PTZOptics WirelessCable

User Manual

Model Nos: PT-WC-G1 & PT-WC-PP-G1

V1.1

(English)

Preface

Thank you for using the low latency WirelessCable. This manual introduces the function, installation and operation of the WirelessCable. Prior to installation and usage, please read the manual thoroughly.

Precautions

This product can only be used in the specified conditions in order to avoid any damage to the WirelessCable:

- Don't subject the WirelessCable to rain or moisture.
- Don't remove the cover. Removal of the cover may result in an electric shock, in addition to voiding the warranty. In case of abnormal operation, contact the manufacturer.
- Never operate outside of the specified operating temperature range, humidity, or with any other power supply than the one originally provided with the camera.
- Please use a soft dry cloth to clean the WirelessCable. If the WirelessCable is very dirty, clean it with diluted neutral detergent; do not use any type of solvents, which may damage the surface.

Note

This is an FCC Class A Digital device. As such, unintentional electromagnetic radiation may affect the image quality of TV in a home environment.

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Supplied Accessories

When you unpack your WirelessCable, check that all the supplied accessories are included:

- WirelessCable AP/ST 1
- User Manual 1
- Power Adapter 1
- LAN Cable...........................1
- Antenna...............................4
- Mount Base..........................1

Notes

- **Electrical Safety**

  Installation and operation must be in accordance with national and local electric safety standards. Do not use any power supply other than the one originally supplied with this camera.

- **Polarity of power supply**

  The power supply output for this product is 12VDC with a maximum current supply of 2A. Polarity of the power supply plug is critical and is as follows.

- **Handling**
  - Avoid any stress, vibration, or moisture during transportation, storage, installation and operation.
  - Do not expose device to any corrosive solid, liquid, or gas to avoid damage to the cover which is made of a plastic material.
  - **DO NOT DISMANTLE THE DEVICE** – The manufacturer is not responsible for any unauthorized modification or dismantling.

Quick Start

Please check that all connections are correct before powering on the camera.

Features

1. Supports up to 300Mbps wireless transmission bandwidth
2. 4x4 MIMO beamforming technology
3. Supports multi-level cascading
4. Supports a wide range of applications in wireless communications, live video, etc.
5. Portable and easy to install
6. Infrastructure Mode
7. Daisy-Chain Mode

Product Specifications

Model	PT-WC-G1
Type	PTZOptics WirelessCable
Generic Specification	
Frequency	4.90 ~ 5.85 (GHz)
Bandwidth	40MHz
Protocol	802.11a/n
Receive Sensitivity	≤-70dBm
Transmitter Power	17dBm
Max Speed	300Mbps
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Power Supply	DC in (6 ~ 17V)
Size	118mm x 37.2mm x 30.8mm (not including bracket)
Net Weight	93g (not including bracket)

Main Unit
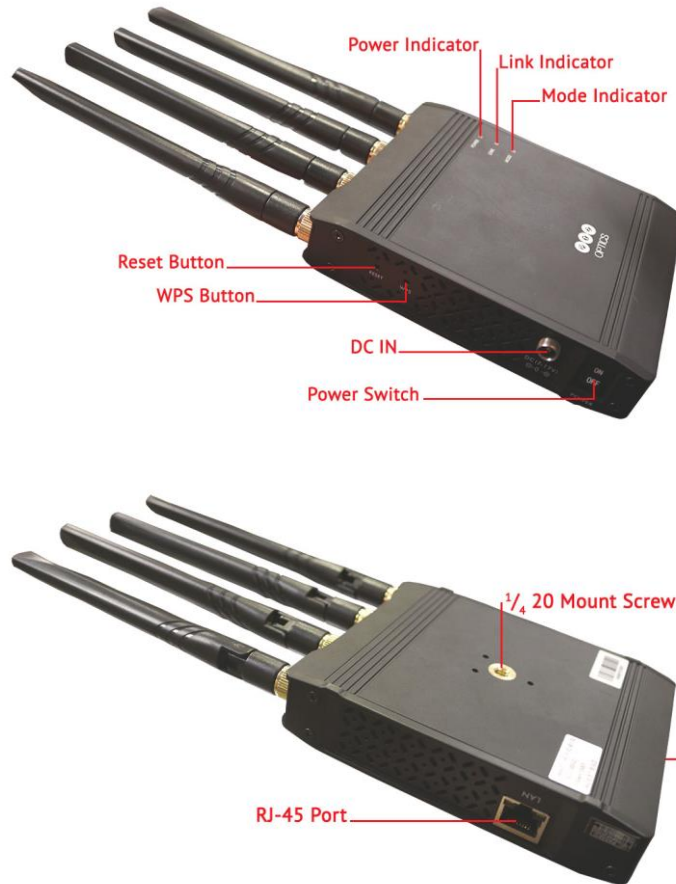
Interface	Description
Reset Button	Press the button for 5 seconds to return to factory mode
WPS Button	Quick connect to WPS Switch
DC IN	DC Power input interface
Power Switch	Power ON/OFF
Power Indicator	On: Power on Off: Power off
Link Indicator	On: Successful connection between AP and ST Flash: No connection between AP and ST
Mode Indicator	Reserved for future firmware
¼ 20 Mount Screw	Mount directly to any standard ¼ 20 mount screw
RJ-45 Port	Connect to RJ-45 device

