

# WST-400

Wireless Smoke Detector



Installation Instructions

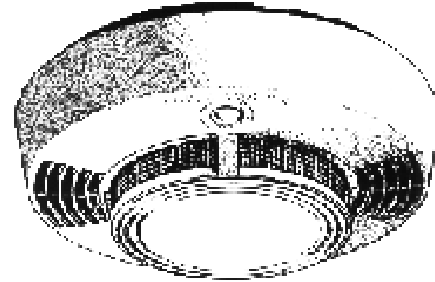
## 1. INTRODUCTION

The WST-400 consists of a 9-Volt battery-operated smoke detector to which a Visonic Ltd. RF transmitter has been added. The transmitter is compatible with the Visonic Ltd. 1, 2, and 4 channel receivers of the WR-200 and WR-300 series.

Upon alarm (smoke detection), the detector keys the RF transmitter. The transmitter in turn transmits a coded signal that consists of a SYSTEM code and a CHANNEL code. Only a receiver set to the same system code as that of the transmitter will respond to the transmitted signal. If the system code is correct, the channel code transmitted by the WST-400 will activate the corresponding relay in the target receiver.

Smoke alarm transmissions will be sent once every 60 seconds for a period of 1 - 2 seconds per transmission while the detector is on alarm. An alarm is also indicated by sounding of the smoke detector's built-in horn.

A notable advantage of the WST-400 is its ability to transmit low-battery signals when the battery voltage drops below a preset



threshold. A low battery signal will be sent once every 45 seconds for 1 to 2 seconds per transmission, to activate the buzzer output (BUZ) in receivers type WR-200/2B, WR-200/4B, WR-300/2B and WR-300/4B. Simultaneously, the built-in electronic horn will sound a short beep.

## 2. TRANSMITTER SPECIFICATIONS

**Encoding:** 8-bit digital word, 256 combinations, pulse width modulation.

**Channels:** 4 channels, DIP switch selectable

**Operating Frequency (MHz):** 315, 404, 418, 433.92 MHz or other frequencies according to local requirements.

**Transmission Cycle:** 1-2 second transmissions once every 60 seconds while in alarm.

**Power Supply:** 9 VDC alkaline battery, such as Eveready #522 or Duracell #MN1604

**Current Consumption:** 0.5  $\mu$ A standby, 5 mA transmit

**Battery Test:** "Channel 0" code transmitted once every 45 seconds when the battery voltage goes below 7.5 Volts.

**Compliance with Standards:** Meets FCC Part 15, ETS300-220 and MPT1349

**Operating Temperature Range:** 0°C to 49°C (32°F to 120°F).

## 3. INSTALLATION

### 3.1 Setting the System Code

The WST-400 transmitter has an 8-key DIP switch marked 1 to 8 (see Figure 1). Each key may be set to ON or OFF to create a unique digital code (256 possible combinations). Use a ball point pen to set each one of the 8 switches to match the system code setting of the target receiver. All wireless transmitters and receivers in the system must be set to the same code.

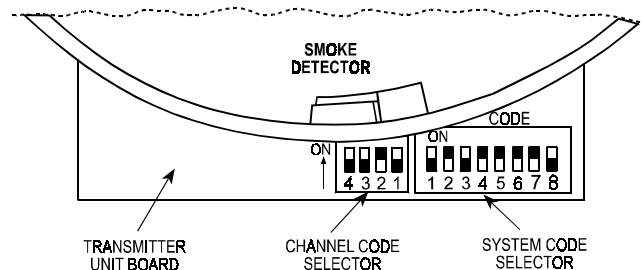


Figure 1. WST-400 Code Selector

**CAUTION!** The code combination 2, 4, 5, 6, 7 ON / 1, 3, 8 OFF is a factory test code which must not be used. Also avoid codes which are often used: all keys ON, all keys OFF or alternating ON/OFF settings.

### 3.2 Setting the Channel Code

Each WST-400 has a 4-key DIP switch marked 1 to 4 (Fig. 1). This switch permits selecting one of 4 channel codes by shifting

the selected switch lever to the ON position. Figure 1 shows the channel selector with channel No. 2 selected.

Setting all four channel selector keys to OFF (code "0") will activate the buzzer (BUZ) output in the receiver and none of the channel outputs.

In fact, the channel selector keys can be set to 15 ON/OFF combinations - a useful feature in multiple zone applications. To take advantage of this capability, the 4 outputs of the target receiver must be connected to the optional WMX-16 output multiplexer (refer to Publication D-4001-0 for more details).

