CAT5 SWITCHER

KE811CT(w-type)

Instruction Manual

Thank you for your purchase of this product

Please be sure to read this manual completely prior to usage of this product.

Ver 1.0E

RGB Interface Cable

Use of a RGB interface cable longer than 3 m (9.84 feet) is not recommended.

For U.S.A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

For CANADA

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Usage Cautions

Please be sure to read this manual prior to usage of product. After reading, keep it in a place near the equipment where it can be easily referred to.

Warning ⚠	• If this symbol is ignored death or serious injury may occur.
Caution ⚠	• If this symbol is ignored injury or property damage may occur.

Explanation of symbols

● Shows caution (including warning)

● Shows an action that should be done.


General caution


Keep hands clear


General indication


Unplug the power cord

● Shows an action that should not be done.


Prohibited


Do not expose to water


Do not use in a wet place


Do not attempt to take apart


Do not touch


Do not touch with wet hands

● We are not responsible for damages to an image or sound transmitted by our product caused by the products malfunction or any other outside factor.

⚠ Warning

◆Do not continue to use this product if any of the following occurs :

※It may cause fire or electric shock.

- If you smell a strange odor or smoke.
- If water or a foreign object gets inside the product.
- After dropping the product.
- If the power cord is damaged. (exposure of core cable, severed cable)

◆If any of the above should occur immediately turn the power off and unplug the power cord. Contact the manufacturer or dealer who installed this product for repair.

◆Do not place on an unsteady surface.

※Do not place on a sloped or unstable surface.
It can cause serious injuries.

◆Do not attempt to repair the product by yourself under any circumstances.

◆Do not use this product except for the specified voltage and current (AC100～240V).

※May cause fire or electric shock.

◆Do not stick any foreign objects into the product.

※May cause fire or electric shock.

◆Do not allow the product to get wet.

※May cause fire or electric shock.

◆Do not touch the power cord during a thunder storm.

※May cause electric shock.

◆Plug the product into an outlet that can be easily reached.

※Unplug the product if trouble occurs.

◆Be sure to completely insert the power cord plug into the outlet.

※Short circuiting or the generation of heat may cause fire or electric shock. Do not connect many cords into one outlet.

◆Do not damage the power cord.

※May cause fire or electric shock.

- Do not modify the power cord.
- Do not pull or bend the power cord.
- Do not place a heavy object or this product on the cord.
- Do not place the power cord close to a source of heat.

Caution

◆Do not put this product in the following places.

※May cause fire or electric shock.

- Places where there is a lot of humidity or dust.
- Places where there is steam.
- Near places which generate heat.
- Places where water may come into contact with the product.

◆Turn off the power and follow all instructions , when connecting this product to other devices.

※Failure to use the recommended cables may cause generation of heat or fire.

◆Do not cover the ventilation holes.

※Doing so may cause the product to overheat, which can cause fire or damage to the product.

- Do not leave the product laying on its side or turn it upside down.

※Do not cover the ventilation holes or stick foreign objects into this product as it will cause damage.

◆Disconnect all cables before moving this product.

※The cables can be damaged and fire or electric shock may occur if not disconnected.

◆Do not place a heavy object on this product.

※Placing a heavy or oversized object on the product may cause injury as a result of it falling.

◆Disconnect the power cord when the product will not be used for a long time.

※ Disconnect the power cord for safety purposes and to lower energy consumption.

◆Unplug the product when servicing.

※Electric shock can occur even though the product is turned off as current is still flowing from the power cord.

◆Do not unplug the device by pulling on the power cord.

※Pulling on the power cord may damage the cord or cause a fire or electric shock. Please pull on the plug body.

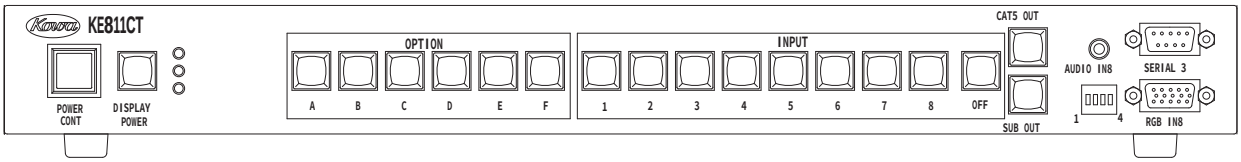
◆Do not disconnect or connect the power plug with wet hands.

