

Industrial Videoscope X600 PLUS



Safety & Cautions	4
Getting started	6
[Part I] Product Outlook	7
1.1 X600 PLUS	7
[Part II] Main function	8
2.1 Live view screen UI	8
2.2 Live view screen overlays	8
2.3 Function Buttons	9
2.4 FREEZE SCREEN	10
2.5 Album	11
2.6 Album - Photo annotation function	14
[Part III] Setting menu	16
3.1 MAIN MENU	16
3.2 INFO	17
3.3 Wi-Fi	18
3.4 SESSION	21
3.5 TAG	22
3.6 WATERMARK	25
3.7 DATE / TIME	25
3.8 REPEAT RECORDING	20
3.9 AUTO POWER OFF	26
3.10 LANGUAGE	26
3.11 USB PORT	27

3.12 SD CARD	32
3.13 MICROPHONE	32
3.14 IMAGE	33
3.15 WHITE BALANCE	34
3.16 MICRO HDMI PORT	35
3.17 FREEZE SCREEN	36
3.18 REGULATORY	36
Specifications	37
Accessories	38

Safety & Cautions

CE NOTICE

X600 PLUS is in conformance with the following standards:

- 2014/30/EU Electromagnetic Compatibility Directive

FCC NOTICE

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this product could void the user's authority to operate the product.

RoHS NOTICE

X600 PLUS is in conformance with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive. This means that our product is both lead-free and without the hazardous substances either in the manufacturing process or in the final product.

SAFETY GUIDE

USER MUST PAY ATTENTION TO THE INFORMATION PROVIDED HERE TO ENSURE SAFETY.

We suggest you read the following statements carefully before using the product. If the product is used in a manner not specified by the manufacturer, the protection provided by the product may be impaired.

CAUTION If this product is used without observing the information given under this symbol, it might cause damage to this product.

CAUTION BATTERY

- Risk of explosion if battery is replaced by an incorrect type.
- Dispose of used batteries according to the instructions.
- Never replace the battery by yourself.

CAUTION CERTAIN SUBSTANCES MAY DAMAGE THE PROBE

- Please refer to chemical resistance below. Contact the store you purchased for unsure chemical solutions for further information.

Chemical Resistance:

- Water
- Brake fluid
- Gasoline
- Diesel fuel
- Transmission fluid

WARNING If this product is used without observing the information given under this symbol, it might cause injuries or loss of life.

WARNING HAZARD ENVIRONMENT

- Do not use this product in explosive environments such as gasoline or alcohol storage tank.

CAUTION This product does not support probe hot swap. Please always connect the compatible probe properly before switch on.
Switch off the product before changing the probe.

WARNING FLAMMABLE GASES

- Do not use this system near flammable gases.

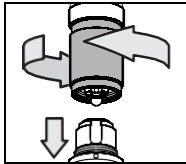
WARNING INDUSTRIAL USAGE ONLY

WARNING INTENSIVE LIGHT MAY CAUSE EYE INJURY

- Avoid looking at the camera head while LED is on.

Getting started

1. Ensure that a micro SD card is inserted in the slot.
2. Carefully connect the camera probe as detailed below:



- (1) Align the white dots printed on the probe and monitor's connector.
- (2) Carefully plug the probe into the monitor.
- (3) Tighten the connecting collar to secure the probe connection.

** Connecting the probe to the monitor.

Long press the power button, the logo will appear. The camera image will then appear.

If the battery status icon is showing a low, or if the monitor will not power up, connect the X600 PLUS to an AC power source using the supplied AC adapter/charger.

If the screen freezes, press the rest button for 2 seconds. Long press the power button to power on the X600 PLUS after the reset.

Long press the power button to switch off the X600 PLUS after use.

WARNING DO NOT plug any power input cable into the probe connector!
It may cause damage of the equipment!

CAUTION MUST use the USB-type C port of the right side and to charge the equipment. The probe connector does not allow any power input!

[Part I] Product Outlook

- 1.1 X600 PLUS

Power



Microphone

Magnetic tilt stand

Reset

Micro SD port

Micro HDMI port

USB-C port



[Part II] Main function

- 2.1 Live View screen UI












- 2.2 Live view Screen Overlays

When connected to the 4.9 mm dual camera probe, the interface will be different in the right side function buttons. (Add a camera direction switch icon on right side)



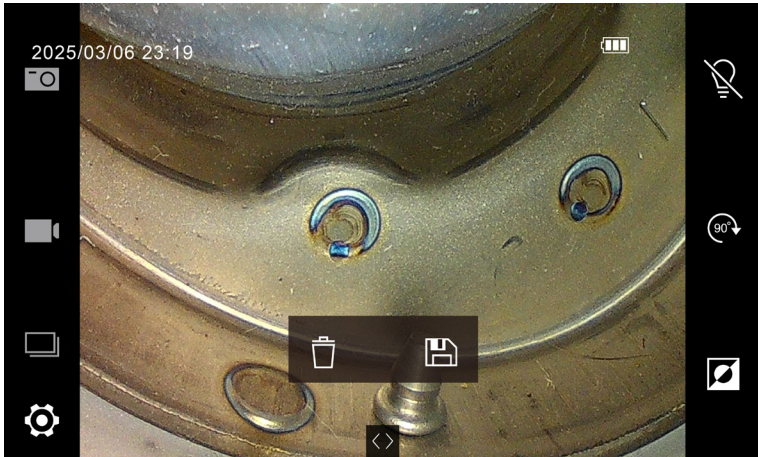
• 2.3 Function Buttons

List as follows:

Items	Button	Description
Snapshot		Save the live-view picture in the SD card. Snapshot can be done during recording and video playback.
Recording		Record videos in the SD card.
Album		Access the SD card to review images and videos been saved.
Setting		Setting menu.
Brightness		LED light on/off.
LED direction		With dual camera model or side view mirror tape this icon to show the camera view from front to side or from side to front.
Rotate image		Tap to rotate image clockwise (90°, 180°, and 270°).
Negative		Tap this to show the camera image in a 'negative' contrast format image negative effect to highlight scratch defects.
Full screen		Full screen live view switch.
Zoom in/out		Pinch-To-Zoom.
Power button		Power on/off.
LED indicator		"power on-green" -> battery high "power on-red" -> battery low "power on-orange" -> charging "power off-red" -> charging "power off-none" -> full charged.

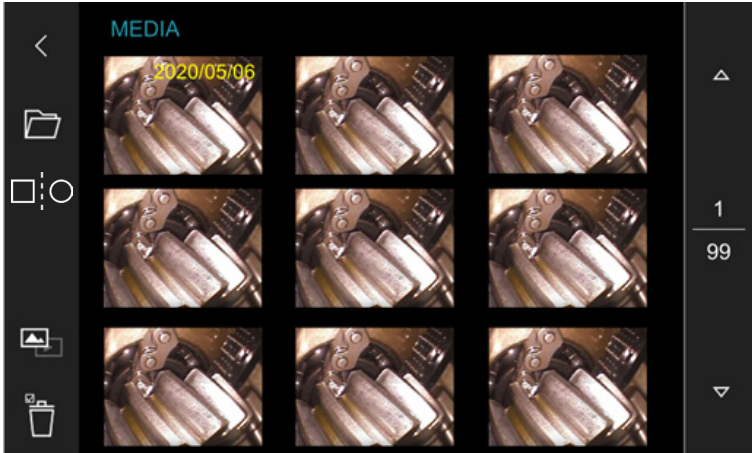
- 2.4 FREEZE SCREEN










Tap the [snapshot] button, the screen live view will 'freeze' and pop-up window asks if to save the still image. This 'freeze' function is default enable and can be disabled in the setting menu (refers to section 3.19- FREEZE SCREEN)



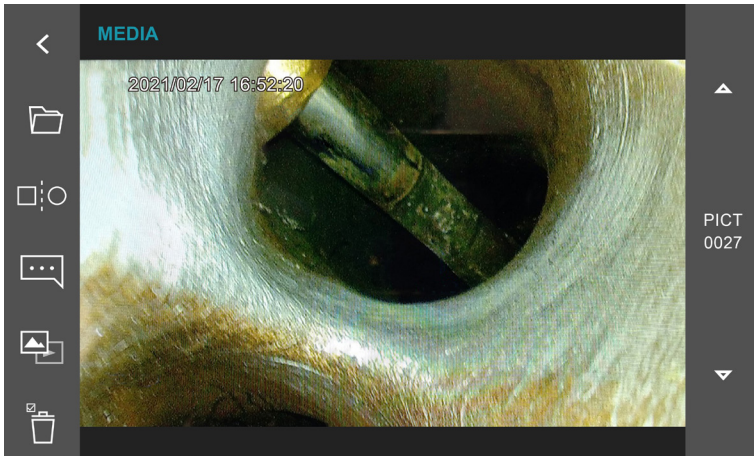
• 2.5 Album

- Photo album: The system list latest file in the order of right-down. When there are different date fields in the same page, the first file will be marked a yellow date code.



