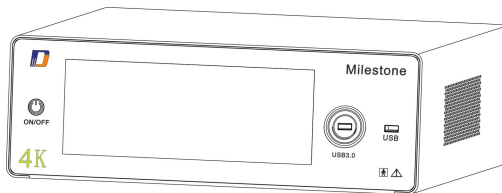


Production Date: See Product Label for details

Expiration Date: See Product Label for details

Milestone Image Processing Platform

User Manual



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Hengyang Dajing Medical Devices Technology
Co., Ltd.

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1. Preface

Customer Notice

Thank you for your supporting for our products. All of our products are designed with our abundant experience for medical products and elaborate technology. This product with leading technology and consistent quality is your best purchase choice.

All detailed products information and operation information you can find in this user manual, please read this manual carefully before you use this equipment and keep this manual for reference at any time.

Warning: All equipment have not been sterilized before out of factory, so all equipment need to be cleaned, before and after each use.

We have the right to change the structure, configuration and technology of our products, all right reserved.

2. Product Introduction

2.1 Product Overview

- a. This product, when connected to an endoscopic camera system and monitor, enhances image quality, records, stores, and reproduces surgical videos and images.
- b. The Milestone Image Processing Platform mainly consists of the Milestone control unit, connection cables, and power cable. For specific details, refer to Figure 1: External View Schematic.

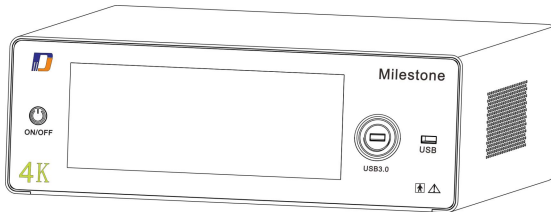


Figure 1: External View Schematic

2.2 Product Accessory List

- 1 Milestone host
- 1 HDMI connection cable
- 1 SDI connection cable
- 1 HDMI to DVI connection cable
- 1 HDMI to DVI adapter

- 1 power cord
- 1 equipotential grounding wire
- 1 operating manual
- 1 certificate of qualification

3. User Guide

3.1 Front Panel Introduction

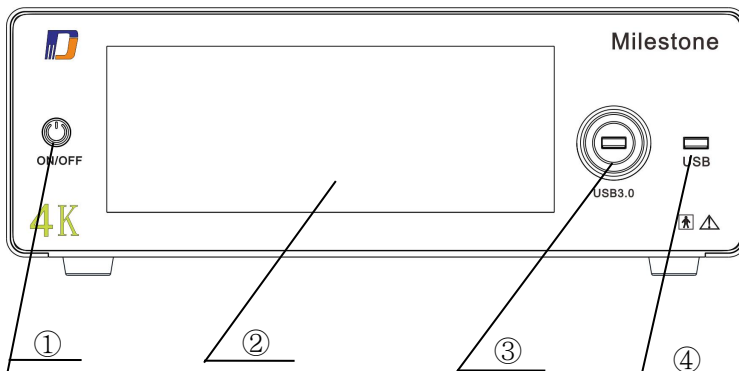


Figure 2: Schematic Diagram of the Front Panel of the Host

① **Power On/Off:** Press and hold the "ON/OFF" button for about 3 seconds until you hear a beep sound to power on the device; release the power button when you hear the beep. To power off the device in any mode, press and hold the "ON/OFF" button for about 3 seconds until you hear a long beep sound, then release the power button.

② **LCD Display:** In the power-on state, the LCD display shows

the current image or allows for parameter settings. For detailed functionality, refer to section 3.3 of this manual.

③ **USB 3.0 Port:** After inserting a USB 3.0 storage device, you can copy recorded video and image files stored in the device.

④ **USB Port:** This port is for software upgrades of the device. The USB port recognizes only software upgrade files when a storage device containing upgrade software is inserted; it does not recognize other files.

3.2 Rear Panel Introduction

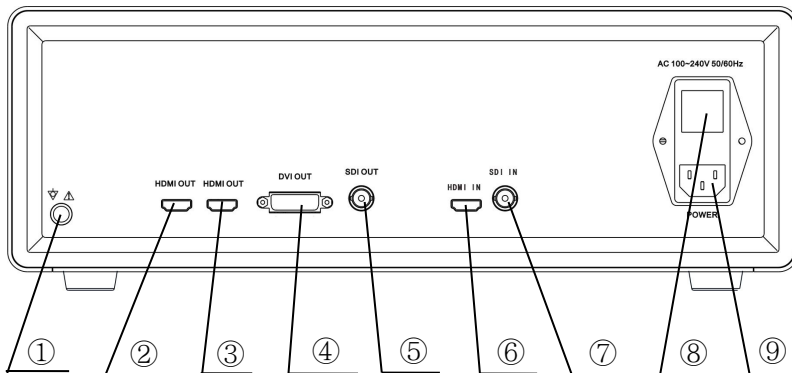


Figure 3: Rear Panel View of the Host

① **Equipotential Grounding:** This port is used for equipotential connection during use with the provided grounding wire.