※May cause electric shock.

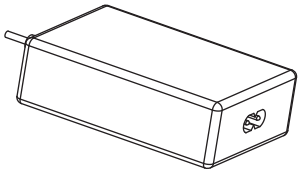
Index

1.About this product (KE811CT(w-type))

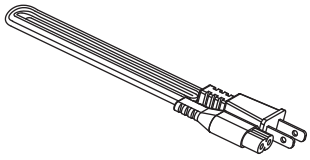
1-1. Product and accessories
Please check that you have the accesories and items shown.



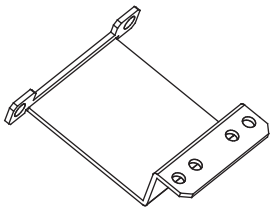
Main unit of KE811CT(w-type)



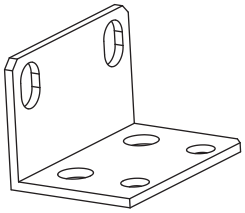
AC adapter



Power cord



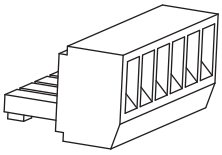
Cable mounting kit



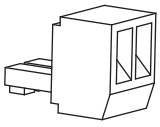
Rack mounting kit ×2

Screw×4

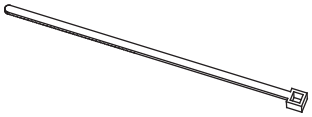
Screw×4



Terminal 6-pin×2



Terminal 2-pin×2



Fixing bands×2

Instruction Manual
(This booklet)

1-2 General Information

This product, KE811CT(w-type), is a transmitter for long distance transmission of one line selected from RGB video, component video or composite video through a twisted pair cable (CAT5e or CAT6). In addition to video , one line of audio (stereo) , and serial command (*1) can be transmitted through a serial port.
By INPUT switch, it is possible to control PDP or projector at the same time as switching of video and audio .
(*1) Beforehand registered serial command is transmitted.

The minimum recommended transmission distance is 10m(32.8ft). The maximum recommended transmission distance depends on the refresh rate and resolution. The transmission distance (when using our recommended cable) is as follows.

Name of signal	Transmission distance
Audio signal/serial data	：10～300m(32.8～984.2ft)
Composite signal	：10～300m(32.8～984.2ft)
YPbPr／YCbCr	：10～300m(32.8～984.2ft)
640×480	：10～200m(32.8～656.1ft)
800×600	：10～180m(32.8～590.5ft)
1024×768	：10～150m(32.8～492.1ft)
1280×1024	：10～120m(32.8～393.7ft)
1600×1200	：10～100m(32.8～328ft)

Recommended cable : OKTP-E5-P-AWG24x4P
(OKANO ELECTRIC WIRE CO.,LTD)

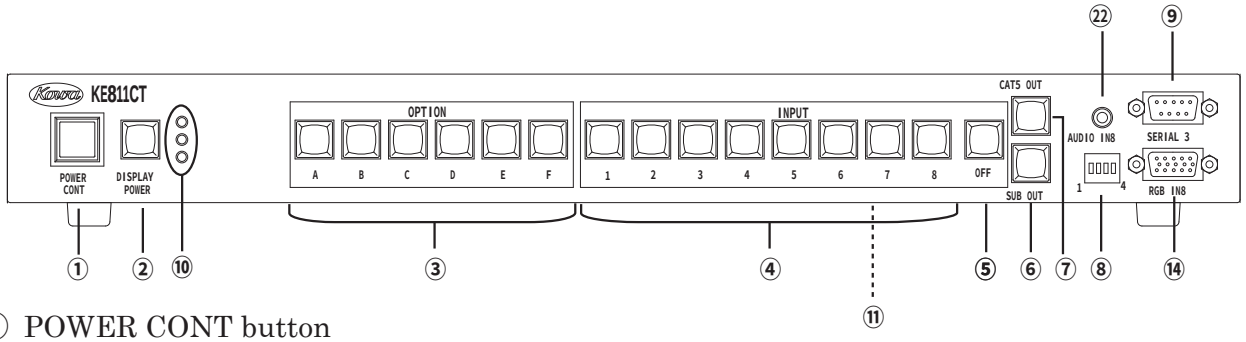
The features of this product are below mentioned.

