

LORA - 750

User Manual



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MAX LORA 750 (LOCATING SYSTEM)

The Max LORA 750 Locating system is a hybrid model designed with the most calibrated technique in estimating the Auto Frequency Intervention Measurement by Regulating a known frequency set and measuring the amount of natural effect on the transmitted frequency levels to prospect a fault line.

The Groundwater Exploration study involves many stages to correlate the subsurface factors to pinpoint the water bearing zones, the first stage of the survey is to locate the fault zone area and the Max LORA 750 expands the complete area measurement by indicating the matching zone by its directional indication.



SPECIFICATIONS

Technical Parameters

Technology	Auto Frequency intervention measurement	VHF/VLF
Front Range	X - Axis	0 - 2000 meters
Depth Range	Z - Axis	150 / 300 / 500 / 1000 m
Frequency Range	VLF - VHF	60Hz / 250Hz / 750Hz / 1300Hz
Battery	Li-Po	5000 MaH
Indication	Charging	LED
Indication	Comparison	Vibration
Direction	Compass	N-S-E-W
Display	128 x 64	LCD

Integrated Circuit

MICROCONTROLLER	MAX-2530
OPERATING VOLTAGE	5V
INPUT VOLTAGE (RECOMMENDED)	5V
INPUT VOLTAGE (LIMIT)	5V
DIGITAL I/O PINS	54 (of which 15 provide PWM output)
ANALOG INPUT PINS	16
DC CURRENT PER I/O PIN	20 mA
DC CURRENT FOR 3.3V PIN	50 mA
FLASH MEMORY	256 KB of which 8 KB used by bootloader

OPERATIONS PROCEDURE

Connect the Accessories provided

- 1) Transmitter Antennas
- 2) Receiver Antennas
- 3) Directional Compass and the Lora Main terminal as shown in the Fig.



OPERATIONS PROCEDURE

Power ON the system and select the Frequency, Depth and Target as per survey requirement.

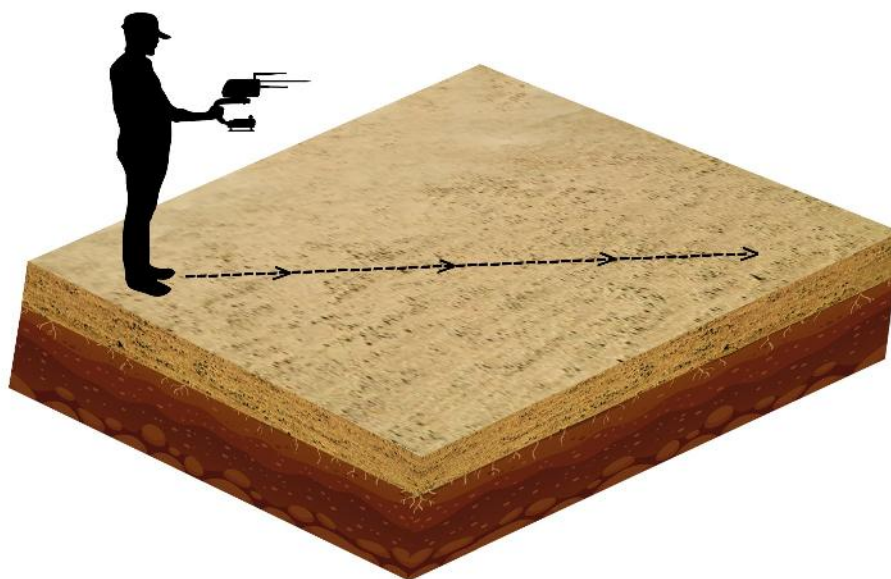


OPERATIONS PROCEDURE

Handle the system at 90 degree frame and position the system to the North Direction as per the indication of the Directional compass



Start the survey by walking on a straight path as per the system pointing direction and change the position if the system creates a new path.

