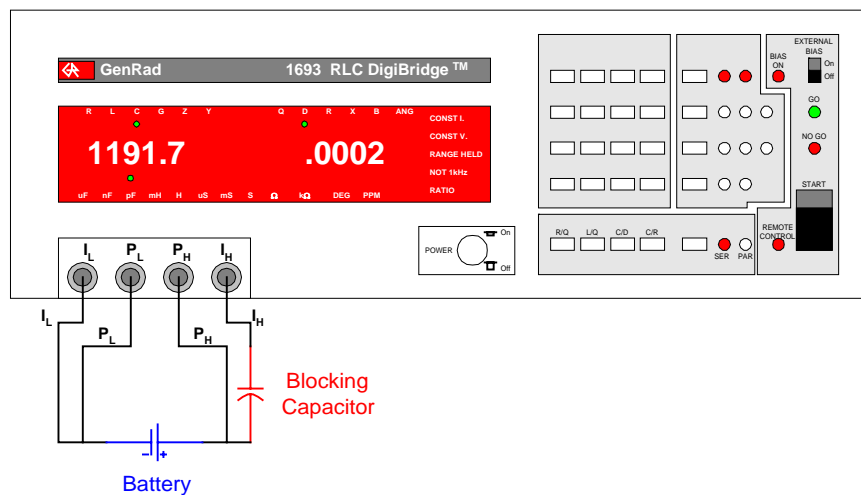


### Digibridge and Battery Measurements

The GenRad Digibridge instruments (1659, 1689, 1689M, 1692, 1693, 1710 and 1750) are particularly well suited to measure the internal impedance of batteries. The advantages are:

- ❑ **Automatic** Measurement
- ❑ The Digibridge measures the **AC resistance**. The battery voltage would effect a DC resistance measurement.
- ❑ The Digibridge measures capacitance well when  $D_f$  is large.
- ❑ The **4-Terminal Kelvin Connection** makes it easy to block the DC voltage without effecting the measurement.

A blocking capacitor is required in the **I<sub>H</sub>** lead to avoid battery discharge into the instrument. The capacitor should be installed into the test fixture and should have a reactance of less than  $10\Omega$  at the test frequency ( $160\ \mu\text{F}$  @  $120\text{Hz}$ ).



For faster and more accurate testing, build a test fixture and mount the blocking capacitor in this test fixture. The test fixture should provide four terminal connection to the digibridge instrument. A 1689-9602 4-BNC to 4-BNC test cable can be used to connect the fixture to the instrument when using a 1689M, 1693, 1710 or 1750 Digibridge.