

EVIS EXERA III VIDEO SYSTEM CENTER

## CV-190

Video processing for powering advanced endoscopy



## Main Features

- NBI (Narrow Band Imaging) in EVIS EXERA III 190 Series scopes provides twice the viewable distance of EVIS EXERA II 180 Series scopes and offers significantly brighter images.
- CV-190 features the ability to switch the point of focus between 'near' and 'normal' with the push of a button.
- The newly designed, waterproof one-touch connector enables a one-step connection to the light source and does not require a separate scope cable for the video processor.
- New and improved image processing delivers sophisticated image quality via enhanced color reproduction, minimized image noise, and reduced halation.
- The pre-freeze function selects the clearest still image automatically, saving time.
- The CV-190 is compatible with EVIS 100/130/140/150 Series, EVIS EXERA 160 Series, EVIS EVERA II 180 Series, GI/BF/VISERA Series scopes, and EVIS EXERA III 190 Series.
- 16:9 and 16:10 outputs for a HDTV monitor are available. The system is compatible analog, HD-SDI, and DVI output.
- A link connection to peripheral devices avoids complicated cable connections and accelerates transmission speed.
- The Olympus documentation system enhances networking expandability.
- Picture-in-picture and index functions effectively enhance your observation.
- The system is compatible with portable memory, which is standard for data management; simply connect and upload.
- The CV-190 supports DV output to compatible documentation devices.



## Specifications

Power Supply	Voltage	100-240 V AC (NTSC)/220-240 V AC (PAL); within ±10%
	Frequency	50/60 Hz; within ±1 Hz
	Consumption electric power	150 VA
Size	Dimensions (W x H x D)	370 x 85 x 455 mm; 382 x 91 x 489 mm (maximum)
	Weight	10.7 kg
Classification (medical electrical equipment)	Type of protection against electric shock	Class I
	Degree of protection against electric shock of applied part	Depends on applied part; see also applied part (camera head or videoscope)
	Degree of protection against explosion	The video system center should be kept away from flammable gases.
Observation	Analog HDTV signal output	Either RGB (1080/60I: NTSC)/(1080/50I: PAL) or YPbPr (1080/60I: NTSC)/(1080/50I: PAL) output can be selected.
	Analog SDTV signal output	VBS composite (480/60I: NTSC)/(576/50I: PAL), Y/C (480/60I: NTSC)/(576/50I: PAL), and RGB (480/60I: NTSC)/(576/50I: PAL); simultaneous outputs possible
	Digital signal output	HD-SDI (SMPTE 292M), SD-SDI (SMPTE 259M), DV (IEEE 1394), and DVI (WUXGA, 1080p or SXGA) can be selected.
	White balance adjustment	White balance adjustment is possible using the white balance button on the front panel.
	Standard color chart output	The "Color bar" or the "50% white" screen can be displayed.
	Color tone adjustment	The following color tone adjustments are possible using the color-tone-level adjustment button and color-tone selector button on the keyboard: • Red adjustment: ±8 steps • Blue adjustment: ±8 steps • Chroma adjustment: ±8 steps
	Automatic gain control (AGC)	The image can be electronically amplified when the light is inadequate due to the distal end of the endoscope being too far from the object.
	Contrast	• N (Normal): Normal image • H (High): The dark areas are darker and the bright areas are brighter than in the normal image. • L (Low): The dark areas are brighter and bright areas are darker than in the normal image.
	Iris	The auto iris modes can be selected using the "iris mode" switch on the front panel. • Auto: The brightness is adjusted based on the brightest part of the central part and the average brightness of the periphery part. • Peak: The brightness is adjusted based on the brightest part of the endoscopic image. • Average: The brightness is adjusted based on the average brightness of the endoscopic image.
	Image enhancement setting	Fine patterns or edges in the endoscopic images can be enhanced electronically to increase the image sharpness. Either the structural enhancement or edge enhancement can be selected according to the user setup. • Structural enhancement: Enhancement of contrast of the fine patterns in the image • Edge enhancement: Enhancement of edges of the endoscopic image
	Switching the enhancement modes	The enhancement level can be selected from 4 levels (off, 1, 2, and 3) using the image enhancement mode button on the front panel.
	Image size selection	The size of the endoscopic image can be changed using the "IMAGE SIZE" key on the keyboard.
	Freeze	An endoscopic image is frozen using a "FREEZE" key on the endoscope or on the system keyboard.
	Switching the method of freezing the endoscopic image	Pre-freezing: The image with the least blur is selected and displayed from the images captured in the set time period before the freeze operation.
	Fog-free function	When a compatible endoscope is connected to the video system center, the fog-free function can be used.
Endoscope's remote switches function	The functions of the remote switches on the endoscope can be set in the user settings.	
Reset to defaults	The following settings can be reset to their defaults using the reset button on the front panel: • Color tone • Iris mode • Image-enhancement mode • Color-enhancement mode • Optical-digital observation • Image size • Contrast • Freeze • Release index • Electronic zoom • Arrow pointer • Stopwatch • Characters on screen • PIP/POP	
Remote control	The following ancillary equipment can be controlled (specified models only): • Monitor • DVR • Video printer • Image filing system	
Documentation	Patient data	The following data can be displayed on the monitor using the keyboard: • Patient ID • Patient name • Sex • Age • Date of birth • Date of recording (time, stopwatch) • Comments
	Displaying the record state	The recording state of the following ancillary equipment can be displayed on the monitor: • Portable memory and internal buffer • DVR • Video printer • Image filing system
	Displaying the image information	The following data can be displayed on the monitor: • Structure-enhancement level • Edge-enhancement level • Zoom ratio • Color mode • Focus
	Advance registration of patient data	Data for up to 50 patients can be registered, such as: • Patient ID • Patient name • Sex and age • Date of birth
Portable Memory	Media	MAJ-1925 (OLYMPUS)
	Recording format	• TIFF: no compression • JPEG (1/5): approx. 1/5 compression • JPEG (1/10): approx. 1/10 compression
	Number of recorded images	• TIFF: approx. 227 images • JPEG (1/5): approx. 1024 images • JPEG (1/10): approx. 2048 images
User settings	Up to 20 user settings can be registered.	
Memory Backup	Memorization of selected setting	The following settings are held in memory even after the video system center is turned off: • Color tone • Iris mode • Enhancement • Color-enhancement mode • Contrast • AGC • Color mode • White balance
	Lithium battery	Life: 5 years

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