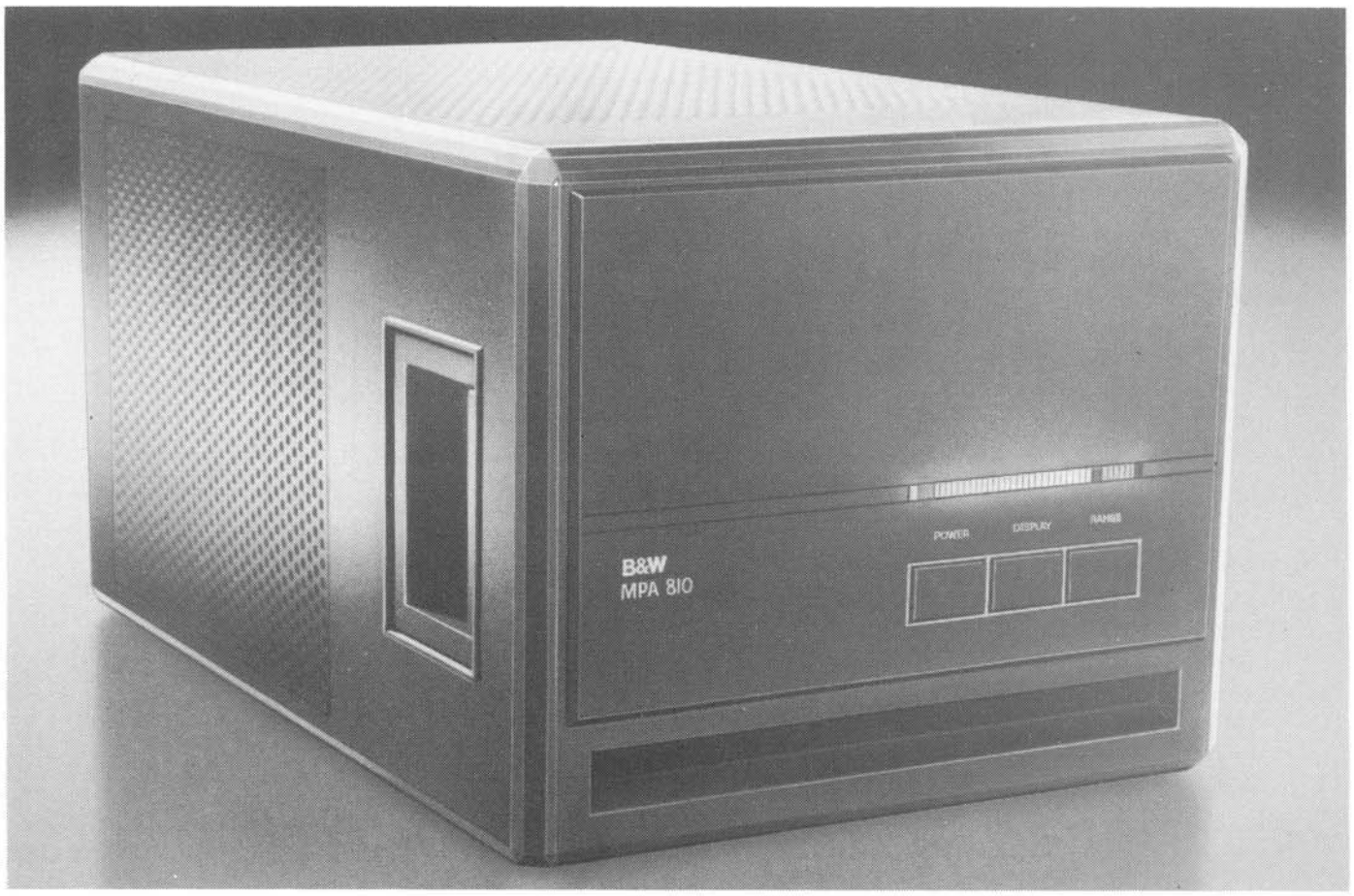
MPA 810
POWER AMPLIFIER
INSTRUCTIONS



The MPA 810 monophonic power amplifier has been specifically developed for professional audio applications where high power levels are required without sacrificing ultimate quality or reliability of operation.

The amplifier uses MOS-Fet power transistors for exceptional open-loop bandwidth and operates in bridged mode. This cancels even harmonic distortions, and gives a symmetrical power supply loading with no heavy speaker return currents flowing in the ground circuit.

The output bridge stage has its own 120 volt high current supply with 80,000 µF of charge capacity. This eliminates interaction between input and output stages, even under conditions of heavy current demand, and gives a bias to class A operation up to −20 dB of full output.

