

PERFORMANCE TESTS

Introduction

The performance tests described in this section are designed to verify with a high degree of confidence that the unit is performing correctly.

The results of each test may be recorded on the test sheet at the end of this section.

Serial Number

If you need to contact Stanford Research Systems, please have the serial number of your unit available. The 5-digit serial number is printed on a label affixed to the rear panel. The serial number is also displayed on the CH1 and CH2 displays when the unit is powered on.

Firmware Revision

The firmware revision code is shown on the Reference display when the unit is powered on.

Preset

Throughout this section, it will be necessary to preset the lock-in into a known default state. To do this, turn the power off. Turn the power back on while holding down the [Setup] key. The unit will perform power up tests and then assume the default settings. Each test generally starts with a preset. This procedure will be referred to as {PRESET}.

Warm Up

The lock-in should be turned on and allowed to warm up for at least an hour before any tests are performed. The self test does not require any warm up period.

It is necessary to turn the unit off and on to preset it. As long as the unit is powered on immediately, this will not affect the test results.

Test Record

Make a copy of the SR830 Performance Test Record at the end of this section. Fill in the results of the tests on this record. This record will allow you to determine whether the tests pass or fail and also to preserve a record of the tests.

If A Test Fails

If a test fails, you should check the settings and connections of any external equipment and, if possible, verify its operation using a DVM, scope or some other piece of test equipment.

After checking the setup, repeat the test from the beginning to make sure that the test was performed correctly.

If the test continues to fail, contact Stanford Research Systems for further instructions. Make sure that you have the unit's serial number and firmware revision code handy. Have the test record on hand as well.

Necessary Equipment

The following equipment is necessary to complete the performance tests. The suggested equipment or its equivalent should be used.

1. Frequency Synthesizer

Freq Range	1 Hz to 1 MHz
Freq Accuracy	better than 5 ppm
Amplitude Accuracy	0.2 dB from 1 Hz to 100 kHz
Harmonic Distortion	≤ -65 dBc