STEED VISION

SECURITY CAMERA TESTER

IPC-9800MOVTADHS Pro+

User Manual



V2.0 · 2026-11

www.steedvision.com

Welcome

Thank you for choosing Steedvision. This manual covers the functions provided by the IPC-9800MOVTADHS Pro+. Read the safety instructions before connecting a camera, cable or power source, and keep this manual for future reference.

The tester helps you install and maintain cameras, check network links and inspect cabling at the installation site. Follow the markings on your instrument when identifying connectors. Software labels and screen layouts may differ with the installed application version.

> **NOTE** The operating chapters are tailored to your model. The series comparison at the end is a purchasing reference for the whole range. It does not add functions to your tester.

Before your first job, check the supplied accessories, prepare the battery as described in Section 1.2 and confirm the camera’s power requirements. Keep the serial-number label readable; quote it when contacting support.

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Product: IPC-9800MOVTADHS Pro+
Manufacturer: Steed Technology (Shenzhen) Co.,Ltd.
Support: support@steedvision.com

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1 Safety and first use

1.1 General precautions

Use the tester in a dry, ventilated area that is suitable for electrical equipment. Keep liquids, dust and metal fragments out of the connectors. Do not use it near flammable gas or where local rules prohibit electronic equipment.

- Protect the screen and housing from drops, vibration and heavy impact.
- Handle the instrument with dry hands. If it becomes wet, switch it off and disconnect the adapter and all cables.
- Do not open or modify internal circuits. Refer repairs and battery replacement to qualified service personnel.
- Disconnect power before cleaning. Use a soft, dry cloth. For stubborn dirt, use a lightly dampened cloth with mild detergent, then dry the housing. Do not let liquid enter the instrument.
- Inspect leads and connectors before use. Replace damaged cables and avoid strong electromagnetic interference during measurements.

⚠ **CAUTION** Use the PoE and DC outputs for short installation or diagnostic checks. They are temporary test supplies. Disconnect the load when the check is complete, and allow heat to dissipate between demanding tests.

Warmth can develop when the tester supplies an external load. Keep ventilation areas clear and avoid enclosing the tester in its bag while it is operating or charging. Stop immediately if heat becomes excessive, an unusual smell develops or the tester shuts down unexpectedly.

1.2 Battery preparation and charging

The tester contains a rechargeable **11.1V, 5200mAh, 57.72Wh lithium-ion battery**. The battery is built in; it is not a loose item in the packing list.

1. Switch the tester off and unplug external power before checking its battery compartment.
2. If a transport insulation strip is fitted, remove it before use. If the battery lead was disconnected for shipment, make sure it is securely connected before refitting the cover. Do not pull on wires or force the connector.
3. Connect the supplied adapter to the **DC15V IN** charging socket. Use the supplied adapter and cable, and verify the socket marking before connection.
4. Observe the battery icon and charging indicator. Charge the battery before the first field job. Do not leave the tester charging unattended.

If the tester operates only while the adapter is connected, check for a remaining insulation strip, a disconnected battery lead or an uncharged battery. If these checks do not resolve the issue, contact Steedvision support.

> ⚠ **CAUTION** Do not charge a battery that is swollen, leaking, damaged or excessively hot. Disconnect the adapter if abnormal heat occurs. Keep the battery away from flame and do not puncture, short or crush it.

The charging input is separate from the power outputs. Never connect a DC output back to the charging socket. Before storing the tester, turn off output functions, shut down the instrument and disconnect all accessories.

1.3 Multimeter safety

Choose the correct function, input socket and range **before** touching a circuit. Keep your fingers behind the probe guards, and do not touch unused terminals while leads are connected.

- Never exceed 660V AC or DC, or 660V relative to earth. Take special care above 60V DC or 40V AC.
- Keep meter connections isolated from the tester's communication and video connections. Never apply a circuit voltage to a communication port.
- For an unknown current, start with the 10A socket and the highest current range. The mA input is limited to 660mA; the 10A input is limited to 10A and has no fuse protection.
- Remove circuit power before inserting the meter in series for current measurement. Never place a current input directly across a voltage source.
- Disconnect circuit power and fully discharge capacitors before resistance, continuity, diode or capacitance tests. Measure capacitors separately from the circuit.
- Disconnect the probes before changing sockets or functions. Do not use the instrument if its leads or sockets are damaged.

⚠ **CAUTION** A numerical voltage limit does not establish a measurement-category rating. Follow the markings on the instrument and leads, and do not use it on circuits whose installation category or transient levels exceed those markings.

1.4 Laser precautions

Never look into the visual fault locator, an SFP module, a fiber connector or the end of a connected fiber. Optical radiation may be invisible. Do not point the red laser toward people. Switch the source off before disconnecting the fiber, and replace the dust cap after use.

2 Product guide

2.1 Your tester

The IPC-9800MOVTADHS Pro+ is a portable camera and network tester with a 7-inch, 1280 × 800 touch screen. It displays compatible IP streams up to **8K with H.265** and **4K with H.264**. The internal memory is **2GB RAM / 32GB eMMC**.

All models provide CVBS video testing, an SFP network interface, HDMI output, Ethernet and cable diagnostics, NET TOOL PRO, PoE++ output and DC/USB power outputs.

This model also provides AHD, TVI and CVI camera tests, Auto HD detection and HDMI input. and VGA input. HD-SDI and EX-SDI input are provided for compatible SDI cameras. A WT255 wire tracer is supplied for locating cables and checking their wire map. A digital multimeter provides electrical measurements through the dedicated meter sockets. A video level meter supports coaxial signal diagnosis. A dedicated optical power meter measures received fiber power and relative loss. A visual fault locator helps inspect fiber continuity and visible faults. The dedicated TDR cable test measures open and short fault distance over a range up to 1.2 km.

The full-series comparison is in Section 12. Application compatibility depends on camera firmware, enabled services, video format and login permissions.

> **NOTE** Pictures show example software screens. Values in illustrations are examples rather than target readings or guaranteed results. A visible menu icon does not override this model’s hardware specification.

2.2 In the box

Check the following items before use. Contact your supplier if an item is missing or damaged.

- Tester with built-in battery
- Power adapter (DC 15V, 1.6A)
- BNC cable
- RS485 cable
- DC output cable
- Audio cable
- 8GB TF card
- Shoulder strap
- Wrist strap
- Terminal plugs
- Tool bag
- Screwdriver
- Printed user manual
- WT255 wire tracer
- Multimeter test leads (red and black)
- SC and ST adapters
- TDR alligator-clip lead

The battery is installed inside the tester. Prepare a suitable Ethernet patch cable separately for network tests. An SFP module and fiber patch leads are selected to suit the link being tested.

Use the supplied WT255 as the remote end for cable wire-map tests.

2.3 Front controls

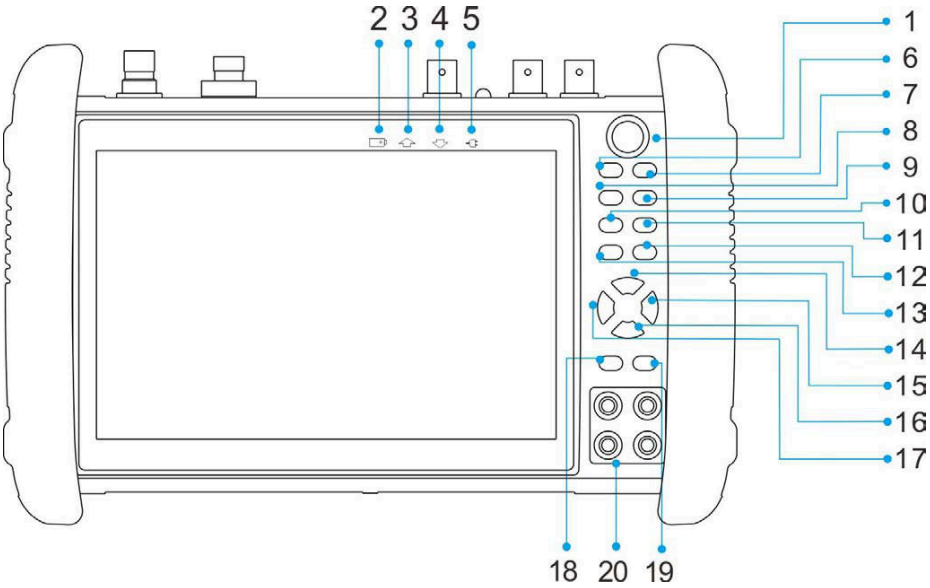


Figure 1: Front control layout; the drawing represents the full-feature hardware.

Item	Details
1	Power: hold for more than 2 seconds to switch on or off; short press controls the display.
2-5	Charging, RS485 transmit, RS485 receive and external-power indicators.
6-7	MENU opens the shortcut menu; the magnifier key changes image zoom in supported viewers.
8-11	FAR / NEAR adjust focus; TELE / WIDE adjust lens zoom in supported PTZ functions.
12-13	CLOSE / OPEN adjust iris or cancel / confirm within the active application.
14-17	Arrow keys navigate options or move a PTZ camera.
18-19	ENTER confirms; hold ENTER to capture the screen. RETURN goes back or exits.
20	Dedicated multimeter sockets.

2.4 Upper connector panel

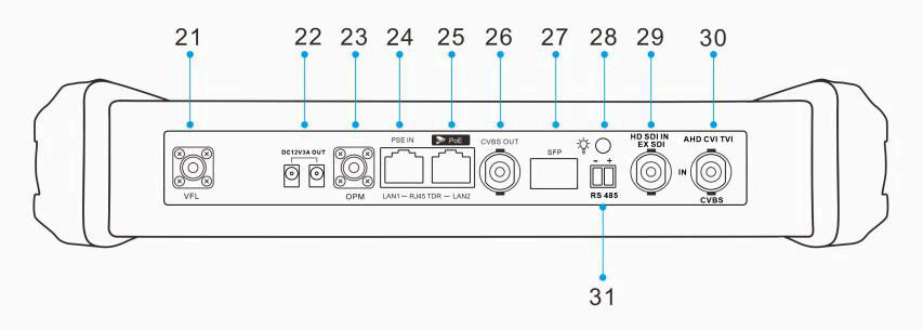


Figure 2: Upper panel with the SFP port and dual DC12V outputs.

Item	Details
21 · VFL	Visual fault locator output; keep capped when idle.
22 · DC12V OUT	Two DC12V/3A output sockets for temporary camera power.
23 · OPM	Dedicated optical power meter input.
24 · PSE IN	Input for an external PoE switch or injector during PSE measurement.
25 · LAN / PoE++	Camera network connection and switchable PoE++ output. RJ45 TDR diagnostics use the LAN interfaces.
26 · CVBS OUT	Composite video output / cable tracing signal connection.
27 · SFP	Optical network module slot.
28, 31	LED flashlight and RS485 PTZ terminals.
29 · SDI IN	HD-SDI / EX-SDI video input.
30 · VIDEO IN	CVBS / AHD / CVI / TVI video input.