Button	Items	Description
	Back	Go back to live view.
	Session	Go to access SESSION folders or edit mode.
	Compare image	Refers to the <u>Compare function</u> ^{*1} bellows for details.
	Photo album	Indicate now under photo album. Tap to go to video album.
	Video album	Indicate now under video album. Tap to go to photo album.
	Delete select	Select files to be deleted.
	Delete file	Confirm deleting selected files.
	Page up	Album page forward.
	Page down	Album page backward.

- Single photo view



(*1) Compare function: To compare a stored image (target flaw or golden sample) with the live view on a split screen. In album mode, tap the icon then select an image then the screen will split as showing the stored image on the right and the live view on the left.

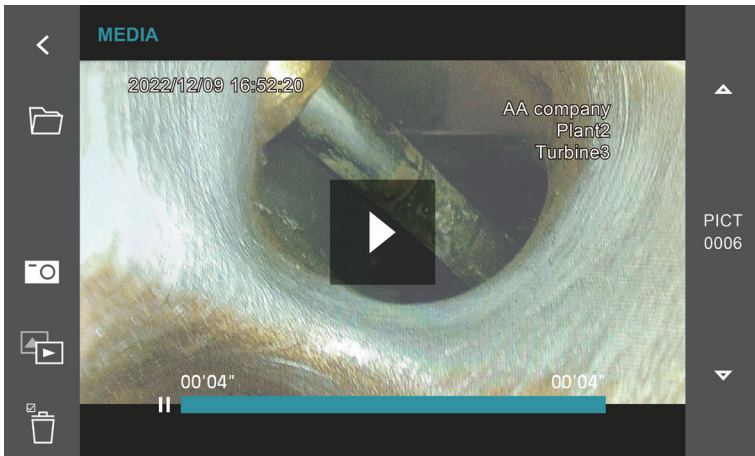





1. Move - move the stored image to the target position.
2. Switch - switch the images from right to left.
3. Replace - replace the stored image to another stored image.
4. Tap the compare icon button will go back to normal live view.

- Video album: The system list latest file in the order of right-down. When there are different date files in the same page, the first file will be marked a yellow date code.



- Single video playback

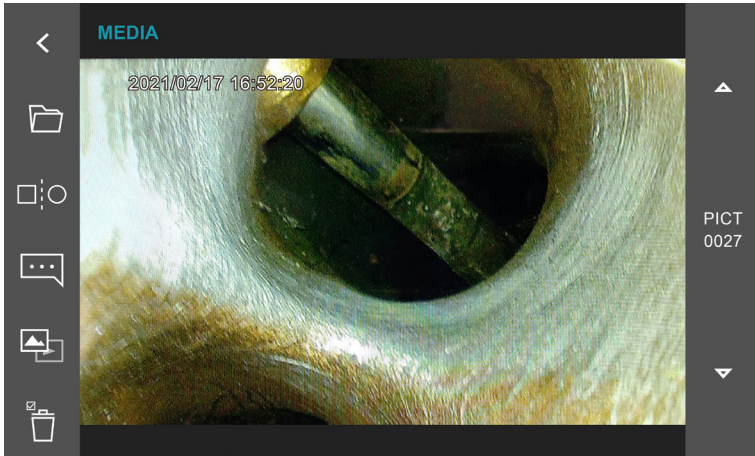





Button	Items	Description
	Play	Start to play back the video. Touch the screen can play/pause while playback.
	Screenshot	During video playback, tap to screenshot real-time image at any moment.
	Photo album	Indicate now under photo album. Tap to go to video album.

- 2.6 Album - Photo annotation function

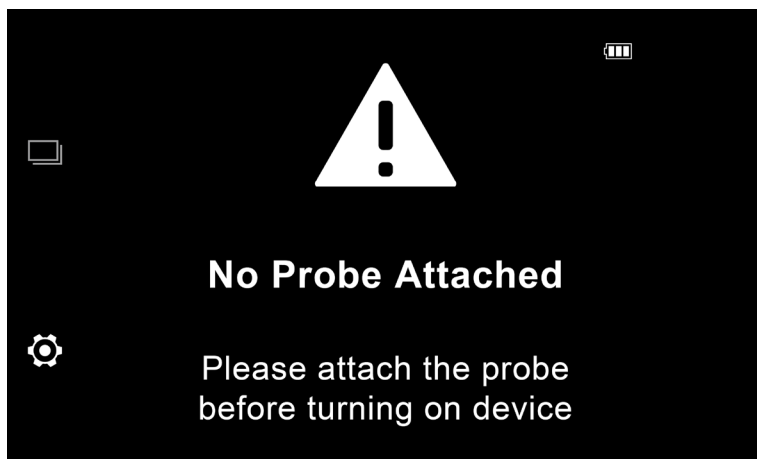
The X600 PLUS system allows user add maximum 10 notes on a photo. Each note can key in maximum 24 characters. The edit steps as follow:

Tap the comment icon and type a comment using the touch-screen keyboard that appears; Tap DONE on the keyboard when finished.



Items	Button	Description
Add Note		[key in]-> [Done]. Then a note can be done. Move note position: Touch any note been made on screen then it shows a green frame. The note frame can be dragged to any position you want to mark on the photo.
Erase Note		Tap a note note been made on screen then it shows a green frame. Delete notes by tapping the eraser.
Save		Tap to save the comments with the photo. The original photo will not be covered.

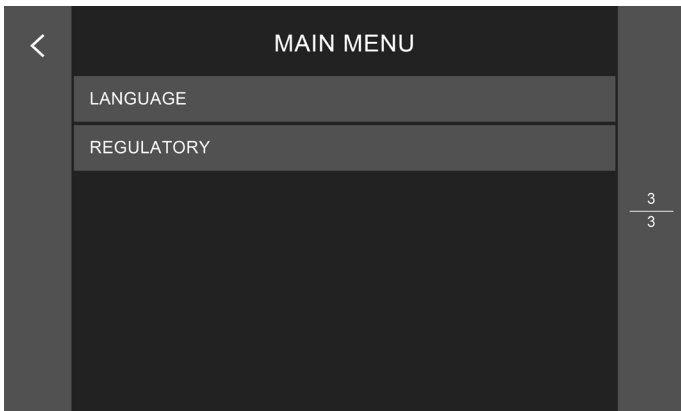
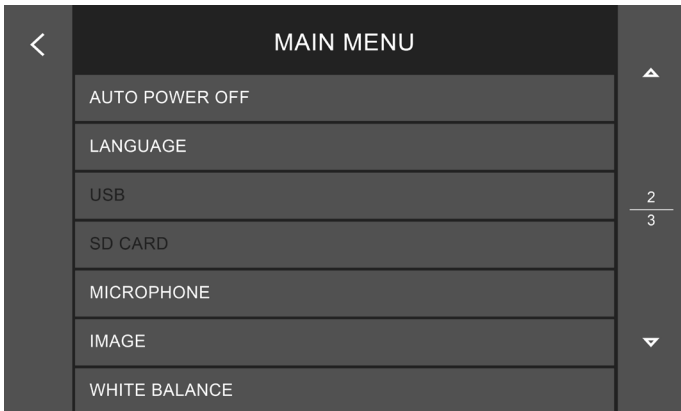
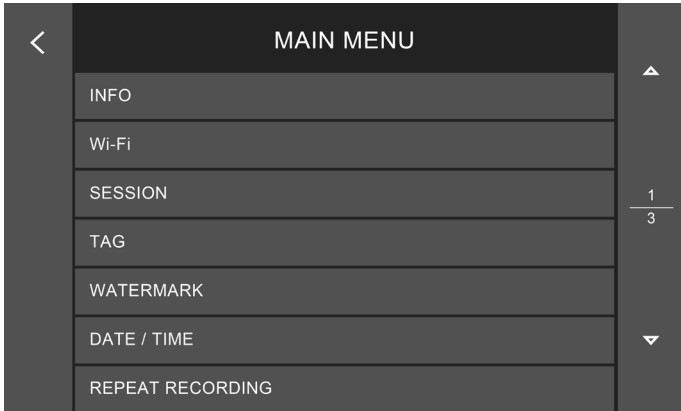
Note: If there is no probe attached on the base unit, the system can be boot up with set up functions and album browser functions as the above section mentioned.