- Transmitting one line for twisted pair (2 distributed outputs) and one line for monitor independently selected from video (three composite and one component signals) 4 inputs and RGB 4 inputs.
  Audio and command are transmitted at the same time.
- Beforehand registered (*2) command can be transmitted by pressing of INPUT buttons.
- Command transmission may be allocated to DISPLAY POWER, OPTION and INPUT buttons.
- Screen etc.. can be controlled by contact output in conjunction with OPTION button selecting.
- Tally output of rear panel is transmitted synchronizing with buttons.
- This product can be controlled by serial communication and parallel input.

(*2) Exclusive software is required to register commands.

2. The name and function of each parts

2-1. Front panel



① POWER CONT button

This button controls external power. When this button is pushed,the signal (photo MOS relay make contact)is output from connector for POWER CONT. (This button is not for the product.)
This button can be synchronized DISPLAY POWER button.
At synchronization mode, DISPLAY POWER buttons of CAT5 OUT, SUB OUT are ON when POWER CONT button is ON.
(Please refer to "4-2. The setting of bottom dip switch.")

② DISPLAY POWER button

This button control the power of equipments connected to CAT5 OUT and SUB OUT (SERIAL 2) of rear panel. (Beforehand serial command should be registered.)
CAT5 OUT and SUB OUT(SERIAL 2) can be controlled independently.
Command is transmitted to SUB OUT(SERIAL 2) when DISPLAY POWER button is pressed after pressing SUB OUT button.
Command is transmitted to CAT5 OUT when DISPLAY POWER button is pressed after pressing CAT5 OUT button.

③ OPTION button

When this button is pushed, the signal (photo MOS relay make contact)is output from connectors for OPTION A-F .Output can be selected momentarily or alternately.
The equipments connected to CAT5 OUT and SUB OUT(SERIAL 2) of rear panel can be controlled in command. (Please refer to "4-2. The setting of bottom dip switch.")
Command is submitted to both of CAT5 OUT and SUB OUT(SERIAL 2).

④ INPUT button

Video and audio which are transmitted to CAT5 OUTor SUB OUTcan be selected.
button 1-3 are for composite video, button 4 is for component video, button 5-8 are for RGB video.
CAT5 OUT and SUB OUT can transmit a video, a audio, and a command separately.
Video, audio and command are transmitted to SUB OUT when INPUT 1-8 buttons are pressed after pressing SUB OUT button.
Video, audio and command are transmitted to CAT5 OUT when INPUT 1-8 buttons are pressed after pressing CAT5 OUT button.

⑤ OFF button

Output of video and audio become OFF. Press again to release or press INPUT button to release.

⑥ SUB_OUT button

SUB output is selected.

⑦ CAT5_OUT button
CAT5 output is selected.

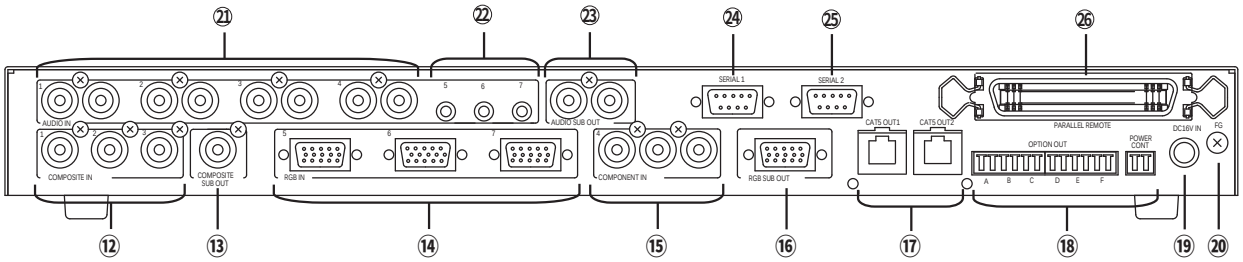
⑧ Front Dip Switch
Please refer to "4-1. The setting of front dip switch."

⑨ SERIAL_3
DB9 connector for serial communication.
This connector is used to register commands into the product.
(Please refer to "5-2 Connection of RS232C cable.")

⑩ Front LED
Yellow LED : It does not light.
Green LED : It lights when command mode is ON.
Orange LED : It lights when SERIAL1&3 are transmitting or receiving.

