



### VC465-DSP / VC465C-DSP 1/3-Inch Digital Color Camera

- **DSP (Digital Signal Processing) for clear crisp images**
- **ExView™ technology**
- **Brilliant true color**
- **Automatic linear electronic shutter**
- **Backlight compensation**
- **Accepts video- or DC-drive autoiris lenses**
- **Line-locking with V-phase**
- **Accepts C- or CS-mount lenses**
- **NTSC and PAL versions**

The VC465-DSP 1/3-Inch Digital Color Camera combines excellent picture quality with advanced features. The VC465-DSP ExView CCD device has 379,000 pixels (NTSC; PAL has over 437,000). This provides a sharp color image with accurate color rendition provided by an automatic through-the-lens (TTL) color compensation system. A linear shutter with speeds up to 1/100,000 second allows use in varying light levels without having an autoiris lens.

DSP cameras take the analog signal, convert it to digital format, adjust specific video parameters and display the image in analog format. Digital control offers crisp lines, detail reproduction and assures that functions are unaffected by time and temperature.

These cameras feature the extremely low levels of lag, blooming, and transfer smear characteristic of CCD pickup devices.

The VC465-DSP has a minimum scene illumination of 0.03 footcandles (0.35 lux) at standard gain that provides a usable video output at 25 IRE; at high gain, sensitivity is 0.02 footcandles (0.2 lux) at 25 IRE. Horizontal resolution is 480 horizontal TV lines.

The camera has dual autoiris modes, video-drive lenses (ES and AC models) and DC-drive (CS-G) lenses. Connection of the video-drive lens is by screw terminals. The CS-G lenses' circuit is located in the camera and lenses come with a molded connector. To connect the CS-G lens, plug the connector into the mating connector on the camera.

All controls on the camera are located on the rear panel. Synchronization is selectable, internal or line-locking. Multiple cameras can be synchronized with the line-locking function. Vertical phase is adjustable. Selectable backlight compensation permits the camera to generate correctly exposed images in a variety of difficult lighting situations.

The camera accepts C-mount and CS-mount lenses. A fully isolated power supply provides stable images when the cameras are used on a common power supply with other cameras.

The VC465-DSP meets IEC 1146-1 standards for non-broadcast single-sensor cameras and comply with radiation requirements for an FCC Class A device.

Vicon strongly recommends the use of uninterruptible power supply systems (UPS) to prevent voltage fluctuations that can affect operation, cause video loss and damage to the equipment.

#### ACCESSORIES AND OPTIONS

**Model VC24PS-1 Power Supply, Product Code 4297:** Converts 120 VAC line power to 24 VAC. Product Specification 564.

**Model VC24PS-1-230 Power Supply, Product Code 4297-01:** Converts 220- 240 VAC line power to 24 VAC. Product Specification 564.

Model Number	Product Code	Operating System	Input Power
VC465-DSP	8311-04	NTSC	24 V, 60 Hz
VC465C-DSP	8311-03	PAL	24 V, 50 Hz

**Table 1: Models and Product Codes**

**TECHNICAL SPECIFICATIONS  
DIVISION 13 - SPECIAL CONSTRUCTION  
SECTION 137\_\_ - SECURITY CCTV SYSTEM**

**SECURITY SYSTEM**

**PART 2 - PRODUCTS**


**2.01 GENERAL**

- A. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.
- B. All systems and components shall have been thoroughly tested and proven in actual use.
- C. All systems and components shall be provided with the availability of a toll free 24-hour technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.
- D. All systems and components shall be provided with an explicit manufacturer warranty.

**2.02 1/3-INCH DIGITAL COLOR CCD VIDEO CAMERA**

- A. The camera shall be a 1/3-inch solid-state color high-resolution video camera using an interline transfer ExView charge-coupled device (CCD) image sensor with DSP (Digital Signal Processing). The television operating systems available shall be both NTSC and PAL. The pickup device shall have over 379,000 pixel array (768 horizontal, 494 vertical). The PAL version shall have over 437,000 pixel array (752 horizontal, 582 vertical). Composite video output shall be 1.0 V p-p (140 IRE) with 75-ohms impedance and output shall be through a BNC-type connector.
- B. It shall be compatible with autoiris lenses with self-contained autoiris control circuits and provide screw terminals for cable connection to this type of lens. It also shall have an internal autoiris control circuit for use with DC-drive autoiris lenses and shall provide a built-in connector for this lens type. The camera shall accept C-mount and CS-mount lenses.
- C. Horizontal resolution shall be 480 TV lines. Signal-to-noise ratio shall be greater than 48 dB (AGC off). Video bandwidth shall be 4.3 MHz. The camera shall incorporate a color balance sensor which reads the color temperature of the light through the lens. Through-the-lens white balance for color temperatures shall be automatic (2500 - 7500 K). The electronic iris control mode shall be an automatic linear shutter 1/60 (1/50 CCIR) to 1/100,000 sec.
- D. At an output level of usable video (25 IRE), the high-resolution camera shall have a sensitivity of 0.03 fc (0.35 lux) at standard gain and 0.02 fc (0.2 lux) at high gain. (Conditions: scene illumination, f/1.2 lens, 89.9% scene highlight reflectance.) Backlight compensation shall be switch-selectable on or off. Synchronization shall be power lines phase locking (line-locking) with vertical phase adjustment or internal crystal.
- E. The camera shall conform to the radiation standards of FCC Class A and IEC1146-1 standard for non-broadcast signal-sensor cameras. Input power for the camera shall be 24 V, 60 Hz (NTSC) or 24 V, 50 Hz (PAL) with entry through a screw terminal block. The camera shall include an internal isolated power supply. Power consumption shall not exceed 7.2 W.
- F. The 1/3-inch digital color CCD video camera shall have the following mechanical specifications:
  - 1. **Mounting:** 1/4-20 threaded hole in camera bottom and camera top.
  - 2. **Dimensions:** Height: 2.6-in. (67 mm).  
Width: 2.2-in. (55 mm).  
Length: 2.9-in. (74.8 mm).
  - 3. **Weight:** 0.35-lb. (158 g).

