

GFD-20 / GFD-20AD

Audio Discriminators



Installation Instructions

1. INTRODUCTION

The GFD-20 is an audio discriminator, sensitive to sounds above a cutoff frequency of approximately 4 kHz. When activated by such a sound, the audio discriminator energizes an on-board

output relay, that can be wired to trigger an alarm.

A modified version, the GFD-20AD, is fitted with an additional potentiometer to adjust the lower cutoff frequency.

2. SPECIFICATIONS

ACOUSTICAL

Detection Range: Up to 50 ft (15 m)* radius (adjustable).

Coverage Area: Up to 5000 sq. ft (500 sq. m)*.

Cutoff Frequency: GFD-20 - 4 kHz; GFD-20AD - adjustable from 2 to 10 kHz.

Microphone: Electret Condenser.

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

ELECTRICAL

Input Voltage: 9 - 16 VDC, protected against reverse polarity.

Current Drain: 20 mA.

Output Relay: N.C. (fail-safe); 18½ resistor in series with contacts; rating: 0.1 A resistive/24 VDC.

Alarm Period: 2-3 seconds.

Tamper Contacts: Normally closed, 0.5 A resistive / 24 VDC.

Indicators: ALARM LED - lights upon alarm. DET. LED - indicates detection of ambient noise.

Listen-in Output: 20 mV approximately.

ENVIRONMENTAL

Operating Temperatures:

-10°C to 50°C (14°F to 122°F).

Storage Temperatures:

-20°C to 60°C (-4°F to 140°F).

PHYSICAL

Dimensions (H x W x D):

115 x 65 x 35 mm (4-1/2 x 2-9/16 x 1-3/8 in.).

Weight: 88 gr (3.1 oz).

Color: White.

3. INSTALLATION

3.1 Selecting Mounting Location

The audio discriminator should be positioned close to and facing toward the area to be covered (door, windows, etc.). There should be a clear acoustical path between the unit and the points of entry. Do not mount the GFD-20 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.

The unit is suitable for surface and corner mounting alike. Various knockouts are provided in the base (see Figure 1).

3.2 Mechanical Mounting

The unit can be corner mounted, either horizontally or vertically, because of the unique shape of its housing.

Surface mounting is possible on a wall or ceiling at angles of 30°, 60° and 90°. Various holes and knockouts are provided in the base of the GFD-20 for mounting purposes (see Figure 1).

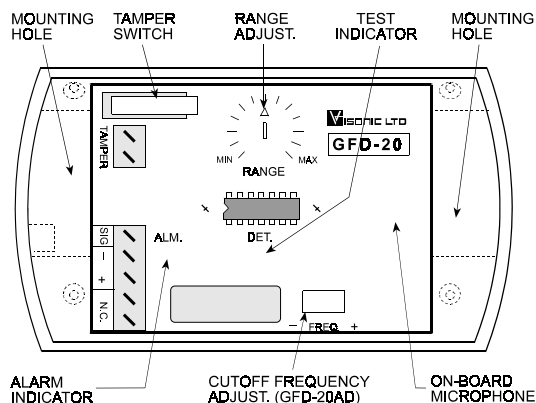


Figure 1. GFD-20 Inside View

3.3 Wiring

To route the wires into the sensor, use any one of the wiring knockouts. Refer to Figure 2 and proceed as follows:

- Connect the **TAMPER** N.C. terminals to a normally closed 24-hour protection zone of the control panel.
- Connect the relay **N.C.** terminals to a normally closed burglar protection zone of the control panel. Relay contacts will open when the sensor is activated or upon power loss.
- Connect the 12V (+) and (-) terminals to a 12VDC power source, making sure not to reverse the polarity. The power supply should have battery backup.
- For "listen-in" purposes, the SIG terminal may be connected via a telephone alarm communicator to a remote central station. The typical output signal at this terminal is 20 mV. For detailed interconnection data, consult the manufacturer of the digital communicator.

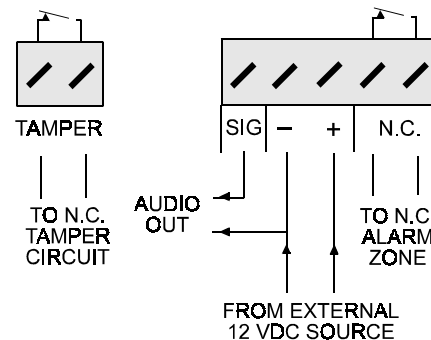


Figure 2. GFD-20 Terminal Block

3.4 Adjusting the Coverage Area

All sounds affecting the detector are monitored and displayed by the test LED marked DET. The effect of individual sounds, such

as telephones and door chimes, can be checked and adjustments made for optimum sensitivity and maximum immunity from false alarms.

The potentiometer marked RANGE is used to select the sensitivity best suited to each application. A good simulation for frequencies above 4 kHz is to strike some keys against the protected glass itself.

An alarm condition occurs when the LED marked ALARM lights. The GFD-20 should be set only as high as is necessary, to avoid false alarms.

3.5 Adjusting Lower Frequency Cutoff (Model GFD-20AD)

The FREQ. control permits the lower cutoff frequency to be adjusted approximately from 2 kHz to 10 kHz. Rotating this control counter-clockwise lowers the cutoff frequency.

This adjustment allows you to effectively neutralize background noises at a specific installation, achieving optimum sensitivity with minimum false alarms.

4. MAINTENANCE

The proper operation and adjustment of the GFD-20 should be checked at least once a year according to Sections 4 and 5. To assure proper continuous functioning, the user should be

instructed to perform simulation as explained in Section 4, to assure an alarm output prior to each time the alarm system is armed.

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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