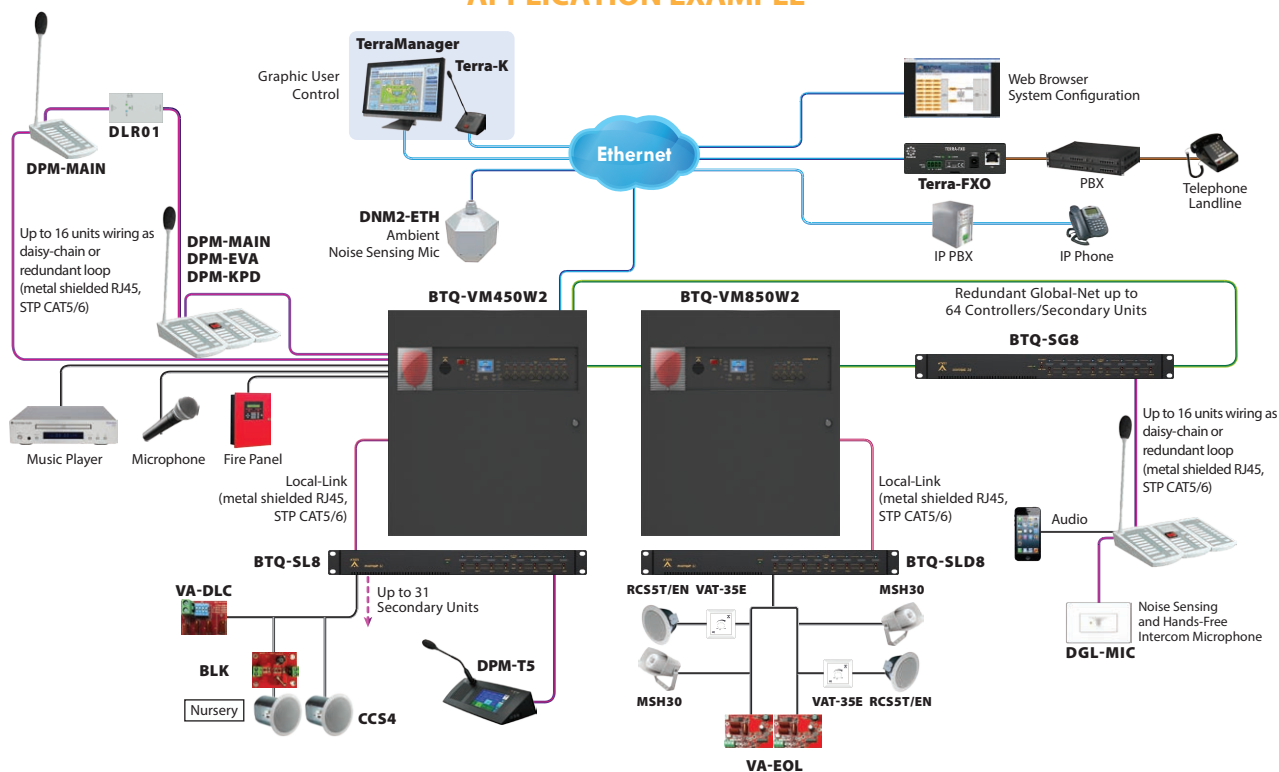# BTQ-VM4W / VM8W

WallMount PAVA Controller

The BTQ-VM4W/VM8W is wallmount PAVA controller with integrated battery charging unit for secured battery backup and power sharing. All components contain within one heavy-duty metal housing with a lockable cover. The BTQ-VM4W/VM8W offers 4 and 8 monitored speaker zones respectively. The controller is integrated with 250W or 500W high efficiency Class-D amplifier built-in and is capable of handling 1000W speaker load per zone and 2000W max. per unit. Each controller can be networkable with up to 64 BTQ-VM4/BTQ-VM8/BTQ-VM4W/VM8W or BTQ-SG8 secondary global unit via global-net. This will then extend as little as 4 monitored A/B speaker zones to a large networked system of up to 16,384 zones. The BTQ-SG8 is linked to the controller via CAT5/6 cable (max. length 100m between units), multi-mode (2 km) and single-mode (20 km) fibre optics or even longer distance upon request.

The BTQ-VM4W has 5 monitored EVAC inputs and 4 relay control outputs, while the BTQ-VM8W has 9 monitored EVAC inputs, 8 logic control inputs and 8 relay control outputs, which can be individually programmed for specific message/input routing to all or selected channels. Moreover, the controller has 10 audio sources including two music inputs, one mic/line input, one USB input, SIP call in, one fireman microphone and two digital paging and control interfaces. Each digital paging interface provides 2CH audio inputs to simultaneously transmit bi-directional data communication in digital format.The two digital interfaces can connect up to 16 paging console or remote units for each, and be wired in a daisy chain or redundant loop. The Mic/Line input features VOX function (Voice Activation) and each input is fitted with volume controls and equalizers.