2.5 Lower connector panel

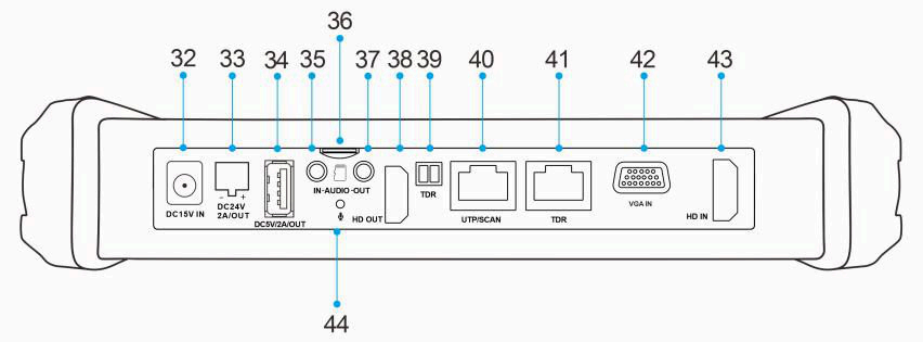


Figure 3: Lower panel; follow the actual socket labels when connecting power.

Item	Details
32 · DC15V IN	Adapter input for charging and powering the tester.
33 · DC24V OUT	Switchable DC24V/2A output; observe terminal polarity.
34 · USB	USB connection and DC5V/2A power output.
35-37	Audio input, TF card slot and audio / headphone output.
38 · HDMI OUT	HDMI display output.
39, 41 · TDR	Dedicated TDR cable-test connectors.
40 · UTP/SCAN	Cable wire-map and tracer connection.
42 · VGA IN	VGA input.
43 · HDMI IN	HDMI signal input.
44	Built-in microphone.

⚠ **CAUTION** DC15V IN is the charging input. DC24V OUT and DC12V OUT are outputs. Do not apply external voltage to an output or link any output to the tester's input. Never connect a PoE source to UTP/SCAN.

3 Basic operation

3.1 Home screen and quick controls

Hold the power key for more than 2 seconds to start the tester. Tap a group on the home screen, then select an application. Use RETURN to go back. The home screen groups camera tests, cable tests, tools and media functions.

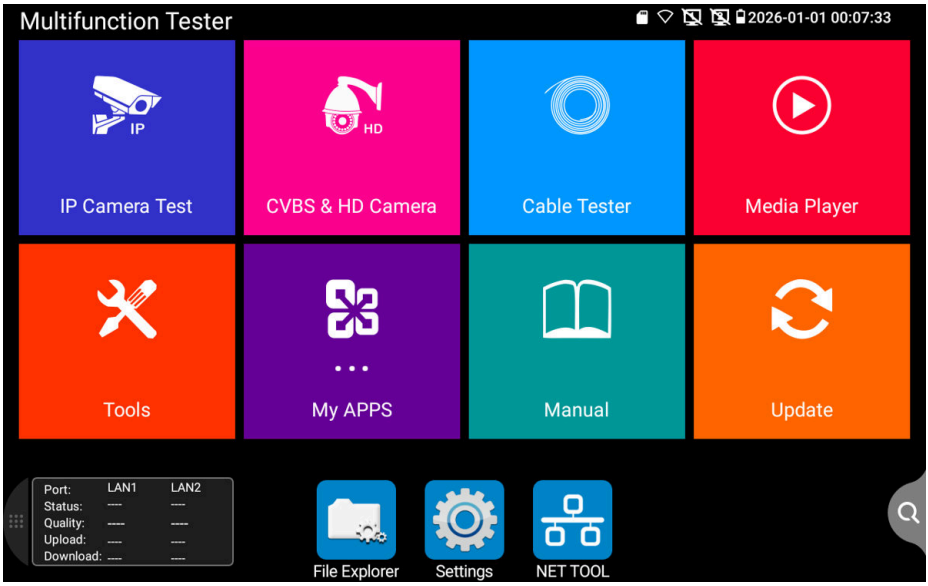


Figure 4: English home screen from the current tester.

Swipe down to open quick controls. Depending on the current application, these provide display brightness, network settings and power-output shortcuts. Check the output status before connecting or removing a load.

Press MENU to open the shortcut menu. Shortcut selections can be adjusted in system settings. The home-screen link panel shows the selected network port, link state and traffic information.

> **NOTE** Some application labels include older names such as “IPC Test pro” or “Rapid ONVIF”. Use the corresponding icon on your installed software. The product model name remains IPC-9800MOVTADHS Pro+.

3.2 Set the network address

Open **Settings > IP Settings**. Select the interface and either a static address or dynamic allocation (DHCP). For a static connection, enter the tester's IP address, subnet mask, gateway and DNS address, then confirm.

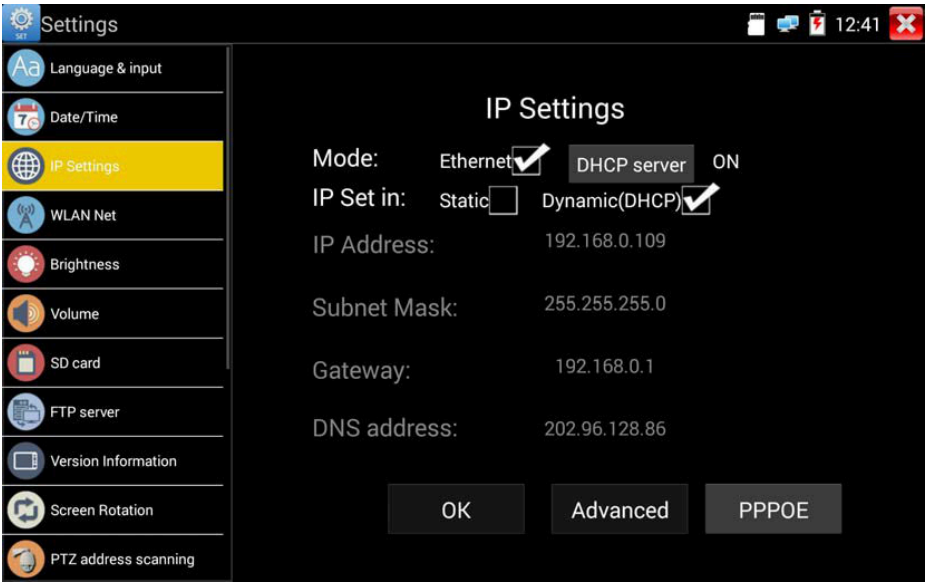


Figure 5: IP settings with static / DHCP selection and advanced settings.

For a direct connection, put the camera and tester in the same IP subnet and use different host addresses. For example, with a /24 subnet mask, a camera at 192.168.1.100 can be tested from 192.168.1.200 if that address is unused.

Use **Advanced > Add** to add another tester address for a second network segment. Avoid duplicate addresses. Use the network scan and link tools in Section 6 to investigate a link before changing its configuration.

For a site network, obtain the permitted settings from its administrator. Disable the tester's DHCP server unless you intend to assign addresses on an isolated test link.

3.3 Capture, record and review

Insert the TF card before saving photos, videos or test documents. Use the storage setting in the active application to choose automatic naming or manual naming where available.

Item	Details
Screen capture	Hold ENTER to capture the current interface.
Snapshot	In a video viewer, tap Snapshot to save the current video frame.
Record	Tap Record to start. A recording indicator and elapsed timer appear. Tap the stop / record control again to finish and save.
Photos / Playback	Open the viewer's photo or playback control and select the saved file. Double-tap an image for a larger view where supported.
Rename / delete	Press and hold a file in the photo, playback or file list, then select the desired action.
Test document	Where a test app offers Create Report or Doc, enter the job information and generate the document. Preview it before leaving the site.

Stop recording before removing the card, shutting down or disconnecting camera power. Open **Settings > SD card** to check capacity and unmount a card before removal. Formatting erases its contents.

Recorded files can also be opened through File Explorer or Media Player. A successful snapshot confirms that a frame was captured; it does not certify the quality of an entire link.

4 IP camera and fiber tests

4.1 Connect an IP camera

For an externally powered camera, connect its Ethernet socket to the tester's **LAN** port. Confirm that the link indicator is active and the data indicator flashes. If there is no link, check camera power, cable connections and the cable itself.

For a PoE camera, connect it to **LAN / PoE++**, then enable the required output mode as described in Section 7.1. Verify that the camera accepts the selected supply before switching it on.

Item	Details
Direct camera test	Camera → LAN / PoE++. Use the camera's own supply or a suitable tester output.
Existing network	Network → tester network interface. Use an address appropriate to that network and avoid IP conflicts.
External PoE measurement	PoE source → PSE IN; powered camera → LAN / PoE++. Turn the tester's own PoE output off first.

After establishing the physical link, set the tester address as described in Section 3.2 or use IP Discovery. Select an ONVIF, vendor-specific or RTSP viewer and enter the camera's authorized credentials.

⚠ **CAUTION** An external PoE source belongs on PSE IN during a PoE measurement. Keep it away from UTP/SCAN and do not connect two active power outputs together.

When measuring an external PoE supply through the tester, use the upstream network device to access the camera if the tester's local viewer cannot reach it. Power passthrough and local viewing are separate checks.

4.2 IP Discovery and IPC Test pro

IP Discovery searches for connected devices and can place the tester in a matching network segment. On a direct cable connection, the discovered address normally belongs to the connected camera. On a shared network, check the device identity carefully.

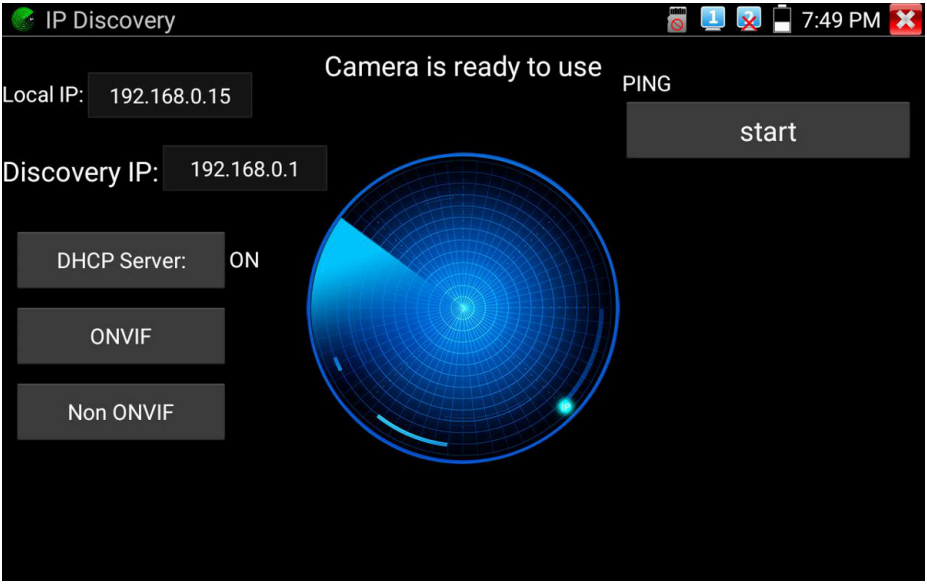


Figure 6: IP Discovery shows local and discovered addresses with camera-test shortcuts.

Local IP is the tester address. **Discovery IP** is the detected device address. If **Temp IP** is enabled, an automatically selected tester address is temporary; otherwise the changed address may be retained. The Start control runs a ping check. Use ONVIF or Non ONVIF to continue to a viewer.

IPC Test pro combines device discovery, link information and camera access in one application. It can list cameras from multiple network segments and open the selected device's live image or configuration tools. Confirm the camera identity and credentials before using activation or configuration functions.

4.3 Rapid ONVIF: search and login

Rapid ONVIF discovers compatible cameras and opens their supported services. Video decoding supports H.265 streams up to 8K and H.264 streams up to 4K; actual viewing also depends on the camera's stream settings.