⑪ Bottom dip switch
Option setting is available,etc...
(Please refer to "4-2. The setting of bottom dip switch.")

2-2. Rear panel



⑫ COMPOSITE IN 1-3
RCA connector, video input connectors.
Input connectors for composite video.
These connectors are corresponding to INPUT 1-3 at front panel.
※Please use a cable under 3m(9.84feet) in length when connecting.

⑬ COMPOSITE SUB OUT
RCA connector, video output connector for SUB OUT.
The video inputs into COMPOSITE IN can be transmitted to SUB .
※Please use a cable under 3m(9.84feet) in length when connecting.

⑭ RGB IN 5-8
15pin HD female, video input connector.
For RGB video input connector (not for GonSYNC).
RGB IN 8 is located at front panel ⑭.
These connectors are corresponding to INPUT 5-8 on front panel.
※Please use a cable under 3m(9.84feet) in length when connecting.

⑮ COMPONENT IN 4
RCA connector, video input connector for SUB OUT.
For component video input connector.
These connectors are corresponding to INPUT 4 on front panel.
※Please use a cable under 3m(9.84feet) in length when connecting.

⑯ RGB_SUB_OUT
15pin HD female, video output connector for SUB OUT.
The video input to RGB IN or COMPONENT IN can be transmitted to SUB.
※Please use a cable under 3m(9.84feet) in length when connecting.

⑰ CAT5_OUT1, CAT5_OUT2
RJ-45 twisted pair connector for CAT5 OUT.
The video input to COMPOSITE IN, RGB IN or COMPONENT IN can be transmitted to CAT5.
CAT5e or CAT6 cable connected between this connector and CAT5 receiver.
2 outputs are available.

◆Warning
Do not connect the receiver which is not recommended.

⑱ OPTION OUT A-F, POWER CONT
Terminal connector for OPTION and POWER CONT.
These outputs are corresponding to POWER CONT, OPTION A-F at front panel.
Output is relay (MOS output).

⑲ DC16V_IN
Connecter for power input.
DC16V AC adapter is connected.

◆Warning
The enclosed AC adapter must be used for this product.

⑳ FG
The screw for frame ground.

㉑ AUDIO IN 1-4
RCA connector for audio input connector.
These connectors are audio input connector.
These connectors are corresponding to INPUT 1-4 at front panel.
※Please use a cable under 3m(9.84feet) in length when connecting.

㉒ AUDIO IN 5-8
Mini-jack for audio input.
These connectors are for audio input.
AUDIO IN 8 is located of front panel㉒.
These connectors are corresponding to INPUT 5-8.
※Please use a cable under 3m(9.84feet) in length when connecting.

㉓
AUDIO SUB OUT
RCA connector , audio output for SUB OUT.
These connectors are for audio output.
The audio output into AUDIO IN can be transmitted to SUB .
※Please use a cable under 3m(9.84feet) in length when connecting.

㉔
SERIAL 1
DB9 connector for serial communication.
Serial communication is available.
Through this connector, the product can be controlled.
Straight cable is needed when this product is connected Personal Computer.
(Please refer to "5-2 Connection of RS232C cable.")

㉕
SERIAL 2
DB9 connector for serial communication.
Commands, which were beforehand registered, can be transmitted.
(Please refer to "5-2 Connection of RS232C cable.")

㉖
PARALLEL REMOTE
Ribbon connector, 50pin.
This product can be controlled by contact input.
Input-pin is non-voltage contact.
Output-pin is open-collector.

3. Connection

3-1.The cautions and warnings

◆Cautions

- Use the recommended a twisted-pair cable for this product for best results.
  (OKANO ELECTRIC WIRE CO.,LTD: OKTP-E5-P-AWG 24x4P)
  When a cable other than the recommended cable is used, make sure that the characterisitcs and functionality of the cable is fully understood before use.
- When cable length is longer than the recommendation distance indicated in the "1-2 General information", quality of the image may deteriorate.Please note that use beyond the recommended distance will require outside support.
- If a twisted-pair cable is laid near a power supply line with a lot of noise, the image may flicker. In this case, run the twisted-pair cable away from the power supply line.
- If this product is connected to an AC power supply with noise, the image may flicker. In this case, use an AC wall socket type noise filter.
- Use the cable mounting kits, when undesirable force will be applied to the twisted pair connectors of this product. **(Please refer to "3-3. Cable mounting kit,Rack mounting kit.")**