APPLICATION EXAMPLE

BTQ-VM4W / VM8W

WallMount PAVA Controller

In accordance with EN 54-16 requirement, all BOUTIQUE system including paging microphones and loudspeaker lines provides full monitoring and fault reports.

The system can easily setup and replacement from the LCD panel of BTQ-VM4W/VM8W, the advanced settings can be accessed by web browser such as volume, PEQ, audio routing, monitor and control, event and bell scheduler, paging with priority management (1~99 priority level) etc.. Furthermore, the BOUTIQUE system has full digital audio matrix and an internal message storage for up to 90 minutes and a USB interface for configuration backup and play G.711, G.722, G.726, G.727, MP3 and WAV files.

In addition, multiple volume attenuators can be installed on a monitored speaker lines without the need for a loopback cable. For branching speaker lines using the VA-EOL module, please order the "EOL driver" version of BTQ unit such as BTQ-VMD/SGD/SLD controller/secondary unit, in order to provide more power to drive the VA-EOL module.

FEATURES

- Integrate with battery charging unit for secured battery backup and power sharing
- Background music and voice announcement can be distributed to different group of zones by using 2 built-in amplifiers
- Internal message storage for up to 90 minutes
- IP based music streaming and paging over LAN/WAN
- Easy integration with Terracom, TerraManager and IP phone via SIP protocol
- Internet radio receiver built-in
- Low cost 2 channel switching amplifier architecture
- Third party control via RS232 or Ethernet
- Optional Sound Masking module - reduce the intelligibility of human speech for protecting private speech privacy

BTQ-VM4W Rear Panel

BTQ-VM8W Rear Panel

CERTIFICATIONS AND APPROVALS

Europe	Voice Alarm	EN 54-16
Europe	CE/EMI	EN 55032
Europe	CE/EMC	EN 61000-3-2 EN 61000-3-3 EN 55020
Europe	CE/LVD	EN 60065
USA	Safety	UL 60065 (Pending)

CONTROLS AND INDICATORS

- **Front (4/8 zones type)**
  - 2.2" full colour touch screen LCD display
  - 1 evacuation button
  - Reset/route/select button
  - Monitoring speaker
  - 4/8 zone selected buttons and LEDs
  - 4/8 zone EVAC LEDs
  - 4/8 zone alert/page LEDs
  - BGM source status LEDs (CD/TUNER, AUX, USB, INTERNET)
  - 4/8 zone volume control knobs
  - 1 all-call and all-call cancel button
  - Status LED (power/fault/fireman MIC active/alert/MSG testing)
- **Back**
  - 2 DIP switches for VOX and phantom power
  - 2 global-net port LEDs

INTERCONNECTIONS

- **Front**
  - Fireman microphone
- **Back (4/8 zones type)**
  - Mains power inlet (euroblock connector)
  - 5/9 monitored EVAC inputs
  - 4/8 speaker zone(A/B) outputs
  - 4/8 relay control outputs
  - 8 monitored logic control inputs (BTQ-VM8W)
  - 1 fault and 1 EVAC relay output
  - 2 remote console ports for paging console and remotes
  - 1 MIC/LINE XLR 3-pin phoenix input and 2 RCA stereo input
  - 1 audio line output
  - 1 set of global-net port (optional)
  - 1 Ethernet port
  - 1 USB 2.0 for configuration backup and message/music file
  - 1 internal amp output (EU type:100V, US type:70V)
  - 24 VDC output
  - RS232 for third party control

ELECTRICAL

- AC power input: 100 ~ 240 VAC ± 10%, 50/60 Hz
- Power consumption (AC)

model	idle	1/2 full power	full power
BTQ-VM425/825W1 BTQ-VM425/825W2	W1/W2: 24VA	W1: 200VA W2: 380VA	W1: 390VA W2: 740VA
BTQ-VM450/850W1 BTQ-VM450/850W2	W1/W2: 24VA	W1: 380VA W2: 740VA	W1: 750VA W2: 1460VA

Idle: pilot tone -36dB, 1/2 full power: alarm tone

- DC power input: 44 ~ 52 VDC
- Power consumption (DC)

model	standby mode	idle	1/8 full power	1/2 full power	full power
BTQ-VM425W1/W2 BTQ-VM825W1/W2	W1/W2: 6.4W	W1/W2: 22W	W1: 46W W2: 86W	W1: 180W W2: 342W	W1: 350W W2: 666W
BTQ-VM450W1/W2 BTQ-VM850W1/W2	W1/W2: 6.4W	W1/W2: 22W	W1: 85W W2: 168W	W1: 342W W2: 666W	W1: 675W W2: 1314W

