

8-channel EoC transmission device with built-in Switch HUB

SC-IPC0708H

User Guide



TRANSMITTER



RECEIVER

Precaution and Safety Guidelines

The content of this guideline is intended to protect user safety and prevent property damage.

Please read these operating instructions carefully and use the device properly.



Warning (If you do not keep any of the below guidelines, you may get seriously injured or cause somebody's death.)

- **Be sure to install the product after unplugging power cord. Also, do not use many power plugs at the same time.**
 - It may cause abnormal heat, fire and electric shock.
- **Do not leave the device in a place where water will fall or splash. Also, do not place anything with water on it, such as a vase of flowers.**
 - A malfunction or fire may result if liquid gets inside the device
- **Do not bend the power cord by excessive force. Make sure the power cord is not crushed by heavy things.**
 - It may cause fire.
- **Do not open the lid arbitrarily as this device has high voltage part inside. Never disassemble, repair or modify it.**
 - Abnormal work could result in fire, electric shock, and injury.
- **Do not install this product in places with high humidity, dust, or soot.**
 - It may cause electric shock and fire.
- **Do not tug at the power cord section or unplug the power plug with wet hands. If the power cord is loose, do not plug in.**
 - There may be a risk of fire and electric shock.
- **Always keep the location clean and dust-free during or after installing the device. When cleaning the device, be sure to wipe it with a dry towel and do not use water, thinner, or organic solvents.**
 - It may cause malfunction or fire
- **Keep the device in a cool place where doesn't let direct sunlight. Keep it at a proper temperature and avoid heating appliances like candle or heater. Also, keep the equipment or tools away from places where people come and go.**
 - There is a risk of damage to the surface of the device and a risk of failure, electric shock or fire.
- **Pay attention to possible hazards in the workplace, such as wet floor, ungrounded power extension cables, old power cords and a lack of safety earth. Consult your place of purchase or professional if problems arise.**
 - It may cause fire and electric shock.
- **Keep the back of the product more than 15 cm and the sides more than 5 cm from the wall. Installing the product too close to the wall may bend, compress too much, or break the cable as various external input / output connectors such as power cords protrude from the back of the product.**
 - It may cause fire, electric shock and personal injury.
- **Concerning the input voltage for operating this device, a voltage range must be within 10% of rated voltage. Also, do not use a heat source such as a hair dryer, iron and refrigerator to the same power unit.**
 - It may cause abnormal heat, fire and electric shock.
- **When thunder or lightning strikes, please pay attention to the safety and unplug the power cord.**



Caution (Failure to follow any of the following guidelines could result in personal injury or property damage.)

- **Avoid installing near strong magnetic fields or radio waves and wireless devices such as radio or TV.**
 - Install in a place that is free from magnetic, radio, or excessive vibration.
- **Proper ambient temperature and humidity are recommended.**
 - Avoid extremely high temperatures (above 50°C) or low (below -10°C), and humid conditions.
- **Do not place heavy items on the product or let foreign substances enter inside the device.**
 - It may cause failure.
- **Install the device in a well-ventilated place and avoid direct sunlight or heating devices.**
- **Install in a flat and stable place. Do not use an upright or inclined position.**
 - It may not work properly or it may be dangerous due to the device falling.
- **Strong shock or vibration may cause device failure. Be careful when using the device.**
 - Install the device in a location free from strong vibration.
- **If you notice any unusual noise or smell, unplug the power supply immediately and contact the place of purchase or service center.**
 - There may be a risk of fire and electric shock.
- **Rotate the air properly in the system operating room and secure the cover of the main body.**
 - It may be the cause of failure by environmental factors.
- **Contact the service center and have them checked regularly to keep the system working.**
 - We are not responsible for any damage caused by carelessness of the user.
- **Make sure the power cord is plugged into a grounded electrical outlet.**
 - There is a risk of electrical shock and personal injury.
- **Place the power plug in a location that is easy to operate.**
 - If a product fault has occurred, the power plug must be pulled out in order to switch off the device completely. The power switch on the main housing does not completely cut off the power supply.
- **When this device is used near devices that generate strong radio waves, such as Radio devices (TRANCEIVER, walkie-talkie, etc.), repeaters, etc. this can affect the video signal and abnormalities such as noise or cracks appear on the device. Do not use it, as this may cause the device to malfunction.**
- **Please be careful not to change the cable connection.**
- **When installing the product on a rack, be sure to install it separately from the equipment installed above and below.**
 - If there is no space for heat to be released between the products, equipment failure may occur due to heat saturation.
 - The life of the product may be shortened due to an increase in the internal temperature of the product.
- **UTP(Unshielded Twisted Pair) Cable is for indoor use only. Use a STP(Shield Twisted Pair) Cable which is shielded for outdoor use.**
- **Transmission distance may vary depending on the type of UTP cable.**
- **Refer to this user guide for any issues and enquiries. If you need professional assistance, please contact the place of purchase or our service center.**
- **Class A equipment (commercial broadcasting and communication equipment)**
 - This device is a business grade electromagnetic wave device (Class A). The seller or user is advised to take note of this, and the device is not intended for household use
- **Insulate the part where the cable connects to the connector so that the metal part is not exposed.**



