1603-A

The **General Radio 1603-A** is a Z-Y impedance bridge introduced in Catalog O (1956) that remained available through Catalog T (1968).

Known as *the bridge that always has an answer*, its claim to fame is that it can be balanced for any impedance connected to its terminals. The 1603-A is accurate at audio frequencies from 20 Hz to 20 kHz. It requires an audio oscillator and detector for operation.

The 1603-A directly measures the quadrature components of a complex impedance Z = R + jX, or a complex admittance Y = G + jB. The unknown Z or Y may lie in any of the four quadrants of the complex plane, since this bridge can measure both positive and negative values of R and G as well as X and B.

Specifications

- **Frequency Range:** 20 Hz to 20 kHz
- **Impedance and Admittance:** -infinity to +infinity
- **Accuracy (with unknown grounded):** 1% (see manual)

Links

- GR Experimenter July 1955 describing the 1603-A
- GR 1603-A @ Fred PA4TIM's page (https://www.pa4tim.nl/?p=4456)
- Genrad 1603 used to measure audio transformers (https://www.youtube.com/watch?v=gl6FEzfTWgQ) by ElPaso TubeAmps @ YouTube

Photos