Protection Circuit

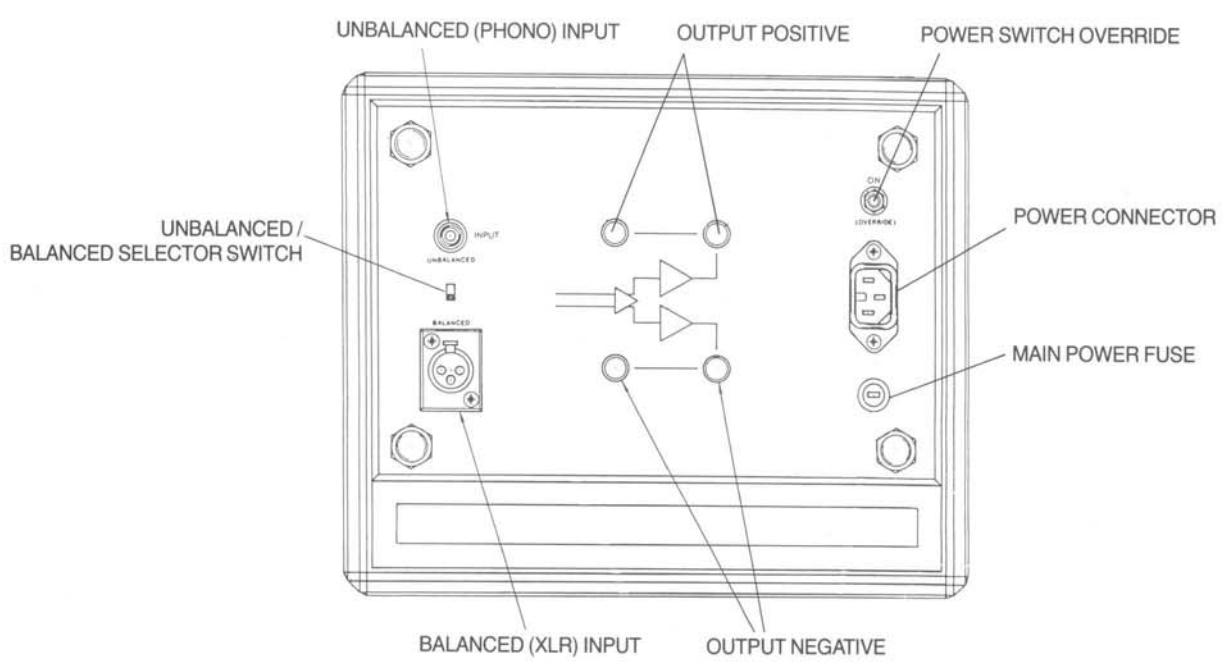
MPA 810 is capable of 650 watts continuous into 8 ohms, rising to 2.3 kilowatts into 2 ohms for impulses. A highly sophisticated protection circuit monitors instantaneous power dissipation in the output devices and shuts down operation for approximately four seconds if an unsafe condition arises. The circuit operates via opto-isolators and can in no way affect audible quality until activated – not achieved until the current reaches 60 amps into resistive loads.

Panel Controls

The 30 segment LED output indicator operates with two different time constants, and can be turned off altogether if a less distracting appearance is required. The front panel controls also enable the range of this display to be changed, automatically adjusting the cooling fan operating mode.

INSTALLATION

The MPA 810 can be mounted on a level surface, including fairly thickly carpeted floors, thanks to the special ventilation clearance built into the enclosure. The units must not be stacked vertically, housed in a small, sealed enclosure or positioned in any way that would lead to the recirculation of warm air. Failure to observe these precautions may result in the intermittent operation of the thermal protection.



Loudspeaker Connection

CAUTION!

The MPA 810 is capable of producing high voltages across the output terminals. Extreme care must be taken when connecting or disconnecting loudspeaker cables.

The output binding posts provided on the MPA 810 are suitable for making connections using bare wire of up to 10mm^2, a 4mm banana plug or OBA (6mm) spade tags.

Two pairs of terminals are provided to enable parallel connection of two loudspeakers, eg. two B&W 808's, for very high level application.

