SAMSUNG TECHWIN

COAXIAL REMOTE CONTROLLER

User Manual

SPC-300

COAXIAL REMOTE CONTROLLER
User Manual

Copyright
©2009 Samsung Techwin Co., Ltd. All rights reserved.

Safety information

CAUTION
RISK OF ELECTRIC SHOCK.
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol indicates that dangerous voltage consisting a risk of electric shock is present within this unit.

This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING

- To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

WARNING

1. Be sure to use only the standard adapter that is specified in the specification sheet. Using any other adapter could cause fire, electrical shock, or damage to the product.

2. Incorrectly connecting the power supply or replacing battery may cause explosion, fire, electric shock, or damage to the product.

3. Do not connect multiple controllers to a single adapter. Exceeding the capacity may cause abnormal heat generation or fire.

4. Securely plug the power cord into the power receptacle. Insecure connection may cause fire.

5. When installing the controller, fasten it securely and firmly. The fall of controller may cause personal injury.

6. Do not place conductive objects (e.g. screwdrivers, coins, metal parts, etc.) or containers filled with water on top of the controller. Doing so may cause personal injury due to fire, electric shock, or falling objects.

7. Do not install the unit in humid, dusty, or sooty locations. Doing so may cause fire or electric shock.

8. If any unusual smells or smoke come from the unit, stop using the product. In such case, immediately disconnect the power source and contact the service center. Continued use in such a condition may cause fire or electric shock.

9. If this product fails to operate normally, contact the nearest service center. Never disassemble or modify this product in any way. (SAMSUNG is not liable for problems caused by unauthorized modifications or attempted repair.)

10. When cleaning, do not spray water directly onto parts of the product. Doing so may cause fire or electric shock.

Safety information

CAUTION

1. Do not drop objects on the product or apply strong blows to it. Keep away from a location subject to excessive vibration or magnetic interference.

2. Do not install in a location subject to high temperature (over 50°C), low temperature (below -10°C), or high humidity. Doing so may cause fire or electric shock.

3. If you want to relocate the already installed product, be sure to turn off the power and then move or reinstall it.

4. Remove the power plug from the outlet when there is a lighting storm. Neglecting to do so may cause fire or damage to the product.

5. Keep out of direct sunlight and heat radiation sources. It may cause fire.

6. Install it in a place with good ventilation.

7. Avoid aiming the controller directly towards extremely bright objects such as sun.

8. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

9. The Mains plug is used as a disconnect device and shall stay readily operable at any time.

Important Safety Instructions

1. Read these instructions.

2. Keep these instructions.

3. Heed all warnings.

4. Follow all instructions.

5. Do not use this apparatus near water.

6. Clean only with dry cloth.

7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8. Do not install near any heat sources such as radiators, heat registers, or other apparatus (including amplifiers) that produce heat.

9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11. Only use attachments/accessories specified by the manufacturer.

12. Use only with cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.

13. Unplug this apparatus when a card is used. Use caution when moving the cart/ apparatus combination to avoid injury from tip-over.

14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as powersupply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Contents

INTRODUCTION

This remote controller can control A1 series cameras through A1 coaxial connection, and can control COAXITRON supporting cameras through COAXITRON communication.

❖ **Features**

- **Long-distance remote control**
  Through RS-485 communication, remote control is possible up to 1.2 kilometers.

- **Easy Control**
  Easy and simple 5-way keys for controlling the camera.

❖ **List of controllable models**

- Capable of controlling A1 series camera products.

- You can control cameras supporting COAXITRON.

❖ **What's Included**

<Controller>   <User Guide>

Introduction

PART NAMES AND FUNCTIONS

❖ **Front Panel**
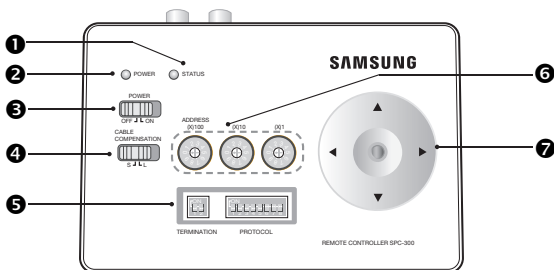
❶ STATUS LED

- Displays the status of the current operation.

