1Channel IP Over Coaxial Transmission Solution

SC-IPT3001E, SC-IPR3001E

User's Manual

SC-IPT3001E

(1CH Transmitter)

SC-IPR3001E

(1CH Receiver)

SeeEyes Co., Ltd.

Precautions and Safety Guidelines

Please read this user manual thoroughly prior to using the product.

Warning (If now following, users might be injured)

■ **Before installation, please make sure to unplug the power cord and also do not plug multiple power plugs at the same time.**

- There might be abnormal heat, fire and a risk of electric shock.

■ **Do not expose this product to dripping or splashing and do not place this product on the equipment that contains the water like a vase.**

- Pouring the liquid enters the inside of the product may cause a malfunction or fire.

■ **Please do not bend the power cord and avoid damage pressed with a heavy object.**

- It may cause of fire.

■ **Since the high-voltage parts are inside of the unit, please do not open the case and do not decomposition, repair arbitrarily.**

- There is a fire, electric shock or injury due to abnormal operation.

■ **Do not install at the places where a lot of moisture, dust and soot.**

- It may cause of electric shock, fire.

■ **Do not unplug by pulling on the power cord and do not plug in or unplug the power cord with wet hands, and if power plug is loose, do not plug in the power cord.**

- It may cause of fire, electric shock.

■ **During or after the installation of the unit, always clear where to place of the device with kept free of dirt and in particular, be sure to clean the unit, wipe it with a dry towel and do not use water or organic solvents.**

- There is a possibility to damage the surface of the device and a risk of a malfunction or an electric shock.

■ **Leave the product in a cool place out of direct sunlight, and keep the proper temperature, avoid the heat place such as heater, candles and also leave the equipment or tool away from the place where people come and go.** - It may cause of fire.

■ **The input power voltage for the operation of device should be with 10% of regulated voltage and the power outlet must be grounded. In addition, please do not plug in to the same power outlet at the same time for hair dryer, iron, and refrigerator.**

- It may cause of abnormal heat, fire and electric shock.

■ **It is recommended that the ambient temperature and humidity appropriate.**

- Please avoid the place where high temperature (over than 50°C) or low (less than -10°C), and humid place.

■ **Please do proper air ventilation in the system operation room, and fasten the lid on the product body.**

- It may cause of damage due to environmental factors.

■ **Please make sure to connect the power cord to a grounded power outlet.**

- It may cause of electric shock or damage.

■ **Place the power plug where easy operation.**

- If occur any problem for the product, unplug the power cord. Only the power button on the product does not completely disconnect the power supply.

■ **If use this product close to the radio unit (TRANCEIVER, Walkie-Talkies) and repeater which generates strong radio waves, it can affect the video signal, and there might be occur signal noise on the screen or the video image might be broken, so please do not use under this kinds of environment.**

■ **The transmission distance might be depends on coaxial cable's type and UTP cable's type.**

■ **Disconnect the power plug when there is a lightning or thunder.**

■ **For the problems except the above, please refer to user's manual and if needs assistance of expert, please contact our service center.**

■ **If you want to extend or terminate coaxial cable, it must be connected in the following ways.**
   - BNC-Male - BNC-JJ - BNC-Male: (For HD-SDI)

■ **For the cable connection part with connector, please make sure the metal parts are not exposed by the fully insulated.**

■ **UTP(Unshielded Twisted Pair) Cable is unique cable for indoor use, so if want to use in outdoor, we recommend to use STP(Shield Twisted Pair) Cable.**
   - Please use UTP cable which is better than standard CAT.5e type.

■ **Since this device has PoC function, there might be occurred problem for other item if use it connect with other devices. So, please read the user's manual carefully before using.**

■ **Please configure in separate for general network usage (Internet, etc) and CCTV usage.**
   - It might be cause of problem.

■ **Be careful with below Network (UTP) cable connection.**
   - Please refer to below cable connection (wiring) way.

How to connect Network (UTP) cable

TIA / EIA 568B Type		Pin No.	Color		Func.
		1	White	Orange	TX+
		2	Orange		TX-
		3	White	Green	RX+
		4	Blue		PWR+
		5	White	Blue	PWR+
		6	Green		RX-
		7	White	Brown	PWR-
		8	Brown		PWR-

1. Introduction

1-1. Overview

SC-IPC3001E is a 1ch IP PoC transmission device which consist of SC-IPT3001E (Tx) and SC-IPR3001E (Rx).

