Overall surveillance tone injection level - factory set
User controls	8 Auxiliary Audio signal selector switches; power switch
Audio connectors	Locking DIN 5 pin 180° (not supplied). Mustang part No. 5-180
Auxiliary DC output	+24VDC unregulated - maximum 1Amp, for use with current sinks, etc. Fused internally - F1A. May surge to 35V when AC powered and off load.
Power requirements	220-240V AC 50-60Hz - 2VA. or 22-28V DC. @ 100mA. Automatic changeover. Use of Aux DC supply output will increase the consumption accordingly.
Power connectors	Standard 3-pin 6A for AC (supplied); MIL97 for DC (supplied)
Indicators	10 x 3dB segment output bargraph display monitoring the priority audio input signal; AC & DC supply status; Power 'ON' LED
Alarm outputs	AC and DC supply failure - individual changeover contacts: 1A 50VDC non inductive. Contacts open when unpowered. Contacts closed when powered and system OK
Other features	** Power switch isolates AC and DC **Regulated power supply **Optional extra rack mount bracket kit - BRK-30 with pull handles
Net weight	6.7kg
Shipping weight	8.2kg
Dimensions	432 x 133 x 345mm (WxHxD); add 20mm at front for controls or 30mm for rack mount handles. Add 65mm extra at the rear to accommodate connectors and cables. Add 4mm for removable feet. Shipping dimension 540 x 225 x 470mm. Volume 0.057cu.M

Factory fitted options		
Code	Sutability	Function
ZU/BAL	ZG and ZC.8	Line output transformer fitted to individual output module to convert unbalanced to balanced
TB/ALC	ZG	Automatic level control circuit. Limits overall output signal from pre-amplifier stages to pre-settable level, for systems where signal level may vary unacceptably.

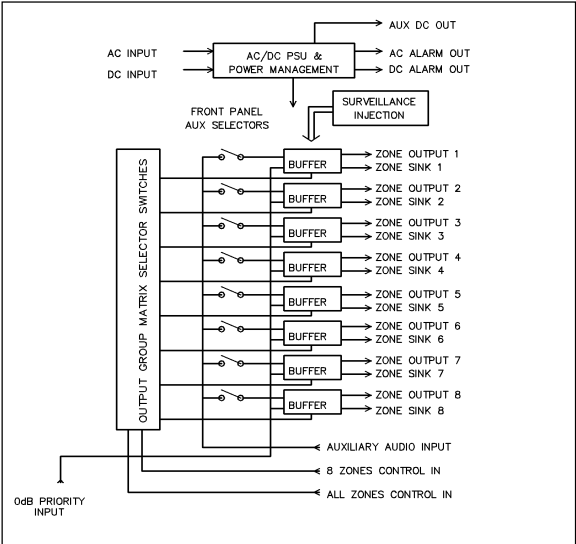
Factory fitted options must be specified at the time of ordering

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



Schematic of ZG/8



Schematic of ZC.8

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.