ANSI/CTA Standard

Consumer Camcorder or Video Camera Low Light Performance

ANSI/CTA-639 R-2010

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December 2010

This standard was withdrawn by CEA's Video Systems Committee (R4) on February 3, 2015.

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(Formulated under the cognizance of the CTA **R4 Video Systems Committee**.)

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Introduction

Purpose

The purpose of this document is to specify the recommended method and test conditions to determine the low light sensitivity of consumer camcorders[1] operating on the North American 525 line, 60 Hz NTSC color video standard.

Utilizing standard engineering video test equipment, test charts and simple adjustable lighting, the low light sensitivity of consumer-grade camcorders will be determined. The low light sensitivity of the unit under test will be expressed in lux.

Applicability

This specification applies to camcorders designed with gamma correction for both luminance and chroma channels. The camcorder shall be capable of operation under a wide range of light color balance conditions including incandescent, fluorescent and outdoor lighting.

Reference to this standard in manufacturer's published specifications or advertisements of low light sensitivity will imply that all production units of that model meet or exceed the published values.

In addition, the low light performance will be determined on the video camera section only. This specification will not be used to determine low light performance from a playback tape. For camcorders that do not provide a baseband video output from the camera video section, the manufacturer will be required to provide an adapter circuit with a 75 Ω baseband video output.

Parameters to Be Measured

This standard will measure five parameters to collectively assess low light sensitivity:

1) Luminance level
2) Black level (to qualify the camera for further testing)
3) Luminance signal to noise
4) Chroma level
5) Resolution

Each parameter has been assigned a minimum acceptable level. The low light lux rating for the camcorder under test will be the minimum light level in lux required to achieve the minimum acceptable levels of performance. If the minimum acceptable level is not achieved in any one or more parameters, then the illumination level should be increased until the minimum acceptable performance level is met for all parameters (with the exception of black level). This illumination level will represent the low light performance for that camcorder.

[1] For the purpose of this document, the terms "camcorder", "video camera", and "camera" will be used interchangeably.