② **HDMI OUT:** This port connects to a medical monitor, outputting HDMI signals supporting a maximum image resolution of 3840 (H) × 2160 (V).

- ③ **HDMI OUT:** This port connects to a medical monitor, outputting HDMI signals supporting a maximum image resolution of 3840 (H) × 2160 (V).
- ④ **DVI OUT:** This port connects to a medical monitor, outputting DVI signals supporting a maximum image resolution of 3840 (H) × 2160 (V).
- ⑤ **SDI OUT:** This port connects to a medical monitor, outputting SDI signals supporting a maximum image resolution of 1920 (H) × 1080 (V).
- ⑥ **HDMI IN:** This port connects to the endoscope camera system, inputting HDMI signals supporting a maximum image resolution of 3840 (H) × 2160 (V).
- ⑦ **SDI IN:** This port connects to the endoscope camera system, inputting SDI signals supporting a maximum image resolution of 1920 (H) × 1080 (V).
- ⑧ **Power Switch POWER:** Used for overall power control. Position "I" is for power on, "O" position is for power off.
- ⑨ **Power Socket AC 100-240V 50/60 Hz:** This port inputs single-phase AC 100-240V, 50/60Hz±1Hz power. Fuse specifications are T10AL/250V, φ5.2×20.

3.3 LCD Screen Introduction

3.3.1 LCD Screen Primary Menu Interface

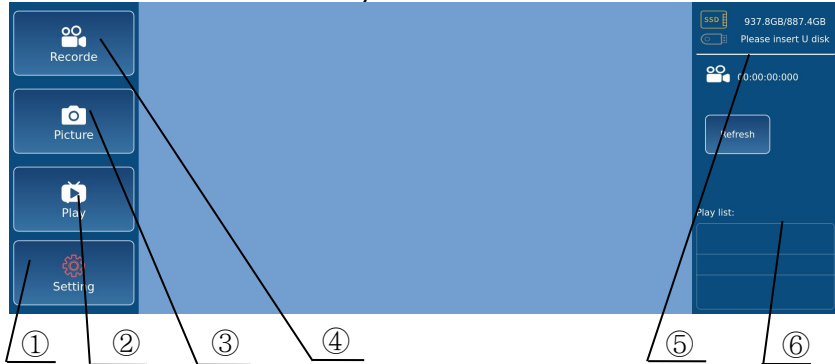


Figure 4: LCD Screen Primary Menu Interface

① Settings: Click the Settings button to enter the device's function settings interface. For detailed functionality, refer to section 3.3.2 of this manual.

② Play: Click the Play button to enter the media playback interface, where you can select the corresponding video or image for playback.

③ Image: Click the Image button to capture and save the current surgical screen. Saved images are stored in Settings/Media/Images.

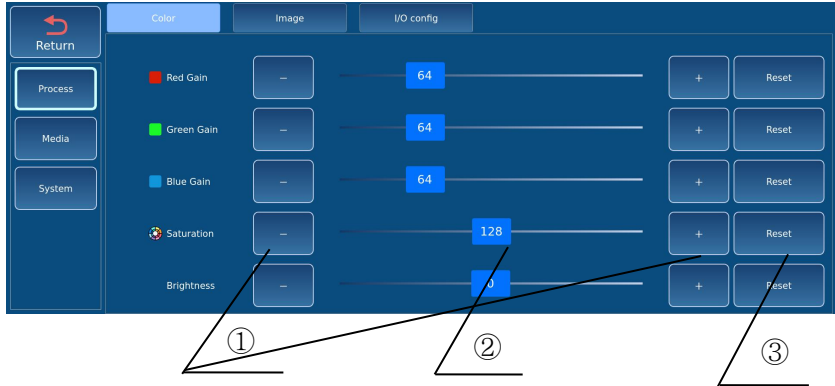
④ Record: Click the Record button to record the current surgical screen. Click the Record button again to end the recording. Saved video recordings are stored in Settings/Media/Videos.

⑤ Recording Duration Icon: Displays the remaining duration of the current playback recording.

⑥ Playlist: Displays the current playback recording file names.