1. Introduction

1-1. Summary








This product consists of transmitter, a 1-channel PoC-IP transmission device (Power over Coaxial), and 8-channel receiver for EoC(Ethernet over Coax) with Switch HUB function.

The Receiver can supply both the transmitter and the IP camera with power via the existing coaxial cable. It also receives the video signal from the IP camera and transmits multi-channel IP camera data to the NVR port. This can drastically reduce construction and installation costs and time.

1-2. Product Features

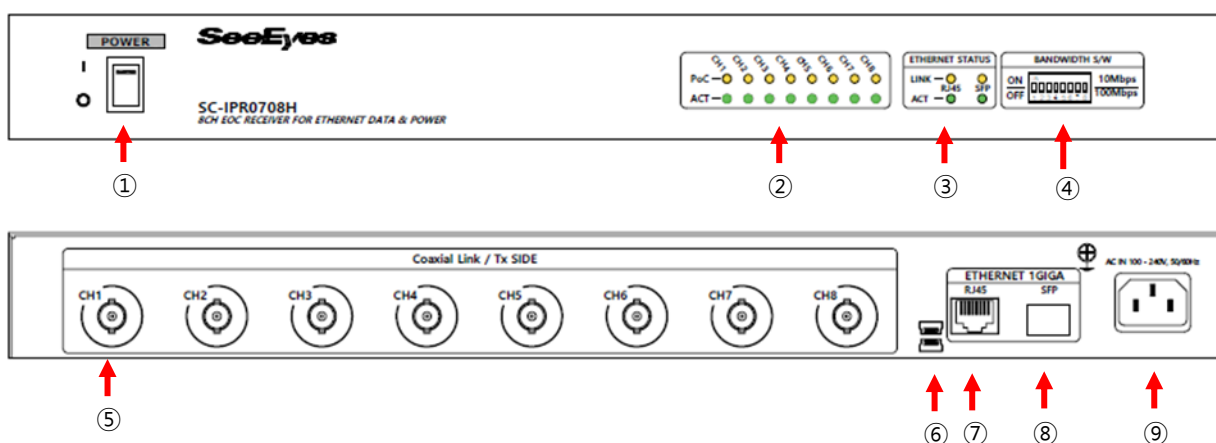
- Power and data transmission via 1 coaxial cable
- Remote transmission of network data via an RG-59 coaxial cable (full duplex)
 - 100Mbps: Maximum 400m
 - 10Mbps: Maximum 800m
- Built-in 10 / 100Mbps setting switch to optimize the transmission bandwidth according to distance
- 8-channel receiver with switching HUB function
 - Provides RJ-45, SFP ports (choose 1)
- Safe power transmission through automatic line diagnosis
- PoE ON / OFF switch mounted on the transmitter
- Installation costs are reduced by using the existing coaxial cables.
- The PoC (Power Superimposition) function is installed, eliminating the need to install power lines, reducing installation cost and construction time.
- MULTICAST support
- Built-in overvoltage protection circuit