Since this device has PoC function, it's available to supply power to Transmitter and camera side, so it's not necessary for additional power installation and it is also a cost effective and easy installation solution for IP camera.

In addition, long distance of Ethernet Data transmission is also available between Transmitter and Receiver using by Coaxial Cable.

1-2. Features

- Available to supply power for IP camera operation (supports PoE Type B / Max. 30W)
- Transmission bandwidth: PHY Rate (Physical Layer Speed): Up to 200 Mbps
- Available to transmit Max. 1400m power + digital data (based on RG-6/U cable)
- Supports Auto MDI/MDIX function
- Available to supply a stable power by auto cable checking func.
- Available PoE ON/OFF setup for Tx which is connected to camera side
- Built-in surge protection circuit

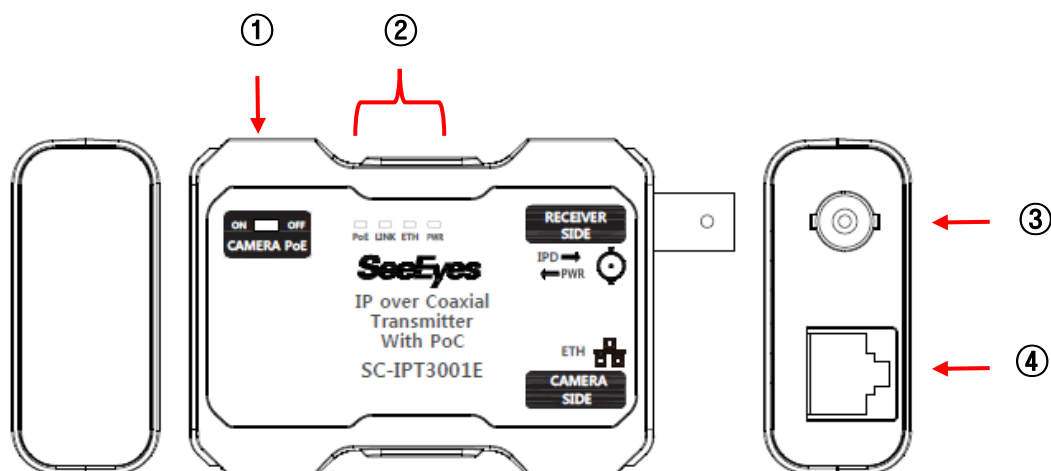# 2. Components

2-1. SC-IPT3001E (Transmitter)

SC-IPT3001E	Bracket	RJ-45 Cable	User's Manual

2-2. SC-IPR3001E (Receiver)

SC-IPR3001E	DC 48V Adaptor	Power Cord	Bracket	User's Manual

3. Product Parts and Functions

3-1. SC-IPT3001E (Transmitter)

① **CAMERA PoE:** PoE IP camera power supply setting switch

　※ In case of connecting PoE IP camera, setting CAMERA PoE switch ON.

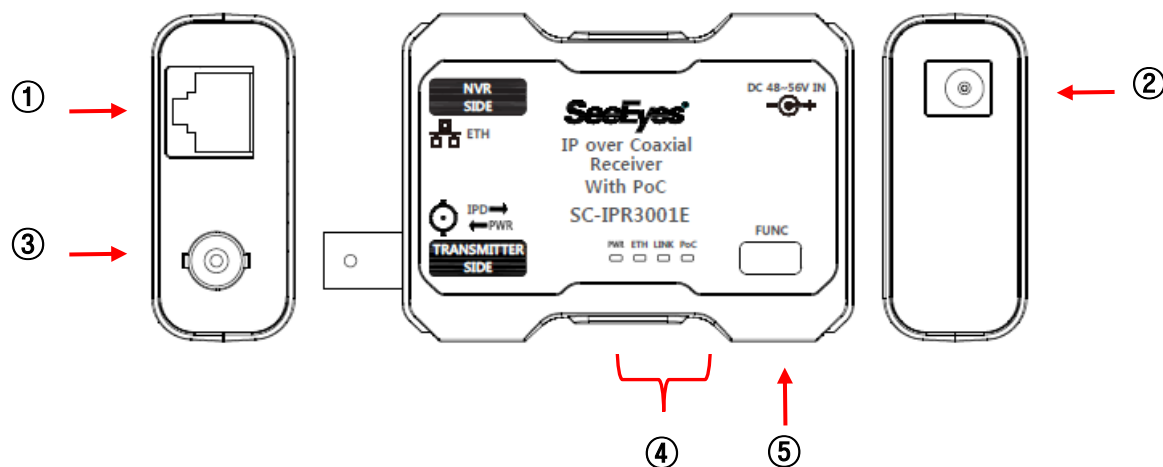　※ In case of connecting non PoE camera, setting CAMERA PoE switch OFF.