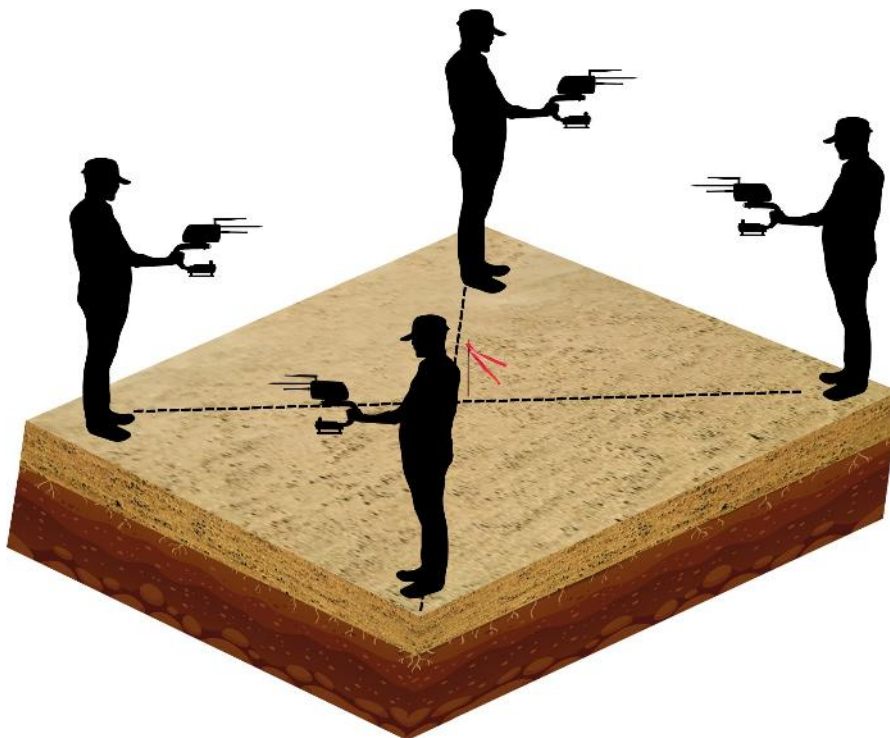


OPERATIONS PROCEDURE

When the system turns 180 degree the location is defined to be targeted and we need to mark the position for the next stage of survey.

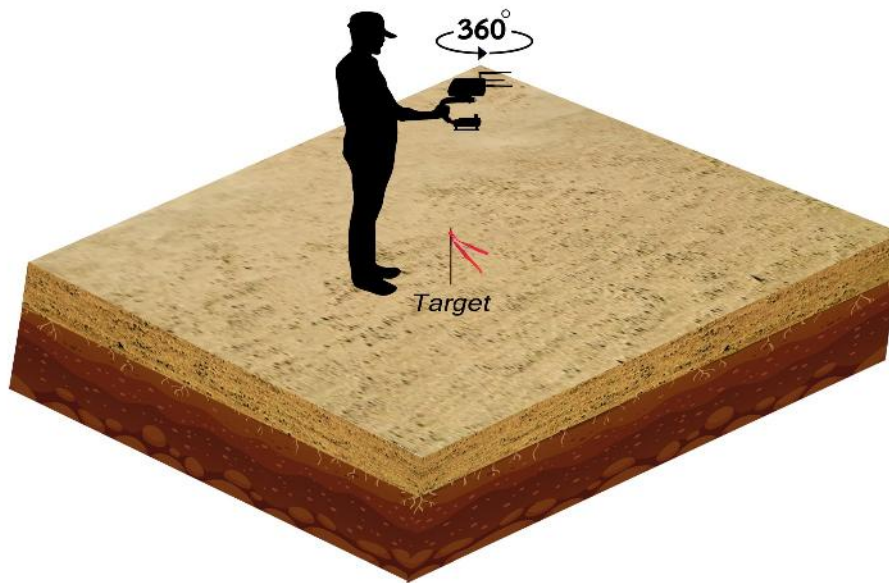


The position is cross checked in all four directions to check if the system points the target from all the radius.