The high-resolution camera shall be Vicon Industries model VC465-DSP (NTSC) and VC465C-DSP (PAL).

<b>Vicon Product Facts</b>		<b>Model No:</b>	<b>Product Code:</b>	<b>SEC:</b>	<b>SPEC NO.:</b>	<b>REV:</b>
		Refer to Table 1	Refer to Table 1	1	V131-10	703

# Technical Information

## VIDEO CHARACTERISTICS

**Image Device:** 1/3-inch interline transfer ExView CCD chip with complementary color filters.

**Active Picture Elements:** VC465-DSP: 768 (H) × 494 (V).  
VC465C-DSP: 752 (H) × 582 (V).

**Sensitivity:** 0.03 fc (0.35 lux) at standard gain;  
0.02 fc (0.2 lux) at high gain.  
Conditions: scene illumination, lens at f/1.2, 89.9% scene highlight reflectance, and 25 IRE video output.

**Horizontal Resolution:** 480 TV lines.

**Automatic Linear Electronic Shutter:** NTSC: 1/60 to 1/100,000 sec.  
PAL: 1/50 to 1/100,000 sec.

**Scanning System:** 2:1 interlace, 3:4 aspect ratio.  
NTSC: 525 lines, 60 fields/sec.  
PAL: 625 lines, 50 fields/sec.

**Integration Mode:** Field integration.

**Geometric Distortion:** None.

**Horizontal Frequency:** 15.625 kHz.

**Vertical Frequency:** VC465-DSP: 60 Hz (line-locked),  
59.94 Hz (internal).  
VC465C-DSP: 50 Hz (line-locked).

**Signal-to-Noise Ratio:** Better than 48 dB (AGC off).

**Video Bandwidth:** 4.3 MHz.

**Automatic White Balance:** 2500 to 7500 K.

**Video Signal Output:** 1.0 V p-p composite video consisting of 714 mV video signal, 286 mV negative-going sync signal; 140 IRE (100 IRE video, 40 IRE sync).

**Synchronization In:** 1. Power lines phase locking (line-locking) with vertical phase adjustment.  
2. Internal crystal control.

**Output for Autoiris:** Two types of autoiris operation:  
1. For video-drive lenses (ES and AC lenses):  
Power: 50 mA at 9 V, regulated.  
Video signal: composite video.  
2. Internal autoiris board for DC-drive (CS-G) autoiris lenses.

## ELECTRICAL

**Input Power Source:** 24 VAC ±20%, 300 mA max.

**Input Power Isolation:** Internal fully isolated power supply.

**Power Consumption:** 7.2 W maximum.

**Heat Equivalent:** 0.4 btu/min (0.1 kg-cal/min).  
NOTE: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

**Radio-Frequency Emission Standard:** FCC Class A.

**IEC Standard:** 1146-1, for non-broadcast single-sensor cameras.

**Safety Standard:** UL 2044.

## CONTROLS AND CONNECTORS

**External Controls:** 7-position DIP Switch Selects: synch, line-lock or internal crystal; backlight compensation, on or off; electronic or automatic linear shutter; auto-tracking (continuous) white balance (ATW) or automatic white balance (AWB); automatic gain control (AGC), on or off; hi-gain, on or off; flickerless, on or off.

Manual AWB button.  
Vertical phase adjustment.  
Autoiris level control (DC lens).  
Power indicator.

**Connectors:** Power: clamping screw terminals.  
Video-drive (ES or AC) autoiris lenses: clamping screw terminals.  
DC-drive (CS-G) autoiris lenses: 4-pin molded connector.  
Video out: BNC.

## MECHANICAL

**Dimensions:** Height (H): 2.6 in. (67 mm).  
Width (W): 2.2 in. (55 mm).  
Length (L): 2.9 in. (74.8 mm).

**Distance from Base to Optical Center of Lens (X):** 1.25 in. (32 mm).

**Weight:** 0.35 lb (158 kg).

**Mechanical Focus:** Adjustable, self-locking.

**Lens Mount:** C and CS mounts included.

**Maximum Lens Penetration into**

**Camera:** Measured from lens mounting surface on front of camera.  
CS mount: 0.180 in. (4.6 mm).  
C mount: 0.380 in. (9.6 mm).

**Camera Mounting:** 1/4-20 threaded hole in camera bottom and camera top.

**Shipping Dimensions:** Height: 3.75 in. (95 mm).  
Width: 5.0 in. (127 mm).  
Length: 4.0 in. (102 mm).

**Shipping Weight:** 0.55 lb (0.25 kg).

**Shipping Volume:** 0.04 ft<sup>3</sup> (0.001 m<sup>3</sup>).

## ENVIRONMENTAL

**Operating Temperature Range:** 14 to 122° F (-10 to +50° C).

**Humidity:** Up to 85% relative, noncondensing.

**Storage Temperature Range:** -20 to 140° F (-29 to 60° C).

**Storage Humidity:** Up to 85% relative, noncondensing.