1. Connect and power the camera. Confirm the link and tester IP address.
2. Open **Rapid ONVIF**. Wait for discovery, or select **Refresh** to search again.
3. Select the camera from the device list. Enter its correct user name and password when required.
4. Choose a suitable profile or stream, then open live video. Use a lower-resolution stream if the selected stream cannot be decoded.

The application may offer automatic login with previously entered credentials. If login fails, verify the account, the enabled ONVIF service and the camera's user permissions. A working browser account does not always have the same permissions as an ONVIF account.

In ONVIF settings, cross-network scanning can use the additional tester addresses configured under **Settings > IP Settings > Advanced**. Where available, choose the video transport offered by the app to suit the network.

An inactive compatible camera may prompt for activation. Set a new password following the camera's requirements and retain it securely. Activation and later configuration depend on the camera firmware.

> **NOTE** Discovery confirms that a device responds to a search. If discovery works but video does not, check authentication, the selected profile, the video codec and the camera's service settings.

4.4 ONVIF configuration and PTZ

Open the camera's **menu** or settings control after login. Only the services exposed by that camera are available. If a change has no effect, confirm support in the camera's own configuration interface.

Item	Details
Video Set / Profiles	Inspect encoder settings and select the main or secondary stream. Confirm before saving changes to resolution, frame rate or bitrate.
Imaging Set	Adjust supported brightness, contrast, saturation, sharpness and backlight settings.
Identification / Time	Read device details and adjust camera time where supported.
Network Set	Change supported IP settings. Reconnect using the new address afterward.
User Set	Manage supported camera users and passwords using an authorized account.
Maintenance	Open supported restart or factory-reset functions. A reset may remove camera configuration.
OSD	Edit supported time and channel-name overlays and their position or size.
RTSP / Doc	View the available stream address or generate a camera test document.

For ONVIF PTZ, select the PTZ control and use the on-screen directions to move the camera. Set horizontal and vertical speed as needed. Move the camera to a desired view and save a preset number; select a saved number and use **Call** to return to it.

The video toolbar provides snapshot, recording and playback controls described in Section 3.3. Image enlargement helps with framing; it does not increase the camera's captured detail.

4.5 NON ONVIF and RTSP Player

NON ONVIF / IPC Test uses supported camera-specific protocols. If a camera is not supported, try ONVIF or the camera's published RTSP stream.

1. Open the application and check **Local IP**. Use Edit if the tester address needs changing.
2. Select the supported manufacturer / camera type. Enter or search for the camera IP address.
3. Enter the camera user name and password. Keep the suggested service port unless the camera uses a different one.
4. Select **Enter** to open live video. Use the viewer toolbar to capture or review files.

If **Network Error** appears, check link state, camera power and addressing. If the network responds but login fails, verify the account and the selected protocol. Unsupported private protocols may require a different viewer.

RTSP Player opens a compatible network stream directly. Enter the full RTSP URL supplied by the camera manufacturer, along with the required user name and password, then select **Enter**. The Search control can help locate compatible streams when supported.

If automatic stream matching fails, obtain the exact URL for the camera model and channel. A main stream and a secondary stream can use different URLs. Protect any URL that contains credentials.

> **NOTE** For all IP viewers, decoding limits are H.265 up to 8K and H.264 up to 4K. A camera's advertised sensor resolution alone does not establish stream compatibility.

4.6 Hik and Dahua test tools

The **Hik test tool** and **DH test tool** provide installation functions for supported cameras. Available actions depend on the camera's firmware and permissions.

Activation: Open online detection, identify an inactive camera and select activation or batch activation where supported. Set the required credentials before continuing. Check selected devices carefully before a batch action.

Live video: Select an activated camera, enter its password and choose the offered private-protocol or ONVIF viewer. Use the working protocol for that camera.

Channel information: Where supported, edit the channel name and OSD items. Select the intended channel, adjust the position or size and confirm the change.

Network information: Edit the camera address, subnet mask and gateway. Batch modification is available for supported devices. Record the new address and avoid assigning duplicates.

User information: Change supported user names and passwords with an authorized account. Credentials used by one camera service may differ from those used by another service.

Reset: Read the confirmation dialog before using a reset command. Reset behavior varies by camera; back up its configuration before proceeding.

4.7 Huawei and UNV tools

HW test tool and **UNV Test Tool** are present in the current IP Camera Test menu. They provide entry points for testing supported Huawei and UNV cameras; the available actions depend on the installed application and connected camera.

4.8 Additional IP tools

The current English menus show these additional applications. Their menu presence is documented here; follow the controls and help displayed by the installed application.

Item	Details
Multiple Preview	Provides a dedicated entry point for viewing multiple camera previews. The supported layout and stream limits depend on the application.
Virtual IPC	Provides a virtual IP-camera test function. Use the application's displayed information to determine the available test connection.
PoE++ Detection	Provides a dedicated PoE++ detection tool in the IP Camera Test menu. It complements the power-management functions.
Browser	Opens the camera's web configuration address. Use a camera viewer for live video if the web page requires an unsupported component.

4.9 TesterPlay screen sharing

TesterPlay shares the tester screen over the network. Connect the viewing device and tester to the same permitted network, or use the tester’s Wi-Fi hotspot.

Open **TesterPlay** and select **Start** to display the stream address. On a computer, open that address in a compatible network video player. A compatible mobile remote-control app may offer automatic host discovery or manual address entry; ask support for the appropriate app if needed.

Stop the sharing session when finished. Anyone with access to the session may be able to view information shown on the tester, so avoid displaying camera credentials or other private details during a demonstration.

4.10 SFP connection and module diagnostics

The SFP slot provides an optical network connection for camera and network testing. Choose a module and fiber patch lead that match the remote device's link type, speed, wavelength and fiber requirements.

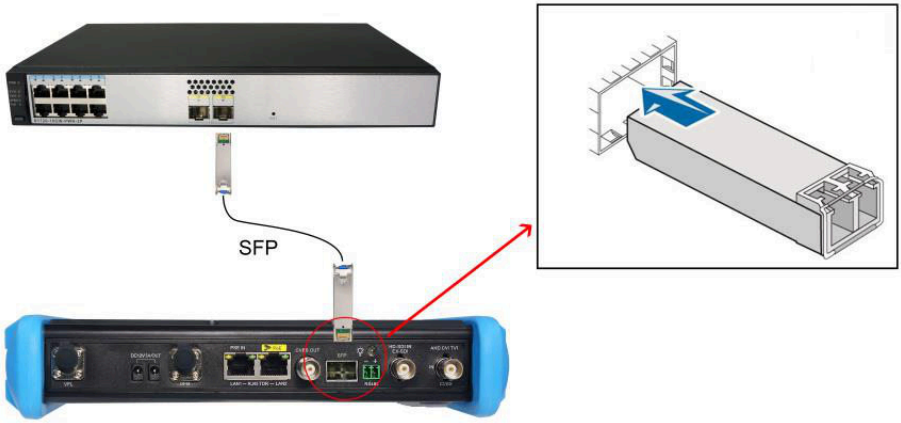


Figure 7: Example of an SFP link to network equipment.

1. Insert the suitable SFP module in the tester's SFP slot.
2. Connect the matching fiber patch lead to the module and the remote equipment.
3. Check for the fiber-link indication, then set the tester's IP address for the network as described in Section 3.2.
4. Use the camera viewer or network tool required for the job. Check the module, fiber and remote port if the link does not establish.

The **SFP info** entry is visible in the Cable Tester menu. It provides SFP information and **SFP optical power detection** for supported module diagnostics. The values available depend on the inserted module's diagnostic support.

> ⚠ **CAUTION** Do not look into the SFP socket, module or fiber end. Disconnect safely, keep connectors clean and replace dust caps when the link is not in use.

5 Video signal tests

5.1 CVBS camera test

Connect the camera video output to **VIDEO IN / CVBS IN**. Supply the camera from a suitable external source or a compatible tester output. Open **CVBS** in the camera-test group. The tester detects PAL / NTSC composite video.

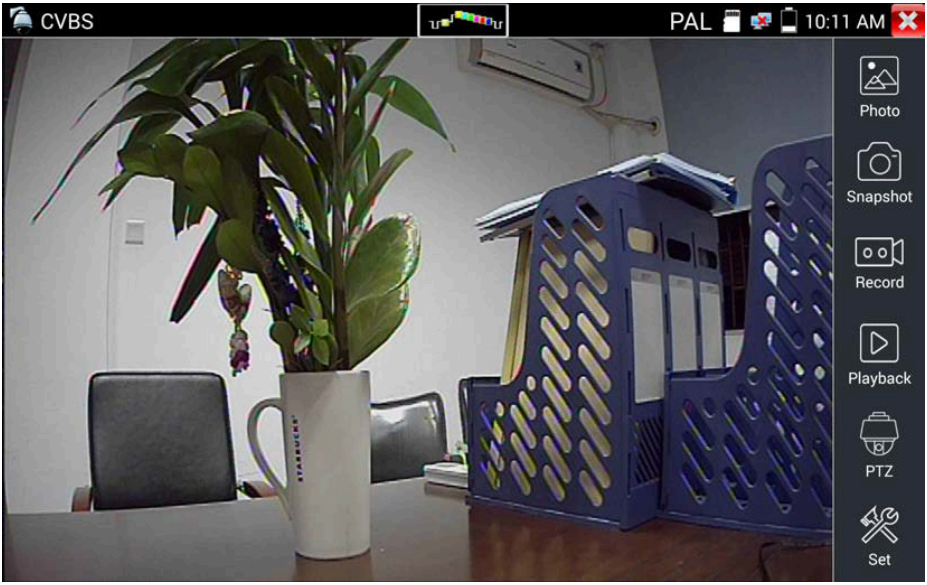


Figure 8: CVBS live image with capture and PTZ controls.

Double-tap the image for a full-screen view where supported. Use **Set** to adjust the tester's displayed brightness, contrast and saturation or the storage naming mode. These display controls do not necessarily change the camera itself.

The toolbar provides Photos, Snapshot, Record, Playback and PTZ. Saving and reviewing video use the workflow in Section 3.3. The magnifier key enlarges the displayed picture; an enlarged analog image can look soft because it contains limited source detail.

For a CVBS loop check, connect VIDEO OUT through the cable or video transmission equipment to VIDEO IN. A live-image loop may show repeated smaller images. Use the color-bar test in Section 5.3 for a stable reference pattern.

5.2 RS485 PTZ control

Connect the camera's RS485 pair to the tester terminals with the correct polarity. Open the video viewer's **PTZ** settings and match the camera's protocol, baud rate and address.



Figure 9: Example PTZ communication settings.

Choose RS485 as the port and select the camera protocol, such as Pelco-D or Pelco-P. Set horizontal / vertical speed as required. A camera will not respond if the protocol, address or baud rate is incorrect.

Use the arrow keys or the viewer's directional controls to pan and tilt. FAR / NEAR adjust focus, TELE / WIDE adjust optical zoom, and OPEN / CLOSE adjust the iris when supported by the camera and protocol.

To save a preset, move the camera to the required position, enter the preset number and select **Set Position**. To recall it, enter the number and select **Call Position**. Some camera menus use special preset commands; consult that camera's instructions before issuing one.

5.3 Color bars and HDMI output

Open **TV OUT** to generate a composite test signal at **CVBS OUT / VIDEO OUT**. Select PAL or NTSC to match the receiving equipment. Choose color bars, a test image or a single-color pattern.

