

INSTRUCTIONS

VETERINARY

VIDEO PROCESSOR

BV-300FR

IMPORTANCE ON SAFETY



Veterinary Video Processor has been designed to provide image processing and light source for veterinary endoscope, and used with VET series veterinary endoscope.

Do not use the instrument for any purpose other than this application..








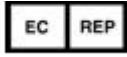

Before using, thoroughly review this manual. Use it as instructed. Safety items are all explained in Chapter 1.

Moreover, the safety items of the operation are marked [ Warning]

CONVENTIONS IN INSTRUCTIONS

Symbol	Explanation
 Warning	caution items about body injury
 Caution	caution items about equipment damage

CONVENTIONS ON VETERINARY VIDEO PROCESSOR

Symbol	Explanation
	The CE mark on this light source indicates it has been tested to and conforms with the provisions noted within the 93/42/EEC MDD.
	BF type
	CONSULT INSTRUCTIONS FOR USE
	EQUIPOTENTIAL
	DATE OF MANUFACTURE
	MANUFACTURER
	FUSE
	AUTHORISED REPRESENTATIVE IN THE EUROPEAN COMMUNITY
	SERIAL NUMBER

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1. SAFETY

1-1 Notice of use

(1) Check before Using

In order to avoid accident in using and make the instrument in its high performance, please check before using as instructed

(2) Use with other equipments

Sometimes this instrument is used with ancillary equipments. In order to avoid current shock accident when using other ancillary equipment than medical equipment like monitor etc., please use special socket of the ancillary equipment to put through electrical current.

(3) Care

The instrument will wear down after long time use. Do Inspect it periodically . Even if little abnormality is found , please be alert and inspect it carefully . Do not to disassembly and alter the instrument.

(4) Avoiding Electromagnetic Interference

Keep the Video Processor away from devices which generate electromagnetic radiation (e.g. microwave, short wave, MRI or radio equipment). Electromagnetic radiation can interfere with the image display.

1-2 Content of [Warning] in Each Chapter

Chapter 4 Instrument Installation

4-1 Preparation before Installation

Use other power supply voltage than instructed may cause fire, electric shock. Please use the power supply of alternating current 220V.

Do plug into a medical receptacle (3-pin) for safety. Do not use 3 pins-2 pins transform plug which may cause accident of electric shock.

Avoid using the equipment near the flammable gas which may cause fire or explosion

4-4 Inspection at Startup

Do not look directly to the light while the lamp is working, or Intense light from endoscope's distal end and light output of light source may damage your eyes.

Use personal protective equipment to isolate deleterious chemicals and potentially infectious material. During operation, wear appropriate protective equipment, such as eye wear, mask, moisture-resistant clothing and chemical-resistant gloves that your skin can avoid exposed in air and control the risk of infection from blood, mucous and other potentially infectious material.

Chapter 6 Maintenance and Care

6-2 Daily Inspection

Do not repair the equipment by unqualified personnel to avoid damage to people or to the Processor. Any after service or repair should be conducted by qualified custom service technician.

