
PHONE SCAN FOUR Portable Phone Tester

- Tests hydrophones and geophones with a single instrument
- Tests sensors in the field
- Ideal for transition zone crews who operate both hydrophones and geophones in the same cable.
- Detects common problems such as cracked crystals or sticky phones that other testers or the recording system cannot find.

description & application

The Phone Scan Four allows a cable crew to detect all hydrophone/geophone problems that normally occur on the line.

Four tests are provided; an active AC impedance measurement, a noise measurement, a leakage measurement and a polarity test. The active AC impedance measurement performed at the natural frequency of the geophone string detects damping, coil freedom, resistance (continuity) and natural frequency problems. The AC impedance test for hydrophones is performed at 2 or 3 times the natural frequency to discriminate good hydrophones from those with problems such as broken crystals, unattached crystals or incorrect damping.

Phone Scan Four allows the user to program parameters for four sensor configurations. Input channels are user directed during setup to be compared to one of the four sets of parameters. The front panel selector switch selects the channel to be tested. Pushbutton switches on the front panel are used to select the test to be performed.

The Phone Scan Four is designed to be carried by the layout crew. It allows the crew to find problems while they are on-site and able to replace detectors.

The Phone Scan Four frees personnel and equipment at the recording location from troubleshooting the line.

unit description

Field operation of the Phone Scan Four is simple. Before the unit is used on the line, it is setup to test four types of geophone and/or hydrophone strings.

Setup parameters are programmed with internal switches. Four sets of switches provide four different setup configurations. Natural frequency is selected from 4.5 to 99.9 Hz. An AC impedance value is set at $\pm 10\%$ to $\pm 20\%$ deviation. AC impedance values can be obtained from the manufacturer's design information or can be obtained by measuring several good strings and using an average value from the measurements. The average value method is normally used. The QC person then does not need detailed detector specifications in the field.

The unit is factory wired to accept up to 12 input channels. Internal settings allow the

user to direct each of the 12 channels to one of the four sets of setup parameters.

Once the setup is made, the field operator simply connects the string, selects the input channel, pushes the impedance pushbutton, and reads the front panel bar graph display which shows a plus or minus deviation from the setup value. A second pushbutton test displays noise of the string over a two-decade range (.01 to .1 to 1 mV). The third pushbutton test displays the leakage as an actual resistance measurement of 0.1 – 9.0 meg ohms with center scale on the display at 1 meg ohm. A toggle switch is used to turn on the polarity circuit. Polarity is checked by tapping on each phone or crystal face. Correct polarity is indicated by a short tone. A different tone signifies a polarity reversal.

specifications

Size:

9" H x 4½" W x 3⅜" D
(22.9 x 11.4 x 8.6 cm)

Weight:

3½ lbs (with carrying case)
1.59kg

Operating Temperature:

-20°C to +50°C (battery dependent)

Calibration Switches:

4 sets – internal switches

Connector:

Specify when ordering

Power Requirement:

Two 9V transistor batteries

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