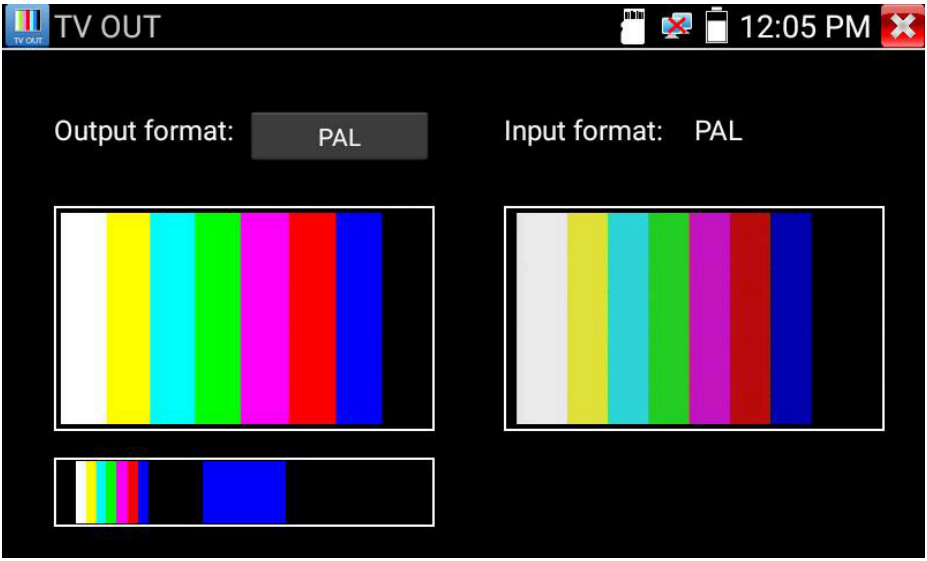


Figure 10: Composite color-bar output and received loop signal.

Connect VIDEO OUT to a monitor to check its input and display. For a transmission-path check, connect the far end of the tested path to VIDEO IN and compare the received image with the output pattern. Single white or black patterns can help inspect the display for visible pixel defects.

HDMI OUT displays the tester screen or supported video on an external monitor, with output up to 4K at 60 fps. Select the output mode and resolution offered in the quick menu or **Settings > More Settings**.

In screen-output mode the local screen may go dark while the external display is active. A USB mouse can be used for control. The HDMI output application can also provide a color pattern; this is separate from screen mirroring.

5.4 Auto HD and coaxial camera connection

Connect an AHD, TVI or CVI camera output to the shared **VIDEO IN** BNC socket. Use the camera's correct supply voltage. Open the matching viewer or **Auto HD** to detect a supported signal automatically.

Auto HD identifies the connected CVBS / AHD / TVI / CVI format and resolution. For a stable test, confirm the camera's selected output format before changing settings. If there is no picture, inspect the supply, BNC cable and selected format, then try a supported output resolution.

The specific AHD, TVI and CVI viewers show detected signal information on the top bar. Use the shared snapshot, recording, photo and playback tools described in Section 3.3. Double-tap the image to enlarge it where supported.

Coaxial PTZ / UTC: Open PTZ and select coaxial or UTC control. Match any required address to the camera. Use the directional, focus, zoom and iris controls supported by that camera. For AHD, the application may offer PTZ and PTZ-2 command sets; try the matching set if the camera does not respond.

Camera OSD: Open UTC / menu control and call the camera menu using the displayed controls. Navigate with the arrow controls and confirm changes in the camera menu. Exit or close the menu before leaving the test.

RS485 control is also available for cameras with a separate RS485 pair; see Section 5.2.

5.5 AHD camera test

Open **AHD** for a camera configured for AHD output. The following input formats are supported:

AHD resolution	Frame rate
1280 × 720	25 / 30 fps
1920 × 1080	25 / 30 fps
2048 × 1536	18 / 25 / 30 fps
2560 × 1440	15 / 25 / 30 fps
2560 × 1944	12.5 / 20 fps
3840 × 2160	15 fps

5.6 TVI camera test

Open **TVI** for a camera configured for TVI output. Supported formats include 720p at 25/30/50/60 fps, 1080p at 25/30 fps, 2048 × 1536 at 18/25/30 fps, 2688 × 1520 at 15 fps, 2560 × 1440 at 15/25/30 fps, 2560 × 1944 at 12.5/20 fps and 3840 × 2160 at 12.5/15 fps.

5.7 CVI camera test

Open **CVI** for a camera configured for CVI output. Supported formats include 720p at 25/30/50/60 fps, 1080p at 25/30 fps, 2560 × 1440 at 25/30 fps, 2592 × 1944 at 20 fps, 2960 × 1920 at 20 fps and 3840 × 2160 at 12.5/15 fps.

> **NOTE** These are input-format references. Camera output modes, firmware and signal quality determine whether a particular signal can be displayed.

5.8 HDMI input and VGA input

HDMI IN: Connect the HDMI output of the DVR, NVR or other video source to the tester's HDMI input. Open **HDMI IN**. Read the detected resolution on the top toolbar. Double-tap for a full-screen image where supported.

HDMI input supports compatible signals up to 3840 × 2160 at 30 fps. Other input modes include 2560 × 1440, 1920 × 1080, 1280 × 720, 720 × 480, 720 × 576, 1024 × 768, 1280 × 1024, 1280 × 900 and 1440 × 900. If the image is missing, select a compatible output mode on the source.

Use the input viewer's Snapshot, Record, Photo and Playback controls to capture or review material as described in Section 3.3. Save and stop a recording before disconnecting the source.

VGA IN: Connect the source to VGA IN and open the VGA viewer. Check the displayed input resolution and select a supported mode at the source if needed.

VGA modes at 60 fps include 1280 × 1024 / 960 / 800 / 768 / 720, 1152 × 870, 1024 × 768, 800 × 600 and 640 × 480.

⚠ **CAUTION** Connect a video source to an input and a display to an output. The HDMI IN and HDMI OUT connectors serve different functions.

5.9 SDI camera test

Connect a compatible SDI camera to the dedicated **SDI IN** BNC connector, supply the camera with its required power and open **SDI**. The input viewer displays the detected signal information. The tester provides SDI input; it does not provide an SDI output.

SDI input format	Rate
HD-SDI 1280 × 720p	25 / 30 / 50 / 60 fps
HD-SDI 1920 × 1080p	25 / 30 fps
HD-SDI 1920 × 1080i	50 / 60 Hz
EX-SDI 2560 × 1440p	25 / 30 fps
EX-SDI 3840 × 2160	20 / 30 fps

Double-tap the picture for full-screen display where supported. Use the toolbar for snapshot, recording, photos, playback and display / storage settings. For a camera with RS485 control, connect its control pair separately and match the settings in Section 5.2.

The tester’s HDMI output can display the received SDI image on a compatible HDMI monitor. Select an HDMI output mode supported by the receiving display.

If a picture is unstable or absent, check the camera’s SDI mode, connector seating and coaxial path before changing settings. A coaxial cable that passes a continuity test can still fail to carry a high-rate video signal reliably.

5.10 Video level meter

The level meter measures video peak, sync and color-burst levels for supported coaxial signals. It can help compare a camera output with the signal received after a cable run.

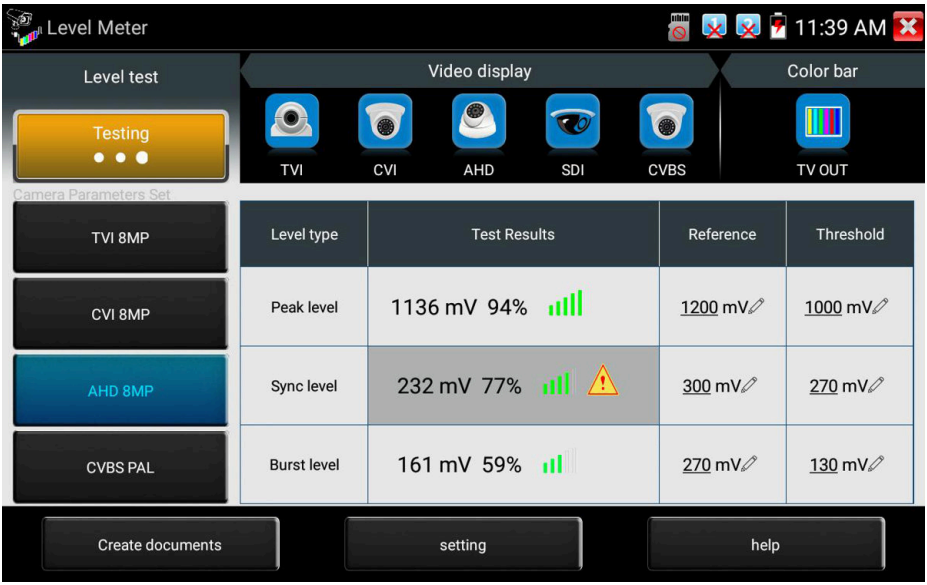


Figure 11: Example level readings, reference values and warning thresholds.

Select the camera signal type and resolution before starting the level test. Use **Test** / **Testing** to take a reading. For picture viewing, select the camera icon; for a test pattern, select TV OUT.

The result includes a measured level and its relation to a reference. The app can mark readings below a selected threshold. A reference represents the comparison value for that format; a threshold is the warning boundary. Adjust these only against a suitable known reference. Use Reset to restore the application's defaults.

Differences in camera output, format and cable length affect the reading. Use **Create documents** to save customer, camera and test information where provided. Compare measurements made with the same signal format and test setup.

6 Network diagnostics

6.1 NET TOOL PRO and IP scan

NET TOOL PRO groups network, link and cable diagnostics. Connect the required network interface and confirm the tester address before running a test. The current software also provides wireless tools and link discovery applications.

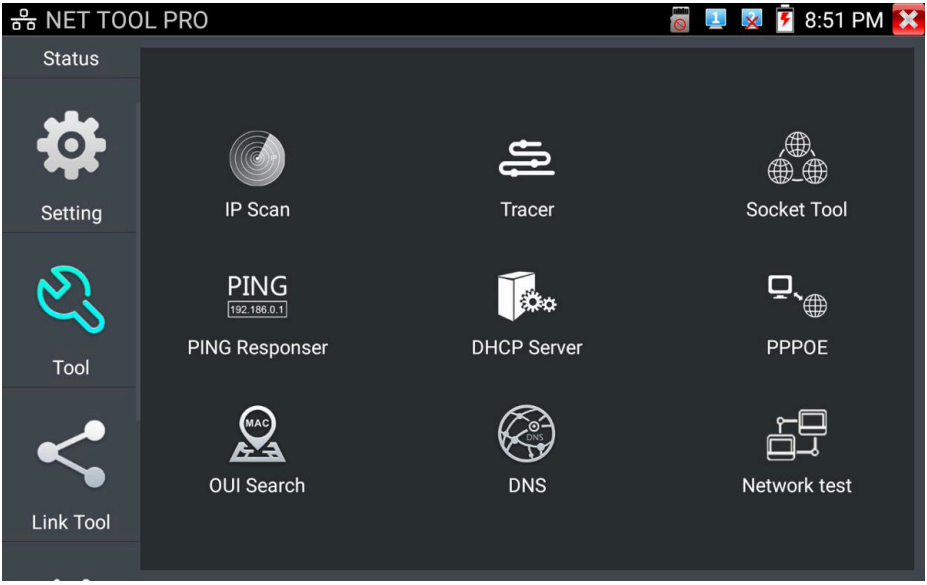


Figure 12: NET TOOL PRO tool selection with PPPoE and network-test entries.

