EBU Technical Standard N16-1998
Digital video key signal (625-line systems)

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This EBU Standard specifies the characteristics of the digital key signal to be conveyed between digital television processing equipment, where it is necessary for a signal originated within one piece of equipment to be used to key between video signals in another piece of equipment.

Both source and destination equipment should have their video signals interconnected according to ITU-R Recommendation BT.656[1].

1. Sampling parameters of the key signal

The sampling parameters of the key signal should be the same as those of the luminance signal of the 4:2:2 standard specified in ITU-R Recommendation BT.601[2] (Table 1, parameters 2, 3, 4, 6 and 7).

In the case where the key has been defined with reference to a digital video signal which can be used in the composite picture, then the key and the video luminance samples should be co-sited.

2. Key signal level

The key signal should be quantized and should have the same range as the luminance signal of the 4:2:2 standard specified in ITU-R Recommendation BT.601 (Table 1, parameters 5, 8 and 9).

In the case where the key has been defined with reference to a video signal which can be used in the composite picture, then the polarity of the key will be such that a low key (level 16 and below) represents unwanted areas and a high key (level 235 and above) represents unwanted areas of that associated video signal. Linear partial keying is achieved with key signals between levels 16 and 235.

3. Key signal interfaces

The digital key signal should be conveyed as a 4:2:2 luminance signal through the parallel or the serial interfaces specified in ITU-R Recommendation BT.656. The unused colour-difference signals should be set to blanking level (level 128). (The use of the data capacity specified in Recommendation BT.656 for the colour-difference channels may be defined in the future; until then it should not be used for any purpose).

Bibliography

[1] ITU-R Recommendation BT.656-3: **Interfaces for digital component video signals in 525-line and 625-line television systems operating at the 4:2:2 level of Recommendation ITU-R BT.601 (Part A)**

[2] ITU-R Recommendation BT.601-5: **Studio encoding parameters of digital television for standard 4:3 and wide-screen 16:9 aspect ratios**