User Manual

WLD500 Water Leak Detector

Read this manual carefully before using this Device

Introduction

Tekneka WLD500 is an advanced water leak detector, Facilitates users to detect pipe water leaks up to 5 meters in depth. 7” Digital touch LCD display performs very well in the outdoor light condition and helps to analyze detected noise frequencies (1 ~ 10,000 Hz).
This device shows spectrum signals with digital filtering technology & facilitates users to identify exact leakages in underground metal & plastic pressure pipes.

WLD500 has a multifunction outdoor leakage setting and records both voice & underground acoustic noise at the same time. It is a lightweight device to carry anywhere, comes with multi-language support & better long-lasting battery life of 7 hours while operating with the sensor

Features

- 7” Large touch LCD screen to experience the better view & analyze signals
- Acoustic sensor frequency range 1 to 10,000 Hz
- High range of water leak detection up to 5 meter
- Shows separate environment & underground noise signals
- Can record both sounds of underground & operator voice notes
- This can locate 16 different spots & export the signal data to SD card
- Longer battery life & magnificent performance
- 10 Custom level adjustments of Frequency & volume
- PC interface support to extract recorded data
- Wireless transmission feature help to listen the noise through mobile phone
- Telescopic Steel rods for sand and snow surface

Package Includes

1. Extendable outdoor Sensor stick
2. Headphone with 3.5 jack cable
3. Universal Adapter Plugs
4. USB & Micro SD card
5. Charging Adapter, 5 V (USB type)
6. Carrying case with lock
7. Telescopic steel rods
8. Round steel base
9. Monitor
10. Carrying Strap
11. Acoustic Outdoor Sensor

Specification

Description	Ranges
Frequency Range	1 to 10,000 HZ
Sensor Type	Vertical outdoor sensor
Leakage pipe pressure	Minimum 2 bar
Gain	10 Level Adjustable
Volume	10 Level Adjustable
Operating Mode	General Detection; Location Mode
Display	7” HD digital touch LCD screen
Charting hours	7-8 Hours
Soil Texture	Soft, Hard
Pipe Material	Plastic, Metal, Unknown
Working hours	Working hours 15 Hours (inbuilt rechargeable battery)
Charger	5 V, 2 A USB type
Languages	English, Turkish, Italian,French, Spanish, Arabic
Input Power	Around 2 watt
Working temperature	-20 to 50° C
Weight	7.1 kg (15.6 lbs)
Indication	Visual - Spectre, signal graph | Audio - Filtered/Natural sound

Working Principle

WLD500 Outdoor Water Pipeline Leak detector collects leaking sound signals through its high frequency sensor. Received frequency signals were processed & displayed on the screen in the form of the visual spectrum (signal bar). At the same time, it can produce sound signals which will also be heard & record acoustic sounds.

This WLD500 has a unique feature to distinguish between environmental noise and underground water leak sound. This difference shall be identified through spectrum signals on the screen (thick & thin bar in locating mode)

Operating Instructions

1. Fix the carrying strap backside of the monitor to avoid accidental drops. fig.1

Fig. 1 _Device Strap Fitting

2. Switch ON the monitor by Press and holding the power button " " until it shows an LED light indication

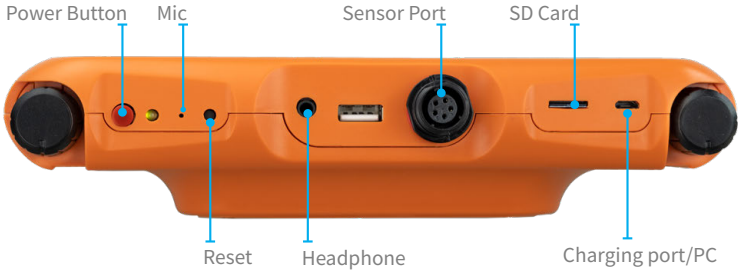

Fig. 1.2 _Sensor Port

Fig. 1.1 _Sensor Port

3. Connect the in-line acoustic sensor cable by matching male & female pins with white dots marked on the monitor. *fig. 1.1*