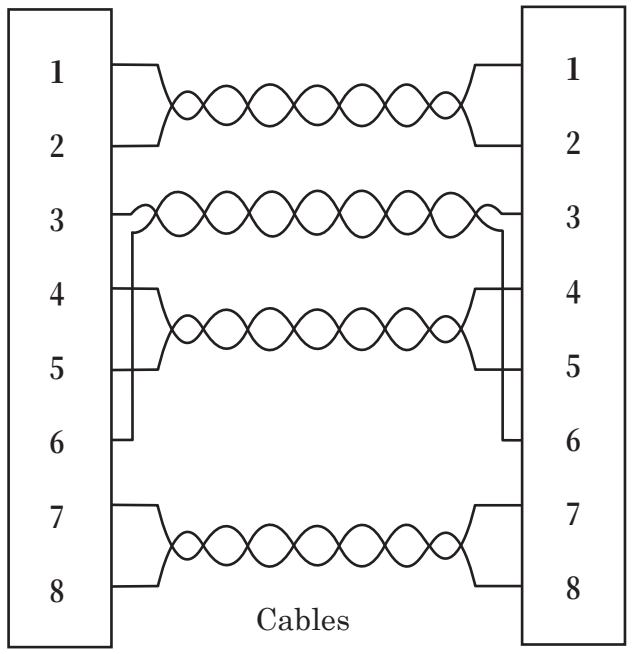
◆Warnings

- Do not connect any unauthorized product to the extension input/output connectors of this product or twisted pair receiver, as it can cause damage to this product or twisted pair receiver. Kowa is not responsible for any damage or injury caused as a result of improper use.
- Turn off this product, receiver, and any products that is connected to the devices when removing or installing twisted pair cables. Failure to do so can cause damage or failure of the products.

3-2.Preparation of a cable

A CAT5e or CAT6 cable is used to connect this product and twisted pair receiver.
This product and receiver are connected straight through as shown in the diagram below.

※ Please keep the combination of the pair lines as follows. If the combination of a pair line is incorrectly installed , there is a possibility that the quality of the image may deteriorate.

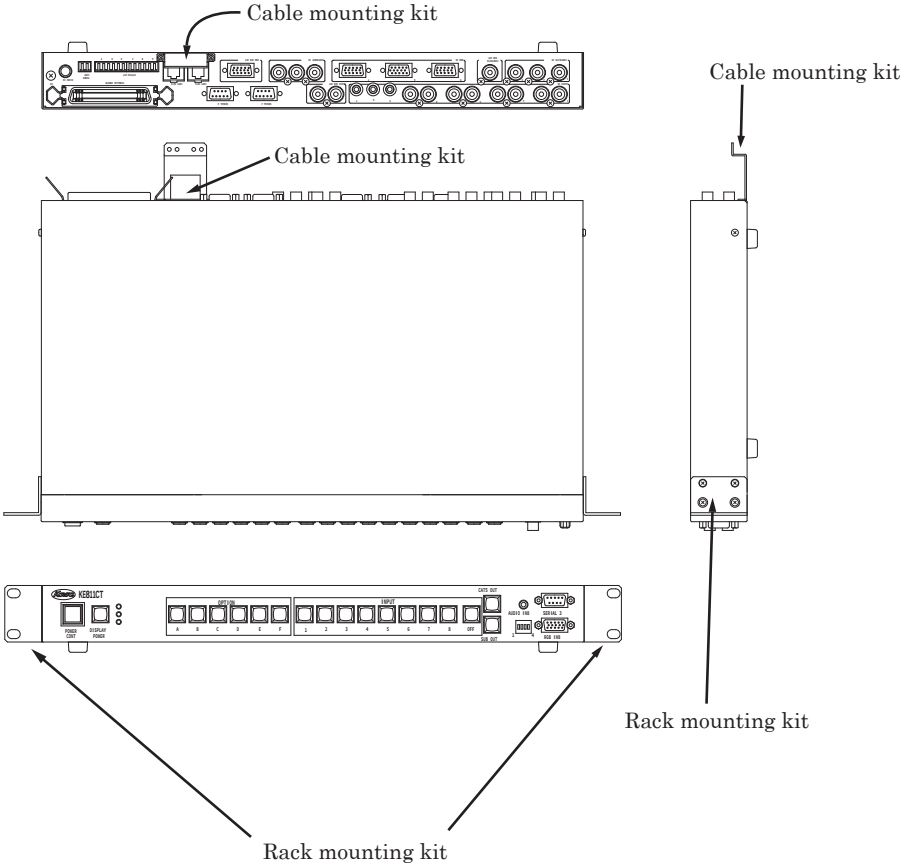


1,2…pair 1
3,6…pair 2
4,5…pair 3
7,8…pair 4

3-3. Cable mounting kit and rack mounting kit

A mounting kit for the twisted-pair cable is enclosed with this product.
Use the following diagram to attach the mounting kit.