[Part III] Setting menu

- 3.1 MAIN MENU

Including 16 setting items in 3 pages.



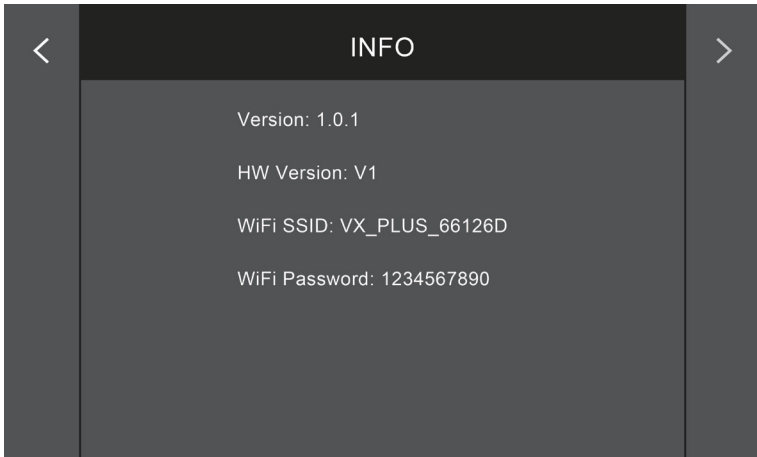
• 3.2 INFO.

Include firmware information.

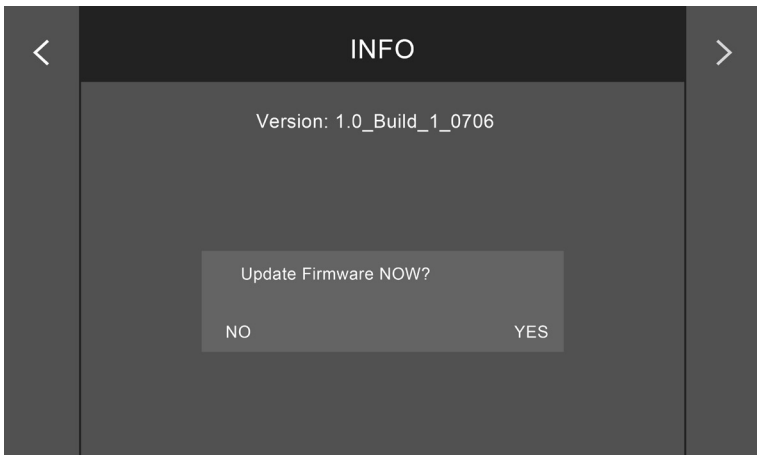
- Current hardware and firmware version.
- WiFi SSID & WiFi Password

Firmware upgrade: When there is a new version firmware be suggested, save the file (.BRN file format) in the SD card root dictionary.

1. Tap the ">" button up-right the screen.



2. Follow the instruction.



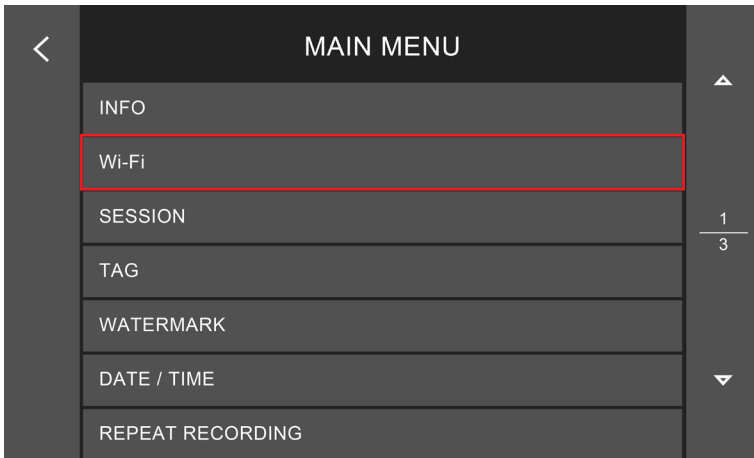
3. The system will automatically shut down when the upgrade is done. Reboot the system then check if new version is properly installed.

- 3.3 Wi-Fi

The system provides image live stream sharing and remote control functions via mobile APP- VODEOSCPENOW base on the WLAN 802.11.b/g/n protocols.

- 3.3.1 Enable the WLAN

Tap the switch icon to enable the function module. Then go back to the live view window, the UI of the down-left will turn into the Wi-Fi icon. At the same time, the overlay icons on the top will also show on.



To disable the function, tap the down-left icon again, the system will turn back to normal status.

- 3.3.2 Wi-Fi connection with mobile devices

Open your Wi-Fi settings on your mobile. Search the system SSID in your available Wi-Fi list. The V8 PLUS's SSID and password can be found in the [3.2] INFO.

Note :

Typically, the Wi-Fi system will be added to your favorite Wi-Fi network list after first connecting. The favorite Wi-Fi network list will store the SSID/password.

The X600 PLUS system allows connecting to up to 2 mobile devices simultaneously.

When connecting a new mobile device, please ensure that not any other previously connected mobile device is blocking the connection to the system.

It may cause the connection attempt to be rejected and fail.

- 3.3.3 Live share and access the image of the system:

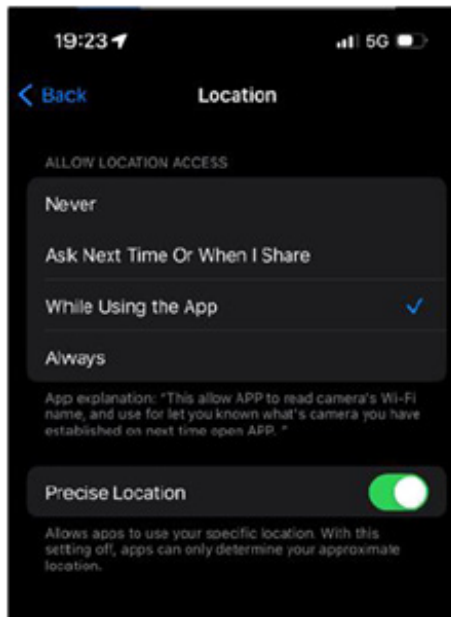
- MITCOPRP provides the "VideoscopeNOW" APP for X600 PLUS wireless usage.
- Detailed instructions can be found in the < VideoscopeNOW user guide >



'VideoscopeNOW' is a tool specifically designed for industrial videoscopes that can share the live view of Mitcorp videoscopes through a Wi-Fi connection. It can also act as a remote controller for taking photos or recording clips. Through the APP, users can link to the system to access the album and download the photos /clips.