2. Product composition

Receiver	Power cord	User guide	Bracket/Screw
			
Transmitter	RJ-45 cable	Mounting bracket	
			

3. Name and function of each part

3-1. Receiver



- ① **POWER:** Power ON/OFF switch
- ② **1~8-channel Status LED:** View the power status of each channel and the Link / Act information

Name	Status	Status Description
PoC	On	Each channel's power input works
	Blinking	Power supply problem on the transmitter side of each channel (short circuit, disconnection, overcurrent)
	Off	No power input for each channel
LINK/ACT	Blinking	LINK/ACT of each channel works
	Off	LINK/ACT of each channel is not connected

- ③ **Uplink Status LED:** The Link & ACT information of the NVR will be displayed.

ETHERNET STATUS	Name	Status Description
	LINK	light on: Successful Ethernet connection lights off: No Ethernet connection
	ACT	light on: Successful Ethernet data transmission lights off: No Ethernet data

- ④ **Transmission distance extension switch (Bandwidth):** 100Mbps/10Mbps Setup switch.
- Switch 1 to 8 ON↔OFF to change the transmission distance for each channel.

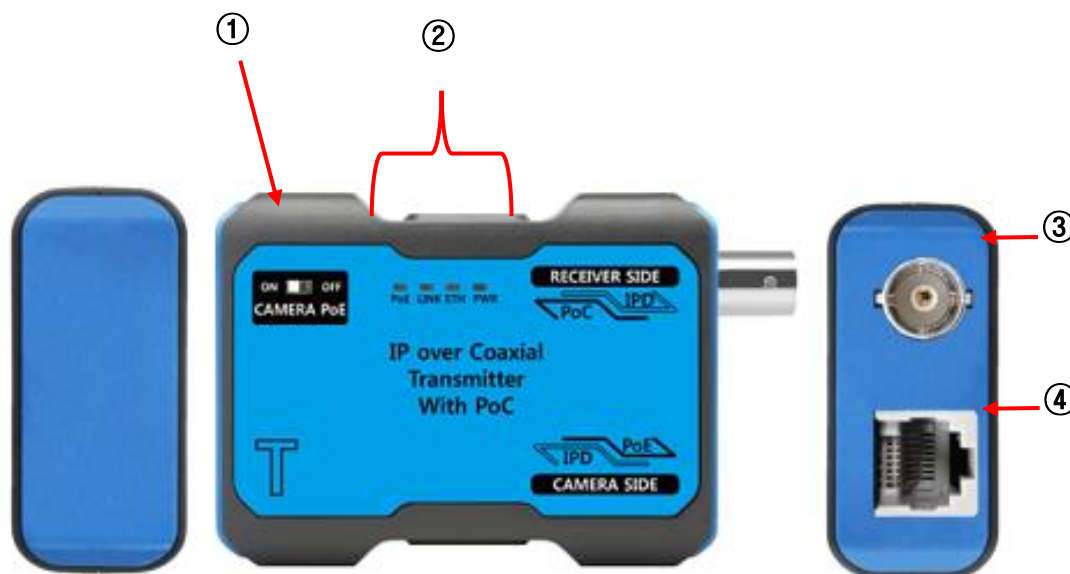
SWITCH		Transmission distance(RG-59.)
OFF	100Mbps	Maximum transmission distance: 400m ((Default))
ON	10Mbps	Maximum transmission distance: 800m

※ The factory default is set to 100Mbps.

- ⑤ **Coaxial LINK from Transmitter:** Transmitter connection terminal (8 BNC ports).
- ⑥ **Update port(manufacturer only):** product update terminal.
- ⑦ **NVR side:** Connecting terminal to NVR or Network devices (1 RJ-45 port).
- ⑧ **SFP:** Connecting terminal to NVR or Network devices using optical modules.
- ⑨ **AC inlet:** AC power input terminal.

※ Only either NVR side(RJ45 port) or SFP port can be used. They cannot be used simultaneously.