2. PARTS' NOMENCLATURE AND FUNCTION

2-1 Front Panel

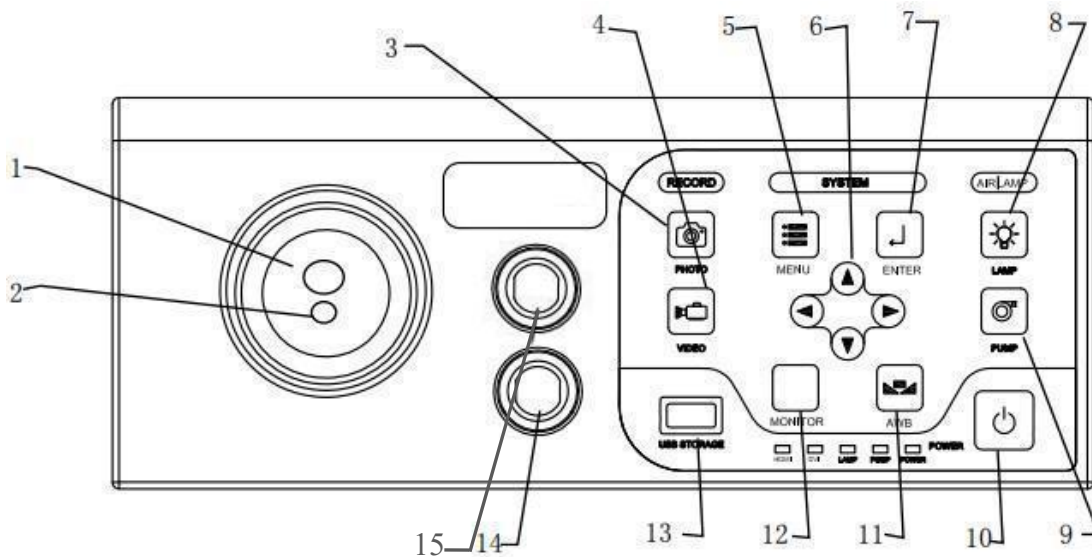


Fig 2-1 Veterinary Video Processor Front Panel

- ① SIGNAL SOCKET: Cmos signal input, connect to endoscope.
- ② INPUT SOCKET: Connect to endoscopy light guide connector
- ③ PHOTO: Take photo.
- ④ VIDEO: Take videos, press again to stop
- ⑤ MENU: System parameter setting.
- ⑥ Up and down left and right selection button:when take photo or video ,Up select the picture and look back and Down select the video; when MENU start, select function items, left and right set the relevant value.
- ⑦ ENTER:Confirm the system setup options.

- ⑧ LAMP: Control the light bulb switch in the image center.
- ⑨ PUMP: Control the air pump switch in the image center.
- ⑩ POWER: Control motherboard operation.
- ⑪ AWB : Automatic white balance.
- ⑫ ENDOSCOPE:flexible and rigid endoscope Selection Control.
- ⑬ TF STORAGE :TF storage card slot .
- ⑭ SIGNAL SOCKET:connect to rigid endoscope camera head .
- ⑮ Not available pending upgrade interface.

2-2 Rear Panel

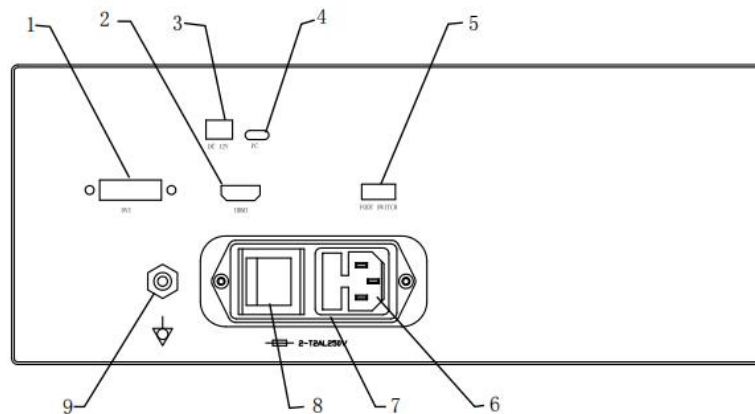


Fig 2-2 Veterinary Video Processor Rear Panel

- ① DVI HD signal output interface: output DVI video signal to the monitor.
- ② HDMI HD signal output interface: output the HDMI video signal to the monitor.
- ③ DC power output interface: output DC12V power supply for external monitor.
- ④ The PC connection inlet: connect to the PC computer.
- ⑤ Foot switch: connect the foot switch device.
- ⑥ AC power jack: power-on jack.
- ⑦ Fuse darwer: use two T1AL250V fuses
- ⑧ Power main switch: control the processor power supply.
- ⑨ Equipotential Interface: connect with other equipmen's equipotential interface

2-3 Side Panel

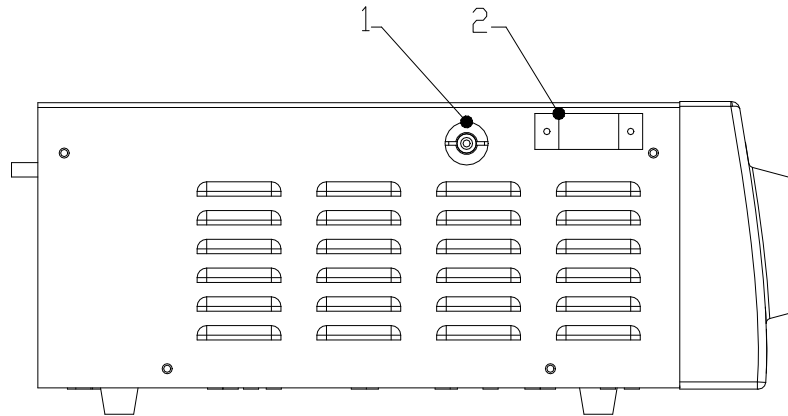


Fig 2-3 Veterinary Video Processor Side Panel

- ① Air Output Interface: output airflow to endoscope or other equipment.
- ② Pothook: install the water/air bottle onto the pothook.