❷ POWER LED

- Switch to select the power source from DC 12 V or 4 AA batteries.

❸ POWER Switch

- If you slide it to **ON**, the controller turns on.

❹ CABLE COMPENSATION Switch

- For long distance coaxial communications, you can use this switch for amplifying the control signal.

❺ RS-485 TERMINATION & PROTOCOL Setting Switch

- You can select to set the RS-485 termination (left 2-pin piano switch).
- To set the RS-485 termination (left 2-pin piano switch), turn the switch ON.

TERMINATION   PROTOCOL
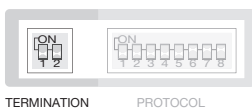
Introduction

- For multi-protocol settings, you can set the protocol (right 8-pin piano switch),
  baud rate, and communication mode of COAXIAL/COAXITRON/RS-485/RS-232.
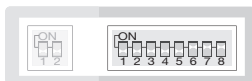
TERMINATION   PROTOCOL

- Use pin 1,2,3 of the Protocol setting switch to select a protocol.

- The protocol switch pin 4 sets the protocol to COAXIAL or COAXITRON.

- Use pin 5,6 of the Protocol setting switch to select a baud rate.

- The protocol switch pin 7 sets the protocol to COAXIAL (BNC communication)
  or RS-485 output.

- Use pin 8 of the Protocol setting switch to select RS-232 input.

⑥ Address Switch

- For RS-232 / RS-485 communications, you can use this switch to set the address.
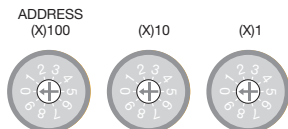
ADDRESS
(X)100   (X)10   (X)1

- Set the address by using three switches shown above.

- From the left, the number is hundreds, tens and ones place, respectively.
  The effective range of valid address is between 0 and 255 (1~255 for multi-
  protocol).

⑦ Menu Navigation Key

Use this to navigate through the menus.

✎ NOTE
■ For further details on ON/OFF setting of each switch for the applicable configuration,
  refer to SPC-300 Connection and Control section.

English **9**

Introduction

PART NAMES AND FUNCTIONS

❖ **Rear Panel**
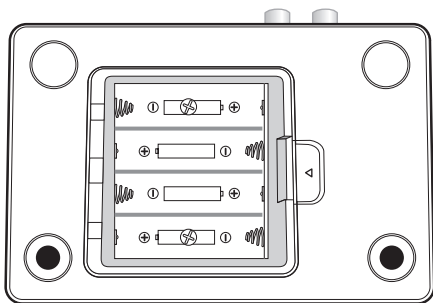
- AA BATTERY
  You can use 4 AA-sized batteries for the power.

- The average operation time is 20 hours based on the alkaline battery.
  (If the battery is discharged, it can cause a distortion of the video signal, or electric interference.)

✎
NOTE
- Remove the battery if you do not use the controller for a longer period. Otherwise, it may cause damage to the controller from a leak of the battery solution.

- Take caution not to change the specified polarity.

- Do not use a new battery with an old one.

- For storing used batteries, keep out of reach of children. Wasted batteries are to be collected separately.

❖ **Top**
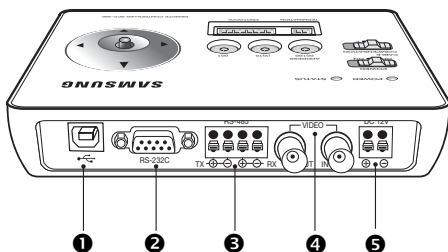
❶ USB Port

- This terminal is used for updating the product's firmware.

❷ RS-232 Port (9-pin D SUB)

- Used to control remotely using RS-232 communication.

❸ RS-485 Port (4-pin)

- Used to control remotely using RS-485 communication.

❹ VIDEO IN/OUT Connector (BNC)

- **VIDEO IN** receives coaxial communication from cameras, and **VIDEO OUT** outputs the video signal.

❺ DC12V Power Connector (2-PIN)

- Used for connecting DC12V power source.

Installation

CHECKING INSTALLATION ENVIRONMENT

- Please check the following instructions before installation for your safety.

- The way of connecting the main product with external devices (COAXIAL BNC) is very important to build up a proper system.

