

# GFD-40W

Ultra Low-Current Wireless Audio Discriminator



Installation Instructions

## 1. INTRODUCTION

The GFD-40W is a battery powered, ultra low current wireless audio discriminator, sensitive to sounds above the cutoff frequency of approximately 5 kHz. It is primarily designed to detect the breakage of any type of glass. When activated by a sound in the proper frequency range, the GFD-40W triggers a plug-in, low power UHF transmitter module that sends a coded alarm signal to the control panel.

The detection sensitivity can be adjusted with an on-board RANGE control, so that an alarm would be triggered only in response to sounds of sufficient amplitude. A jumper link on the PC board is used for temporary activation of a DETECTOR LED, which serves as a sound level monitor (see para. 3.5).

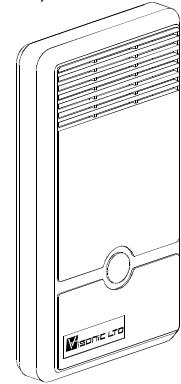
The transmitted RF signal consists of a SYSTEM code and a CHANNEL code that perform the following functions:

- The SYSTEM code serves as a password – the remote receiver ignores RF signals other than the correctly coded ones. A code match between the GFD-40W and the remote

receiver is obtained by selecting identical settings on an 8-position CODE switch in both units. It is possible to select 256 different system codes (see para. 3.3).

- The CHANNEL code determines which one of the remote receiver's outputs will be activated by the transmitted RF signal. This code is selected by presetting the GFD-40W 4-position "CHANNEL" selector (see para. 3.4).

Both detector and transmitter are powered by an internal 9 Volt alkaline or lithium battery housed within the unit's case.



## 2. SPECIFICATIONS

### ACOUSTIC

**Detection Range:** Up to 35 ft (10 m)\*.

**Cutoff Frequency:** 5 kHz nominal

**Microphone:** Electret condenser.

\* Varies with room shape, acoustics, temperature and humidity.

### ELECTRICAL

**Battery:** 9-volt alkaline or lithium type.

**Current Drain:** 0.008 mA in standby.

**Battery Life:** Up to 2 years in standby; calculation is based on initial full battery capacity of 0.5 Ah and operating conditions within the limits of battery specifications.

**Note:** Although the battery should last 1 - 2 years, it is a good practice to replace it every 12 months.

### Visual Indicators:

ALARM LED - lights upon alarm.

DET. LED - indicates detection of ambient noise.

**Testing:** Built-in LED for ambient noise monitoring.

### WIRELESS

**Frequency (MHz):** 315, 304, 404, 418, 433.92 or other frequencies per local requirements.

**Transmission Duration:** 2 seconds

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

**Channels:** 4 channels, switch-selectable.

### ENVIRONMENTAL

**Operating Temperatures:** 0°C to 50°C (32°F to 122°F).

**Storage Temperatures:** -20°C to 60°C (-4°F to 140°F).

### PHYSICAL

**Dimensions (H x W x D):** 110x63x25mm (4-5/16 x 2-1/2 x 1 in.).

**Weight:** 67 gr ( approx. 2-1/2 oz).

**Color:** White.

## 3. INSTALLATION

### 3.1 Selecting Mounting Location

The GFD-40W should be positioned close to and facing toward the expected forced entry points (door, windows etc.). It is inadvisable to mount the unit on the wall through which intrusion could occur.

There should be a clear acoustic path between the unit and the protected area. Do not mount the unit behind walls or around corners from the area to be covered, as the signal it receives will be reduced. Any coverings or decorations (drapes, blinds etc.) should be in place and taken into consideration during adjustment.

### 3.2 Installation

The detector unit is suitable for surface mounting, using the mounting knockouts provided in the base (see Figure 1).

