



MICROPHONE PAGING  
EVACUATION AND  
COMMUNICATION SOLUTIONS

**VIGIL 2** microphones



**BALDWIN BOXALL**  
COMMUNICATIONS



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For over 25 years Baldwin Boxall has been at the forefront of the communications industry and is proudly recognised as being Europe's leading independent manufacturer of Voice Alarm/Voice Evacuation (VA/VE), Emergency Voice Communication (EVC) systems and Public Address (PA) equipment.

All Baldwin Boxall products are designed and manufactured in our factory in Sussex, England. Our equipment has been installed worldwide and has the reputation of being a true workhorse. This, combined with the technical backup we provide, enables you to install with confidence.

#### Unitouch ~ Touchscreen Control

In addition to the microphones and controllers featured in this leaflet, we can provide a touchscreen control station for interfacing with the VIGIL2 system. Unitouch provides users with a simple intuitive control for paging, selecting messages/background music to any/all zones. Each Unitouch system is unique, specifically designed to meet the needs of the customer. The display shows either a graphic layout of the site, indicating the zones, or on-screen zone buttons, depending on option chosen. The operator simply selects the zone(s) and functions by touching the relevant part of the screen. Please contact the Sales Department on: [sales@baldwinboxall.co.uk](mailto:sales@baldwinboxall.co.uk) for further information.

<b>VIGIL2</b> microphones
All Baldwin Boxall microphones are designed to meet the needs of a Voice Alarm/Public Address System and manufactured to BS5839 part 8, EN60849 and EN54 part 16.

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The BVRD microphone controller range has been designed specifically for the voice alarm (VA) market and will interface with any of Baldwin Boxall's VIGIL2 routers. The unit performs as a paging microphone or fire microphone with an optional (factory fitted) emergency 'all call' bypass facility.

For everyday use, the BVRD microphone controller provides routine paging; the operator simply selects individual zones or chooses the 'all call' mode. Broadcasts can then either be live announcements or selected from up to 30 pre-recorded messages (chosen from those digitally stored on the EVAS router/s on the VA system).

The BVRD range is available in four basic options: 8 zone (BVRD8), 16 zone (BVRD16), 24 zone (BVRD24) and 32 zone (BVRD32). For the optional emergency 'all call' bypass facility add an 'E' to the code (ie: BVRD16E). Pressing the emergency 'all call' button bypasses the router and enables immediate broadcast to all zones. (For systems with more than 32 zones, we recommend the use of our PC VIGIL touchscreen system ~ Unitouch).

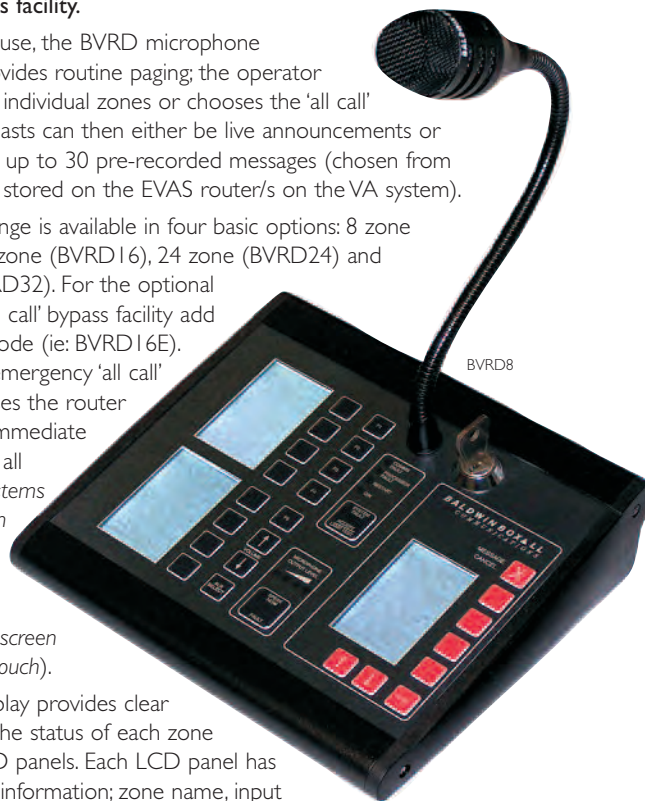
The unit's display provides clear indication of the status of each zone by use of LCD panels. Each LCD panel has three lines of information; zone name, input source and fault status. An additional LCD panel is used to display message choice. Showing four messages at a time, the panel scrolls through the options available (up to a maximum of 30 messages, which are stored on the EVAS router/s).

