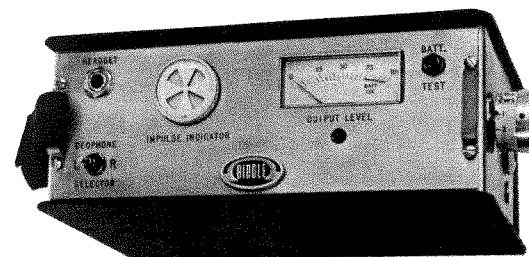
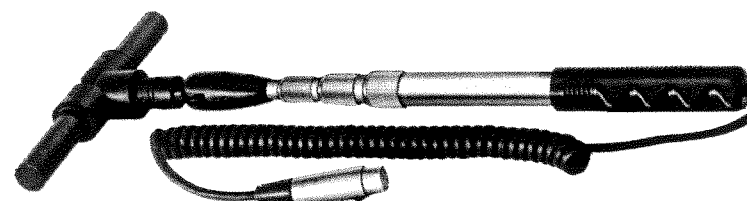


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Amplifier unit of the Catalog No. 651103 Acoustic Detector



Catalog No. 651106 Surface Coil option.



Figure 1: The Catalog No. 651103 Acoustic Impulse Detector with Accessories and Available Options.

Section A

GENERAL DESCRIPTION

Introduction

The Catalog No. 651103 Acoustic Impulse Detector is a unique detection system designed to locate faults in direct buried electric cables by tracing the intensity of sound waves emitted from an arcing fault when it is impulsed. The Acoustic Impulse Detector can be used with impulse generators manufactured by BIDDLE Instruments or those of other manufacturers. The Acoustic set is designed for use in all weather and can easily be carried by the operator to any field location. A sturdy carrying case is provided for storing and transport.

In using the Acoustic Impulse Detector the operator first places a pickup element on the ground and listens for the characteristic "pop" or "thump" of escaping electrical energy in the earphones, moving along a line toward the location of the loudest sound. The set has a calibrated sound intensity meter which is used to make a final precise location of the point of maximum sound which will be directly over the fault. The meter often can be more sensitive than the ear in detecting a very weak acoustic signal. The meter and a solid state amplifier are contained in a lightweight compact housing which can be carried by an adjustable strap around the neck, leaving the hands free to operate the instrument.

Figure 2 shows a schematic representation of the system.

An important feature of the Acoustic Impulse Detector is the Impulse Indicator. This is an entirely separate system within the detector which detects the current pulse as it is applied to the faulted cable, giving a visual signal to the operator. When the operator is at a distance from the impulse generator and cannot see or hear it operating, the indicator verifies if the impulse generator is operating and tells the operator exactly when to listen for the thump and to watch the meter. This is very useful where there is high background noise. The Impulse Indicator, complete with its magnetic antenna, is included in the main amplifier housing. (See Figure 1.)