- Do not disassemble the unit; doing so could expose you to dangerous high voltage points.

INSTALLATION PRECAUTIONS

- Make sure you turn off the product before installation.

- Do not put a strong force on or shake the product; otherwise it may cause malfunction.

- Keep the product away from areas of strong magnetic field or electric interference, or wireless devices such as radio or TV set.

- Keep clean the installation place during and after the installation.

- An abnormal smells from the product is a sign of abnormal condition, which may cause fire or electric shock. In this case, disconnect the product from the main power immediately and contact the retailer for technical help from authorized servicing.

- Keep the product away from a wet floor, do not use an unearthed power extension cable, worn-out power cord, neither forget earth-grounding.

- Use a dry cloth only to dirt off the product. If the product is badly dirty, apply neutral detergent on a cloth that is used to dirt off, and wipe it out with a dry cloth.

- Do not use volatile substances such as alcohol, benzene or thinner as these may damage the finish.

Connection & Control

TO CONTROL THE CAMERA USING CONTROL MENU KEYS AND COAXIAL / COAXITRON OUTPUT
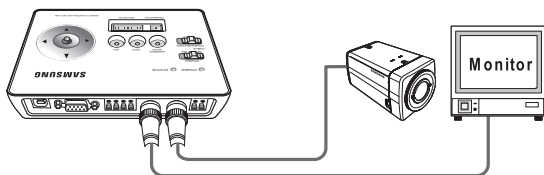
1. Connect the product to DC 12V power source or insert 4 AA-sized batteries into the battery compartment.
   (Power can be supplied via USB cable connection.)

2. Connect the **VIDEO IN** of the unit and **VIDEO OUT** of the AI Camera directly.
   – The A1 camera and SPC-300 should be directly connected to the VIDEO IN.

3. Connect **VIDEO OUT** of the main unit to a monitor's video input terminal.

4. You can control camera menu after setting the switch as shown below:

	PIN 4	Output Selection
PROTOCOL	ON	COAXITRON
	OFF	A1 COAXIAL

	PIN 7	Output Selection
PROTOCOL	ON	COAXIAL OUT
	OFF	RS-485 OUT

   – Select the coaxial output by using the protocol switch pin 7.
     The pin 7 coaxial / RS-485 has the output priority.
   – To select from COAXIAL or COAXITRON, use the pin 4.

❖ You can use the menu as following :

   – Press and hold [**ENTER**]: Moves to the main menu screen.
   – Press [**ENTER**] briefly: Used to confirm the current settings.
   – Four Direction Keys: Used to move the cursor up/down or left/right.

NOTE
■ No address setting is required for connecting COAXIAL / COAXITRON camera and SCP-300.
■ If not in menu control, it operates ZOOM/FOCUS function for COAXIAL output. If not in menu control, it operates PAN/TILT function for COAXITRON output.
■ For COAXIAL control, the camera should be set to SAMSUNG-E protocol.
■ When controlling COAXITRON menu while the menu is turned on, press and hold ENTER key to exit the menu screen.

Connection & Control

TO CONTROL THE CAMERA USING RS-485 INPUT AND COAXIAL / COAXITRON OUTPUT
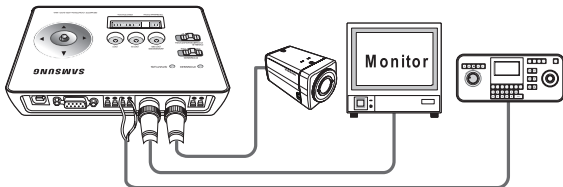
1. Connect the product to DC 12V power source or insert 4 AA-sized batteries into the battery compartment.
   (Power can be supplied via USB cable connection.)

2. Connect the **VIDEO IN** of the unit and **VIDEO OUT** of the AI Camera directly.

   – The A1 camera and SPC-300 should be directly connected to the VIDEO IN.

3. Connect **VIDEO OUT** of the main unit to a monitor's video input terminal.

4. Connect **TX(+/-)** of RS-485 device to **RX(+/-)** of the main unit.
   (For a full duplex system, connect **RX(+/-)** of RS-485 device to **TX (+/-)** of main unit additionally.)