Note : This APP requires your location access authorization of mobile device. Before using, please check your setting->APP management->VideoscopeNOW->

Location to be enabled.



PS. The UI of iOS and different Android version may have a little difference. Please check by your conditions.

• 3.4 SESSION

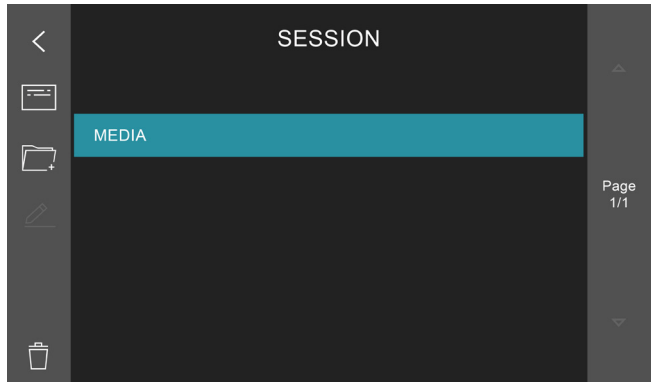
X600 PLUS provides custom build photo/video storage folder under SESSION. When a new SD card is installed, the default folder-MEDIA will be built.

The edit steps as follows:

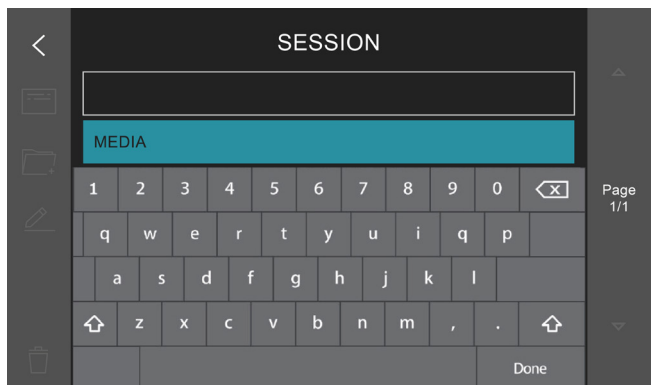
Add & Edit a new folder

Jump to TAG under selected folder

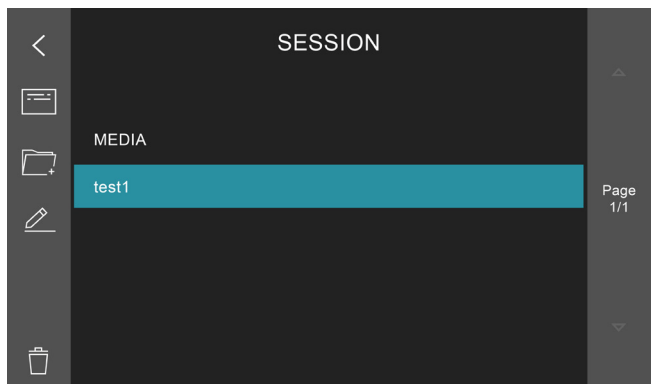
Delete selected folder



Edit folder title



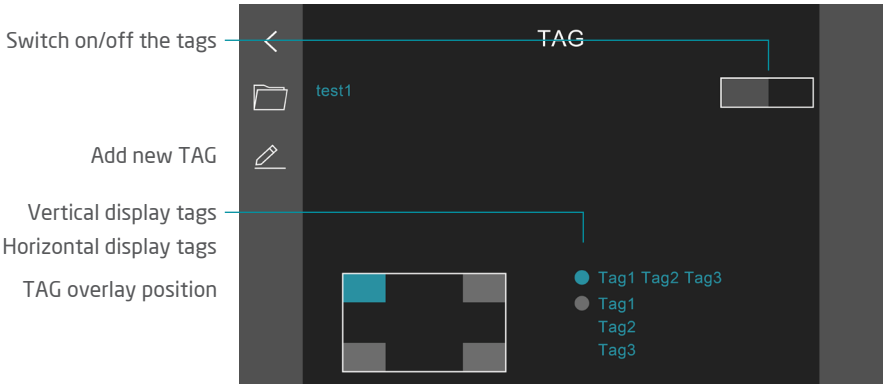
Finish editing



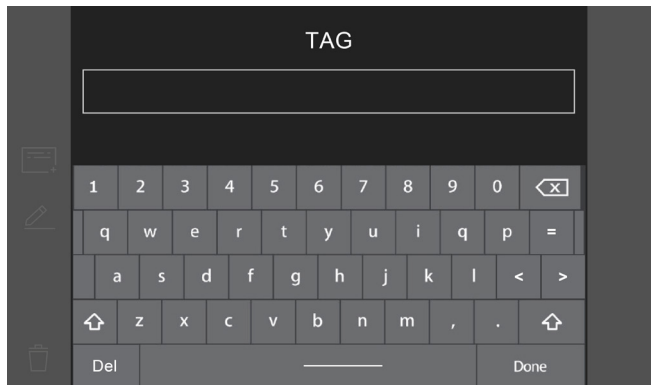
• 3.5 TAG

X600 PLUS provides custom build photo/video storage folder under TAG. When a new SD card is installed, the default folder-MEDIA will be built.

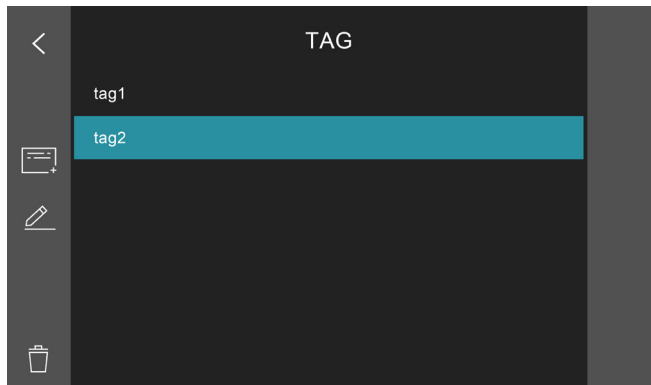
The edit steps as follows:



Tap 'ADD' pop-up keypad



Delete selected tag

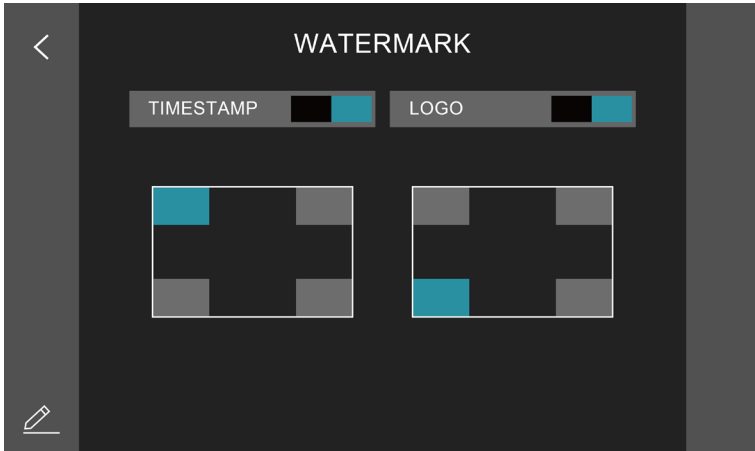


<Note>

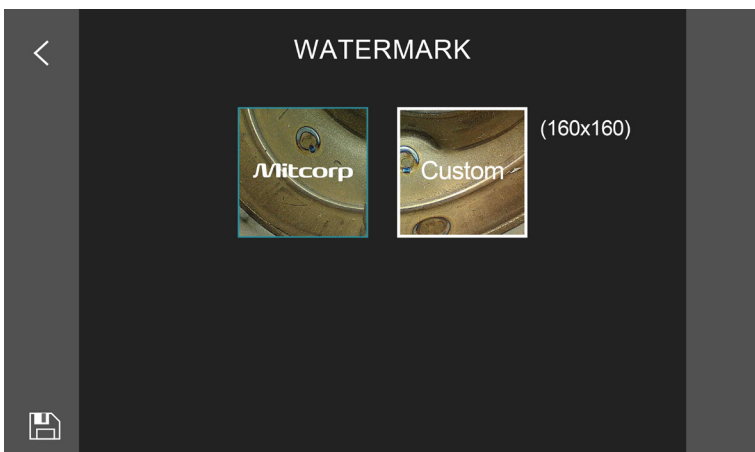
- SESSION and TAG custom setting are saved in system internal memory. All edit mention above need to be done on X600 PLUS. You cannot edit the SD card via any other PCs to get the same result.
- When you replace another SD card, the custom SESSION and TAG will be automatically load on. If the SD card has same folder name inside already, then that folder will be hired directly. Other data/files in that SD card will not be changed or moved at all.