IP Scan: Set the start and end IP addresses for the intended search range, then select **Start**. Inspect the returned addresses and device information. Where available, enter a target address in the port-number scan to check its responding service ports.

Scan results apply to devices that respond to the selected test. Check the physical link and address range if the list is empty. A response does not prove that a camera account or video stream is working.

OUI Search, DNS and Socket Tool are available as additional diagnostics in NET TOOL PRO. Use the fields and help shown by the installed application for the selected test.

6.2 Ping and route checks

Ping checks whether a remote address responds on the network. Connect the cable, open Ping and confirm the local address. Enter the remote IP address, packet count, packet size, interval and timeout as offered, then select **Start**.

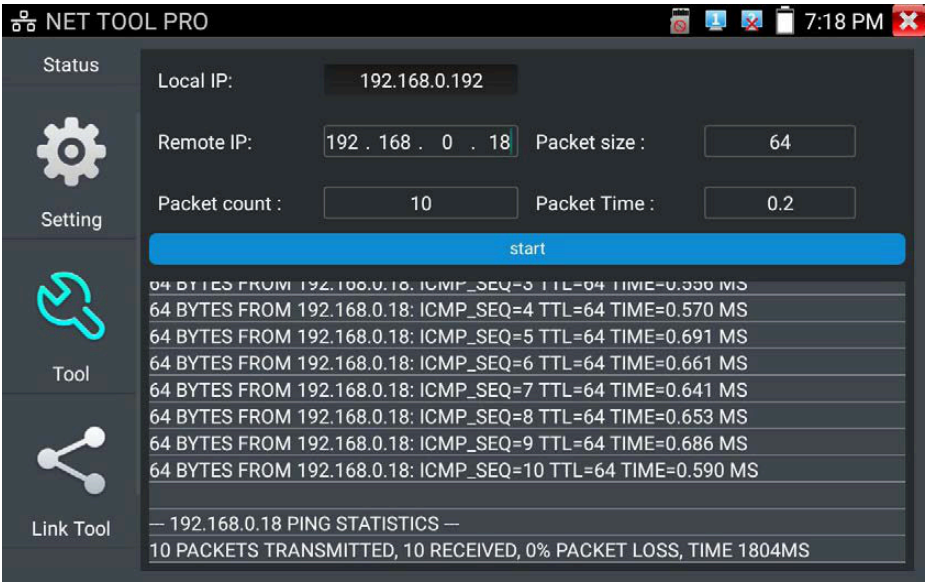


Figure 13: Ping results with response times and packet-loss statistics.

Compare sent and received packet counts. A lost first packet can occur while the link resolves addressing information. Repeated loss, unreachable messages or high delay require further checks of power, cabling, addressing and the network path. A device may also be configured not to answer ping.

Trace route / Tracer lists responding hops toward a remote address or domain. Enter the target, choose the maximum hop count and start the test. A missing hop can result from a nonresponding router. Treat this tool as a diagnostic guide rather than a certification test.

6.3 Bandwidth and port identification

Network test sends traffic between a server and a client. Use another compatible tester or a computer with compatible network-test software as the other endpoint.

1. Connect the endpoints to the same network segment with different IP addresses.
2. On the server endpoint, select **Start Server** and note its address.
3. On the client, enter the server address and select **Start** to send test traffic.
4. Read the results in the application and stop the test when finished.

Throughput depends on the link speed, endpoint capability and other traffic. On a working network, coordinate the test load with the network administrator.

Port Flashing helps identify a switch port. Connect the tester to the cable, open Port Flashing and select **Start**. Look for the corresponding link indicator flashing with the generated pattern. Stop the function after identifying the port.

Link status / Advanced link monitor displays the negotiated link and traffic information, including Ethernet statistics and error-frame information where available. A cable with only two pairs cannot provide the same connectivity as a complete four-pair cable; inspect the wire map if the link reports a limitation.

Full Duplex Detection is available in the network tool set. Use it together with the link’s negotiated mode and the remote equipment’s port configuration when investigating link performance.

6.4 DHCP server and address monitoring

The DHCP server assigns addresses to devices on a test network. Open the server tool, set the local network and address pool, enable Start and select Save. Refresh the client list to inspect assigned devices.

> ⚠ **CAUTION** Use the tester's DHCP server only on a network where you intend to provide addresses. A second DHCP server on a site network can change client configuration unexpectedly. Stop the server after the isolated test.

Link Monitor checks a list of addresses for responses. Select Add, enter the addresses and start monitoring. Add a tester address for another segment under IP Settings if necessary.

A responding address is in use. An address that does not respond is not guaranteed to be free: the device may be offline or may reject the probe. Confirm address allocation with the site's network information before assigning a new address.

6.5 Wi-Fi Analyzer, LLDP/CDP and PPPoE

WiFi Analyzer appears in the current Tools menu and provides wireless-network analysis. Use the installed application's displayed measurements when investigating local Wi-Fi conditions.

LLDP/CDP appears in the current My APPS menu. It provides a network-neighbor discovery tool for links whose remote equipment advertises the corresponding discovery information.

PPPoE is available in the network tool set for PPPoE connection testing. Its usable settings and results depend on the connected service and the installed application.

7 Power and PoE

7.1 PoE++ output

The tester supplies **55V PoE++ output, up to 90W**, through the LAN / PoE++ port. Use Power management V2.0 or the PoE output application to control it.

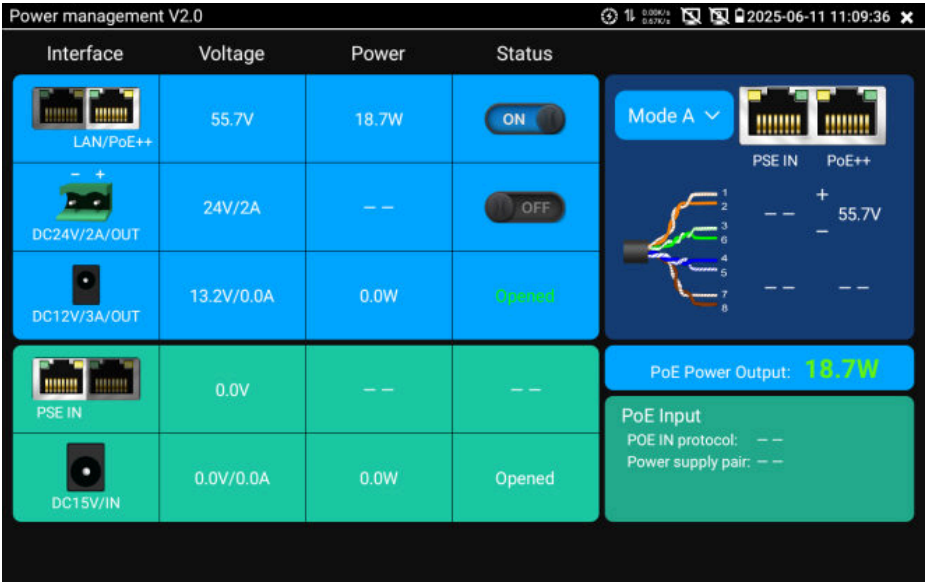


Figure 14: Power management with output controls and measured voltage / power.

1. Confirm that the camera accepts the selected PoE supply and that the cable is correctly terminated and free of shorts.
2. Connect the camera to LAN / PoE++ while the output is off.
3. Select the required pair mode. For a load **above 30W, select 4-Pair** before enabling the output.
4. Switch the output on and inspect the displayed voltage and power. Switch it off after the test.

> ⚠ **CAUTION** The 90W figure is the maximum PoE output rating. Do not exceed it. The tester can enter protection if the load is excessive. Use this output for temporary testing, with clear ventilation around the instrument.

Charge the tester before supplying a substantial external load. If a low-battery or unable-to-supply-power message appears, stop the load and recharge. Do not use an output as a permanent camera supply.

7.2 Pair modes and external PSE measurement

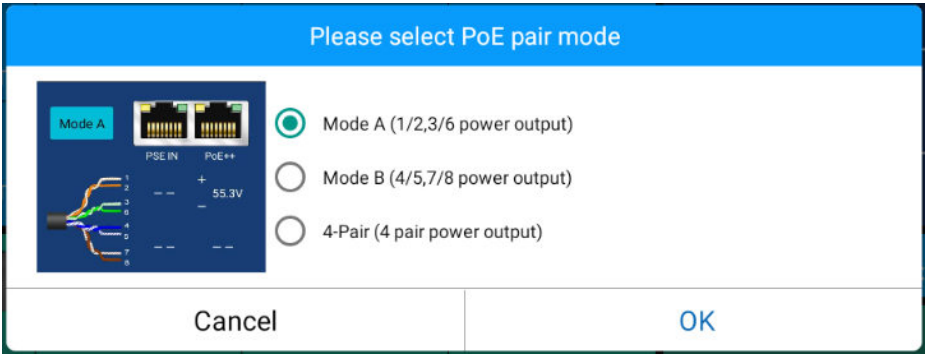


Figure 15: PoE pair-mode selection.

Selection	Power pairs
Mode A	Power on conductors 1, 2, 3 and 6.
Mode B	Power on conductors 4, 5, 7 and 8.
4-Pair	Power over all four pairs. Required when the output load exceeds 30W.

Mode A is the default selection. Check the current selection each time; change the mode with the output off, then re-enable it for the connected camera.

To test an external PoE source, turn the tester's PoE output off. Connect the source to **PSE IN** and the powered camera to **LAN / PoE++**. Power management displays the detected supply voltage, protocol and powered-pair information where supported.

This measurement arrangement places the tester between the source and the load. The upstream network can pass camera traffic through this arrangement, but local tester viewing may depend on the selected mode. Use a viewer on the upstream network if needed.

> ⚠ **CAUTION** Never attach the external PSE to UTP/SCAN. Do not enable the tester's PoE output against another active PoE supply. Verify the socket markings before connection.

7.3 DC and USB outputs

Connection	Use
DC12V OUT	Two DC12V/3A sockets. Check the load and polarity. These outputs are active when the tester is on; check before connecting a device.
DC24V/2A OUT	Switchable 24V output in Power management. Use a correctly wired terminal plug and observe + / − markings.
USB DC5V/2A	USB power for a compatible device. The USB output can remain available with the tester switched off.
DC15V IN	Supplied-adapter input, not an output. The input measurement screen may show voltage and combined charging / operating power.

For a DC-powered camera, check its rated voltage, polarity and current before connecting. Do not assume that a 12V device tolerates 24V.

The 24V output can stay on after leaving its settings screen. Return to Power management and switch it off when finished. Do not rely on closing an application to remove power.

If output protection trips, remove the load and disconnect test connections. Check the cable and device requirements before reconnecting the supplied adapter and restarting the test. Do not repeatedly apply a fault to clear protection.

⚠ **CAUTION** Do not feed voltage into an output socket, connect an output to DC15V IN or short the output terminals. Disconnect USB loads after use because an attached device may continue drawing battery power.

8 Cable diagnostics

8.1 Choose the cable test

The Cable Tester group contains the common cable diagnostics and SFP information. Choose the test that matches the connector and the question you need to answer.



Figure 16: Current cable menu; these entries are available across the series.

Item	Details
Cable Tester	Check conductor continuity and pin order through UTP/SCAN with the supplied remote device.
RJ45 TDR test	Inspect Ethernet pairs and estimated fault distance through the LAN interfaces.
Cable Length	Estimate an open-ended cable's length using the selected cable type and calibration.
SFP info	Inspect information and supported diagnostics from the inserted SFP module; see the IP camera and fiber tests chapter.

