

M10L

Operating Instructions



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BALDWIN BOXALL
C O M M U N I C A T I O N S



M10L

The M10L is an audio frequency induction loop amplifier designed to drive loops at up to 10A-peak current. Whilst the amplifier may be used as a 'stand alone' unit it is normally 'slaved' from the main PA system, via the auxiliary input, the microphone input providing an ambient noise input.

A tone control, accessible only from the underside of the amplifier, allows the installer to adjust the frequency response of the amplifier to optimise the performance of the system. An indication of the peak current flowing in the loop is provided by the bargraph display on the front panel, along with limiter and protection indicators.

By selection of a slide switch (located on the rear of unit) a 1KHz test tone is enabled to assist in the setting up of the loop output. The test tone may also be used to conduct periodic testing of the loop installation.

Setting up Procedure

- Set all front panel controls to minimum (fully anti-clockwise) in order to gain maximum benefit from the compression circuitry.
- Microphone and auxiliary input controls should be set such that the limiting LED on the front panel is just on when normal programme speech or music is applied (the LED may flicker slightly)
- When the amplifier is connected to the loop the 'loop current' control can be adjusted to provide the desired field strength within the loop which may be measured using a field strength meter.
BS6083 Recommends field strength of 0.1 A/m long term average.
- In the absence of a convenient input signal, select the test tone on the rear panel to the 'on' position to provide a constant 1KHz tone.
- Care should be taken when setting the loop current not to allow the protection circuitry to operate (as indicated on the front panel LED). Should this occur, either the control should be turned down slightly or a loop with higher impedance is required.
- When the field strength has been set, remember to return the test tone switch to the 'OFF' position.

Fuse Protection

3 fuses protect the amplifier and must be replaced with the correct type:

- Rear panel mains fuse 3.15A(T)
- Internal positive and negative DC fuses 6.3A(F)

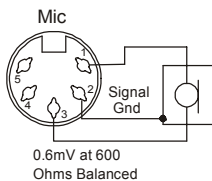


M10L

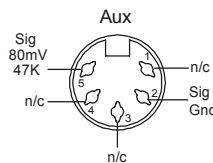
Specification: Induction Loop Amplifier

AC supply	220/240V 50/60Hz IEC connector
Quiescent Power Consumption	12VA
Max. Power Consumption	300VA
Max. Current Into Loop	10Amps (Peak)
Frequency Response	100Hz to 5kHz
Loop Impedance	0.6 to 6.0 Ohms
Tone Control	8dB. Lift and cut at 5kHz
LED Indicators	Bargraph indicating peak loop current Limiter indication Protection indication
Output Stage Protection	Overload limited plus thermal protection (without Clipping)
Inputs	Microphone 600uV, 600Ohms balanced Auxiliary 80mV, 40KOhms
Fuse Protection	Mains input fuse 1 x 3.15A (T) DC fuses 2 x 6.3A (F)

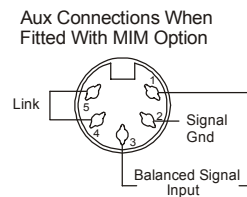
Din Input Connections



Pin 1 Signal Input
Pin 2 Screen
Pin 3 Signal Input



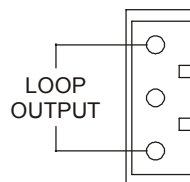
Pin 1 Not Applicable
Pin 2 Signal Ground
Pin 3 Not Applicable
Pin 4 Not Applicable
Pin 5 Signal Input



Pin 1 Signal Input
Pin 2 Screen
Pin 3 Signal Input
Pin 4 & 5 Link together
Plug Only

