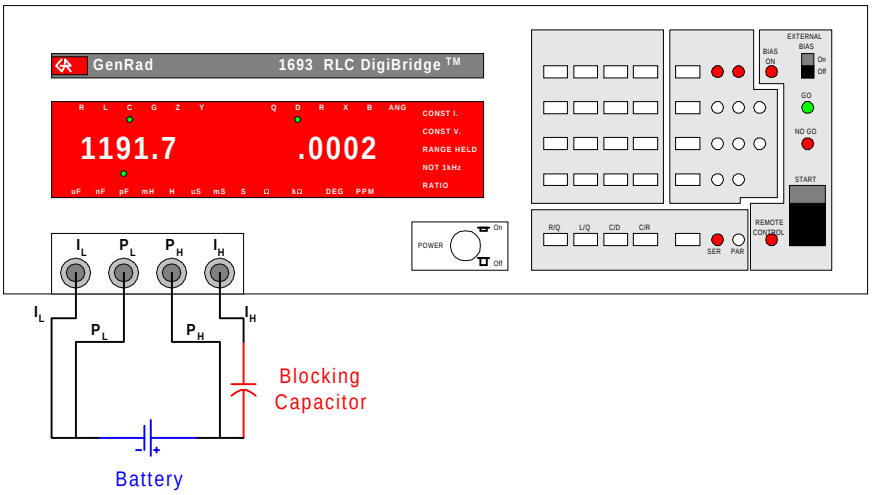
Application Note

Digibridge and Battery Measurements

The QuadTech 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 $\mathbf{D_f}$ 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 **IH** 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 10Ω at the test frequency (160 μF @ 120Hz).



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.

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