



PANAVISION HDMAX™ 35MM VIDEO CAMERA

PRELIMINARY

Panavision is proud to offer the HDMAX™ camera, an ultra-high resolution digital video camera providing a digital alternative to 35mm motion picture film. HDMAX™ was developed by Florida Atlantic University in cooperation with Panavision, the worldwide leader in advanced camera systems and lenses for the motion picture and television industries. HDMAX™ incorporates the QuadHD™ CMOS sensor designed by Panavision's affiliate, Panavision SVI, based on its patented Active Column Sensor technology.

The camera provides three SMPTE 292 outputs for connection to commercial HDTV high definition recording and display systems. One of the SMPTE292 channels provides a 1920 x 1080 60i 4:2:2 viewfinder output. The other two channels convey 30p Bayer pattern video formatted so that each channel appears as 1920 x 1080 60i video. The formatting was used specifically so that standard 1920x1080 HDTV video equipment can be used for transmission, recording and editing of HDMAX video.

An optional display module provides a frame buffer and color matrix processing for full resolution viewing at 3840 x 2160 to an IBM 22" "Big Bertha" 3840 x 2160 color LCD display independent of the actual camera frame rate setting. The display module connects to camera via the two SMPTE 292 ports.

A Camera Link interface allows still frames to be transferred to a computer, which can regenerate the full 3840x2160 image.

Pixel defects, after exposure to high-energy protons equivalent to one year's use in the space station was less than one per million pixels. Pixel correction should handle a life of at least 10 years at high altitude.

Removing the IR filter, the camera becomes sensitive to the near infrared since the color filters are transparent to infrared. In this condition, it has the full monochrome 3840 x 2160 resolution.

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SPECIFICATIONS

CAMERA

Image Sensor

- 3840 x 2160 16:9 type CMOS
- 8.3 mega pixels
- 7.5um x 7.5um pixel size
- 28.8mm x 16.2mm sensor size
- 33mm diagonal
- RGB Bayer color filter array

Frame Rate: variable up to 30 frames per second

Electronic shutter: 14 microseconds to 1 second

Image Processing

- 12 bit encoding before gamma—10 bit encoding after gamma
- Programmable gamma
- Auto black level
- Auto white balance
- Bad pixel correction
- Shading correction
- FPN correction
- Programmable color balance
- Programmable color matrix on 1080 line signal

Interfaces

- Camera Link
- Remote digital camera control
- One SMPTE 292 viewfinder output
- Two SMPTE 292 3840 x 2160 Bayer pattern signal output

Physical

- Power: 30 watts at 24 volts
- Size: 8.9"L x 6.7"H x 5.7"W
- Weight: 7 lbs.

OPTIONAL VIEWFINDER

6" LCD color viewfinder

Menu on viewfinder for camera controls

Power: 18 watts at 24 volts

OPTIONAL DISPLAY MODULE

3840 x 2160 color DVI output to interface with 22" IBM LCD monitor

Color monitor output displayed at 48fps progressive at all frame rates

Conversion from Bayer pattern to 3840 x 2160 RGB

Programmable color matrix

Camera Link used to download 3840 x 2160 images to computer

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