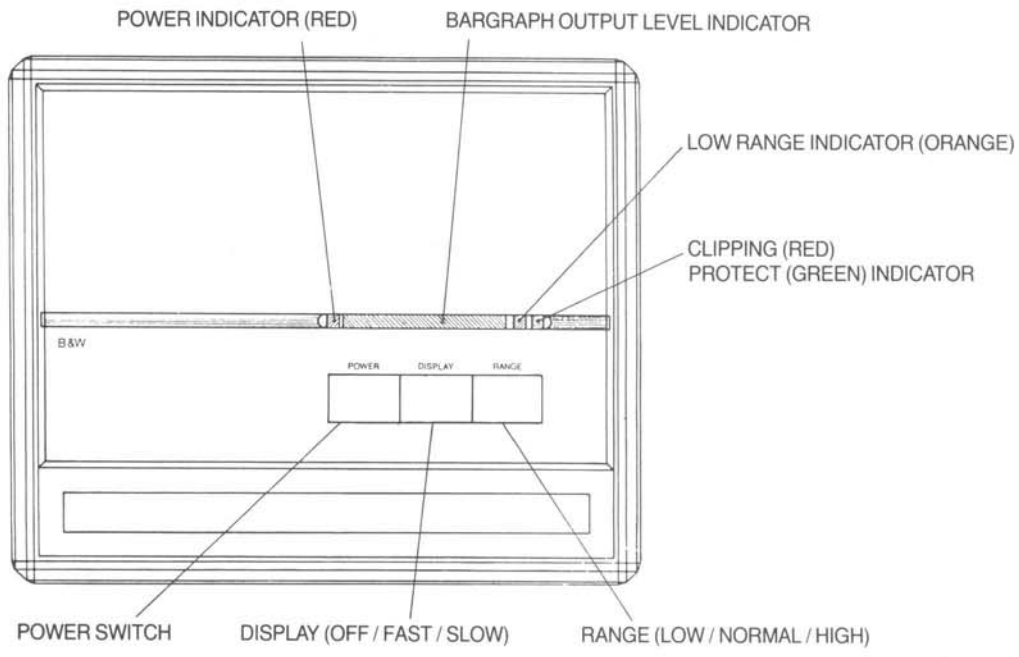
Signal Input Connection

Use the unbalanced input via the phono (RCA) socket, or the balance input via the XLR (Cannon) connection. The small switch positioned between these connections must be turned to the appropriate setting.

If a signal is applied to the MPA 810, even when not switched on, it may produce a very low level distorted output. This is due to B&W's use of an extremely high efficiency power supply, capable of storing energy for some considerable time. Although unable to provide full output, the energy is enough to operate some of the circuitry. Under normal operating conditions the phenomenon should not be observed.

Mains Connection

Mains power is brought into the amplifier via the 10A IEC chassis plug on the rear panel. Connection to this must be made using a 10A IEC cable socket. The mains fuse supplied should be 10A (T) for 220V/240V and 20A (T) for 100V/120V operation.



Front Panel Controls

POWER

The operation of the power switch depends on a small rechargeable battery to activate the main power circuitry. After long periods of storage this battery may be too depleted for correct operation. In this event, depress the override button located above the mains inlet, which temporarily applies power to the main circuit. While holding the switch in, depress the front power button to energise the circuit. The override button may now be released. Do not operate the override switch for more than 3 seconds.

Further operation of the main power switch will alternately operate and release the main circuitry indicated by the square red LED directly above the switch.

DISPLAY Output level is shown by a 30 segment LED bar display. Depress the 'DISPLAY' button to sequentially activate three modes of operation:

Cancel – defeats the bar display.

Slow – the decay time of the display is approximately 15 dB/sec.

Fast – the decay time is 80 dB/sec.

RANGE This operates a three-position latch with modes affecting display range and cooling fan control:

Normal – the full scale of the bar display corresponds to maximum output into 8 ohms i.e. 73V RMS. The fan normally circulates air at its minimum useful rate of 40 m^3/hr. As the heat sink temperature rises above approximately 65°C this rate increases to its maximum at 80°C.

High Fan – leaves the display sensitivity on the normal range but switches in the high level fan continuously.

Low range – lowers the display range by 10 dB i.e. FSD = 23V RMS. The fan is disabled completely until dangerously high temperature is reached, at which point it is brought into operation at the highest speed. A small rectangular orange LED indicates this mode is activated.

Clip/Protect Indication On the extreme right of the display bar is a single bi-colour LED. When red, this indicates clipping. When green, it indicates the protection circuitry has been activated.

SPECIFICATION

Continuous power	Into 8 ohms, 650 W			
Impulse power	Into 2 ohms, 2300 W			
Output voltage	At 1 kHz (0 dB = 2.83 V)			
	8 ohms	*4 ohms*	*2 ohms*	
Continuous	28.1 dB	27.0 dB	25.0 dB	
Impulse	29.3 dB	29.0 dB	28.1 dB	
Instantaneous peak current	±60 A			
Total reservoir capacity	90,000 µf			

THD and IMD	> −85 dB
Hum and noise	−107 dB (A-weight)
Bandwidth	0–100 kHz (−2 dB)
Dimensions	Height: 235 mm (9¼ in) Width: 280 mm (11 in) Depth: 44 mm (17½ in)
Weight	20 kg (44 lb)
Finish	Black

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