The BVRD is fully monitored, using parity checking and handshaking techniques. Faults indicated on the front panel of the unit include 'system', 'message', 'microphone', 'processor' and 'data link'.

Use of the digitally stored messages provides the operator with flexibility. Different messages can be broadcast to selected zones simultaneously ~ making it possible to alert some areas and evacuate others; with the option for live broadcast announcements to the remaining/selected zones.

During an emergency, the BVRD assumes an 'emergency control mode' and is given a higher priority. Live broadcasts made using the unit will override any commands from the fire alarm panel. The microphone mimics the status of the local fire alarm panel so the operator can immediately access the current state of emergency and take control. Areas can be reassured by live broadcasts, alerted or, if necessary, evacuated by the messages.

In common with all Baldwin Boxall voice alarm products, the BVRD range has been designed with all current and anticipated voice alarm standards in mind, including BS5839 part 8, EN60849 and EN54 part 16. Fire rated cable must be used when installing the BVRD and all related VA system equipment.



**BVRD standard features:**

- ▲ 'All call' paging.
- ▲ 50 x 30mm LCD displays showing zone name/status.
- ▲ Red switches for emergency messages - operated by key switch.
- ▲ View and select message options via a 50 x 30mm LCD display.
- ▲ Up to 30 messages available to the operator.
- ▲ Zone input/names on LCDs can be changed via the USB2 port.
- ▲ Fault indicators.
- ▲ 'Speak now' indicator.
- ▲ Zone programmable volume adjustment using the BVRD2M remote volume facility.
- ▲ Background music selection per zone.
- ▲ Bar graph speech level indicator displays current speaking volume.
- ▲ Monitoring of microphone speech and data signal paths.
- ▲ CAT5 connection.
- ▲ Option to fit a 'processor bypass' hard-wired press-to-talk switch.

**Front panel LED indicators:**

- ▲ Serial data fault.
- ▲ Processor fault.
- ▲ Processor restart fault.
- ▲ Microphone fault.
- ▲ Common fault.
- ▲ System healthy.
- ▲ 4 x speech level.
- ▲ Speak now.

**Front panel controls:**

- ▲ Message cancel.
- ▲ 4 x message select.
- ▲ Message page home.
- ▲ Message scroll up.
- ▲ Message scroll down.
- ▲ Microphone press to talk.
- ▲ Music select.
- ▲ Volume up.
- ▲ Volume down.
- ▲ 5 x programmable function keys.
- ▲ Zone select (one per zone).
- ▲ Fault accept/lamp test.
- ▲ Emergency mode select key.
- ▲ Microphone 'all call' bypass key option.

BVRD Voice Alarm Controllers ~ Technical Specification				
	BVRD8(E)	BVRD16(E)	BVRD24(E)	BVRD32(E)
<b>Audio</b>				
Normal output level			+15 dBm	
Maximum output level (limiter operating)			+18 dBm	
Output impedance			8 Ohms	
Frequency response			200 Hz-12 kHz	
<b>General</b>				
Power requirement (24V DC)	100mA (max)	125mA (max)	150mA (max)	175mA (max)
Dimensions W x H x D	205mm x 48mm x 177mm	275mm x 48mm x 177mm	345mm x 48mm x 177mm	415mm x 48mm x 177mm
Bezel dimensions W x H	220mm x 200mm	290mm x 200mm	360mm x 200mm	430mm x 200mm
Bezel cutout	188mm x 182mm	258mm x 182mm	328mm x 182mm	398mm x 182mm
Data serial link			RS485 9600 BR	

## VIGIL2 BFM400 Emergency Fire Microphones

The BFM400 range of fully monitored emergency microphones is designed to provide a wide variety of features to suit any installation.

The multi-zone microphones (BFM404 and BFM408) communicate with the main control system via an RS485 communications link. The single zone BFM401 can be set to connect via RS485 or a parallel hard-wired connection.



BFM401

### Cabling:

**Serial:** To avoid the possibility of interference between the Audio and Data, we recommend each microphone is connected using 1x two core fire rated cable for Audio and 1x four core for Data and Power.

**Parallel:** Six core fire rated cable (BFM401 only).

**Note:** Baldwin Boxall recommends using fire rated cable. Enhanced cable may be required in certain large and complex buildings – see below\*

### BFM400 standard features:

- ▲ Housed in a sealed (IP66) lockable steel enclosure.
- ▲ All buttons and indicators mounted behind a stylish overlay that allows zone button labels to be inserted and protected.
- ▲ 'Zone select' buttons and 'all call' button.
- ▲ 'Zone status' indicators show if a zone is currently selected or in use (BFM404 & BFM408).
- ▲ 'Speak now' indicator.
- ▲ Simple bar graph display shows the user the current speaking volume, ensuring a clear announcement is made.
- ▲ 'Data' and 'DC' indicators to show the unit is functioning correctly.
- ▲ A 'common fault' indicator is included to show the user if a fault is evident on the system.
- ▲ The fist microphone capsule can be set for either monitored or unmonitored use during configuration.
- ▲ Option to fit flip-top switches to enable DVA (digital voice announcement) messages to be broadcast.
- ▲ Option to fit a 'processor bypass' hard-wired press-to-talk switch.