- 3.6 WATERMARK

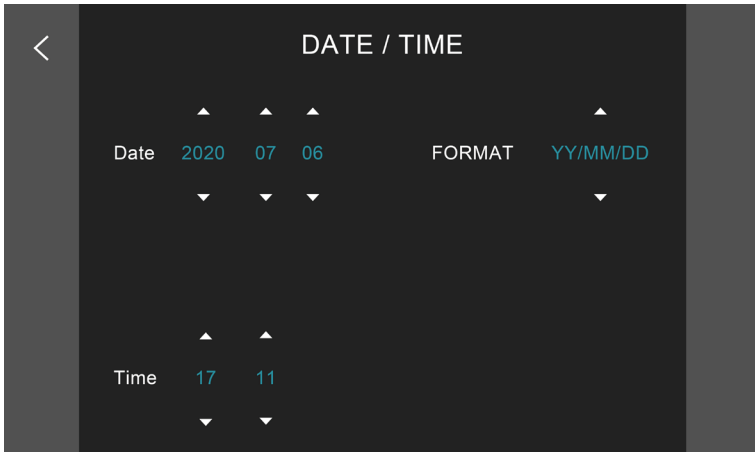
- On/off switch for timestamp and watermark overlays on snapshot.
- Timestamp and Watermark position are adjustable to 4 corners of the photos.



- The watermark logo can be replaced a follow steps:
 - 1 Save logo file in SD card on root directory.
File format: 160*160 resolution; .JPG; black background (RGB-0.0.0.) Name the file as WATERMARK
 2. System will show the exiting file list below. Tap the file then the “save” icon to load it into system memory.
The logo show in the right side preview window.
 3. (“CUSTOM” as the sample case) when the processes are properly done.
Tap the preview window to enable custom watermark.

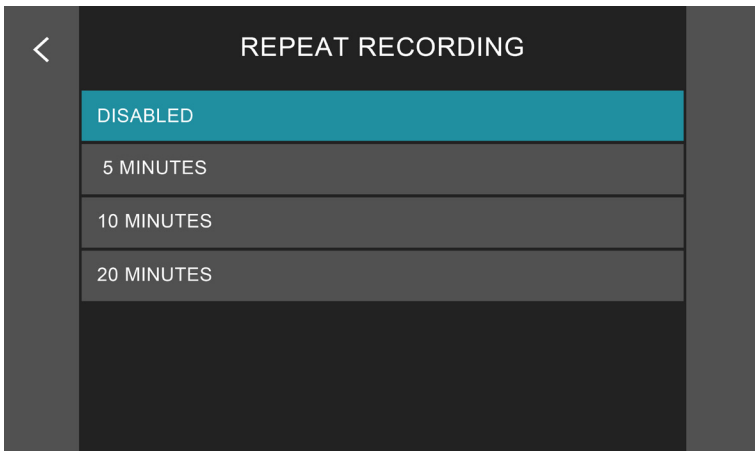


- 3.7 DATE / TIME



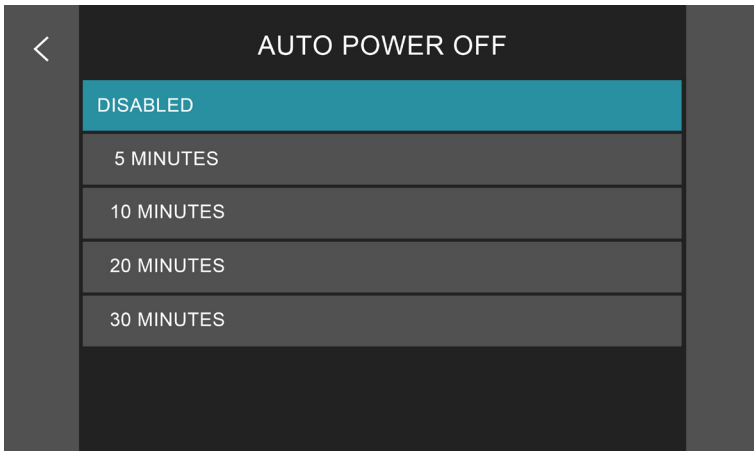
- 3.8 REPEAT RECORDING

The system provides 4 modes of repeat recording length. When disable this function, the system will set as 20 minutes none repeat recording.



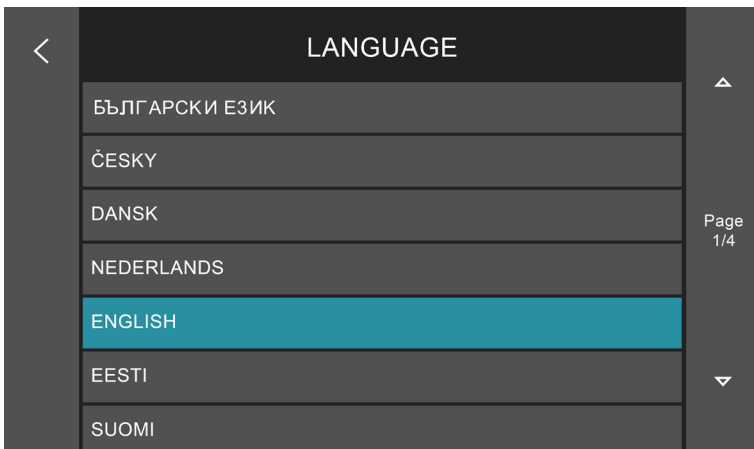
- 3.9 AUTO POWER OFF

4 modes of auto power off settings.



- 3.10 LANGUAGE

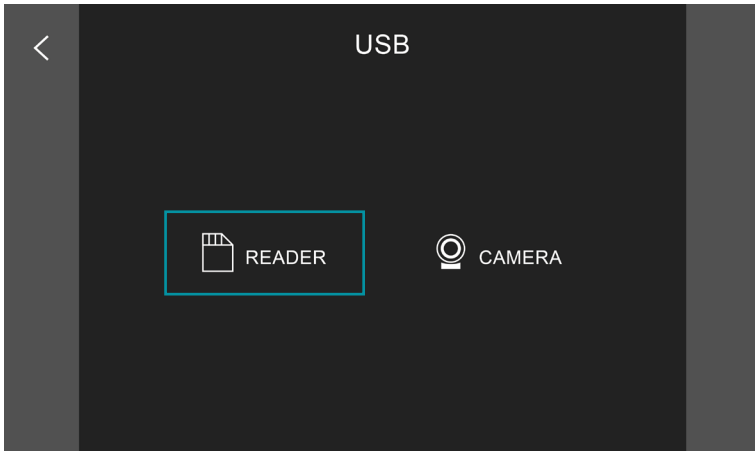
Support 28 languages.



- 3.11 USB PORT

- When the USB port is connected to the PC, select the desired output: (1) SD card reader (2) Camera.