Diagram for attachment



◆Cautions

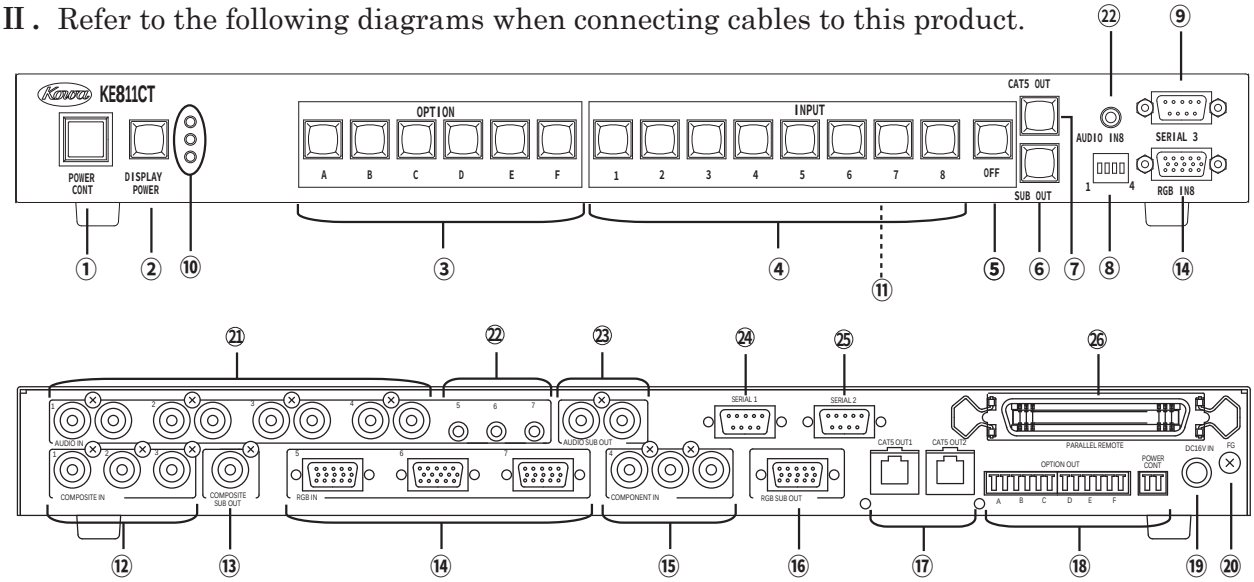
- The temperature inside the rack must not exceed 40℃.
- Secure the rack mounting kits to this product and the rack using the supplied screws.
- Loads other than this product must not weight on the rack mounting kits.
- The power cord and AC adapter must be used in the rating.

3-4. How to connect

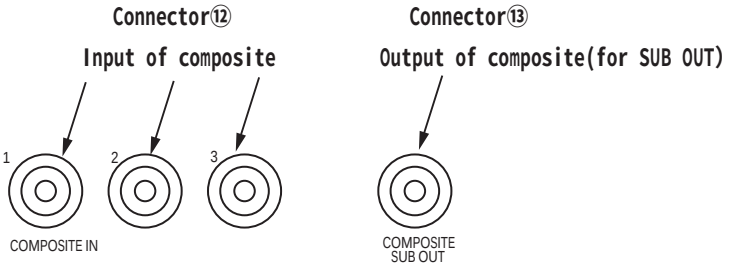
Connect this product according to the following procedures.

Ⅰ. Check that all of the devices ,PDP(Plasma Display Panel), video player, DVD player, PC, display, and so on, to connect are turned off.

