CEA Standard

HIGH DEFINITION TV ANALOG COMPONENT VIDEO INTERFACE

CEA-770.3-D

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(Formulated under the cognizance of the CEA's **R4.8 DTV Interface Subcommittee**.)

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FOREWORD

This standard was developed under the auspices of the Consumer Electronics Association (CEA) Technology & Standards R4.8 DTV Interface Subcommittee.

Other analog scanning structures for analog component video interfaces are set forth in separate standards. For example, the Standard Definition TV Analog Component Video Interface is set forth in EIA/CEA-770.2-C. CEA-770.3-D does not address S-Video. See BS EN 60933-5:1993 or CEI IEC 933-5 in this standard's Informative Reference List for further information.

Users of this standard should note that, at some future time, copy protection parameters, methods and/or standards are expected to be established with which copy-protected content traversing the component video interface will be required to comply.

An optional multi-pin connector, including permissible signal and pin assignments, may be specified at a later date for inclusion of audio and control signals. At that time, this standard will be revised and given a revision number and new issue date. Electrical specifications for this connector may be developed at a later date.

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HIGH DEFINITION TV ANALOG COMPONENT VIDEO INTERFACE

1 Scope

This standard defines two raster-scanning systems for the representation of stationary or moving two-dimensional images sampled temporally at a constant frame rate. The first image format specified is 1280 x 720 samples (pixels) inside a total raster of 750 lines, as given in Table 1. The second image format specified is 1920 x 1080 samples (pixels) inside a total raster of 1125 lines, as given in Table 1. Both image formats shall have an aspect ratio of 16:9. This standard specifies an analog interface having Y', P'_B, P'_R color encoding.

Table 1 presents all the permissible scanning systems for this standard. A compliant interface shall implement one or more of these scanning systems.

The intended uses of this interface should be:

a) For interconnection between High Definition Television (HDTV) Receiver Decoder set top boxes and compatible television receivers or monitors.
b) For interconnection between HDTV Digital Cable TV set top boxes (STBs) or Satellite DBS Receiver Decoders, and compatible television receivers or monitors.
c) For interconnection of equipment to complete, self-contained analog component video systems of relatively small size.

This standard applies to signals carried on the connectors described in Section 9 and may not apply to component signals carried on other types of connectors.

Annex A (informative) contains information concerning raster apertures.

2 References

2.1 Normative References

The following references contain provisions, which, through reference in this text, constitute normative provisions of this standard. At the time of publication, the edition indicated was 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 standard indicated in 2.1.1.

2.1.1 Normative Reference List

- CIE Publication 15.2 (1986), Colorimetry, Second Edition

- IEC 60169[1]-8 (1978), 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); Amendment 2 (60169-8-am2-1997-11), Annex A (informative): Information for interface dimensions of 75 ohm characteristic impedance connector with unspecified reflection factor

- ITU-R BT.709-2, Parameter Values for the HDTV Standard for Production and International Program Exchange

- ANSI/SMPTE Standard 274M (1995), Standard for Television - 1920 X 1080 Scanning and Analog and Parallel Digital Interfaces for Multiple-Picture Rates

- ANSI/SMPTE Standard 296M (1997), Standard for Television - 1280 X 720 Scanning, Analog and Digital Representation and Analog Interface

  NOTE—By permission from the Society of Motion Picture and Television Engineers, sections of this standard are directly obtained from SMPTE Standard 274M (1995) and SMPTE Standard 296M.

[1] This document was formerly designated as IEC 169-8.