Nimrof



Technical User Manual

Warnings and Security Requirements

- **Check the connections of the device before turning it on.**
- **Make sure that the device is turned off after Use of the Device**
- **Check if the device is available before putting it in its bag**

Nimrof – XXXX

AT550 – Dirty, Clean Water and Gas Leaks
AT560 – Dirty and Clean Water Leaks

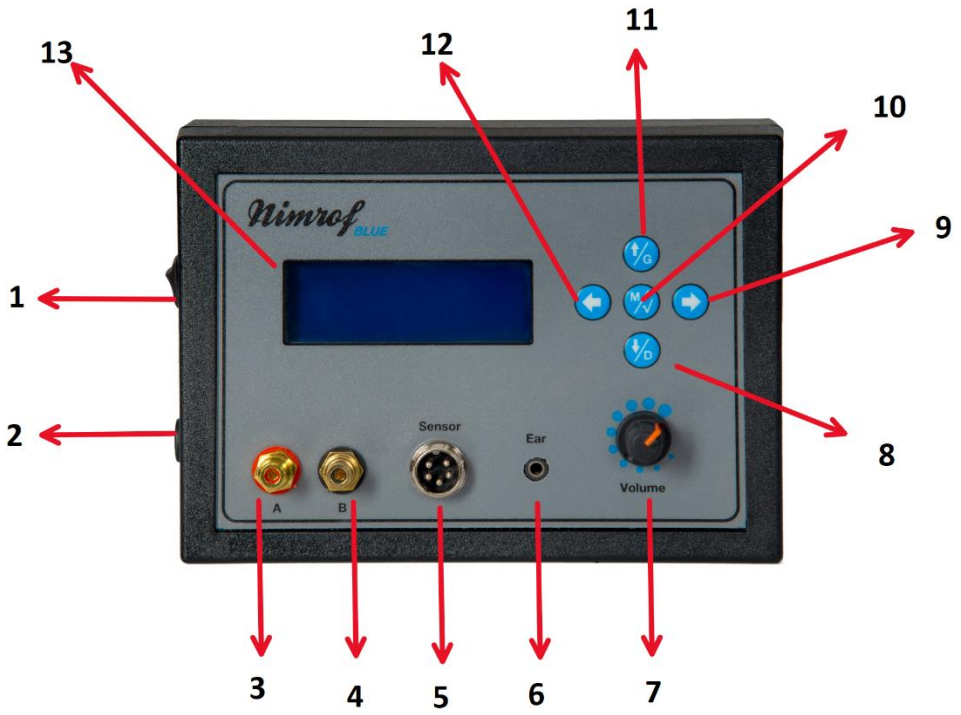
Table of contents

Security Requirements..... 1
Contents..... 2
1 Introduction..... 3
1.1 Definition 3
1.2 Filtering..... 4
1.3 Gain Settings..... 6
1.4 Aplications..... 8
2 Technical Specifications 9
3 Scope of Delivery 10
4 Function of the device 12
5 Installation..... 12
5.1 Electrode Installation 12
5.2 Listening Sensor Installation. 13
5.3 LPG Sensor Installation..... 14
6 Measurement 14
6.1 AB Sensor 14
6.2 Acoustic Listening Sensor 15
6.3 LPG Sensor..... 15
7 Warranty Conditions 16
8 Contact Information. 16

1 – Introduction

1.1 Definition

Nimrof Water leak detection devices are an acoustic listening device that converts vibrations on the surface into sound waves.



Numbers	
1	The device works when the On/Off switch is at 1
2	Charging port
3	AB sensor Electrode signal transmitter input
4	AB sensor B Electrode signal receiver input
5	Gas sensor and Listening sensor input
6	Headphone jack
7	Volume up and down control in acoustic listening
8	Down button and AB sensor quick key as well as Mute key for acoustic listening
9	Right button and frequency changer in the Acoustic listening menu
10	Menu key and confirmation key. It is also the gain toggle key in acoustic listening.
11	Up key and Gas sensor quick key and Frequency changer in acoustic listening at the same time
12	Left button and frequency changer in the Acoustic listening menu
13	Numrerik 4x20 LCD Screen

1.2 Filtering

The Nimrof AT550-2 model has 8 filtrations, which filter unwanted sounds and filter out unwanted sounds, allowing the water leak to be heard more clearly.

There are 8 filtering features, 4 bottom and 4 top. The upper frequencies are often used in circles. The lower frequencies are used in ground punctuation for water leaks that make a large noise outside the circle or inside the circle.