Indicator Description

Model	Indicator	Status	Description
	Power Indicator	🔆 On	Power On
		💡 Off	Power Off
	Connection Indicator	🔆 On	Connection
		🔆 Flash	No Connection

Dimensional Drawings (mm)

130mm

109mm

80mm

19mm

POWER
LINK
MODE

80mm

120mm

27mm

RESET   WPS

DC(7-17V)
⊖-c-⊕

ON
OFF
POWER

130mm

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Connectivity Overview:

The PTZOptics WirelessCable can operate in AP / ST (Access Point / Station) Mode, Infrastructure Mode, or in AP / AP Mode (Daisy-Chain Mode). We recommend that users start with Infrastructure Mode and only use Daisy-Chain Mode if the specific use is warranted.

Infrastructure Mode – Overview

1. Configure two (2) PT-WC-G1 Base Units. One (1) as an Access Point and One (1) as a Station.
2. Connect the configured Access Point to a computer, switch, or router LAN port.
3. Connect the configured Station to the LAN port of a PTZOptics video camera or IP communication device
4. A successful connection is indicated when the Connection Indicator light (Link) changes from flashing to solid

Infrastructure Mode – Example:
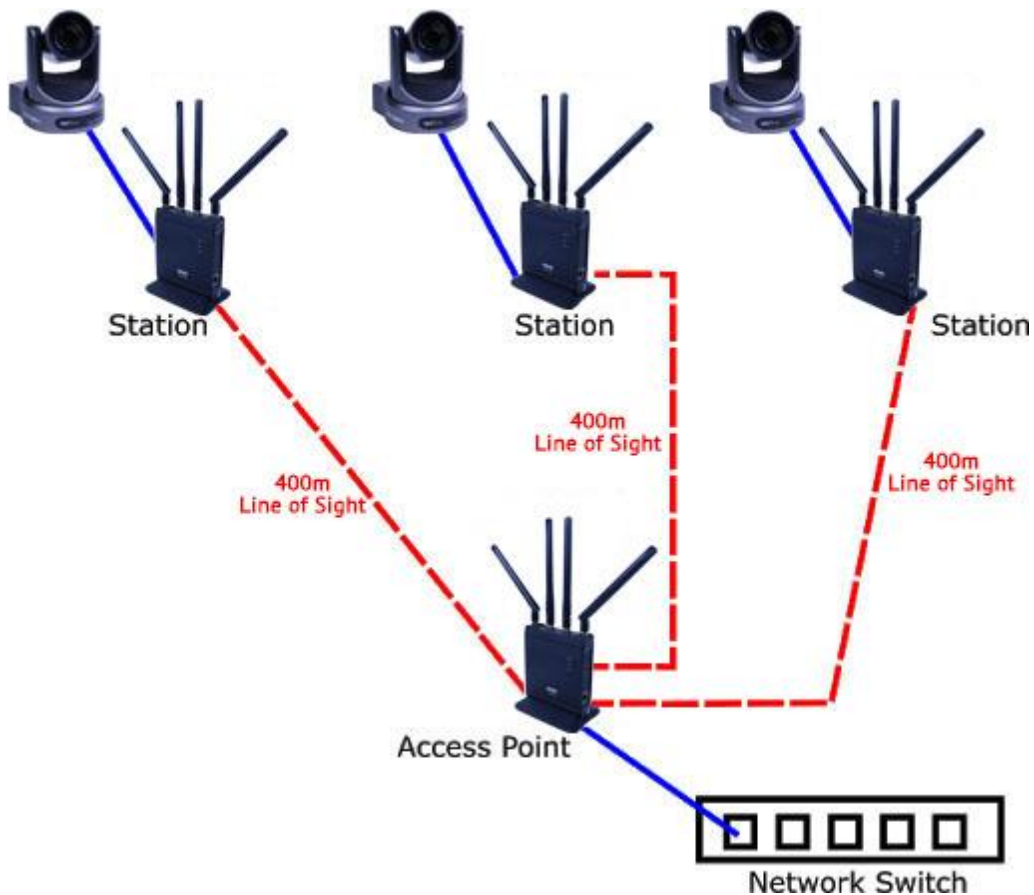
Infrastructure Mode – Setup:

