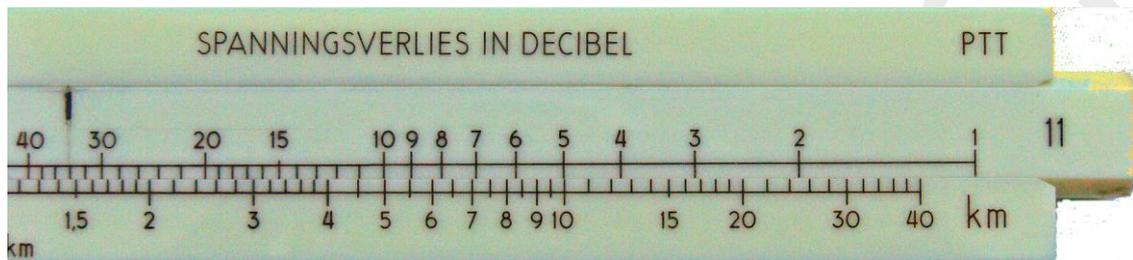
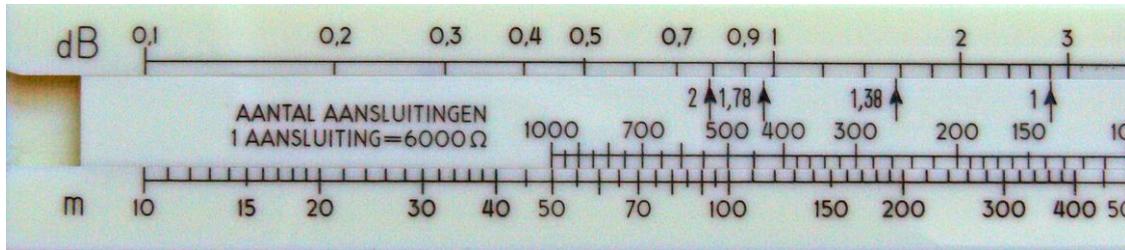


TITLE: SLIDE RULE FOR SIGNAL/POWER LOSS IN DECIBELS

Owner: David. G. Rance



How was it used?

The purpose of this unusually designed and superbly made linear slide rule is largely unknown. It is clearly of Dutch origins as the top right-hand "PTT" abbreviation is for the government-owned monopoly that used to oversee all the telephone and postal related services in The Netherlands. This organisation existed until 1998 when it finally disappeared as part of the Europe-wide deregulation and privatisation of such state owned bodies.

However, the slide rule is thought to date from the late 1940/50's.

I believe it was possibly used in design/drawing offices to work out the combined signal loss, without boosting the signal, for a given number (or maximum number) of telephone subscribers when connected to a given length of transmission cable. The arrow-headed gauge marks might be for the various diameters/capacities of the available cables.

Dimensions

- **Stock:** 310 x 34 x 9 mm.
- **Cursor:** there is no cursor – nor is one needed.

Material

- **Stock and slide:** a hard white plastic solid frame construction. Both the stock and the slide are single-sided.
- **Finishing:** all the scales and gauge marks are incised in the plastic, filled with black ink and polished.
- **Accessories:** a superbly made tan leather stitched case with a brown-capped pop-stud.

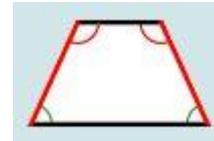
Layout and scales

The rule has a basic "Manheim" layout. The top "A scale" is a half-width (14.5 mm) 0.1 to 6 logarithmic scale in decibels - "dB". The "C scale" is a three-quarter width (22.5 mm) inverted 1000 down to 1 logarithmic scale for the number of connections (N.B. the norm printed on the rule is: "1 connection = 6000 Ω"). The bottom full-width "D scale" is a 10m to

40km logarithmic distance scale. The "B scale" is just a series of black arrow-headed gauge marks set at 2, 1.78, 1.38, 1, 0.85 and 0.7 (N.B. the last two added by hand after production).

Distinguishing features

Besides its uncertain provenance and unknown purpose, the design and construction (including the base material) of the slide rule is as strikingly simple as it is innovative. Remarkably the well of the frame and the slide (4.5 mm thick) are both shaped as isosceles trapeziums.



The set up and tooling for such a construction is complicated and expensive. It is a credit to the makers (whoever they were) that the slide still runs effortlessly and without any play in the frame.

Other remarks:

On the bottom edge of the rule there is a "CWP" logo that stood for the "Centrale Werkplaats" or Central Workshop and this could mean that the rule was made in-house by the PTT. The logo on the example shown is suffixed by the number "11" – a number repeated on the right-hand end of the slide. The only other known example has the number "54" and is part of the collection held by the *Museum for Communication*, Den Haag, The Netherlands. So this may well have been the production/serial number and an indication of just how few were made.