

## LMS - Using the 4-Wire Impedance Mode

### Introduction

The 4-wire impedance measurement mode was added to LMS in version 3.60 dated June 26, 1995. This mode allows impedance measurements without the need to subtract the cable impedance after the data is collected.

In the 2-wire mode, the LMS provides the current drive and measures the amplitude at the Line Out node on the circuit board. The impedance of the cable connecting the LMS to the load (device under test) must be subtracted from the measurement for accurate results. By using the Line Input to measure the voltage at the load (4-wire method), the effect of the cable impedance is automatically removed from the measurement.

The drawbacks of constant current impedance measurements can be completely eliminated by utilizing the constant voltage method. The VI Box (P/N: 161-0060) from LinearX provides easy and accurate constant voltage measurements.

### Control Panel Settings

Set the Oscillator Level to +15.000dBm. Set the Filter Type on Meter Filter #1 and Meter Filter #2 to Flat. Set the Meter Input to Line Input. Select Z-Imp 4wire (#15) in the Data Type field. Set the Data Mode to Precision.

### Connections

Both the Line Output and the Line Input of LMS must be connected to the device under test. See the diagram below for details.

