

The Cable Detection EziCAT Extended Self Test

Introduction

The EziCAT range of locator products now incorporates as standard, the unique benefit of a reliable built in Self Test functionality. This feature offers an ideal solution to hire fleet operators where a pre-delivery check can now include a comprehensive internal test of the product, from sensor to display.

Set Up

To get reliable results from the self test feature it should only be used in an area free of electrical interference or large metallic structures. Failure to use a suitable site may give unreliable results.

Please also note these precautions should also be used for any old "stand alone" CAT tester you may use as you need to ensure that you are not picking up stray signals from the immediate environment.

A quick check verification can be carried out if you have any doubts by selecting each operating mode (Power, Radio, 8 and 33 KHz) and rotating the upright EZICAT in a complete circle. The EZICAT should not detect a signal as it is rotated, this should be repeated in each mode.

What happens during the Extended Self Test (EST)

The EST is initiated by holding down the Function Key whilst powering up the instrument. Additionally, on the EZICAT 200 you must release the Function key after the software version number is displayed and press the depth key. The result of the test is either a Pass or a Failure. This is indicated by PAS or Err on the EZICAT 200 display. In the case of the EZICAT 100 the test result can be heard as an audio "beep" either increasing in tone, indicating a PAS or decreasing in tone indicating an Err.

The EST exercises a majority of both the hardware and software in order to ensure full functionality of the EZICAT unit.

The test uses an extra winding on the aerials of the EZICAT unit in order to inject a signal into each of the aerials. The signals are processed as usual and are monitored by the microprocessor to determine functionality of the unit. Several frequencies are used to test the response of the EZICAT for each of the modes.

The EST performs the following tests:

i. Power Mode and Radio Mode Tests

- Sets up the EZICAT hardware for testing in the correct mode (sets the filters for power and radio respectively)
- Sets the gain to a fixed level and injects 500Hz into the aerials
- Reads the response from the top and bottom channels
- Sets the pass flag if the signal is above the pre-set threshold

ii. 8 and 33 KHz Mode Tests

- Sets up the EZICAT hardware for testing in the correct mode (sets the filters for 8 and 33 KHz respectively but also configures the bandpass filter to accept 4.096KHz)
- Sets the gain to a fixed level and injects 4.096 KHz into the aerials
- Reads the response from the top and bottom channels
- Sets the pass flag if the signal is above the pre-set threshold

If all tests pass it displays “PAS” then restarts the unit, otherwise it displays “Err” (for the EZICAT 100 only an audio tone is used to indicate PAS or Err).

For the EZICAT 200, if any test fails, the display reads E0X

(where X shows which channel(s) failed)

Code	Result
E01	Top channel Failed
E02	Bottom channel Failed
E03	Both channels Failed