In Infrastructure Mode, one (1) PT-WC-G1 Base Unit operates as an Access Point (AP) and at least one (1) PT-WC-G1 Base Unit operates in Station Mode. The AP and the Station(s) use the same ESSID and password. Additional Stations can be added as needed and connect to the AP. The system can optimally handle four (4) Stations for each Access Point.

Caution: To avoid creating a loop in your network during setup, connect each PT-WC-G1 Base Unit one-at-a-time for configuration.

Infrastructure Mode – Detailed Instructions:

1. Power on and connect a PT-WC-G1 Base Unit to your computer via ethernet cable, then open the web browser and input the IP of the PT-WC-G1 Base Unit. The default IP address of the unit is either 192.168.1.100 (AP Mode) or 192.168.1.200 (Station Mode). Default login credentials are:
   a. **Username:** admin
   b. **Password:** admin

2. Click on 'Wireless' in the 'Config' section:
   a. You will need one PT-WC-G1 Base Unit operating in Device Mode: Access Point (AP)
   b. All other PT-WC-G1 Base Units should be set to Device Mode: Station (ST)
3. Setup the AP first. Define the ESSID, passphrase, and the encryption method.
4. Power on and connect to the PT-WC-G1 Station. Enter the device IP in your internet browser and login with the credentials as before.
5. While logged into the device in Station mode, power the AP. Click "Scan AP" in the wireless section of the Config menu of the Station.
6. Select the ESSID configured in the AP and enter the passphrase in the new window.
7. If successful, the Connection Indicator (Link) light will change from flashing to solid.

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8. The devices will retain the connection through a power cycle. Power on and connect the Station to the LAN port of your network device. Power on your network device.

9. You should now be able to access the network device connected to the Station.
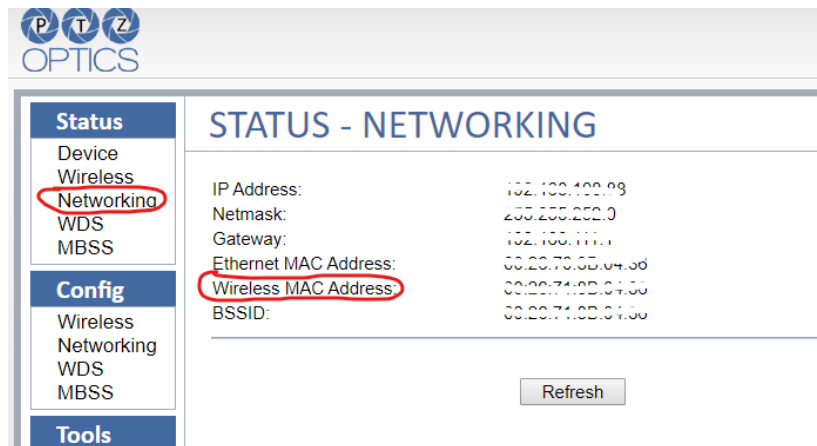

Infrastructure Mode – MAC Filtering

You can connect the Station to the Access Point through MAC Filtering as an alternative to connecting through the ESSID. To do so, follow the detailed instructions below.

