

3. Common Mode Rejection

This test measures the common mode rejection of the lock-in.

Setup

We will use the internal oscillator sine output to provide the signal.

Connect the Sine Out to both the A and B inputs of the lock-in. Use equal length cables from A and B to a BNC TEE. Connect the cable from the Sine Out to the TEE. Do not use any termination.

Procedure

- 1) {PRESET} (Turn the lock-in off and on with the [Setup] key pressed)
- 2) Press the keys in the following sequence:
 - [Freq]
Use the knob to adjust the frequency to 100.0 Hz.
 - [Channel 1 Display]
Set the Channel 1 display to R.
- 3) The value of R should be 1.000 V (within 2%).
- 4) Press
 - [Couple]
Select DC coupling.
 - [Input]
Select A-B.
 - [Sensitivity Down]
Set the sensitivity to 200 μ V.
- 5) Record the value of R.
- 6) This completes the CMRR measurement test. The common mode rejection is $20\log(1.0/R)$ where R is in Volts. Enter the results of this test in the test record at the end of this section.