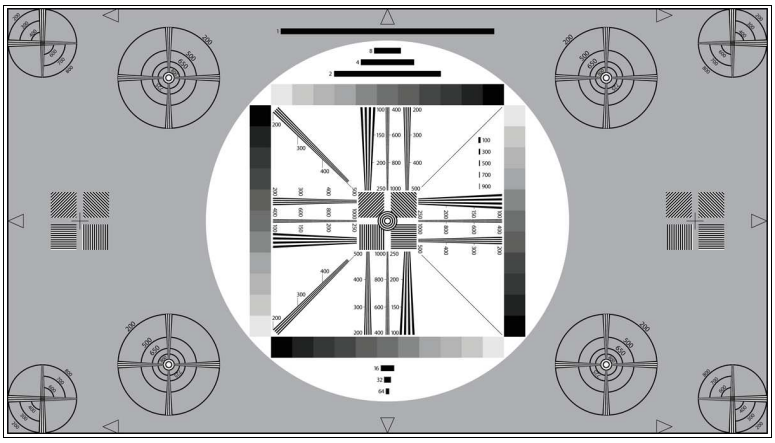
HDTV UNIVERSAL TEST CHART 16:9

REFLECTANCE



The TE117 is designed for quick (mainly visual) appraisal of transmission characteristics of HDTV cameras.

In the center of the test chart on a gray background (D=0.75; reflectance= 18%) a white circle with gray scales and resolution wedges is located. On both sides of this central circle four circles with resolution wedges are arranged.

The 16:9 format is marked by four arrows located on the horizontal and vertical central lines. In addition, four arrows located close to the circles on the upper and the bottom edge of the picture mark the 4:3 format. Thus the test chart can also be used for testing 4:3 cameras.

The white central circles shows four gray scales each of 11 steps. They increase in equal linear steps from D=0.15 to D=1.65 and are used for checking halftone rendition of HDTV cameras. Due to the white surrounding area the results may, however, be qualified.

All frequency values in the test chart are indicated in c/ph (cycles per picture height). In the central circle three resolution wedges with different frequencies are arranged vertically and horizontally. They reach from 100 to 250, from 200 to 500 and from 400 to 1000 c/ph. In addition, two resolution wedges angled in 45° generate frequencies of 200 to 500 c/ph.

In the middle of the test chart and on the left and right sides there are four squares with line rasters that are inclined at angles of 0, 45, 90 and 135°. They generate a frequency of 200 c/ph. Those line rasters which are inclined at angles of 45° and 135° generate a different frequency (141.4 cph) in horizontal and vertical direction (due to their inclination). The eight outer circles are arranged in such a way that they can be used both for 16:9 and 4:3 format. The larger ones show cross-shaped resolution wedges. The circular rings, which can also be used for checking geometry, are designed for marking the resolution in vertical and horizontal direction. Resolution is shown at 200, 300, 400, 600 and 800 c/ph.

The outer circles in the four corners have longer resolution wedges. They cross at 320 c/ph and have markings from 200 to 800 c/ph.

In the center of the test chart both in the gray and white area bar elements are arranged with a length of 1 (=half the picture-height), 2, 4, 8, 16, 32 and 64 c/ph. Left to right vertical gray scale there are five additional short bars with 100, 300, 500, 700 and 900 c/ph.