### 3.3 Mounting

Mount the WST-400 smoke detector in accordance with the enclosed owner's manual. Be sure to read these instructions and follow them in full.

### 3.4 Testing

**ATTENTION!** Before proceeding, be sure to put the alarm system into the test mode, or inform the central station that you will be testing your smoke detectors.

To test proper activation of the smoke detector as well as wireless transmission, press the test button located on the front of the smoke detector for 20 seconds or until the alarm sounds. Verify activation of the control panel's fire zone (the zone designated for smoke detectors).

See the enclosed owner's manual for more information.

## 4. MISCELLANEOUS COMMENTS

### 4.1 Product Limitation

Visonic Ltd. wireless systems are very reliable and are tested to high standards. However, due to low transmitting power and limited range (required by FCC and other regulating authorities), there are some limitations to be considered:

- A. Receivers may be blocked by radio signals occurring on or near their operating frequencies, regardless of the digital code used.
- B. A receiver can only respond to one transmitted signal at a time.
- C. Wireless equipment should be tested regularly to determine whether there are sources of interference and to protect against faults.

### 4.2 Compliance with Standards

The user is cautioned that changes or modifications to the unit, not expressly approved by the party responsible for compliance, could void the user's authority to operate the equipment.

The 315 MHz model of this device complies with Part 15 of the FCC Rules and RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesirable operation.

The 433.92 MHz model of this device complies with CE requirements for Europe and bears the CE mark and certification.

#### WARRANTY

Visonic Ltd. and/or its subsidiaries and its affiliates ("the Manufacturer") warrants its products hereinafter referred to as "the Product" or "Products" to be in conformance with its own plans and specifications and to be free of defects in materials and workmanship under normal use and service for a period of twelve months from the date of shipment by the Manufacturer. The Manufacturer's obligations shall be limited within the warranty period, at its option, to repair or replace the product or any part thereof. The Manufacturer shall not be responsible for dismantling and/or reinstallation charges. To exercise the warranty the product must be returned to the Manufacturer freight prepaid and insured.

**This warranty does not apply in the following cases:** improper installation, misuse, failure to follow installation and operating instructions, alteration, abuse, accident or tampering, and repair by anyone other than the Manufacturer.

This warranty is exclusive and expressly in lieu of all other warranties, obligations or liabilities, whether written, oral, express or implied, including any warranty of merchantability or fitness for a particular purpose, or otherwise. In no case shall the Manufacturer be liable to anyone for any consequential or incidental damages for breach of this warranty or any other warranties whatsoever, as aforesaid.

This warranty shall not be modified, varied or extended, and the Manufacturer does not authorize any person to act on its behalf in the modification, variation or extension of this warranty. This warranty shall apply to the Product only. All products, accessories or attachments of others used in conjunction with the Product, including batteries, shall be covered solely by their own warranty, if any. The Manufacturer shall not be liable for any damage or loss whatsoever, whether directly, indirectly, incidentally, consequentially or otherwise, caused by the malfunction of the Product due to products, accessories, or attachments of others, including batteries, used in conjunction with the Products.

The Manufacturer does not represent that its Product may not be compromised and/or circumvented, or that the Product will prevent any death, personal and/or bodily injury and/or damage to property resulting from burglary, robbery, fire or otherwise, or that the Product will in all cases provide adequate warning or protection. User understands that a properly installed and maintained alarm may only reduce the risk of events such as burglary, robbery, and fire without warning, but it is not insurance or a guarantee that such will not occur or that there will be no death, personal damage and/or damage to property as a result.

**The Manufacturer shall have no liability for any death, personal and/or bodily injury and/or damage to property or other loss whether direct, indirect, incidental, consequential or otherwise, based on a claim that the Product failed to function.** However, if the Manufacturer is held liable, whether directly or indirectly, for any loss or damage arising under this limited warranty or otherwise, regardless of cause or origin, the Manufacturer's maximum liability shall not in any case exceed the purchase price of the Product, which shall be fixed as liquidated damages and not as a penalty, and shall be the complete and exclusive remedy against the Manufacturer.

**Warning:** The user should follow the installation and operation instructions and among other things test the Product and the whole system at least once a week. For various reasons, including, but not limited to, changes in environmental conditions, electric or electronic disruptions and tampering, the Product may not perform as expected. The user is advised to take all necessary precautions for his /her safety and the protection of his/her property.

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