

BVLAM

Operating Instructions

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BALDWIN BOXALL
COMMUNICATIONS

System operation.

The BVLAM provides 8 zone 100V line relay switching loudspeaker zone selection from 1 amplifier. It incorporates impedance monitoring on all 8 loudspeaker lines when the zone is not selected. If the load increases, (impedance decreases) the appropriate fault LED illuminates steady, and if the load decreases (impedance increases) the fault LED will flash. The impedance change for a fault to be detected is selected to either 20% or 40% using the mode DIL

switch 8. If the impedance falls to approximately 50% of its original value the line is considered to be short circuit and will not be selected to the amplifier.

All 8 zone select inputs will access when it is between 2 to 6.5V. An open circuit, access input above 15V will be indicated by the appropriate fault LED flashing and a short circuit, access input below 2V by the fault LED illuminating steady. Under all fault conditions the O/K LED will extinguish and the common fault relay volt-free contacts to change state.

System description.

The BVLM incorporates 8 individual sine wave power oscillators selectable to either 30Hz or 20KHz that are connected to their associated non selected loudspeaker line via the zone select relay. The DC input current to each power oscillator is monitored in both the quiescent and load condition. To establish the true current due to the load the quiescent is subtracted from the load result. This level is compared with the previously stored calibrate level and if it has deviated enough a fault will be announced. The total time taken to check both the quiescent and load is 60 seconds but this allows for the oscillator to slowly fade up and down preventing audible clicks being produced from the loudspeakers.

If mode switch 6 is selected **ON** and the zone is selected the loudspeaker line will be monitored every 60 seconds by interrupting the program by releasing the zone select relay for 300ms which will remove a short circuit line that occurs when selected.

The relays are released 1,3,5 & 7 followed by 2,4,6 & 8. When a zone is selected the interruption is delayed by the selected delay set by mode switch 5 to prevent interruption on normal announcements.

If mode switches 5 and 6 are selected **ON** and the zone is selected, the loudspeaker line will be monitored every 4 minutes. Unless there is no amplifier output detected every 60 seconds using the technique previously described.

BVLAM 8 zone impedance monitor module specifications

Zone monitoring amplifier DIL switch SW3-10

Frequency selection ,	Switch 4	3	
	off	off	20KHz
	off	on	do not use
	on	off	do not use
	on	on	30Hz

Loud speaker line load selection,	switch 2	1	
	off	off	5 to 20W
	off	on	20 to 50W
	on	off	50 to 100W
	on	on	100 to 200W

Mode DIL switch SW2

Z change to indicate fault,	switch 8		
	off		+ - 20%
	on		+ - 40%

Mode DIL switch SW2

All call facility using access 8,	switch 7		
	off		All 8 zones independent
	on		zone 8 access input selects zones 1 to 7 as an all call.

Mode DIL switch SW2

Monitoring mode	switch 6	5	
	off	off	Will not monitor L/S lines when selected
	on	off	Automatically monitors L/S lines when selected every 60 sec.
	on	on	Automatically monitors L/S lines when selected every 240 sec.

Line short circuit select disable operates at approx 50% over load.

Supply fault if DC input is lower than 20V.

To calibrate hold down both the lamp test and calibrate switches for at least 20 seconds until line faults are reset.

Access conditions

15-20V	O/C fault	access fault LED flashes
2-15V	no fault	access fault LED off
0-2V	S/C fault	access fault LED on
2V-6.5V	no fault	access fault LED off, zone selected

Amplifier output detector threshold @ 1kHz 5.5V RMS

Power consumption at 24V DC.

No faults, no lines selected	130mA
No faults, 1 line selected	140mA
No faults 8 lines selected	300mA
All access lines faulty, no zones selected	140mA
Surveillance line level	4.4V
Surveillance cycle time	60 sec

BVLAM DIL switch locations

