

## MAXIM Amplifier

# Operating Instructions

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**BALDWIN BOX▲LL**  
C O M M U N I C A T I O N S

## **MAXIM DESCRIPTION AND SPECIFICATIONS**

1. 120W RMS Power Output.
2. Mains or 24V DC Battery powered with silent changeover.
3. Four balanced microphone inputs via 180° and 240° DIN sockets.
4. Each input has the option of cascade priority via internal switch selection.
5. As supplied each input has the chime and volume restoration/busy enabled, this is selectable via an internal diode matrix (see fig 1).
6. Optional three note chime (plug in module OPT33) with pre-set volume control.
7. Master volume, treble and bass controls.
8. Auxiliary stereo music input (internally mixed) to accept tuners, CD players or tape decks.
9. Music mute facility which allows music to be 'ducked' to a pre-set level when paging operated.
10. Remote music mute input from time clocks etc.
11. 24V DC output.
12. "Volume Restoration" relay to provide simple zoned output (e.g. paging only)
13. Open collector "Busy" output to drive indicators etc.
14. Auxiliary output to feed slave amplifiers, tape decks etc.

### **SAFETY**

#### **Ventilation**

Always ensure adequate ventilation to the amplifier : do not obstruct ventilation holes in cover or base.

#### **AC Power Input - Danger High Voltage**

Only connect to an AC 50-60 Hz 230V supply using the lead assembly supplied or an equivalent type with a suitable IEC connector.

Always ensure that the amplifier is earthed.

Always unplug the power before removing the top cover.

#### **100V Loudspeaker Output - Danger High Voltage**

Ensure that the loudspeaker connections are suitably protected and cannot be touched. Always replace output plug insulated covers.

Always ensure that the total speaker load does not exceed 120 Watts. If unsure use an impedance meter to measure the unknown load. Using a multimeter selected to the resistance range ensure that the speaker line is not connected to earth.

#### **Moisture**

Do not allow water to come in contact with the amplifier and its external connections.

#### **Cable Types**

Always ensure that the correct cable type is used for the signal level.

A twin screened cable should be used for balanced inputs operating at mic level. Zone selection and access control cables do not generally require screening and should not share the same screen as the balanced input.

Loudspeaker output cables should be rated in excess of 100V and the cross sectional area to suit the load without excessive power loss. Always ensure that output cables are kept as far away from input cables as possible reducing the risk of instability.

#### **Fuses**

Always replace using the correct rating and type to ensure safe operation.

## MAXIM 120W TECHNICAL SPECIFICATION

Rated output power 100V Line 230V AC Supply	120W 83 Ohms	
THD 1kHz rated output Aux input 230V AC Supply	Less than 0.5%, typically 0.2%	
Typical output power 1% THD Aux input 230V AC supply	150W 66 Ohms	
Output regulation (1kHz 100V Line)	Better than 1.3dB	
Output voltages obtainable (Pin selection)	50 & 100V	
Supply Voltage	22-35V DC	220-240V 50-60Hz AC
Power Consumption		
Quiescent	120mA	18VA
Rated Output Power @ 1kHz	9A	300VA
Fuse Protection		
1 x AC Supply 20 x 5mm	3.15A (T)	
1 x DC (amplifier) auto blade	15A (F)	
1 x Battery Supply auto blade	15A (F)	
Aux input stereo summed mono		
Sensitivity	120mV @ 20k Ohms	
Frequency response – 3dB@	40Hz – 20kHz	
Signal to noise ratio	Better than 80dB	
Mic Input		
Sensitivity	600 $\mu$ V Balanced @ 660 Ohms	
Frequency response –3dB@	60Hz – 12kHz	
Signal to noise ratio terminated 200 Ohms	Better than 60dB	
Tone Controls		
Bass	+/- 12dB @ 100Hz	
Treble	+/- 12dB @ 12kHz	
Auxiliary Output		
Output Level	400mV @ 1kOhm	
Recommended load impedance	Greater than 10kOhm	
System busy output	Open collector 0.5A @ 40V total max.	
Busy / Restoration relay output	2 pole changeover 5A @ 100V max.	
DC Aux output	Self resetable fuse 30V @ 1.5A max	
Terminations		
AC supply input	3-pin DIN IEC 6A	
DC Battery input	3-pin Screw terminated connector	
Aux input	180° 5 pin DIN stereo summed mono	
Mic input	180° 5 pin & 240° 6 pin DIN	
Sub socket	180° 5 pin & 240° 5 pin DIN	
Busy / Restoration relay output	8-pin, Screw terminated connector	
Loudspeaker line output	3-pin Screw terminated connector	
Dimensions (mm) (D x W x H)	340 x 430 x 90	
Weight	12kg	

