

Ultrasonic Scanning

You may have many questions about **ULTRASONIC SCANNING**, such as:

What does it do?
How does it work?
What good is it?

We would like to briefly answer these questions.

What does it do?

Ultrasonic Detection has been around for many years. In the past it was used mainly to detect air leaks and excessive vibration. It was sometimes used to locate corona and tracking on electrical systems. But the detection equipment was not very good. Now the use of extremely sensitive equipment and specialized training make Ultrasonic Scanning an extremely important maintenance service. Ultrasonic Scanning looks for electrical insulation deterioration and failure on high voltage equipment by detecting the acoustical “noise” caused by defects.

How does it work?

Our scanner is extremely sensitive and uses an array of three patented transducers. This unique “trisonic” design provides pinpoint detection. Frequency tuning and interference reduction allow detection of sound vibrations between 20 to 100 KHz. The wide range of ultrasonic sensitivity makes the Ultrasonic Scanner extremely useful for detecting electrical problems manifested by acoustical vibrations.

The Ultrasonic Scanning procedure is very easy, even on metal enclosed switchgear. We do not need to remove covers and sheet metal. We scan along the seams and at the vents of the switchgear. Ultrasonic acoustical energy easily echoes off surfaces of the interior of switchgear and can quickly be detected at seams and vents.

What good is it?

With the new Ultrasonic Scanner, an Engineering Technician trained in material dielectrics and knowledgeable of electrical equipment and switchgear can locate arcing, tracking, destructive corona, and electrical discharges. Locating these defects prevents unscheduled outages, equipment failure, and potential catastrophic damages. We feel Ultrasonic Scanning, combined with Infrared Scanning, is the most important and powerful preventive maintenance service available. Ultrasound locates problems on high voltage switchgear that Infrared will not detect. It finds defects that visible inspection would not detect. It finds defects that many of our other tests would not detect. This is especially true for metal enclosed switchgear.

Using Ultrasound Can Save Money!

Many of the problems we have found with Ultrasound were so serious they would have resulted in extremely expensive catastrophic equipment failures and long power outages. MIDWEST's Engineering Technicians have the experience, the finest equipment and the specialized training needed to perform professional Ultrasonic Scanning services. Our Engineering Staff has studied material dielectrics and the phenomena of solid, liquid, and gas dielectric breakdown. In addition, we have decades of field experience in the detection and repair of insulation deterioration and failure.