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 much greater contrast between blood vessels and mucosa.
- CV-190 PLUS contains the electronics to operate the dual focus that delivers an optimal view whether close up or distant by connecting HQ scopes.
- 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.
- A 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.
- Compatible with GI/BF endoscopes of EVIS 100/130/140/150 Series, EVIS EXERA 160/145 Series, EVIS EVERA II 180/165 Series, EVIS EXERA III 190/185 Series, and OPTERA 170 Series.
- 16:9 and 16:10 output for a HDTV monitor is available. Compatible with analog, HD-SDI, and DVI output.
- Link connection to peripheral devices avoids complicated cable connections and accelerates transmission speed.
- OLYMPUS documentation system enhances networking expandability.
- Picture-in-picture and index function effectively enhance your observation.
- Portable memory is compatible, which is standard for data management. Simply connect and upload.
- Supports DV output to compatible documentation devices.
**Product 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**: Depend on applied part. See also applied part (videoscope).

**Degree of protection against explosion**: The video system center should be kept away from flammable gases.

**Analog HDTV signal output**: Either RGB (1080i/59:59i/1080i/59.94i: NTSC)/(1080i/50i: PAL) or YPbPr (1080i/59.94i: NTSC)/(1080i/50i: PAL) output can be selected.

**Analog SDTV signal output**: VBS composite (480i/59.94i: NTSC)/(576i/50i: PAL), Y/C (480i/59.94i: NTSC)/(576i/50i: PAL), and RGB/480i/59.94i: NTSC)/(576i/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: blue adjustment ±8 steps, blue adjustment ±8 steps, green adjustment ±8 steps, red adjustment ±8 steps, and blue adjustment ±8 steps.

**Automatic gain control (AGC)**:
- **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 the bright areas are darker than in the normal image.

**Iris**
- **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 electrically to increase the image sharpness. The structural enhancement or edge enhancement can be selected according to the user setup. The structural enhancement: Enhancement of contrast of the fine patterns in the image. The edge enhancement: Enhancement of edges of the endoscopic image.

**Switching the enhancement modes**: The enhancement level can be selected from 3 levels (OFF, 1, and 2) 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 an endoscope or the “FREEZE” key on the keyboard.

**Switching the method of freezing the endoscopic image**: Pre-freezing: The image with the least blur is selected from the images captured in the set time period before freeze operation and displayed.

**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
- Enhancement
- Color enhancement mode
- Optical-digital observation
- Image size
- Contrast
- Freeze
- Release index
- Electronic zoom
- Optical-digital observation
- 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**
- Up to 50 patient’s data can be registered.
- Patient ID
- Patient name
- Sex and age
- Date of birth

**Portable Memory**
- **Recording format**: TIFF: no compression, JPEG (1/5): approx. 1/5 compression, JPEG (1/10): approx. 1/10 compression
- **Number of recording images**: TIFF: approx. 227 images, JPEG (1/5): approx. 1024 images, JPEG (1/10): approx. 2048 images

**Memory Backup**
- **User settings**: Up to 20 user settings can be registered.
- **Memoryization 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
  - Optical-digital observation
  - Image size

**Lithium battery**: Life: 5 years

Specifications, design, and accessories are subject to change without any notice or obligation on the part of the manufacturer.