3.3.2 LCD Secondary Menu Interface

1) Settings / Milestones / Color Menu Interface



①: "+" "-" Keys

②: Slider

③: Reset Button

Figure 5 LCD Color Interface

Function Description		
Red Gain	0—255	You can touch the "+" "-" buttons on the screen or drag the slider in the middle to adjust the value. Touching the "Reset" button on the far right of the screen will restore the item to its factory settings.
Green Gain	0—255	
Green Gain	0—255	
Saturation	0—255	
Brightness	-128—+127	

2) Settings / Milestones / Image Menu Interface

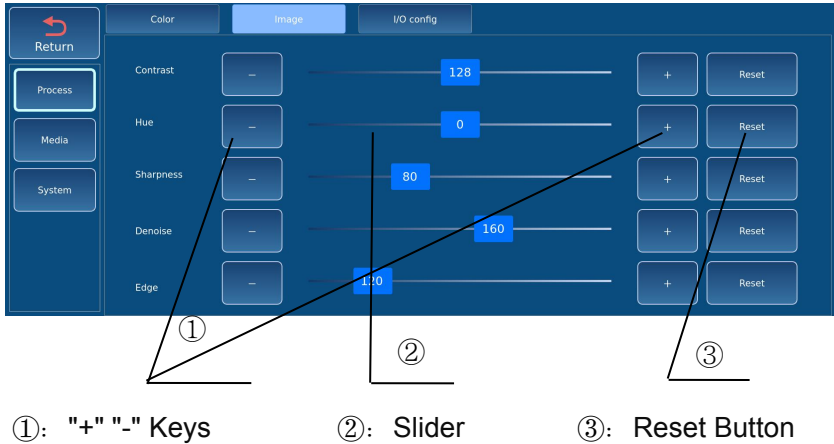


Figure 6 LCD Screen Image Interface

Function Description		
Contrast	0—255	You can touch the '+' '-' buttons on the touch screen or drag the slider in the middle to adjust the numerical value. Touching the 'Reset' button on the right side of the screen restores the factory settings for this item.
3D Noise Reduction	0—255	
Image Enhancement	0—200	

3) Settings / Milestone / I/O Configuration Menu Interface

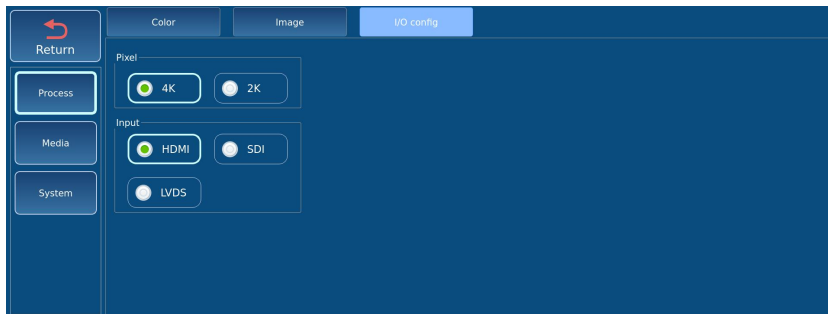


Figure 7 LCD Screen I/O Configuration Interface

Function Description		
Pixel	4K、2K	Select enhancement of image pixels to 4K or 2K based on the input image pixels.
Input	HDMI、SDI、LVDS	Select HDMI or SDI as the input based on the input signal interface, with LVDS as a reserved option

4) Settings / Media Menu Interface

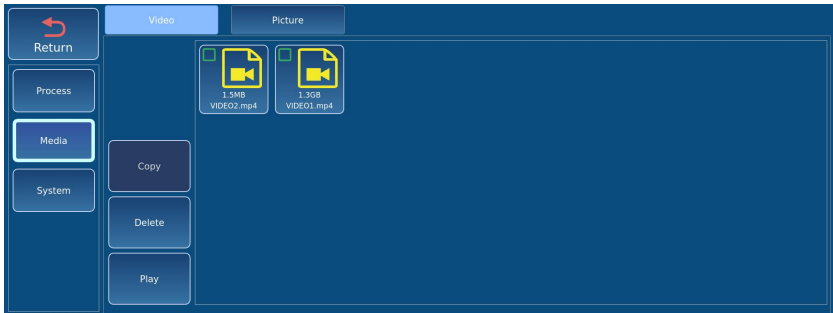


Figure 8 Interface for locally stored videos and images

Function Description	
Video	After inserting the USB 3.0 interface into the mobile storage device, select the corresponding video file, click "Copy" to copy the file to the mobile storage device; select the corresponding video file, click "Delete" to delete the file on the local machine; select the corresponding video file, click "Play" to play the video on the LCD screen and connected medical monitor.
Image	After inserting the USB 3.0 interface into the mobile storage device, select the corresponding image file, click "Copy" to copy the file to the mobile storage device; select the corresponding image file, click "Delete" to delete the file on the local machine; select the corresponding image file, click "Play" to display the image on the LCD screen and connected medical monitor.