1. Connect to the Station. Click on **Status** > **Networking** to find the "Wireless MAC Address" of the Station.
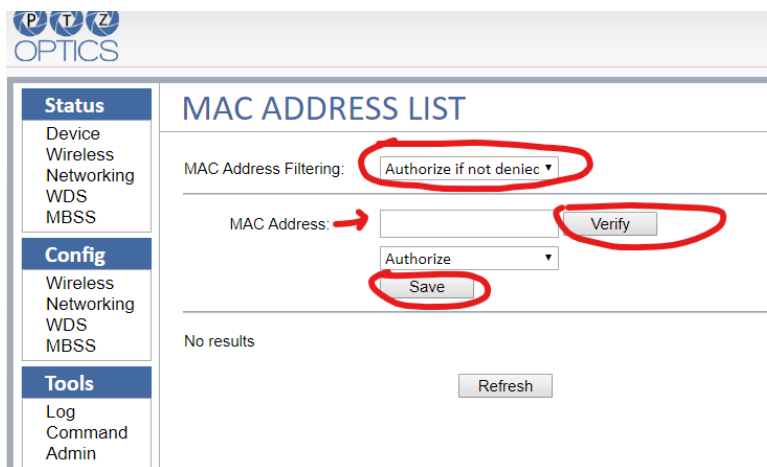
2. Connect to the Access Point. Under **Config** > **Wireless**, click on the "Advanced" tab.

3. In the **Advanced** tab, click on the button "Config MAC Filter".

4. Select "Authorize if Not Denied" from the **MAC Address Filtering** drop down menu. Enter the **Station MAC Address** (From step 1), click **Verify**, wait for the page to refresh, and then click "Save".

5. Connect to the **Station**. Navigate to **Config** > **Wireless**. Click **Connect AP** to connect the **Station** to the **Access Point**.


Daisy-Chain Mode – Overview

To extend transmission distance, the WirelessCable can be configured in Daisy-Chain Mode using WDS.

1. Configure all PT-WC-G1 Base units as Access Points (APs).

2. Place all APs on the same wireless channel, ESSID, and passphrase.

3. Link the PT-WC-G1 Base Units through WDS by MAC address in a Daisy-Chain fashion.

4. Turn on all units.

5. A successful connection is indicated when the Connection Indicator (Link) light changes from flashing to solid.

Daisy-Chain Mode – Example:
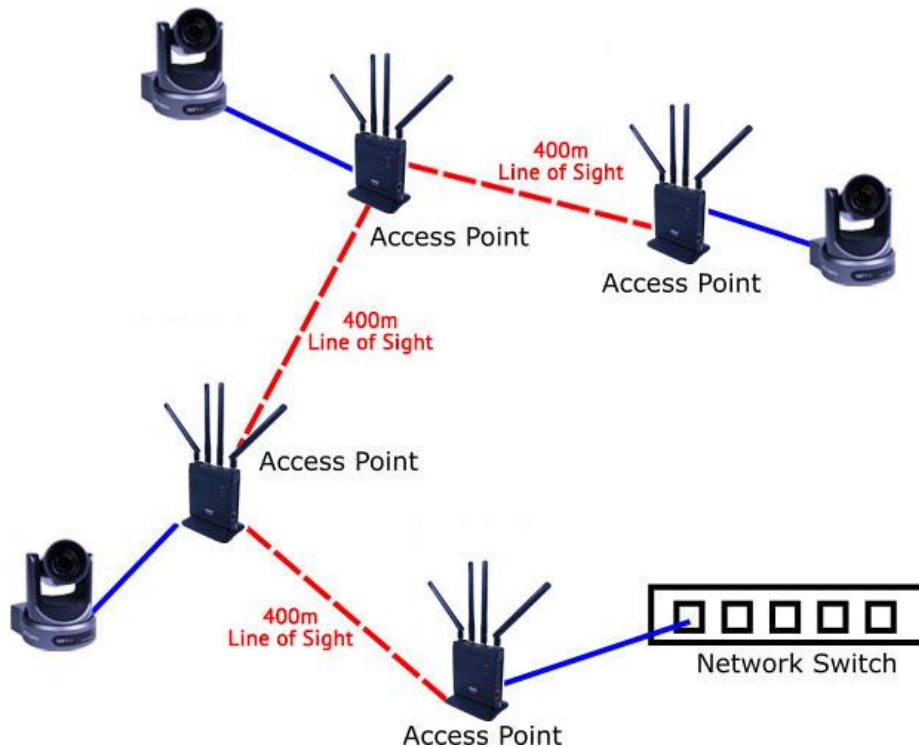
Daisy-Chain Mode – Setup:

In Cascading mode, all PT-WC-G1 Base Units operate as APs. The APs use the same ESSID and password. Additional APs can be added as needed and connect to the terminal ends of the cascade.

Caution: To avoid creating a loop in your network during setup, connect each PT-WC-G1 Base Unit one-at-a-time for configuration.

Daisy-Chain Mode – Detailed Instructions:

1. Power on and connect each PT-WC-G1 Base Unit to your computer vie ethernet cable one at a time, then open the web browser and input the IP of the PT-WC-G1 Base Unit. The default IP address of the unit is either 192.168.1.100 (AP Mode) or 192.168.1.200 (Station Mode). Default login credentials are:
    a. Username: admin
    b. Password: admin
2. Click on 'Wireless' in the 'Config' section:
    a. All PT-WC-G1 Base Units operate in Device Mode: Access Point
3. Define the ESSID, password, and the encryption method.
4. Click on 'WDS' in the 'Config' section:

5. In the WDS page, enable the WDS sections and type the MAC address for all other PT-WC-G1 Base Units in the chain (See example below):

WDS Example Configuration:

PT-WC-G1 Unit 1 -> PT-WC-G1 Unit 2 -> PT-WC-G1 Unit 3 -> PT-WC-G1 Unit 4

PT-WC-G1 Unit 1 attaches to PT-WC-G1 Unit 2

PT-WC-G1 Unit 2 attaches to PT-WC-G1 Unit 1 and PT-WC-G1 Unit 3

PT-WC-G1 Unit 3 attaches to PT-WC-G1 Unit 2 and PT-WC-G1 Unit 4

PT-WC-G1 Unit 4 attaches to PT-WC-G1 Unit 3

	Unit 1	Unit 2	Unit 3	Unit 4
WDS0	MAC – Unit 2	MAC – Unit 1	MAC – Unit 2	MAC – Unit 3
WDS1		MAC – Unit 3	MAC – Unit 4	

Note: Daisy-Chaining will reduce transmission bandwidth, and a maximum of 3-level daisy-chaining is recommended; all device IP and MAC address information are in Config-networking webpage

CONFIG - NETWORKING

DHCP: ○   Static IP: ●

IP Address   192.168.98.200

Netmask   255.255.255.0

Ethernet MAC Address   00:26:67:D8:00:02

Wireless MAC Address   00:26:67:D8:10:02

BSSID   00:26:67:D8:10:02

Save   Cancel

A network configuration tool is included for configuring PT-WC-G1 Base Units during setup and for troubleshooting

Maintenance and Troubleshooting

WirelessCable Maintenance
- If the WirelessCable will not be used for a long time, please turn off the power switch.
- Use a soft cloth or lotion-free tissue to clean the body.

Unqualified Applications
- Do not operate close to powerful electromagnetic radiation, such as TV or radio transmitters, etc…

Troubleshooting

Infrastructure Mode: The SSID of the AP doesn't show up when I try to join the devices:
If you are having trouble finding the SSID of the Access Point (AP) from the wireless config page of a Station (ST), try setting the AP and ST to a separate wireless channel.

I Lost the IP address of my Device:
Connect the device directly to your computer and run the IP configuration tool.

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