3-2. Transmitter



① **Camera PoE:** Set-up switch for the IP PoE camera power supply.

※ When connecting an IP PoE camera, Select ON.

※ The PoE switch is set to ON when the product is shipped.

※ When connecting an IP camera that does not support PoE, set the CAMERA PoE switch to OFF.

② **Status indicator LED.**

NAME	Color	Status Description
PWR	Red	On: Power input on Off: No power input
ETH	Green	On: Successful Ethernet connection Off: No Ethernet connection
LINK	Green	On: Successful connection with the receiver Off: No connection with the receiver
PoE	Red	On: Successful PoE supply to IP Camera Off: No PoE to IP camera Blinking: IP Camera power supply issue (short circuit, disconnection, overcurrent)

③ **RECEIVER SIDE:** video output terminal & connection to the receiver

④ **CAMERA SIDE:** Connection terminal for IP cameras.

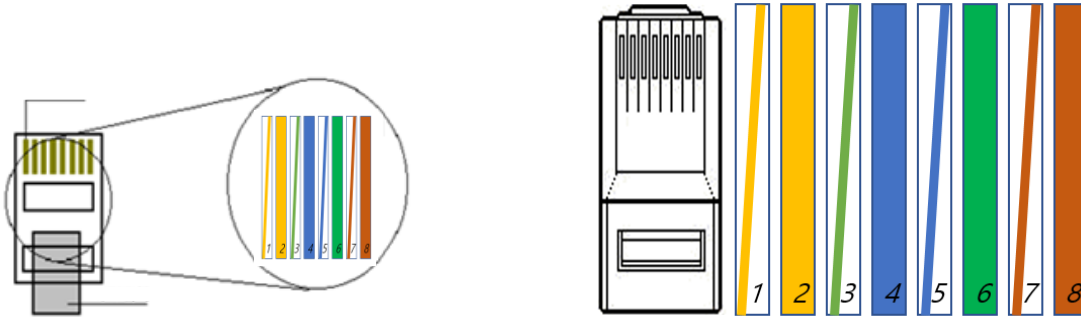
※ Caution

Power is supplied via BNC, so be advised to only use the exclusive product.

Failure to do so may result in damage to the product.

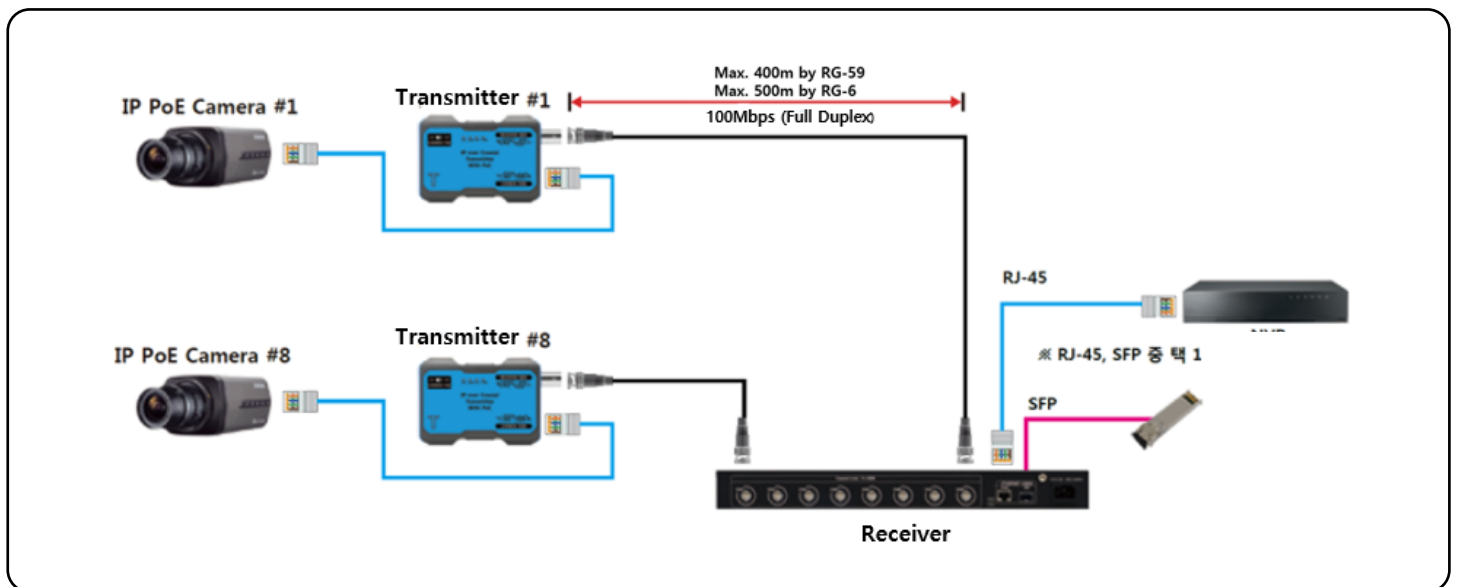
When the product is powered on, the LED turns on sequentially and then the product works.