A. Unpack the GFD-40W and save the nylon bag with the round plastic cap for later use (see para. 3.7).

B. Remove the screw which secures the front cover to the case.

C. Punch out two diagonally opposed mounting knockouts (see Figure 1 for knockout locations).

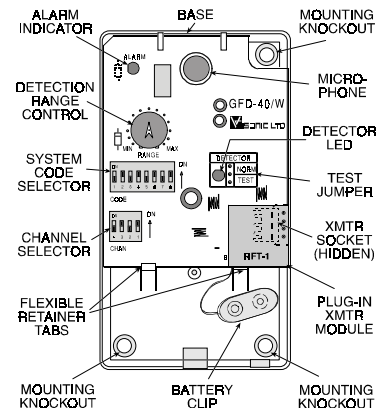


Figure 1. Inside View

- D. Secure the unit to the wall with 2 screws (use wall inserts if required).
- E. Connect a 9-volt alkaline or lithium battery to the battery clip.

### 3.3 System Code Selection

The code selector consists of an 8-key DIP switch, marked 1 through 8. Each key is set to either ON or OFF position to create a unique digital system code combination (256 possibilities - see Figure 2).



Figure 2. System Code Selector

Select the desired digital code so that it will match the one selected on the companion receiver. All wireless detectors and the receiver used in the alarm system must be set to the same digital code.

**CAUTION:** the code combination 2, 4, 5, 6, 7 ON / 1, 3, 8 OFF is a factory test code that must not be used. Also avoid often-used codes such as all keys ON, all keys OFF or alternating ON-OFF settings.

### 3.4 Channel Code Selection

The Visonic Ltd. wireless security systems have a multi-channel capability. Each GFD-40W audio discriminator can be set to transmit any combination of 4 different channel codes. Each channel code activates a particular output circuit of the companion receiver. This feature is very useful for zoning purposes - activation of different zones at the control panel.

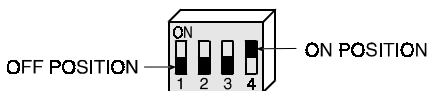


Figure 3. Channel Code Selector

The channel selector consists of a 4-key DIP switch marked 1 through 4. The channel code transmitted by the detector is selected by setting the corresponding switch(es) to the ON position.

### 3.5 Adjustment and Test

Allow one minute after power up for the unit to stabilize. Use the RANGE control to select the sensitivity best suited to each application. The sensitivity should be set only as high as necessary, to avoid false alarms.

All sounds affecting the detector can be monitored and displayed by the test LED marked DETECTOR, provided that the NORM/TEST jumper is placed in the TEST position (see Fig. 1). Check individual sounds, such as telephones and door chimes, to find out whether they cause the detector LED to light. If they do, gradually rotate the range control counterclockwise until the LED no longer lights.

Next, test the GFD-40W response to sounds that should trigger an alarm. A good simulation for frequencies above 5 kHz is to strike keys against the protected glass. You can also use a commercially available, dedicated glass break simulator. If the simulation does not trigger an alarm, gradually increase the range control to a point where the test signal consistently causes the unit to go into alarm.

In some cases, optimum sensitivity and maximum immunity to false alarms can be obtained by re-locating the GFD-40W.

Upon alarm, the ALARM indicator should light for 2 seconds, and a 2-second alarm transmission should take place. Verify that the transmitted signal affects the correct zone in the control panel.

**Important:** Do not forget to return the NORM/TEST jumper to NORM. Otherwise, the unit will draw excess current which will result in shorter battery life.

### 3.6 Maintenance

The proper adjustment and operation of the GFD-40W should be checked at least once a year, in accordance with para. 3.5.

To assure proper continuous functioning, the user should be instructed to perform a simulation as explained in para. 3.5, to assure an alarm output prior to each time the alarm system is armed.

### 3.7 Replacing the Cover

Reposition the front cover with the grille at the top (over the microphone). Secure with the screw and insert the plastic cap over the screw head (see Figure 4).

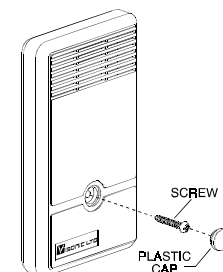


Figure 4. Screw and Cap

### 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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