## BS5839 Part 8: Fire Resistant Cabling

\*BS5839 part 8: 2008 ~ enhanced fire resisting cabling required in:

Unsprinklered buildings: (a) needing evacuation in four or more phases; (b) greater than 30m high; (c) where a fire in one area could effect critical cables associated with areas remote from the fire. Or, (d) any buildings that a specifier/authority considers that enhanced cabling is necessary. (Refer to BS5839 part 8:2008 for full explanation).



BFM400 Emergency Fire Microphones ~ Technical Specification			
	BFM401		BFM404/408
<b>Audio</b>			
Nominal output level		700mV	
Maximum output level (limiter operating)		1.5V	
Output impedance		400 Ohms	
Frequency response		150 Hz-5 kHz	
<b>General</b>			
Power requirement (24V DC)	26mA standby (30mA max)		35mA standby (70mA max)
Dimensions W x H x D		300mm x 200mm x 82mm	
Bezel overall size W x H		340mm x 240mm (cutout 306mm x 206mm)	
Serial data link		RS485 9600 baud	

A stylish black and silver range of intelligent microphones designed to provide a wide variety of features to suit any installation.

The microphones communicate with the main control system via an RS485 communications link. As the only connection required on each unit is made using a standard RJ45 (CAT5 network) cable (carrying both audio and serial data), system wiring is considerably reduced. Additionally, microphones can be linked together (via wall sockets) and connected to a single input at the rack.

The BDM401 can also be operated as a parallel microphone. This option is selected internally by jumpers. (Factory setting is for serial operation.)

**BDM400 standard features:**

- ▲ Ergonomic design with all buttons and indicators mounted behind a stylish overlay that allows zone button labels to be inserted and protected.
- ▲ The dynamic cardioid microphone capsule can be set for either monitored or unmonitored use during configuration.
- ▲ 'Zone status' indicators show if a zone is currently selected or in use.
- ▲ 'All call' paging (except BDM401).
- ▲ 'Speak now' indicator to show the user when a pre-announcement chime has finished.
- ▲ Simple bar graph display shows the user the current speaking volume, ensuring a clear announcement is made.
- ▲ 'Data' and 'DC' indicators to show the unit is functioning correctly.
- ▲ Zonal fault indicators are included to show when a fault is evident on the system.
- ▲ Fault accept button.
- ▲ Option to fit flip-top switches to enable DVA (digital voice announcement) messages to be broadcast.



BDM401



BDM404



BDM416



BDM408

**BDM400 Intelligent Paging Microphones ~ Technical Specification**

	BDM401	BDM404/408	BDM416	BDM424	BDM432
<b>Audio</b>					
Normal output level			700mV		
Maximum output level (limiter operating)			1.5V		
Output impedance			400 Ohms		
Frequency response			250 Hz-10 kHz		
<b>General</b>					
Power requirement (24V DC)	26mA standby (30mA max)	35mA standby (70mA max)	42mA standby (108mA max)	52mA standby (150mA max)	62mA standby (200mA max)
Dimensions W x H x D	148mm x 48mm	177mm	275mm x 48mm x 177mm	398mm x 48mm x 177mm	523mm x 48mm x 177mm
Bezel dimensions W x H	165mm x 200mm		290 mm x 200 mm		
Bezel cutout	133mm x 182mm		258 mm x 182 mm		
Sub-membrane 16 mm cutouts		3	7	9	12
Data serial link			RS485 9600 BR		

## microphones BDM300 Paging Microphones

The BDM300 range can be desk or wall mounted and is aesthetically pleasing. The tactile membrane switches keep the top surface smooth and a pleasure to use.

### BDM300

The BDM300 is a single zone unit fitted with a robust 'press to talk' switch. Terminated to a five-pin 240 degree DIN plug suitable for insertion into an amplifier input socket or BMS6 socket box (not supplied).

