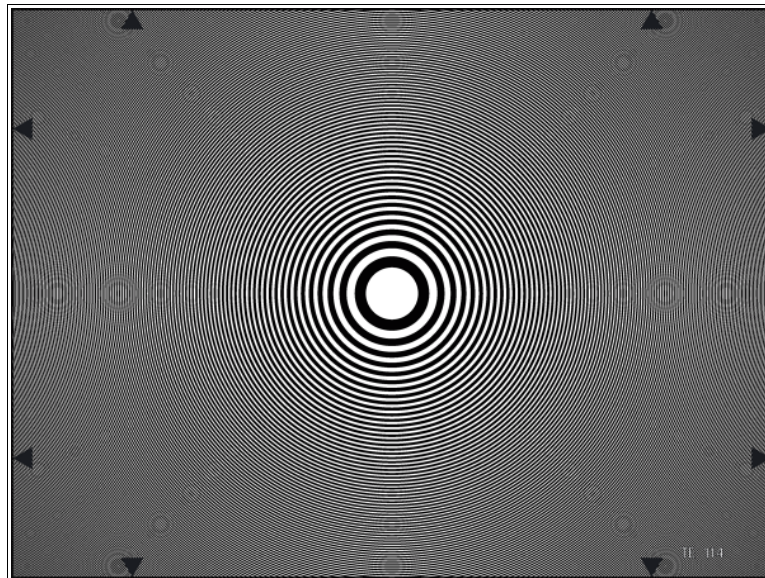




# ZONE PLATE TEST CHART

## REFLECTANCE



The zone plate test chart is designed for checking the resolution characteristics and “cross color” interferences of TV cameras and TV transmission systems. The test chart shows a zone plate over the whole image area where the spatial frequency of the rings has a linear increase towards the edges. In horizontal direction spatial frequency reaches 8 MHz and in vertical direction 6 MHz at the edges of the test chart. In the corners of the test chart spatial frequency is 10 MHz.

The zone plate is used to determine the following characteristics of TV cameras and TV transmission systems:

- resolution in horizontal, vertical and diagonal direction
- resolution depending on the location of scanning
- effects of horizontal and vertical aperture corrections
- astigmatism of the scanning beam of the camera (valve cameras)
- effects of interferences between the zone plate and the television raster resp. the shadow mask structure of color picture tubes
- effects of PAL coding (e.g. “cross color”)
- reaction during the movement of the camera (or the test chart) in horizontal and vertical direction: dynamic resolution, temporal interferences

The use of the zone plate is particularly suitable with measuring devices where the television signal is filtered multidimensionally (horizontally, vertically and if possible temporally). These can be aperture corrections of TV cameras but also standard PAL decoders (with line delay) and comb-filter PAL decoders. The zone plate can also be used for determination of pre- and postfiltering effects with MAC-systems (with line-sequential color transmission). The zone plate test chart has proved particularly reliable for testing CCD cameras.