You can use the button below on the device to switch from Lower to Upper frequencies or from Upper frequencies to Lower frequencies.



After setting it to the desired Upper or Lower frequency, you can use the buttons below to change the frequencies in the corresponding frequency stages.



1.2.1 Sub-Frequencies

These are the frequency stages used in water leaks outside the apartment.

a) 0-350Hz Stage : Sounds in the range of 0 to 350Hz are heard. This is a stage related to deep listening. It is used only for the exact punctuation of its location in large water leaks in the apartment.



b) 0-800Hz Stage: Sounds in the range of 0 to 800Hz are heard. This is a stage related to deep listening. It is used only for the exact punctuation of its location in large water leaks in the apartment.



c) 0-1500Hz Stage: Sounds in the range of 0 to 1500Hz are heard. This is a stage related to deep listening. It is used only for the exact punctuation of its location in large water leaks in the apartment. It is a more effective frequency stage than A and B stages.



c) ALL Freq Low Stage: Sounds in the range of 0 to 4000Hz are heard. This is a stage related to deep listening. It is used only for the exact punctuation of its location in large water leaks in the apartment. It is the most effective frequency gradient among the lower frequencies.

1.2.2 Upper Frequencies

These are the frequency stages used in water leaks in the apartment. These stages are listening levels focused on the sound of water.

a) 350-4kHz Stage: Sounds in the range of 350 to 4kHz are heard. This is a stage related to shallow listening. It is the most effective frequency range before All freq High to be used in the circle.



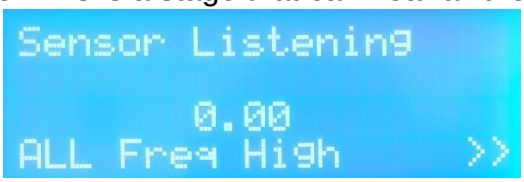
b) 800-4kHz Stage: Sounds in the range of 800 to 4kHz are heard. This is a stage related to shallow listening. It is the most effective frequency range before "350-4kHz" to be used in the circle



c) 1500-4kHz Stage: Sounds in the range of 800 to 4kHz are heard. This is a stage related to shallow listening. It is the most effective frequency range before "800-4kHz" to be used in the circle.



d) **All Freq High Stage:** Sounds in the range of 0 to 4kHz are heard. This is a stage related to shallow listening. It is the most effective frequency range to be used in the circle. This is a stage that can hear all the sounds.



1.3 Gain Settings

The Nimrof Acoustic listening device AT550 has 8 different gain settings. Each stage increases the sensitivity of the sensor, allowing you to hear inaudible sounds. These stages are activated after entering the "Sensor Listening" listening mode from the menu. As the gain increases, you will start to hear all the sounds in the environment, depending on the frequency range you have set, the intensity of the sound may vary, depending on the ambient conditions, it may reach a disturbing point in the form of noise, so increase the gain according to the right frequency or you can increase the gain depending on the noise of the environment. During the increase in gain, turn down the volume of the headset and gradually turn the volume of the headset up.

In order to use this feature, pressing the menu button while listening to acoustic listening will take you to the gain setting menu below.



We can increase or decrease the gain by clicking on the up and down buttons to change the winnings.





1. **Stage :** This is the tier where the gain is zero. This step can be easily used in the circle on both sensors. You can clearly get the tones of the sound you want to hear.



2. **Stage :** This is the stage where the gain on the sensor increases by a factor of two. Both sensors are a step that you can easily use in the circle. Depending on the frequency range, the intensity of the sound may vary.



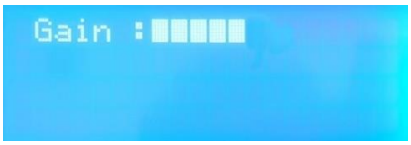
3. **Stage :** This is the stage where the gain on the sensor increases by a factor of 3. Both sensors are a step that you can easily use in the circle. Depending on the frequency range and the sensor, the intensity of the sound may vary.



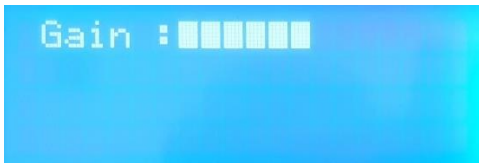
4. **Stage :** This is the stage where the gain on the sensor increases by 4 times. It is the gain level that you can easily use in the RT16SM sensor. If you are going to use it on an under-counter listening sensor, please turn down the volume from the Volume section. Depending on the frequency range and the sensor, the intensity of the sound may vary.