OPERATIONS PROCEDURE

If the system points the target around the radius, we decrease the length of the Antenna to check high frequency and position the system on the target to check if we get a proper 360 degree rotation to confirm if the position is a fault zone.

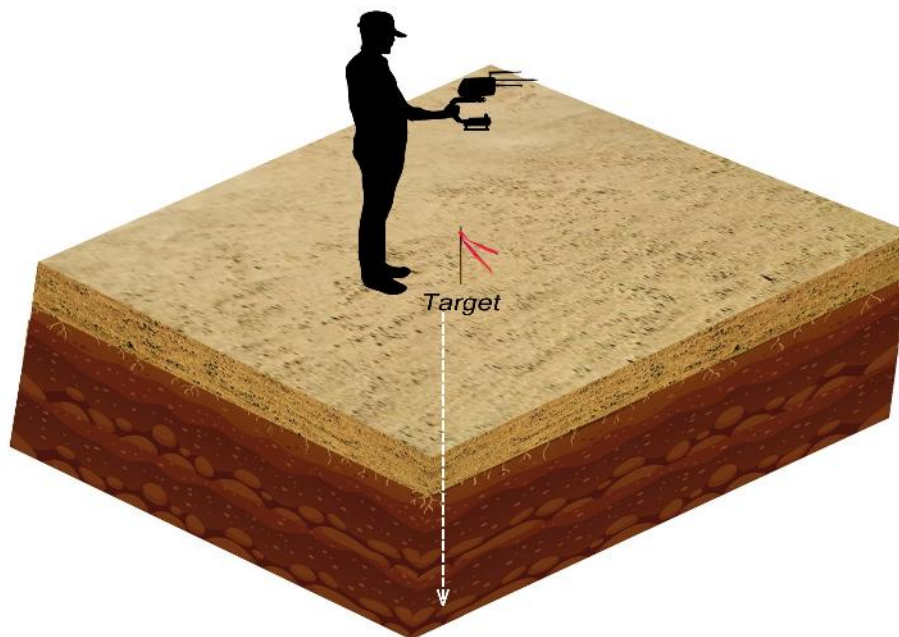


The Target is conformed and Pegmarked to conduct the Depth Survey

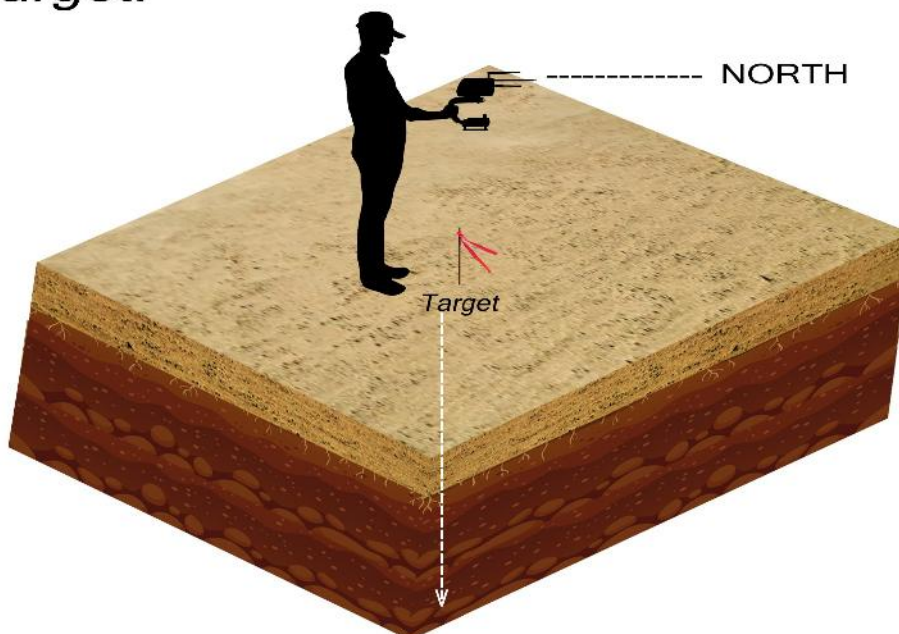


DEPTH MEASUREMENT TECHNIQUE

The Auxiliary depth measurement technique is carried out to confirm if the depth of the position is relative to conduct the next stage of survey to avoid time consumption in detection phase before profiling the target line.