8.2 Cable Tester wire map

Use **UTP/SCAN** for cable wire-map testing. Connect one end of the cable to the tester and the other end to the supplied WT255 wire tracer's UTP socket.

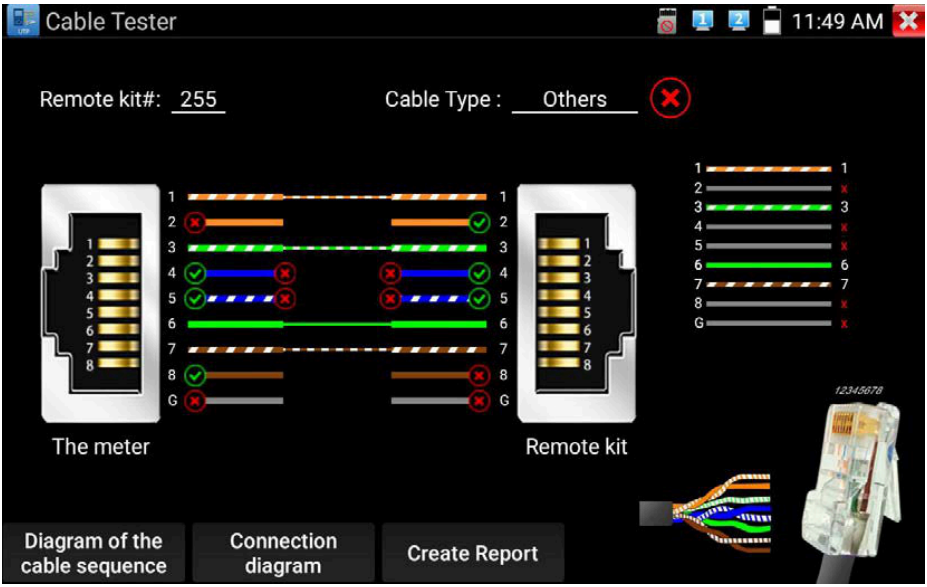


Figure 17: Example wire map showing faults and remote identification.

Open **Cable Tester** to inspect conductor continuity, sequence, cable type and remote identification. Compare the displayed pin paths with the intended wiring scheme. The G indication refers to shield continuity where supported.

Fault marks can identify a missing connection, a short, crossed conductors or a connector-area problem. Follow the application's cable-sequence and connection diagrams to distinguish the tester end, remote end and cable path. Repeat with a known-good cable or reterminate a suspect plug to isolate a fault.

The tester can perform some local connector checks without a remote, but a complete end-to-end wire map requires the appropriate remote connection. A correct wire map alone does not establish the cable's bandwidth or installation certification.

> ⚠ **CAUTION** Disconnect the cable from active equipment and external power before using UTP/SCAN. A PoE switch or injector must never be connected to this port.

8.3 RJ45 cable TDR test

This Ethernet diagnostic is included on **every model**. It uses the LAN interfaces and is separate from any dedicated long-range TDR hardware.

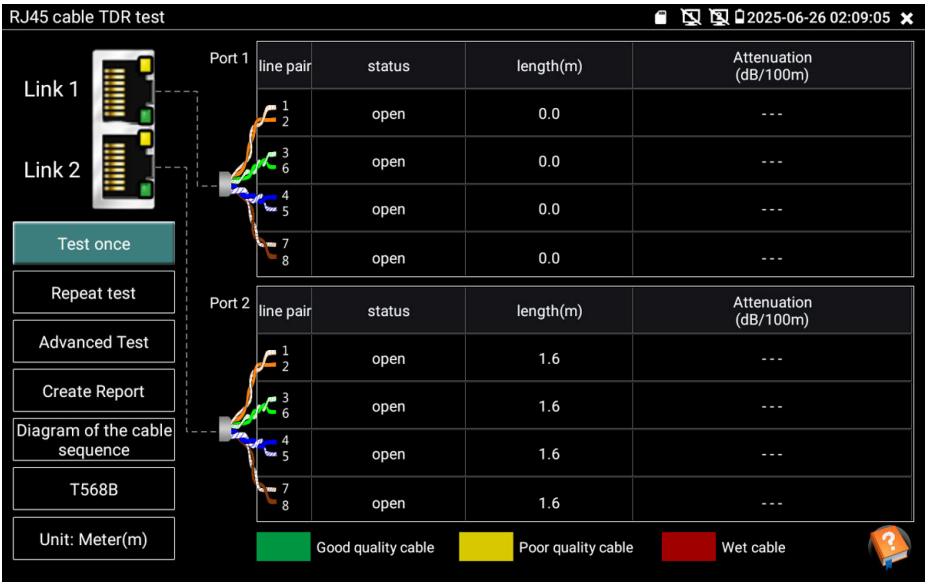


Figure 18: Current RJ45 TDR screen with per-pair status and distance.

Connect the cable to a LAN port and open **RJ45 TDR test**. Use **Test once** for a single measurement or **Repeat test** for repeated readings. The application reports pair status, distance and attenuation where available.

The distance range is up to **180m**. An open or short can produce a distance reading; an online link is not an accurate open-ended cable-length measurement. For fault-distance checks, disconnect the far end from equipment and remove external power.

Advanced Test can show attenuation, reflectivity, impedance and pair skew when the link conditions support those measurements. Use Help for the application's parameter definitions. The cable-quality colors are diagnostic indications; confirm suspected faults by inspecting the cable and comparing a known-good link.

Use **Create Report** to save the available results and **Diagram of the cable sequence** for wiring references. Test results are a guide to fault finding and do not replace cable certification.

8.4 Cable Length

Cable Length is included on every model. It estimates the distance to an open end for supported cable types. Its maximum open-circuit range is **3 km**, depending on the selected cable and calibration.

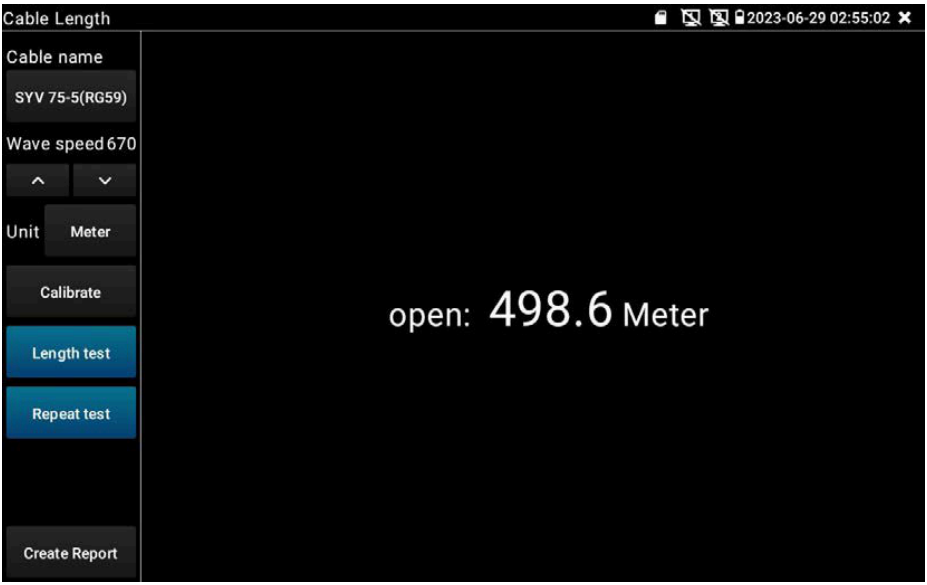


Figure 19: Open-ended cable length measurement.

For a terminated network or telephone cable, connect the compatible plug to UTP/SCAN and select the corresponding cable type. For supported bare-wire or coaxial measurements, use a suitable separately obtained RJ45-to-BNC / clip connection; ensure reliable contact with the conductors.

Select **Cable name** and the cable type, then choose **Length test**. **Repeat test** repeats the measurement. For four-pair network cables, select the corresponding CAT 5E / CAT 6 cable option. A shorted cable does not provide a normal open-circuit length reading.

Cable materials affect propagation speed. For calibration, use a known-length sample of the same cable, adjust wave speed until the displayed length matches it, then save the user-defined name and value through Calibrate. Reset restores the application's cable defaults.

> ⚠ **CAUTION** Isolate both ends from equipment and power before measuring. Loads, poor contacts, mixed cable types and incorrect calibration can produce misleading distances.

8.5 WT255 wire tracing

Use the supplied WT255 receiver with the tester's tracing application to locate the far end of a cable within a bundle. Connect the cable to UTP/SCAN, or use the designated CVBS OUT / cable-scan connection for a suitable coaxial test arrangement.

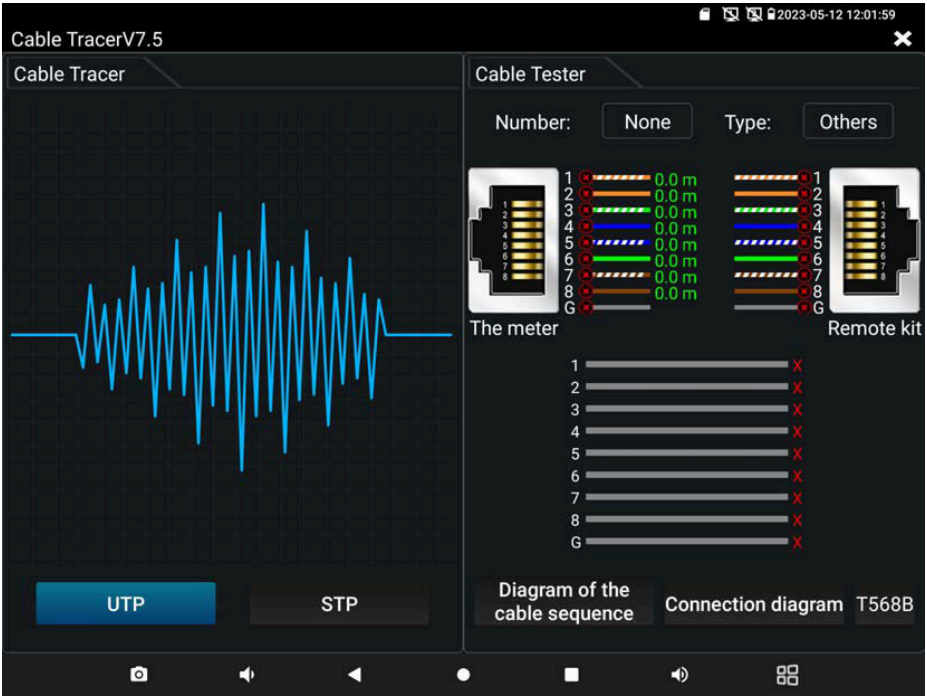


Figure 20: Tracer tone and cable-test controls.

Open the tracing function and select the tone. Use **UTP** for a normal unshielded cable or **STP** for a shielded cable. Turn on the receiver and adjust its sensitivity: increase it to find the area, then reduce it to distinguish nearby cables.

Compare the received signal at several locations rather than selecting a cable from one loud response. Other signals can introduce noise. Where practical, attach the selected cable's far end to the WT255 UTP socket and confirm it with a wire-map test.

The receiver indicators can show conductor sequence and cable type. If the supplied receiver supports MUTE, use that control for visual-only indication and press it again to restore sound.

> ⚠ **CAUTION** Use tracing connections on isolated, unpowered cabling. Observe the WT255 battery polarity and do not let clip leads contact live circuits.