3. STANDARD SET

1) Veterinary Video Processor	1
2) HDMI Video Cable	1
3) AC Power Cord	1
4) Power adapter	1
5) DC Power Cord	1
6) Instruction Manual	1

4. INSTRUMENT INSTALLATION

4-1 Preparation before Installation

⚠ Warning

Use other power supply voltage than instructed may cause fire, electric shock. Please use the power supply of alternating current 220V. Do plug into a medical receptacle (3-pin) for safety.

Do not use 3 pins-2 pins transform plug which may cause accident of electric shock.

Avoid using the equipment near the flammable gas which may cause fire or explosion

⚠ Warning

In order to prevent the equipment from overheating, please do not block the vent of the equipment.

Place the equipment on surface without shake and strike.

- ① Place the instrument on a stable, level surface. If place it on a suspended installation site, make sure it will not fall to the ground.
- ② Prevent the air vents from being obstructed to ensure necessary ventilation
- ③ Insert the power cord into power supply cord receptacle at the back panel.

4-2 Endoscope Connection (Please refer to endoscope instructions.)



Caution

Insure all the power switch off before connection, otherwise the equipment may result in damaged or malfunction and the stored data may lost.

Plug light guide connector of endoscope into the output socket of Video Processor, meanwhile make sure that both of light guide pipe and electrical plugs are inserted into correct holes on XP-1P .moreover, please confirm that the light guide connector and XP-1P are connected firmly by the spring ring on light guide connector.

4-3 Monitor Connection (Please refer to monitor instructions.)

Connect the video output of Video Processor (refer to the figure 2-2)to the video input of monitor with the offered video signal cable.(image can also be display on the LCD monitor on Video Processor.)

4-4 Inspection at startup



Warning

Do not look directly to the light while the lamp is working, or Intense light from endoscope's distal end and light output of light source may damage your eyes.

Use personal protective equipment to isolate deleterious chemicals and potentially infectious material. During operation, wear appropriate protective equipment, such as eye wear, mask, moisture-resistant clothing and chemical-resistant gloves that your skin can avoid exposed in air and control the risk of infection from blood, mucous and other potentially infectious material.

Before each case, inspect the instrument as instructed below. Inspect other equipment to be used with instrument as instructed in their respective instruction manuals. Should the slightest irregularity be suspected, do not use the instrument and see "Troubleshooting". If the irregularity is still suspected after consulting "Troubleshooting", contact us. Damage or irregularity may

compromise animal or user safety and may result in more-severe equipment damage.

1) Inspection of Switch

When push the Power Switch , check the following to confirm that power is actually being supplied to the equipment.

- ① The green indicator of the power switch on the front panel is lit and the fan is run.
- ② Press the LAMP button to confirm whether the lamp can be activated. Confirm that the brightness can be changed accordingly and the light is emitted from the Distal End of the endoscope.
- ③ Press the PUMP button to confirm whether there're air let out from the pump.

2) Inspect the Image on the Monitor

When the Video Endoscope Processor is switched on, the startup image appears on the monitor. After a few seconds, the endoscopic image appears on the monitor. Confirm the endoscope image is normal by observing an object such as your hand.(if connected with ancillary monitor, please check the image on the ancillary monitor)

5. OPERATION

The operator of this instrument must be a physician or medical personal under the supervision of a physician and must have received sufficient training in clinical endoscopic technique. This manual, therefore, does not explain or discuss clinical endoscope procedures. It only describes basic operation and precautions related to the operation of this instrument.

5-1 PUMP AND LAMP

1) PUMP

Press the button to start up pump.

2) LAMP

Press the button to illuminate the lamp, the indicator will be illuminated.

