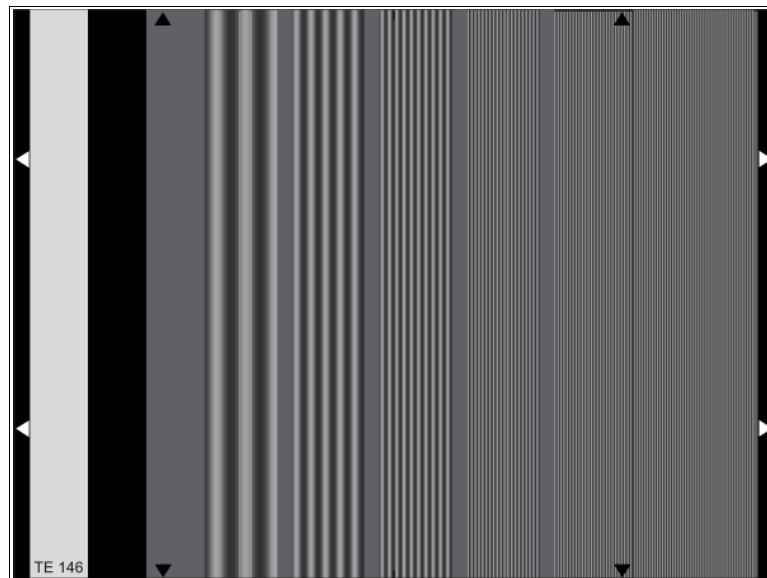# TEST SIGNAL TEST CHART – LINE 18

REFLECTANCE

The TE146 reproduces the test signal, line 18, as specified in CCIR recommendation 473. With the aid of measuring instruments test signals can be evaluated in a simple, and partly automatic way.

Approximate values of the frequency response of the amplitude (amplitude frequency characteristic) can be determined with the test signal, line 18, the so called multi burst signal.

This signal is composed of a reference signal of 420 mV (60%) amplitude (A0) and 6 frequency bursts with frequencies of 0.5; 1.0; 2.0; 4.0; 4.8 and 5.8 MHz which also show nominal amplitudes of 420 mV (peak-to-peak) (s. fig.1).
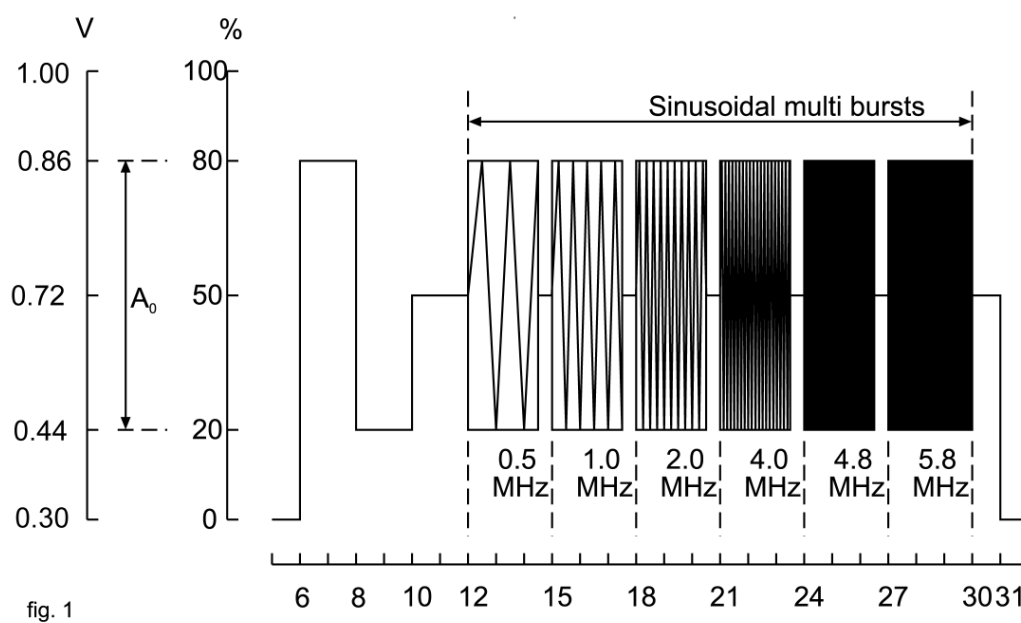

fig. 1

According to CCIR recommendation 569 test signal evaluation devices should either indicate the amplitude errors of the signal frequency bursts or the maximum deviation of the amplitude of the multi burst signal.

a) Amplitude errors of individual frequency bursts

The amplitude errors of an individual frequency burst is defined as the difference between the amplitude of the respective frequency burst (A0.5; A1.0; ... ; A5.8 in fig.1) and the amplitude. Errors are indicated separately for each of the six multi bursts.

b) Maximum deviation of the amplitudes

First two quantities x and y are determined. They are defined as follows:

$x = (A_{max} - A_0) / A_0 * 100(\%)$
$y = (A_{min} - A_0) / A_0 * 100(\%)$

with the following denotations (fig. 1):

A_0 = Amplitude of reference signal
A_{ma} = Amplitude of frequency burst with maximum amplitude
A_{min} = Amplitude of frequency burst with minimum amplitudes

The maximum deviation of amplitude Δmax is the higher of the two values x resp. y, i.e.

$\Delta max = x$ (%), if $x > y$
$\Delta max = -y$ (%), if $y > x$

Note: CCIR recommendation 569 determines that the amplitudes of the individual frequency bursts (A0.5; A1.0; ... ; A5.8) are each to be measured in the temporal middle of the burst.