8.6 Dedicated 1.2 km TDR cable test

The dedicated TDR application uses the model's separate TDR connectors and the supplied alligator-clip lead. It supports fault-distance testing on cable types such as coaxial, network, telephone, RVV control and elevator cable, up to **1.2 km**.



Figure 21: TDR reflection trace with an open-end distance.

> ⚠ **CAUTION** Disconnect both ends of the cable from all equipment and power sources before connecting the TDR leads. The far end must remain isolated during the test. A connected device can be damaged and can invalidate the result.

Connect the lead securely to the TDR port and the cable conductors. Open the TDR application, select **Cable** and **Type**, then select **Start**. Use the cable type and propagation-speed setting appropriate to the sample.

Inspect the change in the reflection trace and the displayed distance. The location where the trace changes sharply can indicate the cable end or a fault. Interpretation depends on the app's displayed convention and cable setup; compare an isolated known-good sample if uncertain.

8.7 TDR trace controls and calibration

Zoom enlarges the trace. Use touch gestures or the displayed virtual controls where available. **Move** shifts the trace, and the distance cursor helps inspect a point along it. Double-tap the thumbnail to restore the overall view.

The application offers built-in cable types and **11 user-defined groups**. Incorrect propagation speed can shift the indicated distance even when the fault is detected correctly.

For a cable-specific calibration:

1. Prepare an isolated sample with a known length longer than 50m, preferably around 100-200m.
2. Select a user-defined group under Cable / Type, then open Calibration.
3. Choose the cable family that matches the sample and enter an identifiable name.
4. Adjust the wave-velocity value until the displayed length agrees with the known sample length.
5. Save the calibration and use it only for matching cable construction.

Repeat the measurement after reseating poor connections. Mixed cable sections, repairs, moisture, aging and changes of cable construction can generate reflections at several locations. Use the trace as a fault-location aid and verify the physical cable before cutting or replacing it.

> **NOTE** The dedicated 1.2 km TDR test, RJ45 TDR and Cable Length use different interfaces and measurement methods. Their ranges and setup requirements are not interchangeable.

9 Measurement instruments

9.1 Digital multimeter: voltage

Open the multimeter application and select the measurement function. Check the leads, input sockets and range before touching the circuit. Keep the dedicated meter connections isolated from the tester's other connectors.

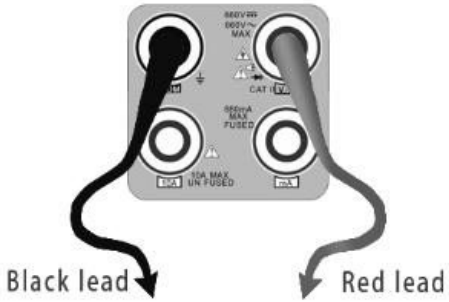


Figure 22: COM and V/Ω connections for voltage and passive-component tests.

For DC or AC voltage, connect the black lead to **COM** and the red lead to **V/Ω**. Select DC voltage or AC voltage to match the signal. Connect the probes across the measurement points and read the value.

Auto range is available for voltage. If choosing a manual range and the expected voltage is unknown, start at the highest range. An OL indication means the selected range is exceeded; disconnect or select an appropriate higher range before continuing.

> ⚠ **CAUTION** Never exceed 660V AC or DC, or 660V to earth. Do not attempt voltage measurement with the red lead in a current socket. Keep fingers behind the guards and follow the installation-category markings on the tester and leads.

The **Hold** control freezes the displayed result; select it again to return to live readings. **Relative** stores the current reading as a reference and displays the difference from it. Remove the relative setting when an absolute measurement is needed.

9.2 Multimeter: current

Current measurement requires a series connection and manual range selection. Switch the circuit off before inserting or removing the meter.

1. Connect the black lead to COM. For an unknown current, connect the red lead to **10A** and choose the highest current range.
2. Select the correct DC or AC current function. Open the circuit and insert the meter in series with the load.
3. Reapply circuit power only after the connections are secure. Read the value within the selected input's limit.
4. Switch circuit power off before disconnecting the meter or moving the red lead to another socket.

The **mA** socket is limited to **660mA**. Use it only when the expected current is within that limit. The **10A** socket is limited to **10A** and is not fuse protected. An overload can damage the instrument and injure the operator.

> ⚠ **CAUTION** Never connect a current input across a supply. This creates a short circuit through the meter. Disconnect the leads from the circuit before changing the function or range connection.

The mA input uses a 250V/1A fuse as specified for this instrument. A blown fuse requires the specified replacement type and qualified service. A fuse rating is not permission to exceed the measurement input limit.

After current measurement, remove circuit power and return the red lead to V/Ω before storing the tester. This reduces the chance of a later voltage measurement being made through a current input.

9.3 Multimeter: passive components

Remove all circuit power and fully discharge capacitors before these tests. Connect the black lead to COM and the red lead to V/Ω.

Function	Measurement
Resistance (Ω)	Select resistance and connect across the isolated component. Use auto range or select a suitable manual range.
Continuity	Select the continuity symbol and connect between the test points. The buzzer indicates a low-resistance path; the specified nominal threshold is about 30Ω.
Diode	Select the diode symbol. Connect red to the anode and black to the cathode, then reverse the leads to compare forward and reverse behavior.
Capacitance	Isolate and fully discharge the capacitor. Select capacitance, choose auto or a suitable manual range and connect across the component. Allow the reading to settle.

Hold and relative measurement are also available where supported. Lead resistance or residual capacitance can affect small measurements; use a suitable reference and the relative function when appropriate.

⚠ **CAUTION** Do not rely on an input's protection circuit to make a live resistance, continuity, diode or capacitance test safe. Remove power first. Never test a charged capacitor.

If a value is unstable, disconnect the component and inspect its connections, range and condition. Large or leaking capacitors can take longer to settle or may not produce a valid reading.

9.4 Optical power meter

The dedicated optical power meter measures fiber power and supports relative link-loss comparisons. Its input is separate from the SFP network slot.

Select the wavelength that matches the optical signal before measuring. The configured wavelength choices are **850, 980, 1270, 1300, 1310, 1490, 1550, 1577, 1625 and 1650nm**. These ten settings follow the current hardware reference.

1. Clean and inspect the fiber connector with appropriate fiber-maintenance tools. Do not look into the connector.
2. Fit the suitable connector adapter and connect the fiber to OPM.
3. Open the optical power meter and select the matching wavelength.
4. Read the absolute power in dBm or the linear power unit offered by the application. Use Hold to freeze a reading and select it again to resume.

For a relative measurement, connect the reference signal and select **Relative / Difference**. The app stores the reference. Connect the signal to be compared and read the relative result. Keep the wavelength and connection method consistent.

The input range is **−70 to +10dBm**. Keep power within that range. The detector is InGaAs and the base connector is FC/PC; SC/ST adapters are supplied with this model.

Keep the detector, adapters and caps clean. Replace the dust cap after use. Dirt and poor seating can cause apparent loss even if the fiber itself is serviceable.

9.5 Visual fault locator

The visual fault locator sends visible red light into a connected fiber to help inspect continuity, sharp bends and accessible breaks. Its nominal wavelength is 650nm.

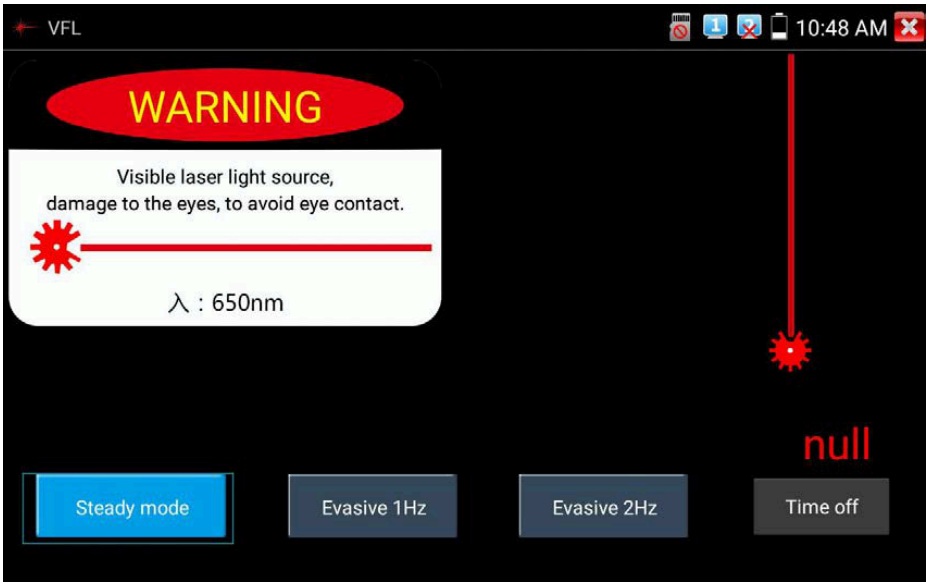


Figure 23: Visual fault locator with steady and pulsed modes.

Connect the appropriate fiber while the source is off. Open VFL and select **Steady mode**, **Evasive 1Hz** or **Evasive 2Hz** for continuous or pulsed output. Use the same control again to stop that mode. The Time off control provides an automatic shutoff setting where offered.

Inspect the accessible fiber route for visible light leakage. A visible fault indication is a location aid; it does not measure optical loss or certify a link. Turn the source off before disconnecting, then cap the port.

> ⚠ **CAUTION** Never view the beam directly or through an optical instrument. Do not point the port or a connected fiber at a person. Keep the source off whenever the connection is being changed.

10 Audio, files and system tools

10.1 Audio and RS485 data monitor

Audio test: Connect a compatible pickup or audio source to **AUDIO IN** with the supplied cable. Monitor through the audio output / headphones as appropriate. Set a comfortable volume before listening.

Audio Record: Open the recorder with the source connected. Start a recording using its record control, then stop and save the file. Check the saved recording before disconnecting the source.

Audio player plays supported audio files, including MP3. **Media Player** browses saved images and supported video files, including the tester's own recordings. Select a file to play it and use RETURN to exit. Playback support depends on the container and codec.

Data monitor: Connect the RS485 control source to the tester with matching polarity. Open Data monitor and select the same baud rate as the sending keyboard, DVR or controller. The tester displays received command data and may identify a supported protocol.

Use the clear control to empty the display when starting a new observation. If no data appears, check baud rate, polarity and the sending controller. Received bytes show that data is present; verify the camera address and protocol separately if the camera still does not respond.

⚠ **CAUTION** The RS485 connection is a communication interface. Do not connect it to a power circuit or use it as a voltage-measurement input.

10.2 File Explorer and document tools

Open **File Explorer** to browse internal storage or the TF card. Choose the storage location from the top bar. Use the additional-actions menu or press and hold a file for supported copy, rename and delete operations.

The browser groups files such as pictures, videos, audio, documents and archives. Stop recordings and close files before moving or deleting them. Back up important material before formatting storage or restoring the tester.

FTP server: With the tester on a permitted network, enable FTP for the intended internal or card storage. Enter the displayed FTP address in a compatible computer client to access the files. Stop the server after transfer. Do not expose it to an untrusted network.

Office opens supported document, spreadsheet and presentation formats where the corresponding app is installed. Compatibility varies with the file and application version.

Notepad stores short job notes. Enter the text and select Save. Open a stored entry to review it; use the entry’s menu to delete it when no longer required.