② **LED Indicator**

Name	Color	Status	Description
PWR	Red	On	Power On / Pairing completed
		Flashing	Under pairing
		Off	Power Off
ETH	Green	Flashing	Ethernet connected in normal
		Off	Ethernet no connected
LINK	Green	On	Connected to Rx
		Off	No connected to Rx
PoE	Red	On	Supplied PoE to IP camera
		Flashing	Over consumption for IP camera
		Off	No supplied PoE to IP camera

③ **RECEIVER SIDE:** Connection to Rx and video output port

④ **CAMERA SIDE:** IP camera connection port

3-2. SC-IPR3001E (Receiver)

① **NVR SIDE:** NVR or PoE Hub connection port

② **DC 48~56V IN:** DC adapter (48V or 56V) power input

③ **TRANSMITTER SIDE:** Connection to Tx and video input port

④ **LED Indicator**

Name	Color	Status	Description
PWR	Red	On	Power On / Pairing completed
		Flashing	Power output / Under pairing / Coax. cable no connected
		Off	Power Off
ETH	Green	Flashing	Ethernet connected in normal
		Off	Ethernet no connected
LINK	Green	On	Connected to Tx
		Off	No connected to Tx
PoC	Red	On	PoC power On
		Flashing	Over consumption for Coax. cable
		Off	PoC power Off

⑤ **FUNC button:** able to connection Tx and Rx each other to be worked

<How to use FUNC button>

※ In case of first installation for Tx or Rx and replacement, using this for communication Tx and Rx

※ Press FUNC button on Rx about 3 sec. (Flashing PWR LED)

※ Waiting about 1 Min. to be connected Tx and Rx.

※ After On LINK LED, Tx and Rx connection is completed.

4. Connection Diagram

4-1. In case of connecting PoE IP Camera (Transmitter PoE Switch ON)

<Installation Guide>
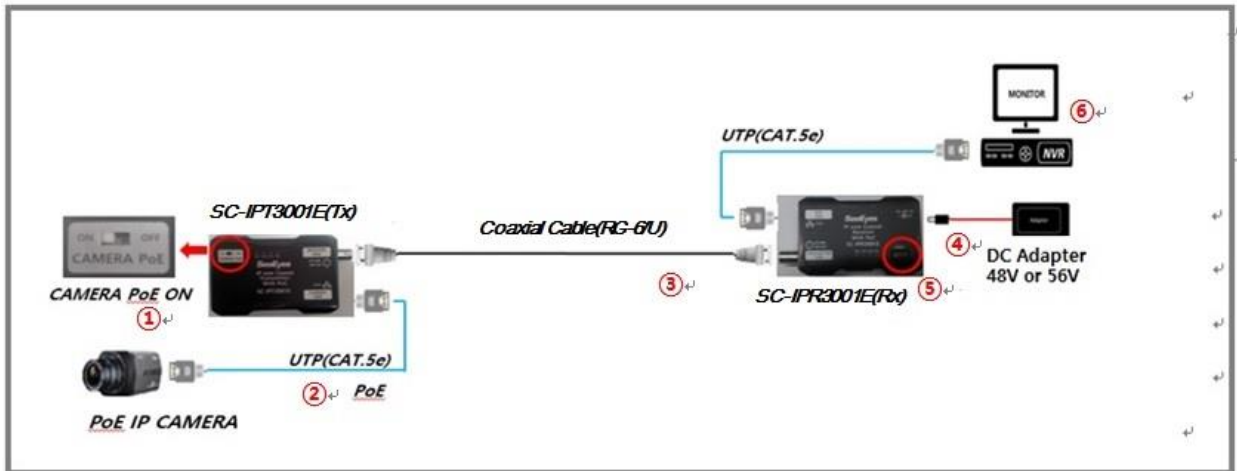
① Setting CAMERA PoE switch ON from SC-IPT3001E(Tx). (PoE LED On)

※ In case of connecting non PoE camera, setting CAMERA PoE switch OFF from Tx.