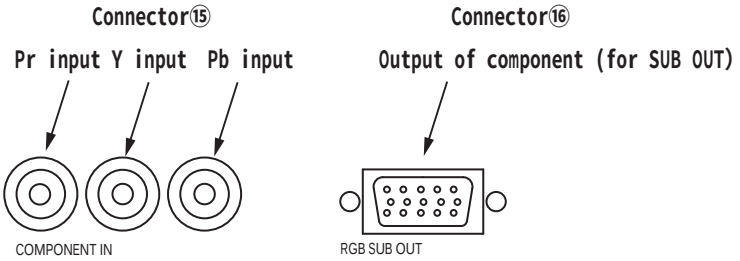
Ⅱ. Refer to the following diagrams when connecting cables to this product.



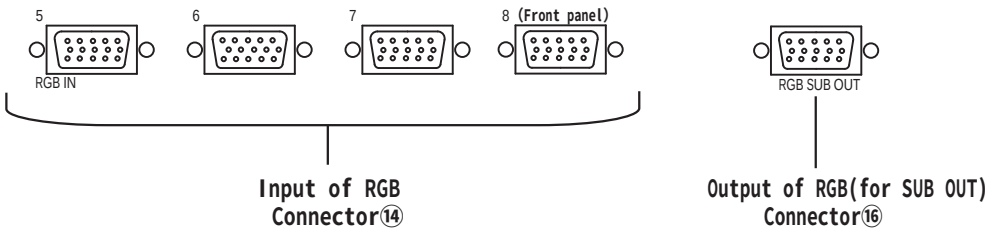
a). Composite video



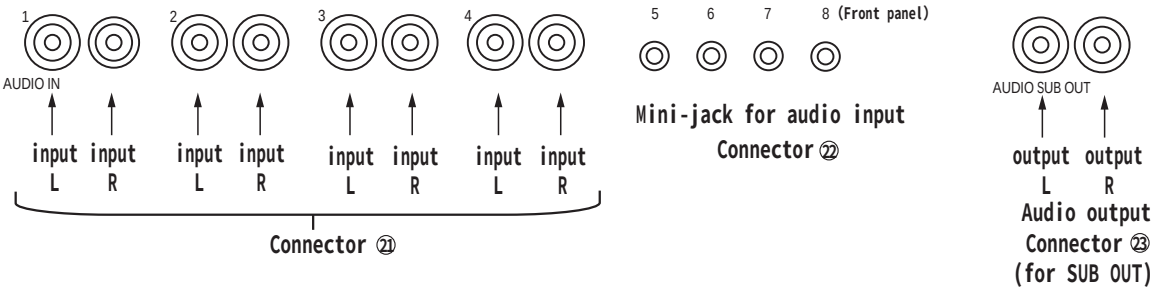
b). Component video



c). RGB video



d). Audio



III. As for connection of cables going to twisted pair receiver, please refer to the manual of twisted pair receiver.

IV. Connect between this product and twisted pair receiver by using CAT5e or CAT6 cable. (Please refer to "3-2 Preparation of cable.")

V. Fix the CAT5e or CAT6 cable by cable mounting kit. (Please refer to "3-3. Cable mounting kit, rack mounting kit.")

◆Warnings

Turn on the each equipment according to below mentioned.

- First connect AC adapter to this product.
- Next, turn on twisted pair receiver.

As for operation and adjustment, please refer to "4.Operation."

4. Operation

4-1. The setting of front dip switch

NO. 1 □ ON ：Registration mode (Regardless of the setting of No.2-4.)
□□ OFF：Standard mode

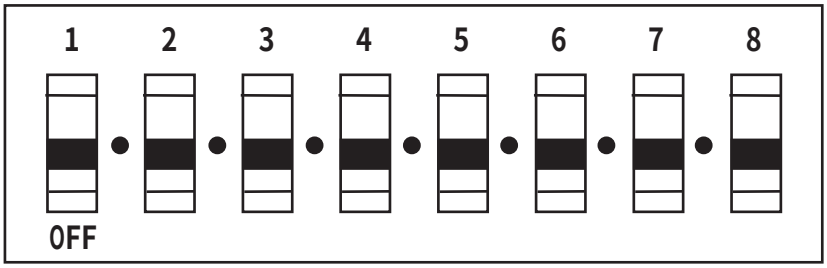
2□ no working

3 □ ON ：POWER CONT becomes ON, when AC adapter is connected to outlet.
□□ OFF：POWER CONT becomes ON, when POWER CONT is pressed.

4□ no working

※ All switches of front dip switch are set at OFF as initial setting.