Output Selection

The Loop output is provided
On the upper and lower pins
Of the output connector



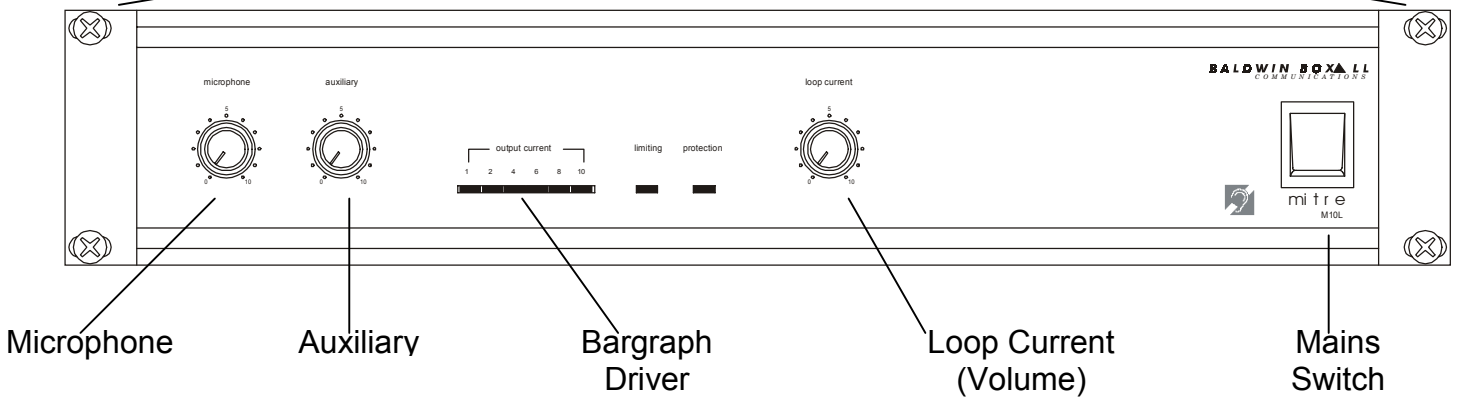
Mitre Plug In Option

MIM16 – Auxiliary to balanced line converter card. By inserting this card onto the connector inside the rear of the amplifier enables the operator to convert the unbalanced auxiliary input into the balanced 80mV 20k Ohms line input.

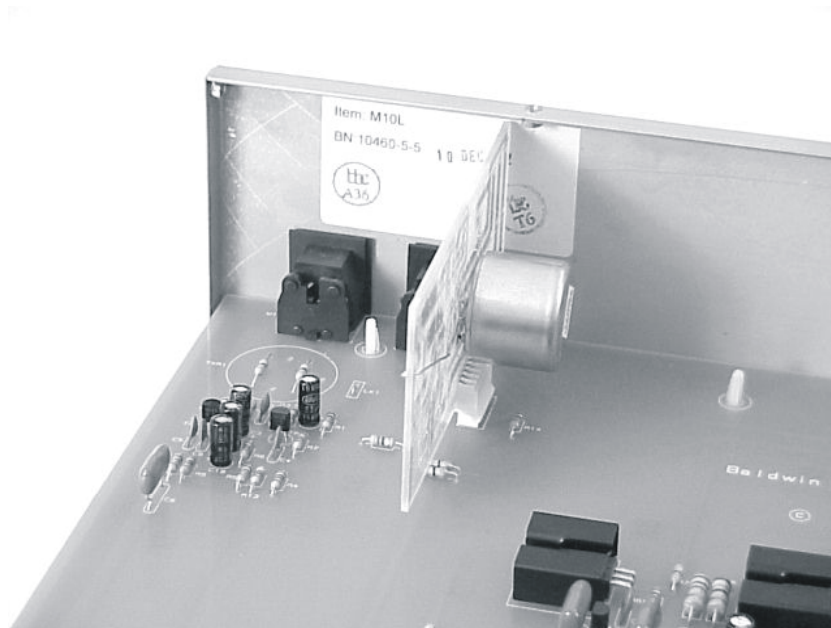
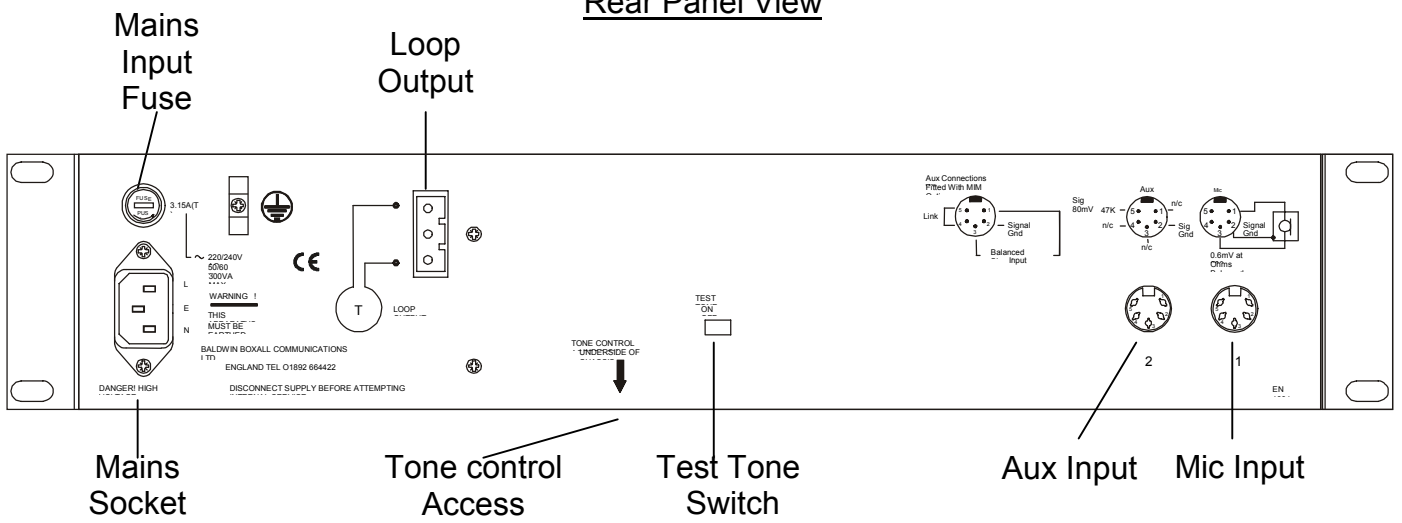


Front Panel View

2u High Rack Mounting Brackets Shown Fitted M2RACK



Rear Panel View



VIEW OF MIM16 OPTION FITTED



Induction Loop System Design

Having noted the approximate dimensions of the required induction loop the 'Aspect Ratio' may be determined. The aspect ratio is width (B) of the loop divided by the length (A) of the loop. Using the graph below select the width (in meters) and move vertically to intersect the appropriate aspect ratio line. From this point the correct wire size (cross sectional area) may be selected. Always select the next wire size up from the intersection.