5-2 CAPTURE

1) PICTURE

Press this button to capture and store the instant static image into the USB storage device, while a small box is displayed in the upper right corner of the screen.

2) VIDEO.

Press the button to store the dynamic image in the USB storage device. At the same time, a small circle appears in the upper right corner of the screen, indicating that it is in the video. Press another button to stop the video.

6. MAINTENANCE AND CARE

6-1 Clean after use



Caution

Cleaning by means of other way than the instructed may cause equipment's damage and affect it's safety performance. Clean the instrument followed by instruction. Liquid's flowing into equipment may cause fault. Do not splash water and disinfectant, etc. onto the equipment , and do not swash with water or disinfect by digging in as well.

Clean the dust and grime gently with pledget or other soft cloth.

If the grime is serious and not easy to be wiped off, please use diluted litmusless detergent with 5~6 times water to wet pledget and clean gently.

6-2 Daily Inspection



Warning

Do not repair the equipment by unqualified personnel to avoid damage to people or to the Video Processor.

Any after service or repair should be conducted by qualified custom service technician.

The seller suggests that the equipment should be inspected once each year by the qualified customer service technician.

6-3 Cautions for Care

**Caution**

Don't keep the equipment where is not in the conditions for keeping. Clean by means of the instructed.

To prevent equipment from fault, do not bend, drag, skew and extrude, etc. the cable overly. Keep the cable without outside force.

Please keep XP-1P where is according to the following conditions

Ambient Temperature

-40℃~+55℃

Air Humidity

10%~93%(except the state of dew)

Air Pressure

500hPa~1060hPa

Location

Avoid exposing under sunlight

APPENDIX I TROUBLESHOOTING GUIDE

The following actions should be executed by qualified technician. Please stop using and send to repair if trouble still can not be solved after these actions.

	Symptom	Inspection	Action
Image	Image is blurry	Check if there is some Dirt on the lens;	Clean out eyewinker according to the instruction of endoscope.
	Image is permanently white	Check if the endoscope is pointing to an overlighted object.	Move the endoscope to a normal area.
	Image is excessively bright or dark	Check if the bright parameter is at maximum or minimum.	Adjust the bright parameter of Video Processor and ancillary monitor to a proper vaule.
Power	The indicator light of power supply does not work	Check power cord	Connect the power cord to the equipment correctly.
Monitor	No image	Check if the endoscope is right connected with the processor.	Shutdown, pulled the endoscope and reconnected
		Check if the monitor is right connected with the processor.	Pulled signal cable and reconnected.



APPENDIX II MAIN SPECIFICATION

Class of Product	II a	
Protection grade of explosion prevention	far away from flammable gas	
Working mode	continuous	
Distinguishability	No.5 distinguishability board is grade 9 and permitting half-grade down	
LAMP type	LED	
Rating power	40W	
Color temperature	5600K	
Lifespan	20000Hours	
Manual white balance brightness (from 0 to 100) Capture video save Capture video An HDMI video output An DVI video output		
Power supply	220V/50Hz or 110V/60Hz	interchange
Input power	120VA	
Working condition		
Temperature	+5℃~-40℃	
Humidity	30%~80%(except the state of dew)	
Air pressure	700hPa~1060hPa	
Keeping condition		
Temperature	-40℃~+55℃	
Humidity	10%~93%(except the state of dew)	
Air Pressure	500hPa~1060hPa	

APPENDIX III GUARANTEE AND SALES SERVICES

Certificate

Certificate card is added to this equipment.

Repair services after sale

- 1) Read the instruction manual again and inspect first when problems occurs.
- 2) Contact us if problems still can not be solved.
- 3) About the repair during the period of guarantee

Period of guarantee is one year, the starting time is the date promised in purchase contract.

The following damage or injury does not belong to the repair object.

- Damage caused by natural disaster such as fire, gale, and flood etc.
- Damage resulting from improper use of the instrument or wrong operation.
- Products repaired or changed not by our company.

4) Cautions about repair

- Put the Video Processor which is to be repaired into the original package.

Please remember to write down the malfunction or damage of the instrument.

And inform us your address, Zip code, operator's name and telephone number.

- Simple problems can be solved by qualified technician according to (Appendix I) Troubleshooting Guide. Any other repairment should be conducted only by us.