4. CABLE PIN Arrangement



Number	Color	Color	Color	function
1	Orange + white	White	Orange	TX+
2	Orange	Orange		TX-
3	Green + white	White	Green	RX+
4	blue	Blue		PWR+
5	Blue + white	White	Blue	PWR+
6	green	Green		RX-
7	Brown + white	White	Brown	PWR-
8	Brown	Brown		PWR-

5. Example of a product configuration



6. Transmission distance by coaxial cable (transmission bandwidth / maximum power output)

	5C-HFBT	5C-2V	3C-2V	RG-58	RG-59
200m	100Mbps / 12W	100Mbps / 12W	100Mbps / 12W	100Mbps / 12W	100Mbps / 12W
300m	100Mbps / 12W	100Mbps / 12W	100Mbps / 10W	100Mbps / 12W	100Mbps / 12W
400m	100Mbps / 12W	100Mbps / 12W	10Mbps / 7.7W	10Mbps / 12W	10Mbps / 10W
500m	100Mbps / 10.4W	100Mbps / 12W	10Mbps / 6W	10Mbps / 10W	10Mbps / 9.3W
600m	10Mbps / 9.8W	100Mbps / 12W	10Mbps / 5W	100Mbps / 8W	10Mbps / 7.8W
700m	10Mbps / 7.5W	10Mbps / 10W	10Mbps / 4.4W	10Mbps / 7.4W	10Mbps / 7W
800m	10Mbps / 6.5W	10Mbps / 9W	10Mbps / 3.8W	10Mbps / 6.6W	X
900m	10Mbps / 6W	10Mbps / 8W	X	X	X
1,000m	10Mbps / 5W	10Mbps / 7W	X	X	X

- ※ The transmission distance may vary slightly depending on the quality of the coaxial cable used and the quality of the connector connection.
- ※ Depending on the performance specifications of the camera to be used, there may be a difference of about 20 ~ 30% compared to the available performance values in the table.
- ※ The cable transmission distance may vary depending on the camera, NVR, etc.
- ※ When using the PoE function of the transmitter, the transmission distance of the coaxial cable may differ depending on the type of camera. The use of the camera power supply is particularly recommended for IP PTZ cameras that use a lot of power and cameras with many IR LEDs. It is also recommended that the distance between the camera and the network cable of the transmitter is within 1 m.
- ※ If the transmitter does not supply power to the camera over a transmission distance of 500 m, check the power consumption of the camera and connect an external power supply to the camera. (Set the CAMERA PoE switch on the transmitter to OFF).

7. Installation precautions

- ※ It is not recommended when the products are in contact or connected to each other.
- ※ If the product is powered by PoE, it is recommended to ground the camera after checking the video.
- ※ When using a surge protector, it is recommended that the cable distance between the camera and the transmitter is a maximum of 50 m.
- ※ The use of a LAN cable extension gender (coupler) causes signal attenuation. The use of multiple extension gender connections is not recommended.