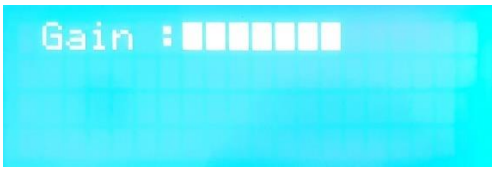
5. **Stage:** This is the stage where the gain in the sensor increases by 5 times. It is the gain level that you can easily use in the RT16SM sensor. If you are going to use it on an under-counter listening sensor, please turn down the volume from the Volume section. Depending on the frequency range and the sensor, the intensity of the sound may vary.



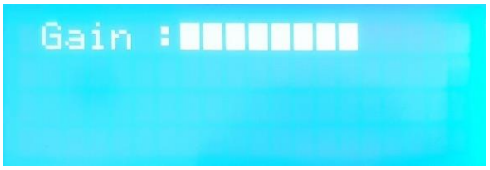
6. **Stage:** This is the stage where the gain on the sensor increases by a factor of 6. It is the gain level that you can easily use in the RT16SM sensor. If you are going to use it on an under-counter listening sensor, please turn down the volume from the Volume section. Depending on the frequency range and the sensor, the intensity of the sound may vary.



7. **Stage:** This is the stage where the gain in the sensor increases by 7 times. It is the gain level that you can easily use in the RT16SM sensor. If you are going to use it on an under-counter listening sensor, please turn down the volume from the Volume section. Depending on the frequency range and the sensor, the intensity of the sound may vary.



8. **Stage:** This is the stage where the gain in the sensor increases by 8 times. It is the gain level that you can easily use in the RT16SM sensor. If you are going to use it on an under-counter listening sensor, please turn down the volume from the Volume section. Depending on the frequency range and the sensor, the intensity of the sound may vary.



1.4 Aplications

- Plumbing Leakage
- Waste Water , Pimas Leaks
- Heating Installation Leaks
- Insulation leaks
- Inside and Outside Building Leaks
- LPG Leaks
- Earth Floor Leaks

2 – Technical Specifications

The specifications for the AT550 and AT560 series devices are listed in Table 2.1. These specifications indicate guaranteed operating conditions, and operating outside the specified limits will shorten the life of the product.

Nominal Ratings	**AT550**
Operating Voltage (DC)	12V(Li-ion Battery)
Display	Numerical LCD
Resolution AB sensor	10 bit
Filtering	8 levels of filtering
Operating time	10 hours
Operating temperature	10°C …+50°C
Storage temperature	-25°C …+70°C
Weight	560 g
Device Dimensions	188 x 133 x 55 mm
Warranty	1 years
Nominal Ratings	**AT560**
Operating Voltage (DC)	12V(Li-ion Battery)
Display	128x64 Graphic LCD
Resolution AB sensor	12 bit
Operating time	10 hours
Operating temperature	10°C …+50°C
Storage temperature	-25°C …+70°C
Weight	430 g
Device Dimensions	105 x 201 x 41 mm
Warranty	1 years

Tablo 2.1: Specifications of AT550 and AT560 series devices

3 – Scope of Delivery

1. Device (AT550 or AT560)
2. Headphones
3. LGP Gas sensor (valid for AT550)
4. 1 piece of ground listening sensor
5. 1 Metal Listening Sensor (For countries other than Türkiye)
6. Dirty Water and Clean Water Leakage Sensor (A and B Electrodes)
7. Extension Rod
8. 25 and 3 meters Cable for AB Sensor
9. 1 x Listening sensor Cable
10. 1pc Adapter
11. Carrying Bag
12. Neck strap for model AT550
13. Spacers

1	 
2	
3	
4	
5	

6	
7	
8	
9	
10	
11	
12	
13	

4 – Function of the device

Nimrof AT560 and AT550 devices detect dirty water and clean water leaks in water lines point-by-point. Water leaks have two separate sensors, one is just an acoustic listening sensor to help you find clean water leaks. The other is the AB sensor, which you will use both dirty water leaks and clean water leaks without plugging in headphones, connecting a test pump to the water leak line, and listening to the LCD on the LCD. Natural gas leaks can also be found with the natural gas sensor only in the AT550 model. AB electrodes will help you narrow the location of the water leak in the circle and find the water leak point-by-point with acoustic listening.