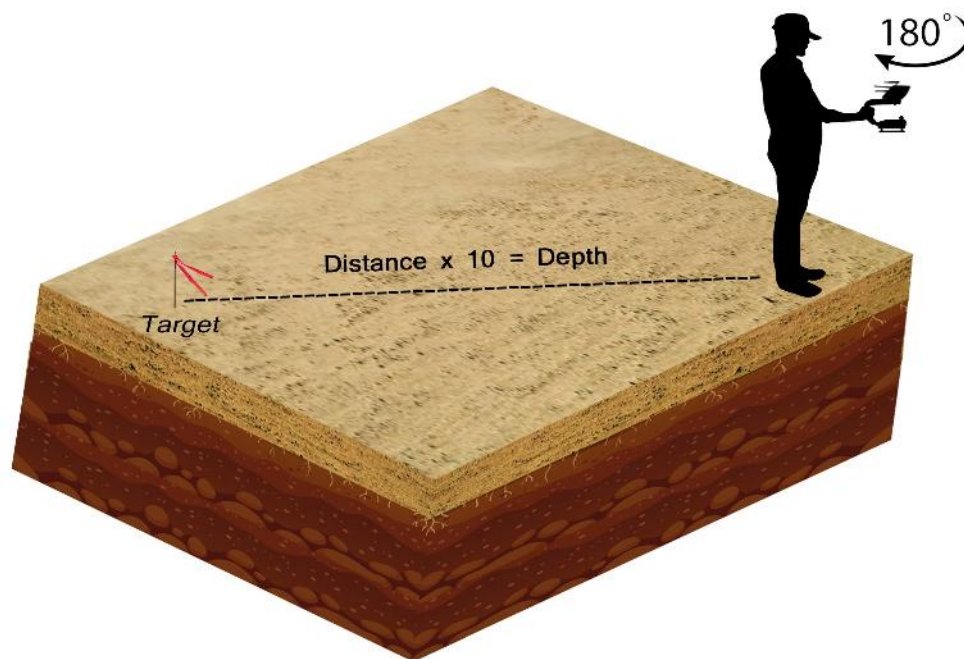


Increase the telescoping antenna to start low frequency survey and position the system to North from the target.



DEPTH MEASUREMENT TECHNIQUE

From the known target, position the system towards the north as per the directional compass direction and follow the track in a straight path until the system gives a 180 degree rotation.



*Formula to calculate the depth is Distance from the target to the deflected zone represented as (N) multiplied by a known factor (10)
i.e. **$(N) * 10 = \text{Actual depth.}$***



CERTIFICATE OF AUTHORIZATION



This is to Certify that
MAX LORA 750

This Calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI).

The measurements and the uncertainties with confidence probability are given on the following part of the certificate.

All calibrations have been conducted in the closed laboratory facility :
environment temperature(22 ± 3)°C and humidity <70%

Calibration Equipment used (M&TE critical for calibration)

2021

Year

Eury

Signature

WARRANTY POLICY

Max Detection Inc. warrants this instrument for a period of two years from the date of purchase as evidenced by the warranty receipt and acknowledges the instrument as per serial number provided by the company.

CAUTION

- *Do not over charge the Equipment*
- *Do not use the Equipment during Rainfall*
- *Do not use the Equipment under High Tension Lines*
- *Do not leave the Equipment without using for a long time*
- *Do not Repair the Equipment without Company guidance*

When you
TARGET,
We
DETECT!



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