   Setting CAMERA PoE OFF from Tx

② After connecting IP camera to Tx, connecting Coax. cable between SC-IPT3001E(Tx) and SC-IPR3001E(Rx).

③ After connecting Coax. cable between Tx and Rx, connecting Rx to NVR or PoE Hub.

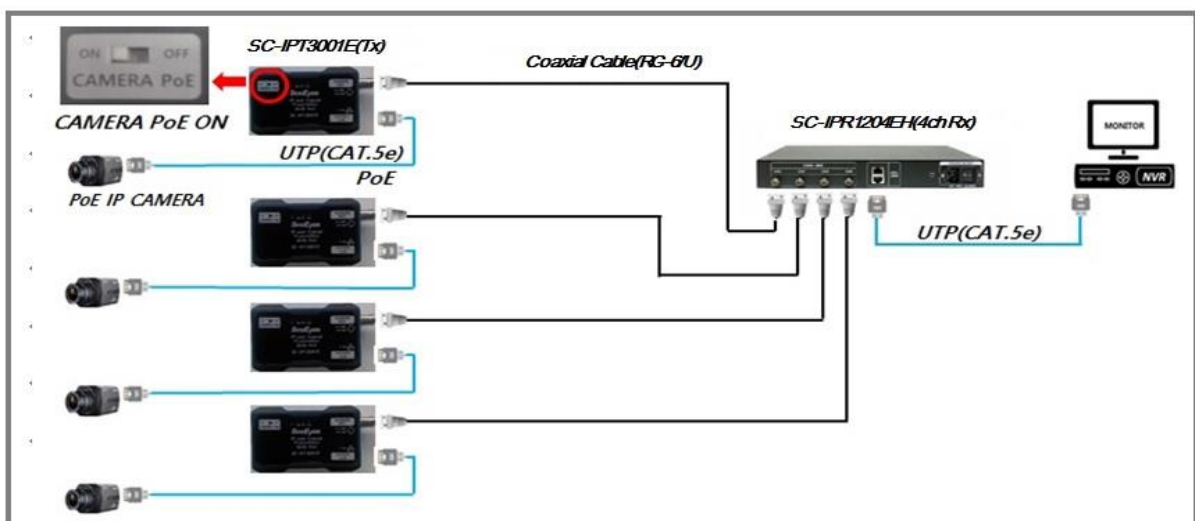④ Input power to Rx by connecting DC power adapter (48V or 56V).

⑤ Press FUNC button about 3 sec. and wait about 1 Min. for communication between Tx and Rx.

   Press FUNC button about 3 sec. from Rx and wait about 1 Min.

⑥ Check camera's video from the monitor connected to NVR. (LINK LED On, ETH LED Flashing)

4-2. In case of connecting SC-IPR1204EH (4ch Rx) (Transmitter PoE Switch ON)

5. Specifications

MODEL		SC-IPT3001E
Power Input		PoC (Power input from SC-IPR3001E by PoC)
Power Output		Supports Non Standard PoE (Type B Only, available PoE SW On/Off)
Transmission Speed		PHY Rate 200Mbps
Connection Port	RECEIVER SIDE	BNC-F, 75Ω
	CAMERA SIDE	RJ-45 (TIA/EIA568B Type)
LED Indicator	PWR	RED LED
	ETH	GREEN LED
	LINK	GREEN LED
	PoE	RED LED
CAMERA PoE SW		Slide Switch
Temperature / Humidity		-10℃ ~ 50℃ / 0 ~ 80%
Case Body / Weight		ABS / 60g
Dimension		90(W) x 55(H) x 24(D)

MODEL		SC-IPR3001E
Power Input		DC 48V/1.04 Adapter or PoE Hub (IEEE 802.3at)
Power Output		PoC (DC 48V)
Power Consumption		Max. DC 48V/900mA
Max. Transmission Distance		RG-6/U (Full Bandwidth): 1400m RG-6/U (Up to 20Mbps): 1800m
Transmission Speed		PHY Rate 200Mbps
Connection Port	TRANSMITTER SIDE	BNC-F, 75Ω
	NVR SIDE	RJ-45 (TIA/EIA568B Type)
	DC 48V IN	DC-JACK
LED Indicator	PWR	RED LED
	ETH	GREEN LED
	LINK	GREEN LED
	PoE	RED LED
FUNC Button (Pairing Func.)		If press FUNC button about 3 sec. PWR LED will be flickering and pairing will be worked (Connection Tx and Rx)
Temperature / Humidity		-10℃ ~ 50℃ / 0 ~ 80%
Case Body / Weight		ABS / 60g
Dimension		90(W) x 55(H) x 24(D)

