

## Weston Model 100 - Voltage Reference Cell



This is the most known voltage reference cell made by Weston Electrical Instrument Corporation, founded by the same inventor of this cell.

The Weston cell was first devised in 1893 and accepted as primary voltage standard since 1911. Still today it is in semi-clandestine use to check solid state voltage references. Due to environmental restrictions for its major components, mercury and cadmium, its use is very limited and secret today. Unfortunately, even the documentation and the same datasheets have been removed from the Web, probably fearing mercury contamination of screens and keyboards!

Weston reference cells were very high precision batteries, built until yesterday with the same care and the same chemical elements and compounds as in 1892, when the first cell was built by Edward Weston: platinum, mercury, mercury sulfate solution, cadmium sulfate saturated solution, 12,5% cadmium and mercury amalgam, platinum. The Weston cell was derived from the Latimer-Clark one, which was in use since 1893 as an absolute reference cell, giving an output voltage of 1,4328 V at 15° C. The Weston standard cell gave an output voltage of 1,01830 V at 20° C and granted the lowest temperature coefficient.