Idle: pilot tone -36dB, 1/8 full power: speech, 1/2 full power: alarm tone

BTQ-VM4W / VM8W

WallMount PAVA Controller

INTEGRATED BATTERY CHARGER
- Charging
  - Voltage: 54VDC
  - Charging current: 1.5A
- Maximum output current: 30A
- Battery capacity (4 x 12V): 10Ah to 30 Ah
- Recommended brands: Yuasa NPL Series, Power-Sonic GB Series, ABT TM Series, EnerSys VE Series, Eekta BTL Series, Long GB Series

AUDIO CHARACTERISTICS (GENERAL)
- A/D-D/A bit resolution: 24 bit
- Sampling rate: 48k Hz
- Frequency response: 20 Hz ~ 20k Hz (±1 dB) @ 0 dBu
- SNR: > 80 dB
- THD+N: < 0.02 % @ 30 dB gain, -24 dBu (1k Hz) in
- EIN: < -86 dBra @ 0 dB gain
- Maximum input level (CD/AUX/mic): 17 dBu
- Maximum output level (line out): 17 dBu
- Crosstalk: > 70 dB @ 42 dB gain, 0 dBu (10k Hz) in

AUDIO CHARACTERISTICS (CD/AUX)
- Input impedance: 5k ohm

AUDIO CHARACTERISTICS (MIC)
- EIN: < -112 dBra @ 24 dB gain
- Input impedance : 8k ohm
- Input gain range: 0 ~ 40 dB (adjust with mic/line gain)
- CMRR: < -80 dB @ 40 dB gain, -40 dBu (1k Hz) in
- Phantom power: 48 VDC, 7 mA

AUDIO CHARACTERISTICS (EX. AMP/LINE OUT)
- Output impedance (balanced): 30 ohm

WATTAGE CAPACITY
- BTQ-VM4/8W1: 1000W per zone/2000W (max.) per unit

INTERNAL POWER AMPLIFIER
- Rated output power: 250W/500W (Class-D)
- Frequency response: 50 Hz ~ 18 kHz (±3 dB) @ 0 dBu
- THD+N: < 0.1 % @ 42 dB gain, 0 dBu (1k Hz) in
- SNR: > 90 dB

LOUDSPEAKER OUTPUTS
- Number of zones: 4 or 8
- Number of loudspeaker lines: 8 or 16, A/B speaker lines per zone

model	rated loaded capacitance
BTQ-VM425/825W1 BTQ-VM425/825W2	120 nf (100V); 240 nf (70V)
BTQ-VM450/850W1 BTQ-VM450/850W2	240 nf (100V); 470 nf (70V)

RELAY OUTPUTS
- Maximum voltage: 100 VDC
- Maximum current: 0.5A

EVAC INPUTS
- Voltage mode
  - Maximum voltage: 72 VDC
  - Active voltage: 18 ~ 72 VDC
  - Inactive voltage: < 0.8 VDC
- Contact mode
  - Non-isolated analogue interfaces with internal pull-up to +5V by 10k ohm
  - Monitored analogue contact thresholds
    - Faulty-open circuit: > 2.7 VDC
    - Inactive voltage: 2 ~ 2.5 VDC
    - Active voltage: 1.35 ~ 1.7 VDC
    - Faulty-short circuit: < 0.6 VDC

NETWORK
- Max. global-net units: 64
- Max. distance between global-net units: 100m (CAT5/6), 2 km (multi mode fiber optic) and 20 km (single mode fiber optic)
- Max. remotes units
  - Daisy-chain wiring
    - 16 DPM sets (DPM-MAIN + EVA + KPD) for each remote port
    - 32 DPM sets (DPM-MAIN + EVA + KPD) for 2 remote ports
  - Redundant loop: 16 DPM sets (DPM-MAIN + EVA + KPD)
- Max. DPM sets (MAIN + EVA + KPD)
  - Max. 16 DPM sets
    - 1 DPM-MAIN attaches 1 DPM-EVA and 14 DPM-KPD
    - 1 DPM-MAIN attaches 15 DPM-KPD
  - Max. 128 keys for each DPM set
  - Connection via flat cable
- Max. remote units: 16
- Max. communication distance between BTQ-VMW and remote unit: 250m (shielded RJ45 connector, STP CAT5/6)

  * The distance of cable length will directly affect the quantity and power requirement of remote unit.
  1. The longer the cable is, the less power the BTQ-VMW can supply to the remote units.
  2. The more the remote units has cascaded in daisy-chain/redundant loop, the less power the BTQ-VMW can supply to the remote units.