8. Product specification

Model		Transmitter
Power input		PoC from r
Power output		Midspan PoE support (Type B Only, PoE SW On/Off available)
Maximum transmission bandwidth (based on RG-59)		100Mbps Full duplex
Connection Ports	Rx Side	BNC-F, 75Ω
	CAM Side	RJ-45 (TIA/EIA568B Type)
PoE Switch		Slide switch: PoE power On/Off switch
Operating temperature / operating humidity		-10°C ~ +50°C / 0 ~ 80%
Material / weight		ABS flame retardant / 60g
Dimensions		90(W) x 55(H) x 24(D)mm

Model		Receiver
Maximum transmission distance (based on RG-59)		100Mbps/400m *Full duplex 10Mbps/800m
Power output		PoC (DC 48V)
Transmission bandwidth		100Mbps
Power input		AC 100 ~ 240V
Power output		For each channel MAX.12W(@DC 48V)
Power consumption		220V MAX: 127W(8 channels 12W output)
Connection Ports	NVR Port (Chose 1)	RJ-45 x 1(1Giga) SFP x 1(1Giga)
	Senderanschluss	BNC x 8
	Bandwidth Select Switch	10Mbps / 100Mbps
Operating temperature / operating humidity		-10°C ~ +50°C / 0 ~ 80%
Material / weight		Steel / 3.94kg
External dimensions		430(W) x 44(H) x 350(D) mm

9. Troubleshooting

Symptom	Identification Method
<p>No power.</p>	<p>< transmitter ></p> <ul style="list-style-type: none"> • Check if the receiver's PoC LED is on and the transmitter's PWR LED is on. • Check the coaxial cable connection. <p>< receiving set ></p> <ul style="list-style-type: none"> • Check the AC power cable. • Check if the power switch is ON. • Check if the PoC LED works normally.
<p>No video.</p>	<ul style="list-style-type: none"> • Check if the LINK LED of the product is on and the ETH LED is flickering. • Check if the transmission distance is beyond the recommended transmission distance. • Please check if the arrangement of NETWORK CABLE PIN is correct. • When using the transmitter's PoE function, check that the PoE LED is on, and if it is off, set the PoE switch to ON.
<p>PoE doesn't work</p>	<ul style="list-style-type: none"> • Check the status of the transmitter's PoE switch. • Check if the transmitter's PoE LED is lit RED. • Check whether the arrangement of the NETWORK CABLE pin is correct. • Check if the IP CAMERA supports PoE function.
<p>The network connection is not normal.</p>	<ul style="list-style-type: none"> • Check whether the arrangement of the NETWORK CABLE PIN is correct. • Check if there is any radio or equipment that generates strong radio waves in the surrounding environment. • Check if the network configuration is properly designed.
<p>Video status unstable.</p>	<ul style="list-style-type: none"> • Check the connection of the coaxial cable and the network cable. • Check the compatibility between the NVR and the camera. • Check the camera's performance status.

10. Warranty Certificate

This product has passed thorough quality control and test, and if this gets broken during normal use, we provide the two-year warranty service.

Model No.		
Serial No.		
Distributor		
Date you purchased		
Place you purchased		
Warranty Period		Two (2) year from the date of purchase
Purchaser	Name	
	Address	

- Please check this warranty indication first.
- Please contact your distributor after checking out any defect in the products.
- The standard for repairing, replacement or reimbursement follows Customer.
- Warranty content any defect under normal use within the warranty service period we give you free repair service according to the warranty certificate.
- We charge you with the fee of parts and service despite of free warranty service period. Any breakage made without care such as:
 - Breakdown due to natural disasters (lightning, fire, flood, tsunami, etc.)
 - When disassembled or repaired by the user
 - When connecting power other than rated power.
 - When you want to reassemble for full system or replace parts within warranty service period.
 - When unauthorized person modified or made damage on the product trying to repair it.
 - Failure due to careless handling of the user
 - When replacing consumables
 - Lightning strike.
- Please note that we don't support the breakage after warranty service period expired. If the customer wants to get it repaired, we charge them with the fee.
- The specification is subject to change without prior notice for quality improvement.



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