Browser opens a device’s web configuration page. The camera and tester need a reachable network path. If a page opens but live video does not, use ONVIF, a supported camera tool or RTSP Player.

LED flashlight: Open the flashlight control and turn the lamp on or off. A timer may be selected. Leaving the app can leave the lamp on, so check its state after use.

10.3 System settings

Item	Details
Language / input	Select the display language and keyboard. This manual uses English menu labels.
Date / time	Set the correct local date and time for captured files and test documents.
IP Settings	Choose static or DHCP addressing. Advanced settings add addresses for another network segment.
WLAN Net	Enable Wi-Fi, select a permitted network and enter its credentials. Press and hold a network entry where supported to configure a static address.
Wi-Fi hotspot	Set an SSID and password, then enable the tester hotspot when a local wireless connection is needed.
Brightness / sleep	Adjust screen brightness and the sleep or automatic-off settings.
Volume	Adjust audio level before monitoring or playing files.
SD card	Check capacity, format storage or unmount a card before removal.
Screen rotation	Rotate the display 180 degrees to suit the connector orientation.
PTZ address scan	Enable the setting before using a supported PTZ scan function.
Version information	Read installed application versions for troubleshooting and support.
Lock screen	Set the available password or pattern lock and retain the chosen credentials.

10.4 Updates and recovery

Use only update packages intended for this tester and supplied through a trusted Steedvision channel. Keep the adapter connected and avoid interrupting the update.

Local update: Copy the supplied package to the TF card’s **update** directory. Create that directory if required. Open Update, choose Local Update and select the intended package. Follow the displayed prompts.

Online update: Connect to a permitted network and open the online update function. The installed software may require registration under user management before online updates are offered. Select the intended application update and follow the prompts.

System update is separate from an individual application update. Check the model and package instructions carefully before proceeding. Contact support if the package or target model is unclear.

If an app stops responding, save any recoverable files, close it and restart the tester. Disconnect external loads before investigating repeated shutdowns. Do not use a reset as a substitute for checking abnormal heat or an electrical fault.

Restore factory settings can remove personal files, installed applications and settings. Back up the required material and note the current network configuration before selecting it. Read the confirmation dialog before proceeding.

> **NOTE** When requesting support, quote the tester model, serial number and the affected application’s version. A clear screenshot and a description of the cable connections often make the problem easier to reproduce.

11 Specifications

11.1 Core system

Item	Details
Brand	Steedvision
Model	IPC-9800MOVTADHS Pro+
Display	7-inch capacitive touch screen; 1280 × 800 pixels
RAM / storage	2GB RAM / 32GB eMMC
Battery	Built-in lithium-ion; 11.1V, 5200mAh, 57.72Wh
Adapter input	DC15V, 1.6A
Ethernet	Dual RJ45 network interfaces; 10/100/1000M automatic link negotiation
Fiber network	SFP module slot; SFP information and supported module power diagnostics
Wireless	Built-in Wi-Fi; wireless network connection and hotspot functions
IP video	H.265 up to 8K; H.264 up to 4K; compatible ONVIF, vendor-specific and RTSP streams
Composite video	One BNC input and one BNC output; PAL / NTSC
HDMI output	One output; up to 4K at 60 fps
Audio	Audio input and headphone / audio output; recording and playback tools
Storage card	8GB TF card supplied; supports cards up to 32GB
Working conditions	−10°C to +50°C; 30%-90% relative humidity

Values describe the test interfaces and available functions. Stream compatibility and diagnostic results depend on the connected device, its settings and the test setup.

11.2 Power and diagnostic functions

Item	Details
PoE++ output	55V; maximum 90W; Mode A / Mode B / 4-Pair. Select 4-Pair above 30W.
DC12V output	Dual DC12V / 3A
DC24V output	24V / 2A, switchable
USB output	5V / 2A
PSE test	External supply voltage, protocol and powered-pair detection where supported
Cable wire map	Conductor sequence, continuity and remote identification
RJ45 TDR	Pair status, fault distance and supported link parameters; range up to 180m
Cable Length	Supported open-ended cables; maximum range 3 km; cable calibration required
Network tools	IP scan, Ping, route tracing, bandwidth test, DHCP server, port flashing, link tools, PPPoE, DNS, OUI and socket tools
Additional apps	HW and UNV camera tools, Multiple Preview, Virtual IPC, PoE++ Detection, WiFi Analyzer and LLDP/CDP
PTZ	RS485; camera protocol, baud rate and address must match
Evidence capture	Screen capture, snapshots, video recording and available application test documents

Power outputs are for temporary test loads.

11.3 Model-specific interfaces

Item	Details
AHD / TVI / CVI	Compatible input formats up to 3840 × 2160; frame rates depend on format. See the video signal tests chapter.
Auto HD	Automatic recognition of supported CVBS / AHD / TVI / CVI signals
HDMI input	Compatible signals up to 3840 × 2160 at 30 fps
VGA input	Supported modes up to 1280 × 1024 at 60 fps
SDI input	HD-SDI / EX-SDI; EX-SDI modes up to 3840 × 2160 at 20/30 fps
Wire tracing	WT255 supplied; tone tracing and cable wire-map support
Video level meter	Peak, sync and color-burst level measurements for supported formats
Dedicated TDR	Separate TDR interfaces; open / short fault-distance test up to 1.2 km; 11 user-defined cable groups

Input-format and measurement limits apply to the corresponding connector and test method. Cable construction, length and signal condition affect practical results.

11.4 Multimeter ranges and accuracy

Display counts: −6600 to +6600. Conversion rate: approximately 3 readings per second. Accuracy notation is ±(% of reading + counts). Keep the meter connections isolated from other tester connections.

DC voltage

Range	Accuracy	Resolution
660.0mV (manual)	±(0.3% + 4)	0.1mV
6.600V	±(0.3% + 4)	1mV
66.00V	±(0.3% + 4)	10mV
660.0V	±(0.3% + 4)	100mV

AC voltage

Range	Accuracy	Resolution
660.0mV (manual)	±(1.5% + 6)	0.1mV
6.600V	±(0.8% + 6)	1mV
66.00V	±(0.8% + 6)	10mV
660.0V	±(0.8% + 6)	100mV

DC and AC current

Range	Accuracy	Resolution
6.600mA	±(0.5% + 3)	1µA
66.00mA	±(0.5% + 3)	10µA
660.0mA	±(0.5% + 3)	100µA
10.00A	±(1% + 5)	10mA

Input limits: 660V AC/DC; 660mA at mA; 10A at 10A. The 10A input is not fuse protected. Read Section 9.1 before using the meter.

11.5 Multimeter component measurements

Resistance

Range	Accuracy	Resolution
660.0Ω	±(0.8% + 5)	0.1Ω
6.600kΩ	±(0.8% + 2)	1Ω
66.00kΩ	±(0.8% + 2)	10Ω
660.0kΩ	±(0.8% + 2)	100Ω
6.600MΩ	±(0.8% + 2)	1kΩ
66.00MΩ	±(1.2% + 5)	10kΩ

Capacitance

Range	Accuracy	Resolution
6.600nF	±(0.5% + 20)	1pF
66.00nF	±(3.5% + 8)	10pF
660.0nF	±(3.5% + 8)	100pF
6.600μF	±(3.5% + 8)	1nF
66.00μF	±(3.5% + 8)	10nF
660.0μF	±(5% + 8)	100nF
6.600mF	±(5% + 8)	1μF
66.00mF	±(5% + 8)	10μF

Item	Details
Continuity	660.0Ω range; 0.1Ω resolution; nominal sound threshold below 30Ω ±3Ω
Diode	2.0V range; 1mV resolution; forward-voltage indication

11.6 Fiber measurement interfaces

Dedicated optical power meter

Item	Details
Power range	−70 to +10dBm
Wavelength settings	850 / 980 / 1270 / 1300 / 1310 / 1490 / 1550 / 1577 / 1625 / 1650nm
Detector	InGaAs
Display resolution	Linear: 0.1%; logarithmic: 0.01dBm
Connector	FC/PC; SC and ST adapters supplied
Functions	Absolute power, hold and relative comparison

Visual fault locator

Item	Details
Source	Visible red laser; nominal wavelength 650nm
Modes	Continuous / 1Hz / 2Hz; timed-off control
Application	Continuity and visible-fault inspection on suitable single-mode / multimode fiber
Connector	FC/PC exchangeable connection

Keep all optical connections clean and capped when idle. Never look into an optical port or the end of a connected fiber.

12 Series comparison (appendix)

12.1 Model key

The table on the next page compares the full IPC-9800 Pro+ series. It is a series reference; the operating chapters and packing list in this manual apply to **IPC-9800MOVTADHS Pro+**.

Key	Model
1	IPC-9800 Pro+
2	IPC-9800C Pro+
3	IPC-9800ADH Pro+
4	IPC-9800CADH Pro+
5	IPC-9800ADHS Pro+
6	IPC-9800CADHS Pro+
7	IPC-9800CMADHS Pro+
8	IPC-9800MOVTADHS Pro+

Letter key: C = wire tracer; L = video level meter; M = multimeter; O = optical power meter; V = visual fault locator; T = dedicated 1.2 km TDR; A = AHD; H = TVI; D = CVI; S = SDI.

IPC-9800MOVTADHS Pro+ includes the C and L functions even though C and L are omitted from its sales-model suffix. IPC-9800CMADHS Pro+ includes M and does not include L.

All eight models include 8K H.265 / 4K H.264 IP video testing, CVBS, SFP, HDMI output, 55V / 90W PoE++, DC12V / DC24V / USB power outputs, Cable Tester, RJ45 TDR, Cable Length and NET TOOL PRO.

12.2 Feature matrix

Column keys 1-8 refer to the models on the previous page. **Yes** indicates a provided feature; **—** indicates it is not provided.

Feature	1	2	3	4	5	6	7	8
AHD / TVI / CVI	—	—	Yes	Yes	Yes	Yes	Yes	Yes
Auto HD	—	—	Yes	Yes	Yes	Yes	Yes	Yes
HDMI IN	—	—	Yes	Yes	Yes	Yes	Yes	Yes
VGA IN	—	—	Yes	Yes	Yes	Yes	Yes	Yes
SDI input	—	—	—	—	Yes	Yes	Yes	Yes
WT255 tracer	—	Yes	—	Yes	—	Yes	Yes	Yes
Video level meter	—	—	—	—	—	—	—	Yes
Multimeter	—	—	—	—	—	—	Yes	Yes
Optical power meter	—	—	—	—	—	—	—	Yes
Visual fault locator	—	—	—	—	—	—	—	Yes
1.2 km TDR	—	—	—	—	—	—	—	Yes

Models 1, 3 and 5 include an RJ45 cable tester remote. Models 2, 4, 6, 7 and 8 include WT255 instead. Models with M add one pair of multimeter leads; O adds SC/ST adapters; T adds a TDR alligator-clip lead. The common items are listed in Section 2.2.

RJ45 TDR and Cable Length are included across the series. The T suffix refers specifically to the separate long-range TDR hardware.

Technical support

For product assistance, contact Steedvision:

Steed Technology (Shenzhen) Co.,Ltd.
support@steedvision.com
www.steedvision.com

To help us identify the issue, include the model name, serial number, application version, camera or network equipment model, connection arrangement and a description of the problem. Attach a clear photograph or screenshot where useful. Remove passwords and other private information before sending files.

If the tester becomes unusually hot, smells abnormal, has a swollen battery or repeatedly shuts down, disconnect external loads and the adapter. Stop using it and contact support.