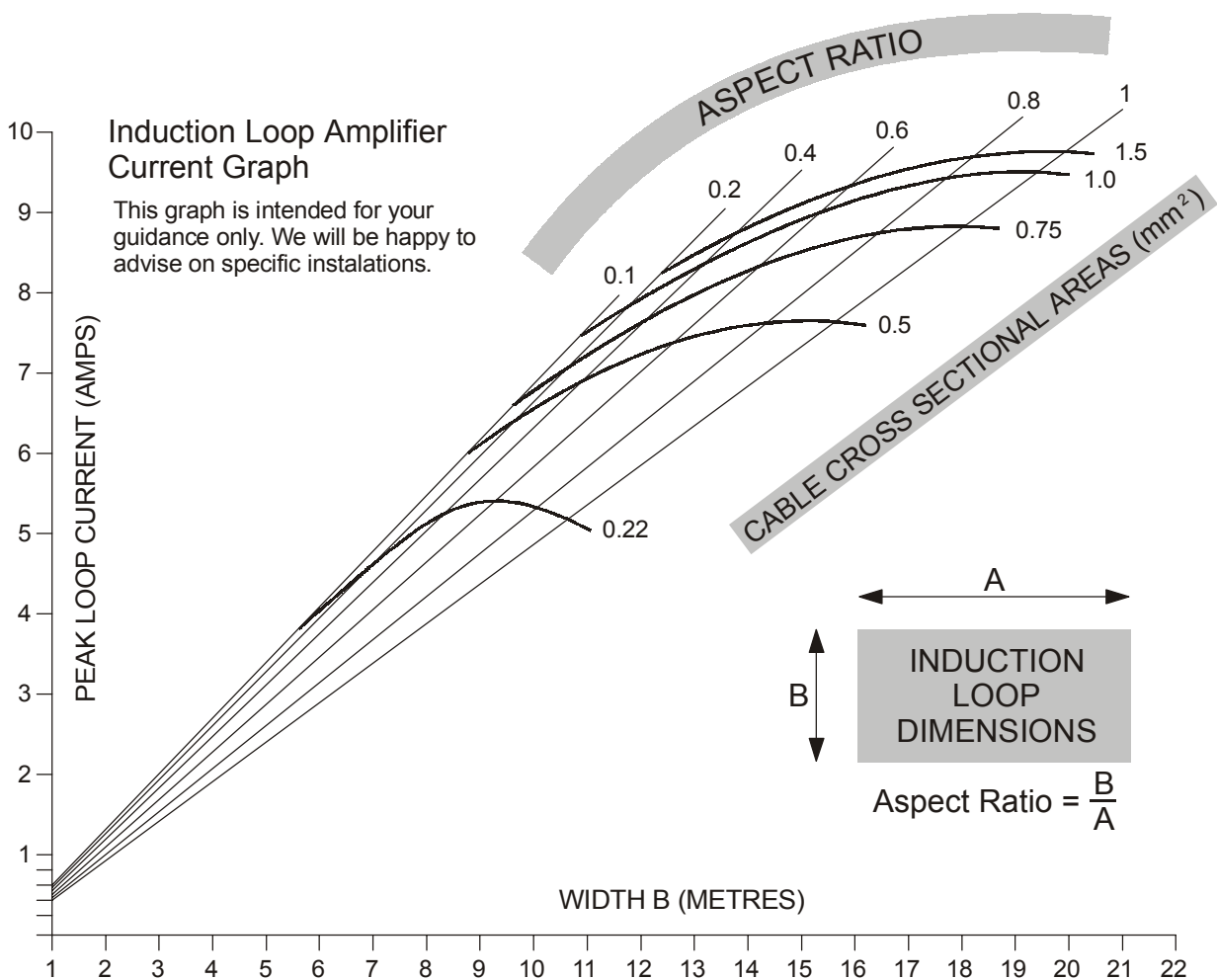
The peak current in the loop may also be determined by moving horizontally from this point to the intersection with the vertical axis of the graph.

Example

$$\text{Aspect Ratio} = \frac{12}{20} = 0.6$$

Intersection from width B (12m) and aspect ratio line (0.6) occurs between the 0.22mm and the 0.5mm cross sectional area would be selected.

The peak loop current may be read from the vertical axis as 6.6A



Care must be taken when designing and installing a loop system, particularly when routing the cable. Avoid running the cable in or behind steel conduit or trunking. Also avoid central heating pipes and running the cables along structural Steel work.