16451 Ultrasonic Sound Generator

⚠ WARNING ⚠

Wear eye protection that meets the requirements of ANSI Z87.1 and OSHA.

The Robinair 16451 Ultrasonic Sound Generator and the Robinair 16455 "TruTrak" Ultrasonic Detector form a non-invasive leak detection system capable of finding leaks in enclosures, such as buildings, vessels, automobiles, walk/reach-in freezers, or any other container that needs to be leak-free.

The 16451 Sound Generator is used to "pressurize" rooms and enclosures with its sound. This sound is above the human hearing range and cannot be heard. It can penetrate through minute cracks, even ones that are not directly behind the leak point, and exit through it. It can thus trace the path air, or water, will take to cause a leak.

The 16455 Detector receives the ultrasonic sound that escapes from the leak point, processes it, and displays its strength. The bigger the leak, the higher the volume in the headset.

OPERATION

To test an enclosure:

1. Turn the 16451 sound generator ON. The low battery light will flash three times and then stay green, indicating a good battery. Place the sound generator on one side of the item to be tested.
2. Close the door, window, etc., or seal the enclosure being tested.
3. Using the 16455 detector, start with low sensitivity, and listen for a sound.
   a. If you can hear a sound, check the area of interest, and note the points where the intensity is high.
   b. If you cannot hear any sound, increase the sensitivity and repeat the previous step. The points where the sound is the greatest are most likely leaks.

If the sound from the generator is too loud, and seems to be coming from everywhere, you should place the unit in a towel, or use another method to muffle the sound.

BURST MODE

Pressing the MODE SELECT button changes the output to the generator from continuous tone to "Burst Tone." If the background noise is extremely loud in a particular area, using Burst Tone will make the output of the sound generator easier to identify.

BATTERY REPLACEMENT

The low battery light flashes red when it begins to fail. To replace the battery in the sound generator, turn the unit over, with its sensor output front toward you. The battery door is on the far side. To open, press down in the center of the back panel, and slide it away from you. It does not need much force to open. Replace with one 9-volt battery.

APPLICATION SUGGESTIONS

Weatherizing buildings

Weatherizing buildings requires finding the points where the weather elements can enter the building. This task becomes very simple with the ultrasonic system.

1. Place the sound generator in a room to be leak-tested and turn the generator ON.
2. Go outside with the detector and start a systematic search to find the leaks. Start around the perimeters of the doors and windows.
3. Use a tape and a marker pen to register the volume levels at the locations they are discovered.

Note: Using tape saves having to repeat the checks.

4. After you have finished, read the numbers on your tape and try to determine the cause of the problem.

This procedure can also be used to find leaks in sealing logs in log homes or to check roofing jobs.

Automotive

Windshields and trunk seals can be tested by placing the sound generator on the inside of an automobile and testing on the outside. Verify area to be tested is dry, as the capillary tension in water may block the passage of sound.

Refrigeration

Freezer boxes and refrigerated truck bodies can be tested for tightness like any other enclosure. Depending on the size, it may be necessary to move the sound generator every ten feet inside the trailer to maximize its effectiveness.

CARE AND MAINTENANCE

The instrument may be wiped clean with a damp towel. Do not allow water to enter the unit, especially the front where the sensor is located. After cleaning, dry the unit with a paper towel. An automotive vinyl cleaner (on a piece of cloth) will restore the luster. If you plan to store the instrument for an extended period of time (1 year), remove the battery.

SPECIFICATIONS

Frequency Control	Precision Crystal Oscillator
Output Frequency	40 kHz (± 2.5 Hz)
Frequency Accuracy	± 50 parts per million
Precision Voltage Regulator	1% Regulation
Output Intensity	115 db at 300 cm (nominal)
Dual Mode Output	Continuous or Burst Tone
Power	9-volt Cell
Battery Life (approximately)	70 hours continuous; 90 hours burst

For help in servicing your 16451 Ultrasonic Sound Generator,
call our toll-free Technical Support Line:

1-800-822-5561

in the continental U.S. and Canada.
In all other locations, call your local distributor.

To help us serve you better, please be prepared to provide the model number, serial number, and date of purchase of your unit.

NATIONWIDE NETWORK OF AUTHORIZED SERVICE CENTERS

If your unit needs replacement parts,contact the service center in your area. For help in locating a service center, call the toll-free technical support line or visit www.Robinair.com.

Due to ongoing product improvements,
we reserve the right to change design,
specifications, and materials without notice.

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