6. Transmission distance depends on Coax. cable type (unit: m)

Power Watt	Loop resistance by PoE	ECX 5C-2V (High)	ECX 5C-2V (Normal)	5C-HFBT (High)	5C-HFBT (Normal)	5C-HFBT (Low)
3.0W	70.0 Ω	1,650	930	1,680	930	400
6.0W	48.0 Ω	1,130	640	1,150	640	270
9.0W	36.0 Ω	840	480	860	480	200
12.0W	30.0 Ω	700	400	720	400	170
15.0W	24.0 Ω	560	320	570	320	130
18.0W	21.0 Ω	490	280	500	280	120
21.0W	18.0 Ω	420	240	430	240	100
24.0W	16.0 Ω	370	210	380	210	90
27.0W	13.5 Ω	310	180	320	180	70
30.0W	10.5 Ω	240	140	250	140	60

(Cable Loop resistance: Coax. cable)

※ The transmission distance might be different depends on Coax. cable and connector's quality.

※ Depending on camera's power status, the above Watt might be different about 20~30% range.

※ The transmission distance might be different depends on camera and NVR's specification.

※ In case of using PoE func. from Tx, the transmission distance might be different depends on camera's type.

Please use exclusive adapter for high power consumption cameras such like IP PTZ camera and the cameras contains lots of IR LED.

In addition, recommend Network cable's length (distance) between camera and Tx is within 1M.

※ In case of supplying power to Rx by PoE Hub, recommend Network cable's length (distance) is within 1M.

7. Caution of installation

※ Use exclusive power adapter separately for each product and do not recommend to be used single adapter for several products.

※ Do not recommend to be placed products in close and to be tied each other.

※ In case of installing several Rx in close, press pairing button of each product more than 20 sec.
In case of operating pairing func. with placing several Rx in close, the pairing might be done between one Rx and another Rx, so connection to Tx might not be effected.

※ In case of using camera's power adapter, doing PoE OFF from Tx.

※ If the pairing doesn't work properly after pressing FUNC button about 3 sec. from Rx, please press Rx FUNC button again.

8. Trouble Shooting

Symptom	Checking Method
No Power Input	<Tx> • Please check PoC LED is On from Rx and PWR LED is On from Tx. • Please check connections status of Coax. cable. <Rx> • Please check PWR LED is working normally. • Please check input status of power adapter or PoE Hub. • Please check whether using exclusive adapter (DC 48V/1.04A) or not.
No Display Video	• Please check whether LINK LED is On and ETH LED is flashing or not. If LED is Off, please press FUNC button from Rx about 3 sec and check again whether PWR LED is flashing and pairing is working properly or not. • Please check whether the transmission distance is within the recommended distance or not. • Please check the Network Cable's array is correct or not. • In case of using PoE Func. from Tx, please check whether PoE LED is On or not. If LED is Off, please set PoE switch ON.
Supplying PoE power is not effected	• Please check PoE switch status from Tx. • Please check whether PoE LED is On or not from Tx. • Please check the Network Cable's array is correct or not. • Please check IP CAMERA has PoE function or not.
Abnormal NETWORK Connection Status	• Please check the Network Cable's array is correct or not. • Please check if there are Walkie-Talkies or any device which has strong waves placed near. • Please check the Network configuration is correct or not.
Abnormal Video Status	• Please check connection status of Coax. cable and Network cable. • Please check compatibility status between NVR and camera. • Please check camera's performance status.

9. Warranty Certificate

Model No.	
Serial No.	
Date of purchase	
Place of purchase	
User's Info	Name
	Address / Tel No
Warranty Period	Two (2) years from the date of purchase

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

- Contact your distributor after checking out any defect in the products.
- Warranty covers only those defects that arise as a result of normal use of the product and repair service free of any charge will be provided according to the warranty certificate.
- We charge you with the fee for parts and services provided despite of free warranty service period in case of :

    - Breakage or trouble made by natural disaster (ex, Thunderstroke, etc)
    - Breakage or trouble made by breaking the product guide or manual.
    - Breakage or trouble made by wrong power voltage or frequency.
    - 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.

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