

## **ABSTRACT**

Ground Penetrating Radar (GPR) is a type of radar used in a known state conditions below ground level without having to dig up or damage the soil. Antenna sender (transmitter) sends electromagnetic waves into the subsurface soil will then be reflected by the object shape signal to be received by the antenna receiver (receiver). Then the signal received will be processed in the signal processing to produce a form of picture the situation below ground surface that can be interpreted by users of GPR equipment. The signal processing itself is composed of several steps that include A-scan GPR data vertical one-dimensional scanning and signal improvements, B-Scan is a two-dimensional GPR scanning data and a collection of some of the A-Scan, And C-Scan is a data processing three dimensions.

In this final project will be the B-Scan data processing to obtain any information regarding damage to underground object. Data B-scan GPR survey of existing devices, processed by the image processing method. The form object is detected fiber optic cable and copper cable.

From design and implementation carried out through its stages of B-scan image processing required includes load files, preprocessing, pradetection, and detection. B-scan data for the survey results are available, the stages of processing have been successfully determine the damage, and the length of cable underground object, namely fiber optic and copper cables.

Keywords: GPR, B-SCAN, image processing, fiber optic, copper