5 – Installation

This section contains information with the installation of sensors.

5.1 AB Electrode Installation (Dirty Water Leaks)

This section contains information with the installation of sensors.

A) 

B) 

A Sensor: The sensor cable to be placed in the lower apartmant flat or in the area where the water leak is located is 25 meters and the part to be attached to the threaded end is below and this part should be touched to the leakage source. The round piece is also used in the acoustic listening sensor.





B Sensor : It is the sensor that should be located in the Upper Apartment or next to the user. Suspicious places are touched and values are observed on the screen. This sensor has a 2 meter cable.



Note: The ends of the cables are colored red which is 25 meters and must be connected to the A sensor. The end of the cable, which is 2 meters, is black and must be connected to sensor B. The idle end parts of the cables should be connected to the A and B input of the device in color. Sensor A is left steady where the water leak is. The B sensor is also touched to the suspicious places with the device and monitored via the LCD screen.

5.2 Listening Sensor Installation

The AT550 and AT560 model have 3 listening sensors.



A B C

A) It is a sensitive listening sensor. It transmits subtle sounds in a very good way.
B) It is an under-the-counter listening sensor.
C) This sensor is only sold in Turkey. It is a replacement product for the A sensor.

Note : The round knob attached to the end of Sensor A is used in both AB sensors and the acoustic listening sensor.

5.3 LPG Sensor Installation

The LPG sensor consists of one piece Valid only for the AT550 model.



Note: The cable used is the same as the acoustic listening sensor.

6 – Measurement

6.1 AB Sensor(Electrode Sensor)



- It is activated from the menu.
- Connections are made as described in 5.1.
- The red electrode is touched to the leaked place and fixed there (which is 25 meters)
- The black electrode is touched by the user to the suspicious places in the upstairs apartment
- The figures shown on the LCD screen are observed and the highest value is the leakage area.
- Shortcut button for AT550 

Note: This feature is used for both dirty water leaks and clean water leaks.

6.2 Acoustic Listening Sensor



- Set the volume to the lowest
- Turn on the device
- Activate from the menu
- Install the listening sensor as described in 5.2
- Put on the headset
- Install the listening sensor
- Mute key

Note: You can observe it numerically and graphically on the LCD screen separately

6.3 LPG Sensor



feature is only applicable to the AT550 product.

- Perform the sensor installation as described in 5.3
- Connect the cable to the sensor and then to the device
- shortcut key button

Note: Wait for the sensor to calibrate itself each time you start up

7 –Warranty Conditions

Nimrof are warranted for 1 (one) year starting from the delivery date of the product. The consumables (cables, USB memory or CD .) supplied with the device are not covered by the warranty. All of the goods, including all parts (against defects that may occur due to production and assembly errors and/or defective parts), are within the scope of our company's warranty. In the event that the product fails during the warranty period, due to material and workmanship or assembly errors, it will be repaired without any charge under any other name, such as labor cost, replacement part cost or any other name. The repair undertaken with this guarantee will be made by authorized services of Nimrof Electronic LTD

The Nimrof electronic products are out of warranty in case of user error, uses not in accordance with recommended practice presented in this datasheet, internal circuits are tampered with and/or the cover is removed. Probes, cables CD or USB sticks are out of warranty. In case of malfunction of the device, please send it to Nimrof Electronic Ltd Şti or authorized distributor.

7 – Contact Information

Distributor in Israel

M ABUDI ADVANCED RENOVATION AND RESTORATION OF PIPELINES LTD.

Address: 6 Rabnitzky Petah Tikva - Israel
Phone: +97236444378
E-Mail: info@abudilines.co.il
Facebook: https://www.facebook.com/AbudiLinesTechnologies/
Web: www.abudilines.co.il

Distributor in Australia

Utilicom

Address: 373 Stephen Street North Albury
Phone: +61 2 6021 2208
E-Mail: info@utilicom.com.au
Facebook: https://www.facebook.com/AbudiLinesTechnologies/
Web: www.utilicom.com.au

Head office

Nimrof Elektronic Ltd STi

Address: Merkez Mahallesi - Fatih Sokak - No:29/A Avcılar / Istanbul
Phone: +90 212 509 00 63
E-Mail: info@nimrof.com
Facebook: https://www.facebook.com/nimrof
Web: www.nimrof.com
Coordinates: 40.981705, 28.723324