4. Connect 3.5 jack earphones to the monitor to hear sound signals.

5. After initial boot up, you can see the home screen options Outdoor/About/Settings.

6. Select " Outdoor" mode to access the initial setup of sensor, detection method & record the water leak sounds.

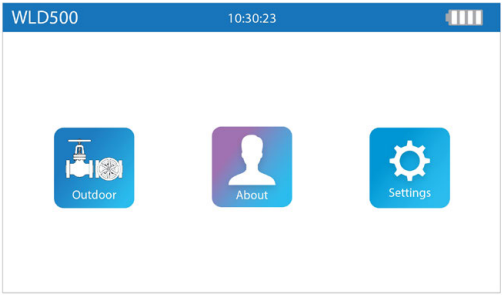

Fig.2.1 _Home Screen

7. Default soil texture & pipe material will be soft & plastic. Based on the outdoor environment you shall select **soil texture:** Hard/pipe **pipe Material:** Plastic, Metal, Unknown

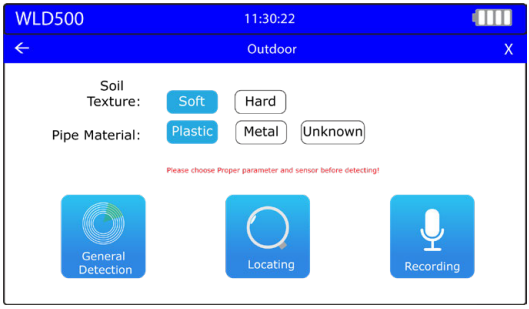

Fig.2.2 _Outdoor Mode

General Detection mode

1. "General Detection" or "Locating" mode helps you to detect the water leakage by observing acoustic sound through the headphone.

2. Select "General Detection" and press the gain button to receive sound frequency from the sensor. Then press the volume button to enable acoustic sound. Rotate both nobs to incerease or decrease it's ranging.*fig.3.1*

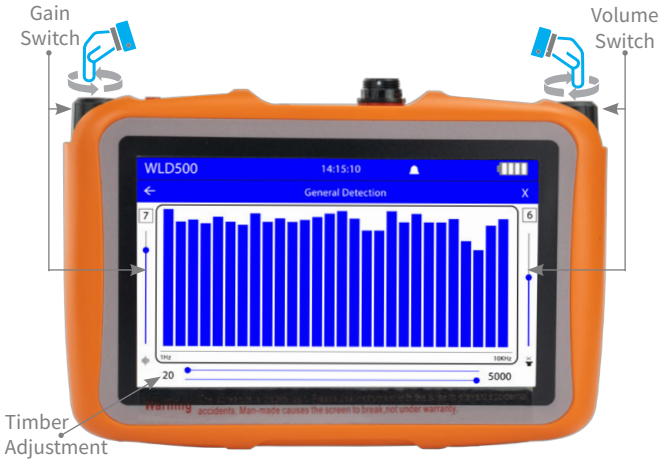

Fig. 3.1 _General Detection Mode

3. This mode will pick up the underground and environmental noises which are used for the quick detection of water leaks. Detected water leak spot will be indicated by the maximum spectrum bars throughout the screen.*fig 3.2*

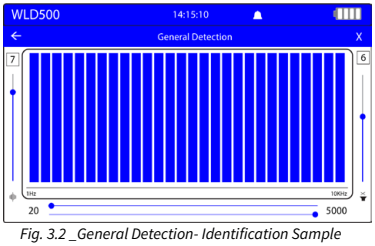

Fig. 3.2 _General Detection- Identification Sample

Locating mode

1. Select “ Locating Mode” and press the gain button to receive sound frequency from the sensor. Then press the volume button to enable acoustic sound. Rotate both nobs to increase or decrease it’s ranging.

