

ABSTRACT

The water pipe is one of the main tools used for water distribution, so the existence of the pipe is very important. The pipe used must be good, have no cracks or holes. But often there are pipes that have cracks or holes that are not visible, especially underground water pipes, this can be detrimental to water producers and consumers.

The problem of leaks in water pipes can be overcome by using technology, one of which is ultrasonic waves. Ultrasonic sensors emit ultrasonic waves that propagate in water pipes and can detect leaks caused by cracks or holes in the pipe.

In the research tool, ultrasonic receivers pick up insulated ultrasonic waves and interference noise caused by holes in water pipes. The tool can detect leaks in underground water pipes as deep as 25 cm with a maximum distance of pipe leaks of up to 150 cm before the tool.

Keywords: *Sensors, Wave, Ultrasonic, Receiver, Interference.*