### BDM301 ~ BDM332 standard features:

- ▲ Buttons and indicators mounted behind an overlay that allows zone button labels to be inserted.
- ▲ Microphones can be supplied with factory fitted 'monitored' function (add M to product code) (not BDM300).
- ▲ 'Zone status' indicators show if a zone is currently selected or in use.
- ▲ 'All call' paging (except BDM300/301).
- ▲ 'Speak now' indicator.
- ▲ Speech volume display.
- ▲ 'Data' and 'DC' indicators to show the unit is functioning correctly.
- ▲ Option to fit flip-top switches to enable DVA (digital voice announcement) messages to be broadcast.
- ▲ Terminated to a 25-way D connector for connection to a BMS25 socket box (supplied with microphone).



Top left to right: BDM316, BDM300, BDM301, BDM308

BDM300 Paging Microphones ~ Technical Specification					
Audio	BDM300	BDM301	BDM304/308	BDM316	BDM332
Normal output level				250mV	
Maximum output level (limiter operating)				700V	
Output impedance	200 Ohms			400 Ohms	
Sensitivity	-78dB @ 1 ref 0dB				
Frequency response	100 Hz-10 kHz			250 Hz-10 kHz	
General	BDM300	BDM301	BDM304/308	BDM316	BDM332
Power requirement (24V DC)		26mA standby (45mA max)	50mA standby (170mA max)	60mA standby (300mA max)	60mA standby (300mA max)
Dimensions W x H x D		148mm x 48mm x 177mm		275mm x 48mm x 177mm	500mm x 48mm x 177mm
Sub-membrane cutouts	0	4	4	8	8

## microphones BVRAMB ambient noise sensor

**VIGIL EVAS**

The BVRAMB monitors the ambient noise in a given area. The unit is used in conjunction with a BVRDCI (CANBUS interface module) which connects to the EVAS mainframe. The BVRAMB uses a dynamic microphone capsule, the output of which is amplified and converted to produce a variable current output. This output is used by a BVRDCI module to produce a voltage that is proportional to the level of ambient noise.

- ▲ Dimensions: 144mm (W) x 87mm (H) x 43mm (D).



BVRAMB

## microphones BMS interface/sockets

### BMS products:

- ▲ **BMS6** Microphone socket box for BDM300.
- ▲ **BMS8** Microphone interface box for BDM400 range.
- ▲ **BMS25** 25-pin D socket mounted in a single gang box. (Supplied with BDM301-BDM332).



BMS8

**BVRD Range of Voice Alarm Controllers**

	Unit	Bezel For flush mounting
8 zone microphone	BVRD8	BVRD8BEZ
8 zone microphone with emergency 'all call' bypass	BVRD8E	BVRD8BEZ
16 zone microphone	BVRD16	BVRD16BEZ
16 zone microphone with emergency 'all call' bypass	BVRD16E	BVRD16BEZ
24 zone microphone	BVRD24	BVRD24BEZ
24 zone microphone with emergency 'all call' bypass	BVRD24E	BVRD24BEZ
32 zone microphone	BVRD32	BVRD32BEZ
32 zone microphone with emergency 'all call' bypass	BVRD32E	BVRD32BEZ

**BFM400 Range of Emergency Fire Microphones**

	Unit	Bezel For flush mounting
Single zone microphone	BFM401	BFM401BEZ
4 zone microphone	BFM404	BFM404BEZ
8 zone microphone	BFM408	BFM408BEZ

**BDM400 Range of Intelligent Paging Microphones**

	Unit	Bezel For flush mounting
Single zone microphone	BDM401	BDM401BEZ
4 zone microphone	BDM404	BDM404BEZ
8 zone microphone	BDM408	BDM408BEZ
16 zone microphone	BDM416	BDM416BEZ
32 zone microphone	BDM432	-
Wall mounting plate for any 400 series microphone	BDM3WB	-
Microphone for interfacing with Unitouch touchscreen paging system	BDM400TS	-

**BDM300 Range of Paging Microphones**

	Unit	Bezel For flush mounting
Single zone microphone with press talk switch	BDM300	BDM300BEZ
Single zone microphone (monitored)	BDM301(M)	BDM301BEZ
4 zone microphone (monitored)	BDM304(M)	BDM304BEZ
8 zone microphone (monitored)	BDM308(M)	BDM308BEZ
16 zone microphone (monitored)	BDM316(M)	-
32 zone microphone (monitored)	BDM332(M)	-





For specific technical advice on the system, choice of cabling, cabling design or any other aspect of the VIGIL range of products, please contact our  
**Technical Advice Team on: +44 (0) 1892 664422**

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				Low Voltage Directive 73/23/EEC as amended by 93/68/EEC EMC Directive 89/336/EEC as amended by 92/31/EEC and 93/68/EEC Applies only when the items are correctly fitted and operated in or with products of our manufacture and are installed in a recommended enclosure.