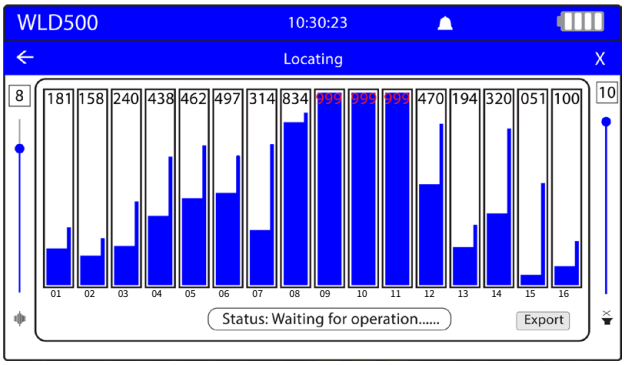

Fig. 3.3 _Locating Mode Identification Sample

2. It has 16 signal points, that can be activated individually by touching on the screen.*fig.3.3*

3. First you need to mark the suspected locations randomly or based on the underground pipe layout.

4. Now select “01” spectrum bar to start receiving signal from the sample location 01. The Blue colour thick bar (Underground noise) with “RED colour” highlighted frequency values will appear on the screen and as you can observe there will be a thin bar which represents “Instantaneous noise”. *Fig 3.4*

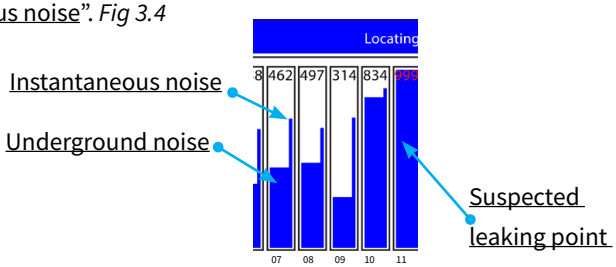

Fig. 3.4 _Spectrum graph

5. Wait until the thick bar gets stable and then click again on “01” spectrum bar on the screen to “LOCK” location points. Follow the same procedure to identify multiple signals from different locations.

6. The highest spectrum bar level with a larger frequency value of ‘999’which indicates a suspected leaking point.

7. Click “EXPORT” to save the generated spectrum graph to SD card in “PicSave” folder as (.bmp) file format.

Recording Settings

MIC ON/OFF: Click “MIC Off” to record operator‘s voice which helps to listen leakage noise along with location voice notes.

Recording: Click to record underground noise and press again to stop recording.

Connect PC: First, connect the USB to PC and click “Connect PC” to access stored data.

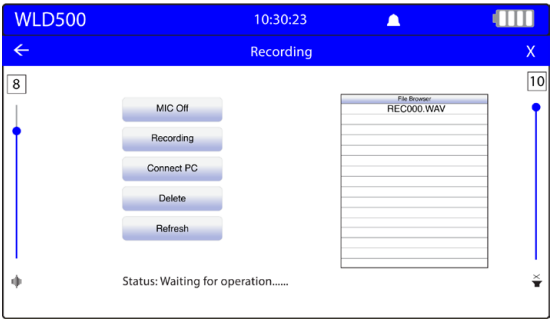

Fig. 4.1 _Recording

Refresh: Press stop recording, and click refresh to update recent records in the file browser list.

Delete: Select a file from the file browser and click delete to remove it from the storage.

Note: Saved spectrum data will appear only the device connected to the PC

System Settings

1. Select “Settings” to change the date, time, Language and decrease the brightness of the monitor
2. Wireless transmission: Detected noise can be transmitted to the smartphone which can be heared by using FM radio app. It is convenient for multiple people to listen at same time, and it needs to be adjusted to the same frequency in your application.

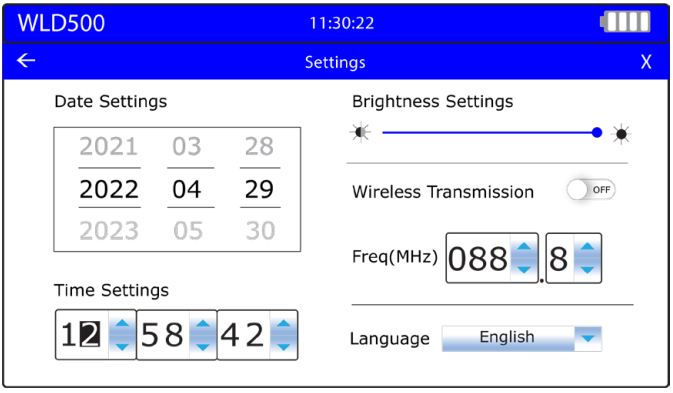

Fig. 5.1 _Settings & wireless Transmission

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