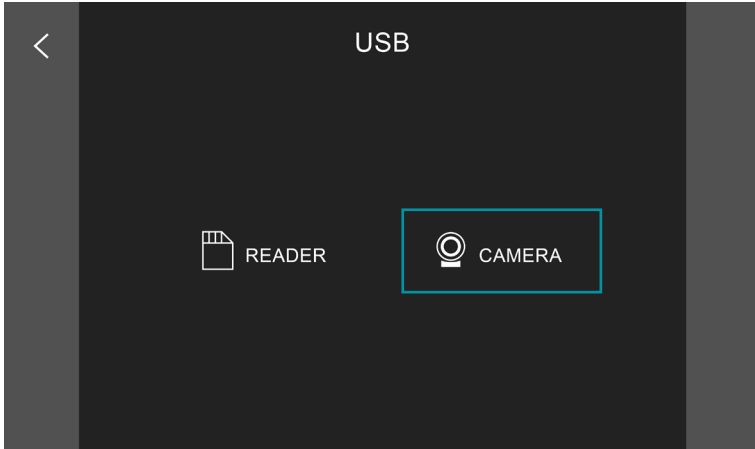
(1) SD card reader: Please select READER.



Stored media can be downloaded to a PC using USB-C port. The X600 PLUS will be recognized by the PC as an external storage drive, a new drive will appear in file explorer on the PC. You can simply drag the files out from the X600 PLUS.

Contact Mitcorp for the software.

- (2) Camera: The live image can be viewed on a video monitor or connected to a PC show the inspection via online meeting app for real-time sharing.



1. Webcam mode

The live image can be viewed on a video monitor or connected to a PC show the inspection via online meeting app for real-time sharing. Connect the X600 PLUS to PC and log on the online meeting app, select the X600 PLUS as the camera from setting. The PC will share the same inspection view on the X600 PLUS. Support Google Meet, Zoom, Microsoft Teams, Skype.

2. USB videoscope

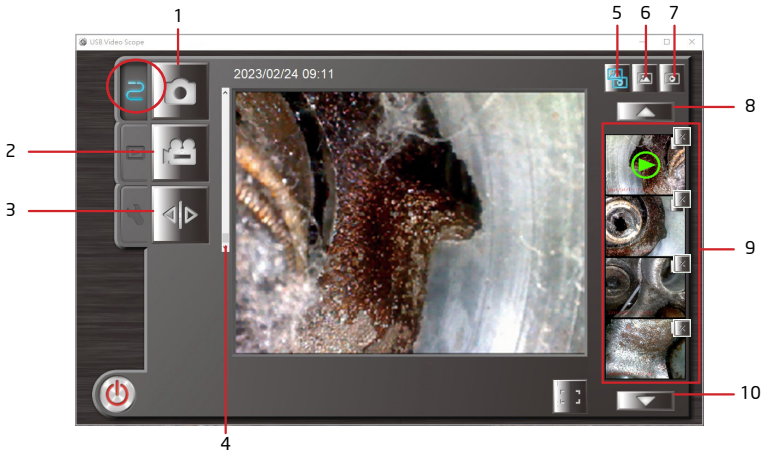
The software enables Mitcorp videoscope to work on PC. Download the software USB Video Scope to PC. After the driver is correctly installed connect the X600 PLUS to PC with USB cable. Turn on the X600 PLUS, select CAMERA then turn on the software USB Video Scope.









Operating system: Win10 and higher version.

System requirement: CPU: AMD Athlon II 2GHz above (Quad core)/ Independent graphics card / RAM 4G or above.

OPERATION

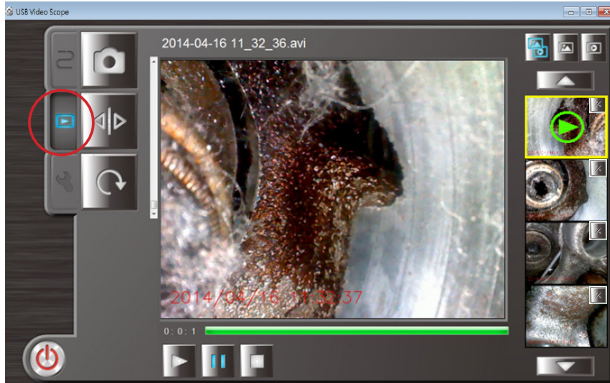
Instant mode




1. Snapshot - Click  button or `space bar` from the application window, or press the Snap button on the console to take a photo.
2. Video record - Click  button or `Ctrl + R` key on the application window to start recording video. To stop recording, click the Rec button on the application.
3. Mirror - Click  or `Ctrl + M` key to flip the image horizontally.
4. Zoom in - Roll up the bar to zoom in the image from x1.0 to x4.0, You can also click the `↑` key on your PC to zoom in, click the `↓` key on your PC to zoom out.
5.  Preview both photos/videos or `Alt + A` key.
6.  preview photos only, or `Alt + P` key.
7.  Preview videos only, or `Alt + V` key.
8. Click  to previous file, or `PgUp` key.
9. Display 4 latest photo/video, press `1` ~ `4` key to preview
10. Click  to next file, or `PgDn` key.

Browse Mode


Press 2nd TAB on the screen or press any picture/video on the preview window. The Browse mode will not function if no pictures/videos in the folder.




Mirror

Click  or **Ctrl + M** key to flip the image horizontally.

Rotate

Click  or **F2** key to rotate image counter-clockwise 90°

Screenshot on video

You can click  or **space bar** key anytime during video playing to get still image


Video Play

Click  to play selected video, or **Ctrl + P** key

Click  to pause, click  to continue play, or **Ctrl + P** key

Click  to stop the video, or **Ctrl + S** key

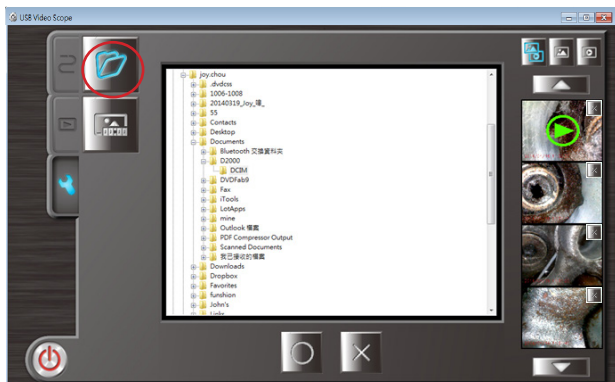
Delete



Select the image click  on the up right of the photo / video image or **Delete** key

* Back to instant mode, click **ESC** key

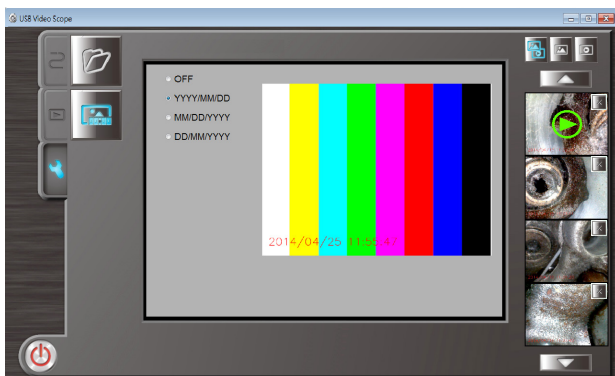
Setting Mode

Destination folder set up




Select the destination folder to save images and videos, click  to change setting or  to skip and keep the default setting. (C:\Users\Documents\USB VideoScope).

Time stamp set up



Select the time stamp display format, all photos and videos will be saved with selected format on left bottom.

