



- UL Listed
- Push button balancing
- On-board accumulator
- Built-in test button and sounder
- Manual sensitivity adjustment
- Powered by alarm panel
- Self-test to validate system performance

The VSA series is a self-contained sound detection system listed by Underwriters Laboratories, Inc. for the primary protection of reverberant and non-reverberant vaults, such as bank and mercantile vaults.

The VSA system contains a microprocessor driven DC differential balance control which is adjusted so that the impedance of the microphone circuits are balanced with the internal impedance of the differential circuit. The VSA will alarm through its SPDT alarm relay contacts if the microphone circuit impedance increases or decreases.

The main controller and the microphone are combined into a single enclosure (VSA-1).

The main controller utilizes a single button for system balancing. The on-board accumulator allows the system to alarm after receiving a set number of pulses during a 10-minute time frame. The accumulator has an adjustable range of 0 to 9 pulses.

Sensitivity is manually adjustable to detect all attacks as set forth in UL 639 and UL 681.

The on-board test button and sounder provide a means to manually test the system during system inspection.

The Remote Test Annunciator (RTA) can be installed in a remote location, likely by the alarm control panel. The RTA allows for remote testing and it annunciates the system condition with LED's.

The optional self-test feature validates the system's performance. This feature enables the user to be informed of possible system degradation, due to severe environmental changes, before finding out too late.

The VSA will integrate and may be powered by any alarm control panel.

The VSA-2K is a kit consisting of one (1) VSA-1 Controller/Microphone, one (1) VSM microphone, and one (1) RTA remote test annunciator. Coverage can be expanded by adding eight (8) additional VSM microphones for a total of ten (10) microphones, including the VSA-1 control unit/microphone.

Where UL certification is required, the VSA system must be installed in compliance with U.L. 681. Including at least one manual-initiating device in the vault and connection of the VSA to a UL listed control unit.

### Ordering Information

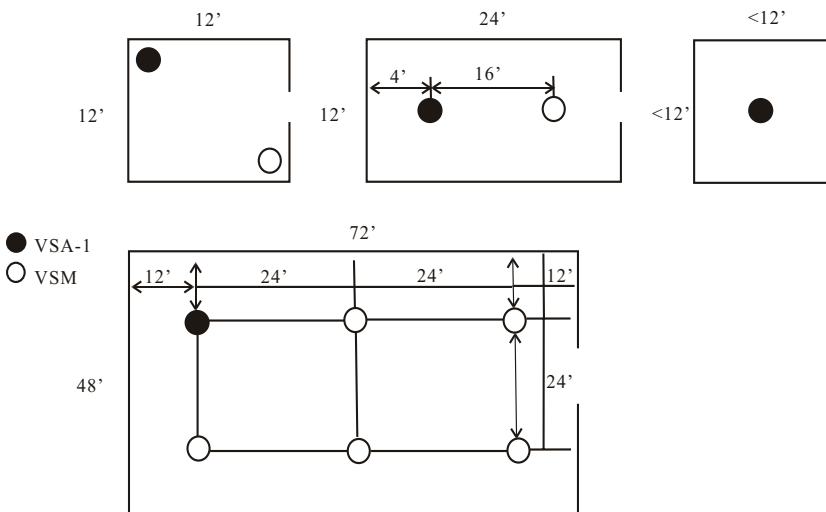
Model	Description	Stock Number
VSA-2K	(1) VSA-1 controller/microphone, (1) VSM microphone, (1) RTA remote test annunciator	2000076
VSA-1K	(1) VSA-1 controller/microphone, (1) RTA remote test annunciator	2000075
VSA-1	controller/microphone	2000070
VSM	microphone	2000071
RTA	remote test annunciator	2000073
VFM	flush mount kit	2000072

**Specifications**

Dimensions	ø5.12" x 3.43"
Weight	VSA-1 (1.1lb), VSM (0.9lb)
Ambient Temperature	32°F to 120°F (0°C to 49°C)
Output Contacts	1 Form C for tamper relay, 2.0 amps @ 30VDC 1 Form B for tamper relay, 2.0 Amps @ 30VDC
Annunciators	On-board Status LED (not visible through enclosure)
Remote Annunciator Testing	LED's for displaying system status and test switch for remote testing
Testing	Remote connections to a test switch initiates system test for users. On-board test button to facilitate installation.
Accumulator	Integrated into the VSA-1 control unit permitting 0-9 accumulated signals at 25% below the standard alarm threshold
Balancing	Automatic balancing by pressing a balancing button
Sensitivity	Manually adjustable to detect all attacks set forth in UL639 and UL681 for sound detectors
Input Power	9VDC to 16.0VDC, 12VDC nominal
Operating Current	50mA nominal/250mA maximum (at test sound generation)
Enclosure	Halogen free high impact PC/ABS alloy based enclosures with tamper (Do not use VSM tampers, wiring supervision is provided by VSA-1)
Electrical Connections	Two ½" conduit openings
Humidity	85%

**Typical System Layout**

It is recommended to install at least one VSA-1 or VSM in every 12' x 12' area.



\* The VSA-2 is not recommended for fur vaults. Absorption of sounds by furs may decrease the sensitivity of the system as the volume of furs change over time.