3.4 Connection of Milestone Image Processing Platform

- a. Connect the endoscope, endoscope camera system, and medical cold light source according to the endoscope operation manual.
- b. Connect the power cable of the Milestone Image Processing Platform.
- c. Use the corresponding signal cables to connect the output of the endoscope camera system to the input of the Milestone Image Processing Platform, enhancing the image signals captured by the endoscope camera system.
- d. Use the appropriate signal cables to connect the Milestone Image Processing Platform to the medical monitor, transmitting the processed image signals to the medical monitor.
- e. Insert a USB flash drive or mobile hard drive.



Warning: When connecting or disconnecting cables of the Milestone Image Processing Platform, the main power switch of the equipment host must be turned off!

3.5 Power On Preparation

- a. Turn on the rear main power switch and front power switch of the Milestone Image Processing Platform to start the device. Also, start the medical monitor, endoscope camera system, and medical cold light source.
- b. If the connections are correct and all devices are in normal working condition, the LCD screen of the Milestone Image Processing Platform will display the image from the endoscope. The medical monitor will display the image from the endoscope or the current playback image on the Milestone Image Processing Platform screen. Adjust the parameters of the Milestone Image Processing Platform and the brightness and chroma values of the monitor until the image is satisfactory.

3.6 Parameter Adjustment

Click the Settings button to access parameter settings and adjustments. Click the Back button to return to the previous menu directory. Click the Reset button to restore default parameter settings.

4. Performance Parameters

Performance Parameters	Specifications
Language	☐ Chinese ☐ English
Rated Voltage and Frequency	AC 100-240V, 50/60Hz
Normal Operating Temperature	+5℃ ~ +40℃
Storage and Transportation Environment	-20℃ ~ +55℃
Storage Relative Humidity	0% ~ 93%
Storage Atmospheric Pressure	500hPa ~ 1060hPa
Chassis Dimensions	400mm*335mm*143mm
Total Weight	11kg

5. Maintenance and Care



Note: This product does not have user-serviceable parts. Do not disassemble, modify, or attempt to repair the product, as this could cause harm to patients or operators and may damage the equipment.

- a. To keep the equipment clean, gently wipe it with a soft, damp cloth (gauze) soaked in warm water or with added detergent, at least once a month. However, make sure to avoid liquid from entering the interior of the equipment.
- b. Do not use acetylene, epoxy ethane, or other organic solvents to prevent damage to the equipment housing. Also, do not use any solvents, polishers, or abrasives.
- c. Avoid using flammable liquids for cleaning and disinfection. If unavoidable, these liquids must evaporate completely before using the equipment.



Note: The Milestone Image Processing Platform is a reusable device.

When the product is not in use for an extended period, store it indoors in a well-ventilated area away from direct sunlight and corrosive gases to prevent moisture accumulation. Keep the product elevated 30mm above the ground during storage.

During transportation, use the original product packaging materials or other suitable packaging materials. Ensure proper packaging to prevent damage during transport, avoiding severe impact, vibration, rain exposure, and inversion.

Note: When conducting maintenance, please disconnect the power supply to prevent electric shock injuries!

6. Disposal of Products

The product does not contain substances harmful to the environment and can be disposed of in accordance with national environmental protection standards.

During use, the product does not generate waste or residues that may pollute the environment. When the product reaches the end of its service life or needs to be scrapped for other reasons, it should be uniformly collected by the hospital equipment management department.

7. After-sales and Maintenance Services

This product does not require special maintenance. However, abnormal phenomena may occur during use due to movement, changes in operators, changes in the operating environment, parameter adjustments, etc. Please call our company's maintenance hotline for assistance.

7.1 Maintenance Hotline

Our company provides corresponding services and technical support. By calling the hotline, you will receive prompt and thoughtful service.

After-sales Service: Dajing Medical Devices Technology Co., Ltd.
After-sales Service Address: 3rd Floor, Building B5, Hengshan Science City, Gaoxin Zone, Hengyang City, Hunan Province, P.R.China Zip Code: 421000
Email: info@dajingmed.com Telephone: 0734-8172888

7.2 Warranty Commitment

- a. Under the condition that users comply with the rules of use, storage, and transportation, the warranty period for our company's products is 24 months, starting from the date of acceptance by the user.
- b. The following situations are not covered by the warranty:
 - a) Users who open the machine cover without permission during the warranty period;
 - b) Product damage caused by human factors and irresistible external reasons during use;
 - c) Repairs performed by unauthorized technicians.
- c. During the warranty period, our company provides free repairs and replacements for various malfunctions and damages

caused by the product itself. Our company reserves the right to resolve issues through repair or replacement of parts. However, such repairs do not extend the warranty period.

- d. Our company is responsible for repairing products beyond the warranty period, and charges may apply at our discretion. After repair, our company provides free warranty for the same fault for 3 months beyond the warranty period.

Version:V1.0