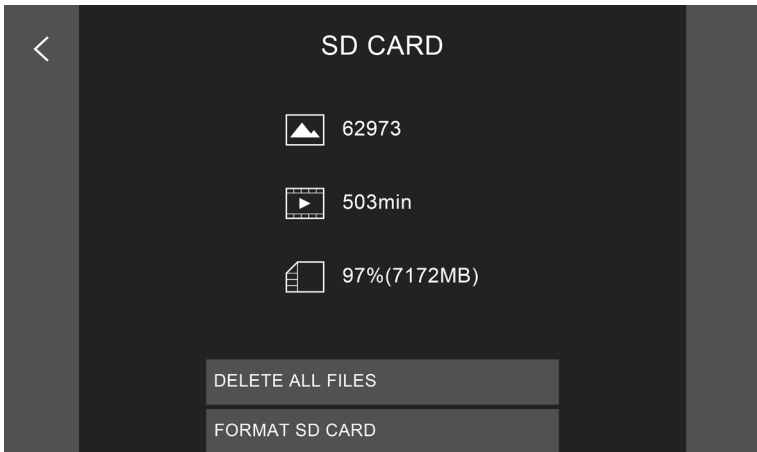
* Back to instant mode, click  key

Charging

When connected to PC the X600 PLUS also charges its battery. For quicker charging connect the X600 PLUS to an AC power source using the supplied AC adapter and USB cable.

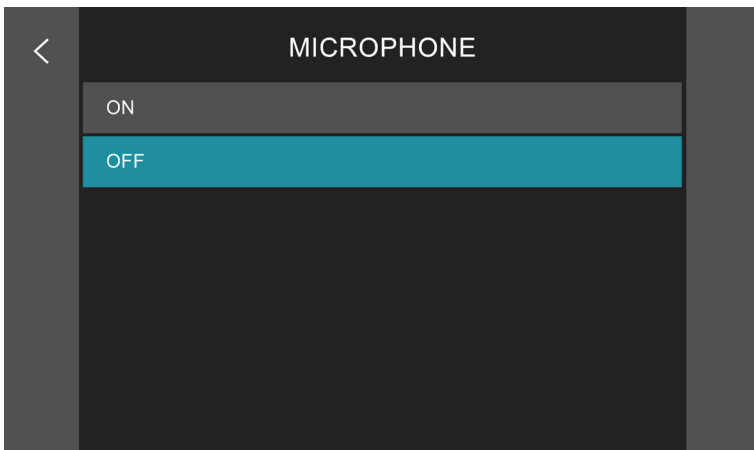
- 3.12 SD CARD

Show the SD card storage status, delete, and format functions.



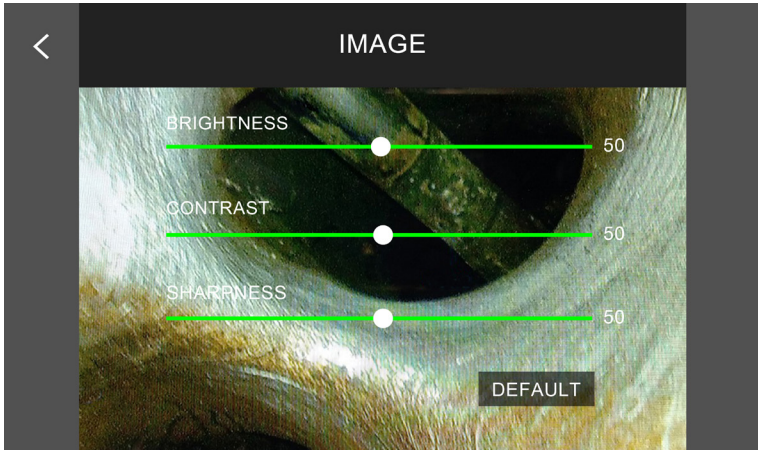
- 3.13 MICROPHONE

Switch on/off voice recording while recording videos.



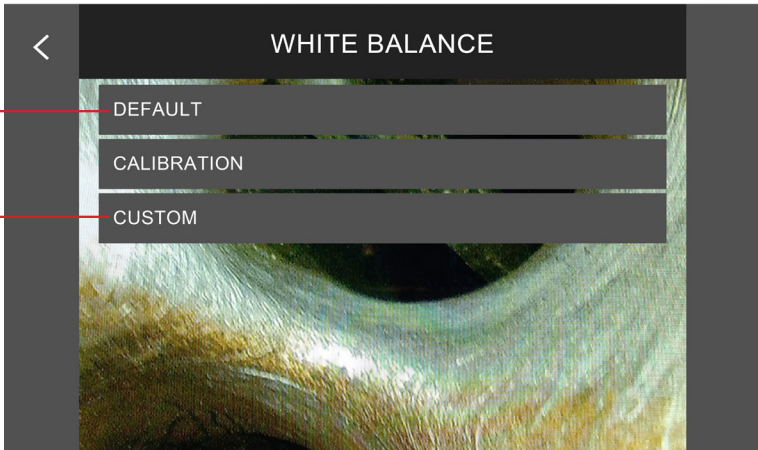
- 3.14 IMAGE

The system provides 3 fine tune parameters and DEFAULT function.

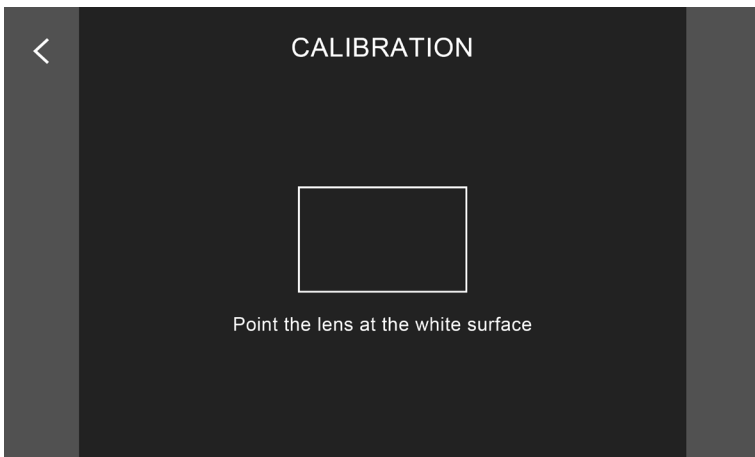



- 3.15 WHITE BALANCE

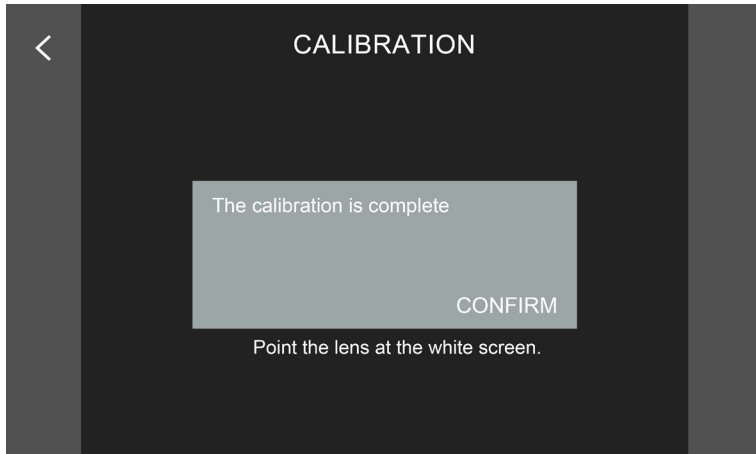
To adjust colors to match the color of the light source.



- CALIBRATION: When the environment light/reflection condition leads the bad colored image, follow the instructions and try to calibrate.

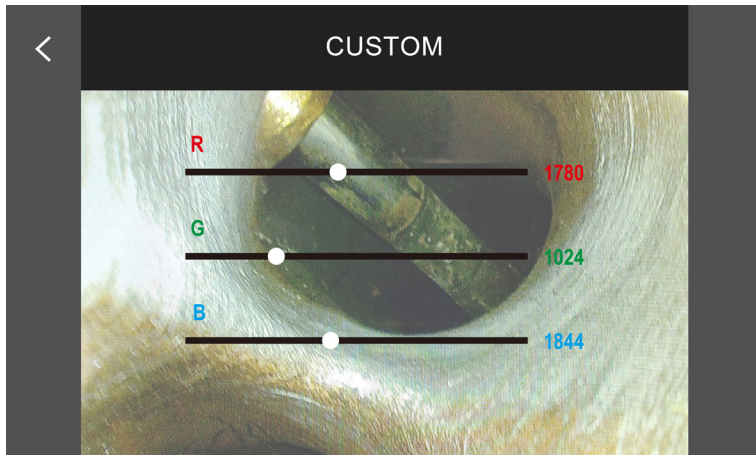


- Point the camera head toward a white paper and full the square. Tap  when the square is full with white.