  For example, if the cable length between the BTQ-VMW and DPM-MAIN is within 250m, the DPM-MAIN can be powered by BTQ-VMW. If the cable length is beyond 250m, please connect the DLR01 digital loop repeater and PSU65-27 27VDC power adapter, ensuring the control signal and power supply of DPM-MAIN units are enough. To know the max. distance between BTQ-VMW and DPM-MAIN unit(s) and the max. distance which the DPM-MAIN can be powered by DLR01 unit, please see BOUTIQUE user manual for details.

MECHANICAL
- Dimensions (W x H x D)
  - BTQ-VM4W/VM8W: 653 x 735 x 130 mm (25.7 x 28.9 x 5.1 inch)
- Weight
  - BTQ-VM425W1: 19.3 kg (42.5 lbs)
  - BTQ-VM450W1: 20.9 kg (46.1 lbs)
  - BTQ-VM425W2: 19.6 kg (43.2 lbs)
  - BTQ-VM450W2: 21.2 kg (46.7 lbs)
  - BTQ-VM825W1: 20 kg (44.1 lbs)
  - BTQ-VM850W1: 21.6 kg (47.6 lbs)
  - BTQ-VM825W2: 20.3 kg (44.6 lbs)
  - BTQ-VM850W2: 21.9 kg (48.3 lbs)
- Mounting: Wall-mount
- Colour: RAL 7016

ENVIRONMENTAL
- Operating temperature: -5 ºC ~ +55 ºC (+23 ºF ~ +131 ºF)
- Storage temperature: -40 ºC ~ +70 ºC (-40 ºF ~ +158 ºF)
- Relative humidity: 20% to 95%
- Air pressure: 600 to 1100 hPa
- Heat dissipation
  - BTQ-VM425/825W1: 478 BTU/hr
  - BTQ-VM450/850W1: 853 BTU/hr
  - BTQ-VM425/825W2: 819 BTU/hr
  - BTQ-VM450/850W2: 1570 BTU/hr

BTQ-VM4W / VM8W

WallMount PAVA Controller

Ordering Information

Model No.	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Description of Model
BTQ-VM	EOL Driver	Number of Zone	250W/500W	Wall Mount/ Rack Mount	Global Net Card	Region	PAVA Controller
BTQ-SG		8	N/A	N/A		N/A	PAVA Secondary Global Unit
BTQ-SL					N/A		PAVA Secondary Local Unit

EOL Driver

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	✔	✔		None
✔	✔	✔	D	EOL Driver

Number of Zone

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	–	–	4	4 Zone
✔	✔	✔	8	8 Zone

250W / 500W

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	–	–	25	250W
✔	–	–	50	500W

Wall Mount or Rack Mount

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	–	–	None	Rack Mount Type
✔	–	–	W1	Wall Mount Type(Amp x 1)
✔	–	–	W2	Wall Mount Type(Amp x 2)

Global Net Card

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	✔	–		None
✔	✔	–	RR	RJ45(A)-(B)
✔	✔	–	MR	Fiber Multi Mode(A)-RJ45(B)
✔	✔	–	SR	Fiber Single Mode(A)-RJ45(B)
✔	✔	–	RM	RJ45(A)-Fiber Multi Mode(B)
✔	✔	–	RS	RJ45(A)-Fiber Single Mode(B)
✔	✔	–	MM	Fiber Multi Mode(A)-(B)
✔	✔	–	SS	Fiber Single Mode(A)-(B)

Region

BTQ-VM	BTQ-SG	BTQ-SL		Description
✔	–	–		220~240 Vac,+48VDC Power,Amp Out 100V
✔	–	–	D	-48VDC Power Only, Amp Out 100V (for BTQ-VM 250W AMP only, N/A for BTQ-VMW1/VMW2)
✔	–	–	U	100~120 Vac,+48VDC Power,Amp Out 70V
✔	–	–	T	100~120 Vac,+48VDC Power,Amp Out 100V

Network Card

NET2-RR	Netcard,RJ45(A)-(B),excl Ass'y Pillar
NET2-MR	Netcard,Fiber Multi(A)-RJ45(B),excl Ass'y Pillar
NET2-SR	Netcard,Fiber Single(A)-RJ45(B),excl Ass'y Pillar
NET2-RM	Netcard,RJ45(A)-Fiber Multi(B),excl Ass'y Pillar
NET2-RS	Netcard,RJ45(A)-Fiber Single(B),excl Ass'y Pillar
NET2-MM	Netcard,Fiber Multi(A)-(B),excl Ass'y Pillar
NET2-SS	Netcard,Fiber Single(A)-(B),excl Ass'y Pillar

Copper Pillar

CP-PILLAR 15	Copper pillar 15 mm x 50
CP-PILLAR 35	Copper pillar 35 mm x 50