



ANDEEN-HAGERLING, INC.

manufacturers of the world's most accurate
capacitance bridges and standards

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The problem you have reported/described may be caused by a faulty relay. A typical relay failure mechanism is that it may become "stuck" in one of its two possible states. This "stuck" nature may be permanent or temporary.

Before a unit is returned to our factory for repair, we make a concerted effort to understand the problem and also try to maximize the likelihood we can duplicate the problem at our facility. If we are not able to reproduce the problem, both our organization and yours incur lost time and resource.

Sometimes vibration and/or physical shock experienced in shipping can cause a stuck relay to become "fixed" (unstuck). When this happens we are unable to duplicate the reported problem. In order to reduce the likelihood of this happening we ask that you perform the following command sequence (issued from the AH2500A front panel) to execute tests which exercise all relays in the bridge. These tests are available in bridges containing firmware version 300 and higher (all 3xx versions). Please let this test sequence run for about one hour. After one hour, turn off the bridge and then turn it back on. Try performing a measurement to see if the original problem remains.

NOTE THAT EXECUTING THESE TESTS WILL SOMETIMES FIX A STUCK RELAY FOR MONTHS OR EVEN YEARS!!

To determine if you have firmware version 3xx please execute a SHOW SPECIAL command (see pages 3-7 and A-40 in the manual). SHOW SPECIAL is executed by:

With the display showing rEADY,
Press the SHOW, FUNC, SPECIAL, and ENTER keys (in this order)
the upper display will show "StAtUS"
Press the DOWN ARROW key three times

the upper display will show "rOM VErS"
the lower display will show the ROM version.

If you have a ROM version lower than 300, the relay tests are not available on your bridge, but if the serial number of your bridge is greater than 50 then it should be upgraded to the latest firmware version so these tests can be executed.

The command sequence to execute the relay testing is:

Press the FUNC key
Press the TEST/REPEAT key
Type in 90..95 (the decimal point is the "dot" key)
Press the FUNC key
Press the TEST/REPEAT key
Press the ENTER key **

The message "Conn PI, HI to Lo" will appear
Press the STEP key

** If after pressing the ENTER key, the display shows "bad par..." repeat the above described keystroke sequence but substitute "90..94" instead of "90..95".

The test sequence will now begin and keep repeating until the bridge is turned off. The test results will be test failures. This is OK. The purpose here is to exercise the relays only.

Please contact Andeen-Hagerling if you have any questions.

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