- Tap confirm when the calibration is completed.

- CUSTOM: To adjust manually.



• 3.16 MICRO HDMI PORT

For viewing images from an external monitor.

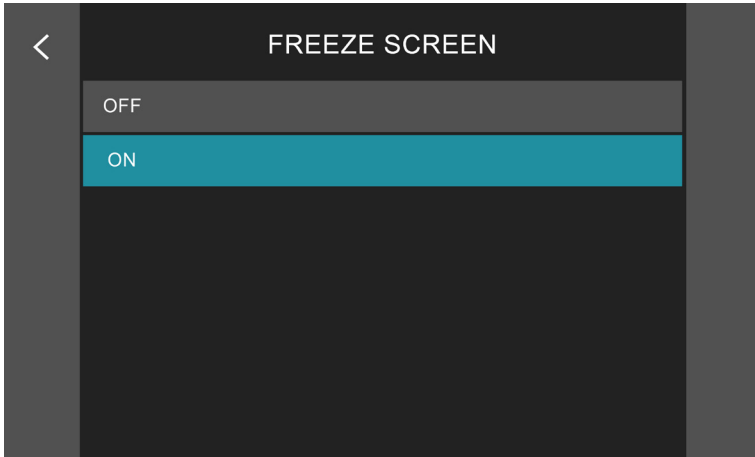
Connect X600 PLUS on the micro HDMI port with supplied HDMI cable to an external monitor. Switch on X600 PLUS then switch on the external monitor.

When unplug the HDMI cable from monitor, the on screen live view recovery takes about 2~3 seconds.

- 3.17 FREEZE SCREEN

This 'freeze' function is default enable and can be disabled in the setting menu.

Tap the snapshot button on probe screen, the screen live view 'freeze' and pop-up window asks if to save the still image.



- 3.18 REGULATORY

Here reveals the safety compliance of this product.



SPECIFICATIONS

BASE UNIT

Hardware

Operating System	Mitcorp's OS
Display	5" LCD Touchscreen
Display Resolution	800 x 480
Weight	705g
Size	161.93x 127.93x46 mm
Dimensions Of Carrying Case	527x300x155 mm
Battery	Rechargeable Li battery 4900mAh, approximate operation time; 4hrs (with 3m probe), charging time: 3.5hrs
Drop Resistance	1 Meter

Connections

HDMI	TYPE-D HDMI
Data Transfer	USB TYPE-C
Wi-Fi	IEEE 802.11.b/g/n
App Connection	VideoscopeNOW
Power Supply	USB TYPE-C
Storage Media	MicroSD Card. Up to 128GB

Software Manipulations

Image Manipulations	Digital zoom and brightness control
Note Text Options	Text annotation
Watermark	Timestamp and *.png logo
Tags	Text tags
Image Configuration	Mirror, rotation
Image Titration	White balance setup, brightness, contrast, saturation, and sharpness.
Folder Management	Sessions and folders

Operating Environment

System Operating Temperature	-10°C~50 °C
Battery Charging Temperature	0°C~45°C
Storage Temperature	-20°C ~ 60°C. * If the product is kept for longer than 3 months, It is strongly recommended that the product is preserved at dry and temperature appx.20°C
Relative Humidity	Max 95% non-condensing
Dust And Water Resistance	IP54

ACCESSORIES

Cables	TYPE-C cable, HDMI cable
Others	Cleaning set. pipe camera only: 50 mm Centering Ring /100 mm&150 mm Brush

REGULATORY

EN 55032 / EN 55035 ; EN IEC 61000-3-2 ; EN 61000-3-3 ; EN 301489-1 / EN 301489-17 (WiFi) ; EN IEC 61010-1 / EN 62311(battery)
ANSI C63.4 / ANSI C63.4a (WiFi) / FCC Part 15 ; ANSI C63.10 (WiFi) / FCC Part 15

Other Regulatory

Restriction of Hazardous Substances 2011/65/EU (RoHS 2)
Restriction of Chemicals Materials EC 1907/2006 - REACH
Transportation for Lithium Batteries,UN38.3

PROBES

Stainless Steel - Dual View					
Model	49DFS-SS-M	49DFS-SS-M	49HD-FS-SR	49HD-FS-SR	
Diameter	4.9 mm	4.9 mm	4.9 mm	4.9 mm	
Length	3 M	1 M	1 M	3 M	
Direction Of View	Dual view	Dual view	Dual view	Dual view	
Probe Head Length	27.9 mm	27.9 mm	21.8 mm	21.8 mm	
Field Of View (FOV)	90°	90°	90°	90°	
Front Depth Of Field (DOF)	10~100 mm	10~100 mm	10~100 mm	10~100 mm	
Side Depth Of Field (DOF)	10~100 mm	10~100 mm	10~100 mm	10~100 mm	
Still Image Resolution	1920x1080	1920x1080	1920x1080	1920x1080	
Video Resolution	1920x1080	1920x1080	1920x1080	1920x1080	
Articulation	-	-	-	-	
Articulation Angle	-	-	-	-	
Probe Head Material	S.Steel	S.Steel	S.Steel	S.Steel	
Probe Material	S.Steel	S.Steel	Cu/Zn Iron+ED	Cu/Zn Iron+ED	
Operating Temp. In Air	-10~60°C	-10~60°C	-10~60°C	-10~60°C	
Operating Temp. In Water	10~30°C	10~30°C	10~30°C	10~30°C	
Max Pressure Resistance	1 bar	1 bar	1 bar	1 bar	
Optional Protective Cap ¹	Yes - Φ5.4 mm	Yes - Φ5.4 mm	Yes - Φ5.4 mm	Yes - Φ5.4 mm	
Optional Plastic Sleeve ²	-	-	-	-	
Hydraulic Fluids Resistance	Gasoline, diesel, brake oil, transmission oil, engine oil				
Stainless Steel - Front View					
Model	42HD4W-F-SS	42HD4W-F-SS	39HD2W-F-SS	39HD4W-F-SS	39HD4W-SS
Diameter	4.2 mm	4.2 mm	3.9 mm	3.9 mm	3.9 mm
Length	3 M	5 M	1 M	1.5M	2M
Direction Of View	Front View	Front View	Front View	Front View	Front View
Probe Head Length	22 mm	22 mm	17 mm	17 mm	17 mm
Field Of View (FOV)	90°	90°	90°	90°	90°
Front Depth Of Field (DOF)	10~100 mm	10~100 mm	10~100 mm	10~100 mm	10~100 mm
Side Depth Of Field (DOF)	-	-	-	-	-
Still Image Resolution	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080
Video Resolution	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080
Articulation	Full way	Full way	Two way	Full way	Full way
Articulation Angle	135°	135°	180°	180°	180°
Probe Head Material	S.Steel	S.Steel	S.Steel	S.Steel	S.Steel
Probe Material	S.Steel	S.Steel	S.Steel	S.Steel	S.Steel
Operating Temp. In Air	-10~60°C	-10~60°C	-10~60°C	-10~60°C	-10~60°C
Operating Temp. In Water	10~30°C	10~30°C	10~30°C	10~30°C	10~30°C
Max Pressure Resistance	1 bar	1 bar	1 bar	1 bar	1 bar
Optional Protective Cap ¹	-	-	-	-	-
Optional Plastic Sleeve ²	-	-	-	-	-
Hydraulic Fluids Resistance	Gasoline, diesel, brake oil, transmission oil, engine oil				

ACCESSORIES



Aluminium carry case (with EVA foam inner)



DC Adaptor



USB cable



HDMI cable



Micro SD card

- Optional probe

An additional pizza box package for the '4.9 mm dual view' probe when it is in purchase list.



4.9 mm dual view

FEB.2026