5. Use a combination of pin 1,2,3 of the Protocol setting switch to select a protocol.
   – Refer to the switch configuration table. (See page 18)

6. Using RS-485 device, you can control the camera menu.

> NOTE
> ■ Each mentioned protocol may require updating the firmware from the website.
> ■ By factory default, protocols of SAMSUNG-E, SAMSUNG-T and PELCO-D/P are supported.
> ■ To support additional protocol, access the website to update the program.
> ■ RS-232 and RS-485 communications cannot be used simultaneously.
> ■ COAXIAL and COAXITRON cannot be used simultaneously.
> ■ RS-485 input and COAXITRON control supports SAMSUNG-E and SAMSUNG-T protocols only, while COAXIAL control supports all protocols.
> ■ For COAXIAL control, the camera should be set to SAMSUNG-E protocol.

TO CONTROL THE CAMERA USING RS-232 DEVICE VIA COAXIAL COMMUNICATIONS
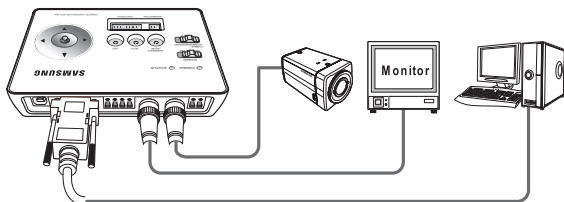
1. Connect the product to DC 12V power source or insert 4 AA-sized batteries into the battery compartment.
  (Power can be supplied via USB cable connection.)

2. Set the protocol switches 7 and 8 to **ON**.

3. Connect the **VIDEO IN** of the unit and **VIDEO OUT** of the AI Camera directly.

  – For proper data communication, the unit and AI camera should be connected directly.
  (If you connect a DVR or keyboard in the middle of the main unit and AI camera, bidirectional communication will not be established.)

4. Connect **VIDEO OUT** of the main unit to a monitor's video input terminal.

5. Connect the RS-232 device's cable to the RS-232 port of the main unit.

6. Using RS-232 device, you can control the camera menu.

  – The RS-232 device is the same as RS-485 regarding the protocol setting, but supports only the Samsung protocol.

  – For proper coaxial communication, AI camera should be set to Samsung protocol. Refer to the switch settings. (See page 18)
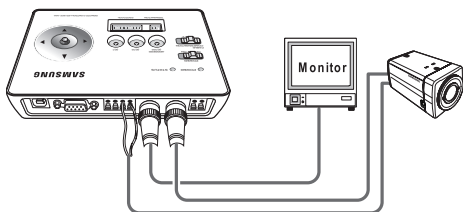

◇ ■ RS-232 and RS-485 communications cannot be used for simultaneous input.
NOTE
■ RS-232 device control supports SAMSUNG-E protocol only.

English **15**

Connection & Control

TO CONTROL THE CAMERA USING RS-485 OUTPUT AND CONTROL MENU KEYS

1. Connect the product to DC 12V power source or insert 4 AA-sized batteries into the battery compartment.
   (Power can be supplied via USB cable connection.)

2. Connect the **RX(+/-)** of the unit to the **RS-485 (+/-)** port of the camera.

3. Match the camera's address, baud rate, and protocol to the same to those of the unit.

   - For address switch, refer to the page 8.

3. Now you can control the camera by using the menus.

❖ You can use the menu as following :

   – Press and hold [**ENTER**]: Moves to the main menu screen.
                              To exit the menu screen, press and hold the key again.

   – Press [**ENTER**] briefly: Used to confirm the current settings.

   – Four Direction Keys: Used to move the cursor up/down or left/right.

   – Control of pan/tilt/zoom using the buttons is not supported.
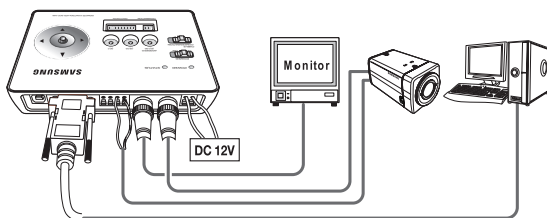

NOTE
■ RS-232 and RS-485 communications cannot be used simultaneously.
■ 5-direction key (control menu) only supports A1 camera's menu control.

