
SMPTE STABLE DOCUMENT



The attached SMPTE Engineering Document has been declared “Stable” by the controlling Technology Committee.

The SMPTE Operations Manual for Standards states:

A document should be stabilized if it is believed to be substantially correct, does not contain harmful or misleading recommendations, may still be relevant to equipment or practices in use, is stable, but does not represent current technology, and need not be subject to future reviews.

A Stable document shall still be made available and offered for sale by the Society, but it shall be prefaced by a cover page explaining its current status.

At any time, a Technology Committee may revise, amend, or otherwise initiate a new Project on a Stable document.

A Stable document is “In Force”, and not deprecated or withdrawn.

*** * * * ***

Note:

SMPTE “Stable” documents were previously described as “Archived” and the attached document may be marked as “Archived”. The status of a SMPTE document described as “Archived” is exactly as described above for a “Stable” document.

Stable documents may not adhere to the latest style and format of SMPTE documents, or to current usage of normative language. Suitable care should be taken in interpretation.

SMPTE STANDARD

for Television — 540 Mb/s Serial Digital Interface



Page 1 of 5 pages

1 Scope

This standard specifies a serial digital interface that operates at a nominal rate of 540 Mb/s. This standard has application in the television studio over lengths of coaxial cable where the signal loss does not exceed an amount specified by the receiver manufacturer. Typical loss amounts would be in the range of 20 dB to 30 dB at one-half the clock frequency with appropriate receiver equalization. Receivers designed to work with lesser signal attenuation are acceptable. Separate SMPTE documents specify the mapping of source image formats onto the specified 540 Mb/s serial interface.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below:

SMPTE 291M-1998, Television — Ancillary Data Packet and Space Formatting

SMPTE RP 184-1996, Specification of Jitter in Bit-Serial Digital Systems

IEC 60169-8 (1978-01), Radio Frequency Connectors, Part 8: R.F. Coaxial Connectors with Inner Diameter of Outer Conductor 6.5 mm (0.256 in) with Bayonet Lock — Characteristic Impedance 50 Ohms (Type BNC)

3 Signal levels and specifications

The specifications in this clause are defined for measurement of the serial output of a source derived from a parallel domain signal whose timing and other characteristics meet good studio practices. Specifications at the output of equipment located at other places in an all-serial digital chain are not addressed by this standard. Clock frequency is the serial clock and is equal to 540 MHz.

3.1 The output of the generator shall be measured across a 75-ohm resistive load connected through a short coaxial cable. Figure 1 depicts the measurement dimensions for amplitude, rise-time, and overshoot (see annex A for the preferred measurement method for these parameters).

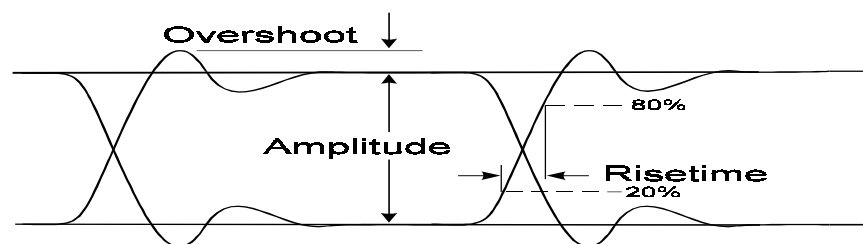


Figure 1 – Waveform measurement dimensions