## CASCADE PRIORITY AND DIODE MATRIX

### CASCADE PRIORITY

Cascade Priority can be selected on the four microphone inputs using the “Priority Select” DIL switch on the PCB.

As supplied from the factory the 4 microphone inputs mix and do not override the music input.

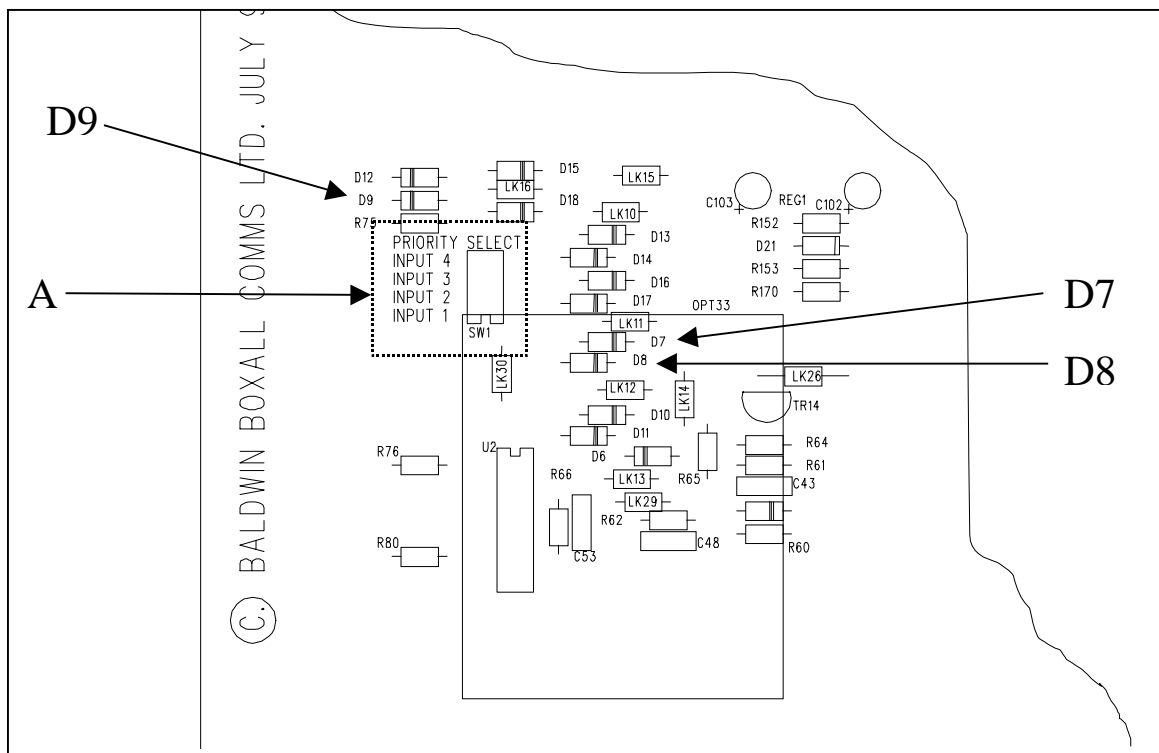
To enable a microphone input to override the music input and lower priority microphone inputs the relevant switch should be set to “ON”.

### DIODE MATRIX

As supplied from the factory each microphone input (when accessed) enables the chime, Busy output, and Volume Restoration relay.

To prevent an input having one of these facilities then the relevant diode should be cut out of circuit.

	Remove the following diode to prevent the facility		
Input	Rest Relay	Busy	Chime
1	D7	D8	D9
2	D10	D11	D12
3	D13	D14	D15
4	D16	D17	D18



**Fig 1**

Shows the position of the “Priority Select” switch (A) and the location of the diodes in the matrix for input 1 (D7 – D9).