TO CONTROL THE CAMERA USING RS-485 SIGNAL OUTPUT VIA RS-232 COMMUNICATIONS

1. Connect the product to DC 12V power source or insert 4 AA-sized batteries into the battery compartment.
   (Power can be supplied via USB cable connection.)

2. Set the protocol switch 8 to **ON**.

3. Connect the **RX(+/-)** of the unit to the **RS-485(+/-)** port of the camera.

4. Match the camera's address, baud rate, and protocol to the same to those of the unit.

   − RS-232 device control supports SAMSUNG-E protocol only.

5. Connect the RS-232 device's cable to the RS-232 port of the main unit.

6. Using RS-232 device, you can control the camera menu.

✎ NOTE
- RS-232 and RS-485 communications cannot be used for simultaneous input.
- For the switch settings, see the switch setting table. (See page 18)
- Input of video signal is required to control RS-485.

Connection & Control

SWITCH SETTING TABLE

❖ Use a combination of pin 1,2,3 of the Protocol setting switch to select a protocol.
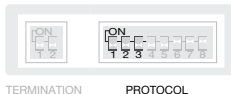
TERMINATION **PROTOCOL**

Protocol Setting Switch (0 :↓, 1 :↑)			Protocol	HALF/FULL	Software Type (A, B, C, D)
PIN 1	PIN 2	PIN 3			
0	0	0	SAMSUNG-E	HALF	ALL
1	0	0	SAMSUNG-E	FULL	ALL
0	1	0	SAMSUNG-T	SIMPLEX	A
1	1	0	SAMSUNG-T	FULL	A
0	0	1	PELCO-D	SIMPLEX	A
1	0	1	PELCO-D	FULL	A
0	1	1	PELCO-P	SIMPLEX	A
0	0	1	PANASONIC	HALF	B
1	0	1	PANASONIC	FULL	B
0	0	1	HONEYWELL	SIMPLEX	C
1	0	1	HONEYWELL	FULL	C
0	0	1	VICON	HALF	D
1	0	1	VICON	FULL	D
0	1	1	AD	SIMPLEX	D
1	1	1	AD	FULL	D

❖ Use pin 4, 7 and 8 of the Protocol setting switch to set the coaxial output.

	PIN 4	Output Selection
PROTOCOL	ON	COAXITRON
	OFF	A1 COAXIAL

	PIN 7	Output Selection
PROTOCOL	ON	COAXIAL OUT
	OFF	RS-485 OUT

	PIN 8	RS-232 input
PROTOCOL	ON	RS-232 input
	OFF	RS-232 No use

✎ ■ Setting of the PIN 7 overrides that of PIN 4.
NOTE

– See the following table to set the baud rate.

TERMINATION   **PROTOCOL**

BAUD RATE	PIN 5	PIN 6
38400 BPS	OFF	OFF
19200 BPS	ON	OFF
9600 BPS	OFF	ON
4800 BPS	ON	ON

Specifications

SPECIFICATIONS

Item		Description
COAXIAL	Communication Method	COAXIAL / COAXITRON INTERFACE
	Range	Max. 500m (with 5C-2V cable)
RS-232	Connector Type	D-SUB 9P
	Port	1 Port
	BAUD RATE	4800/9600/19200/38400bps (Only Samsung protocol supported)
RS-485	Connector Type	4P Terminal Type
	Port	1 Port
	BAUD RATE	4800 / 9600 / 19200 / 38400 bps
USB PORT(USB2.0)		S/W PROGRAM UPLOAD
VIDEO IN/OUT		Composite Video 1.0Vp-p, 75ohm, Cable Compensation out (Select:S/L)
Multi-protocol (Supports 4 programs)		A) SAMSUNG-E, SAMSUNG-T, PELCO-D/P B) SAMSUNG-E, PANASONIC C) SAMSUNG-E, HONEYWELL D) SAMSUNG-E, VICON, AD
Environmental Conditions	Operating Temp.	-10°C ~ +50°C
	Humidity	Less than 90%
POWER		DC12V ± 10%
DIMENSIONS (WxHxD)		150(W) X 36(H) X 102(D)
WEIGHT	NET	200 g

Specifications

DIMENSIONS

Unit (mm)

SAMSUNG