4-2. The setting of bottom dip switch



NO. 1□ ON ：OPTION A button, momentary
□□ OFF：OPTION A button, alternate

2□ ON ：OPTION B button, momentary
□□ OFF：OPTION B button, alternate

3 □ ON ：OPTION C button, momentary
□□ OFF：OPTION C button, alternate

4□ ON ：OPTION D button, momentary
□□ OFF：OPTION D button, alternate

5 □ ON ：OPTION E button, momentary
□□ OFF：OPTION E button, alternate

6 □ ON ：OPTION F button, momentary
□□ OFF：OPTION F button, alternate

7 □ ON ：POWER CONT button, DIPLAY POWER button, synchronization mode
□□ OFF : un-synchronization

8 □ no working

※ All switches of bottom dip switch are set at OFF as initial setting.

4-3. Operation of buttons

a) POWER CONT button
It can control the power in the rack. The operation of others buttons can be controlled (become ON), when this button is pressed.
When NO.7 of bottom dip switch is ON, DISPLAY POWER button synchronizes and becomes ON. (Please refer to "4-2. The setting of bottom dip switch.")
When POWER CONT button is OFF, all buttons are OFF (It is not related to a setup of a switch).
※ This button is not for this product, this product is ON when AC adapter is connected.

b) DISPLAY POWER button (command transmission button)
According to ON/OFF , command to notice power ON/OFF is transmitted to CAT5 or SUB(SELIAL 2) and the connected equipments can be ON/OFF.
(ON/OFF serial command for the connected equipments shall be registered beforehand.)
The command to notice the other information can be transmitted to CAT5, SUB(SERIAL 2) by registration.
The command is transmitted to SUB (SERIAL 2), when DISPLAY POWER button is pressed after pressing SUB OUT button.
The command is transmitted to CAT5, when DISPLAY POWER buttons is pressed after pressing CAT5 OUT button.

c) OPTION button (command transmission button)
It can control the curtain or screen etc... with relay of rear panel.
The setting alternate/momentary is available with bottom dip switch.
(Please refer to "4-2. The setting of bottom dip switch.")
The command can be transmitted to both of CAT5 and SUB (SERIAL 2).
If the command would not be transmitted to CAT5, do not register any command in CAT5.
If the command would not be transmitted to both of CAT5 and SUB (SERIAL 2), do not register any command in CAT5 and SUB (SERIAL 2).
If the command would not be transmitted to SUB,do not register any command in SUB.

d) INPUT 1-8
One line from IN1-3 (composite), IN4 (component), IN5-8 (RGB), can be transmitted to CAT5 and SUB separately.
Command (which shall be registered beforehand) can be transmitted to CAT5 or SUB (SERIAL 2), when the button is pressed.
The video, audio and command are transmitted to SUB, when one of INPUT 1-8 after pressing SUB OUT button.
The video, audio and command are transmitted to CAT5, when one of INPUT 1-8 after pressing CAT5 OUT button.

e) OFF button
Stopping transmission of video and audio.
To stop CAT5 output, press OFF button (is illuminated) after pressing CAT5 OUT button.
To release, press again (button is not illuminated) or press INPUT button.

f) CAT5 OUT button
Press this button to select CAT5 output (button is illuminated.).

g) SUB OUT button
Press this button to select SUB output (button is illuminated.).

5. Serial interface

5-1. The setting of personal computer

Set the personal computer as follows, when this product is controlled.

Baud rate : 9600bps
Data bits : 8
Stop bits : 1
Parity bits : none
Handshaking : none
Communication method : full duplex

5-2. Connection of RS232C cable

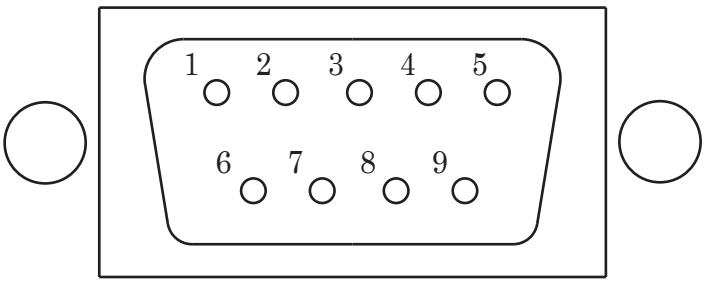
Serial 1 & 3 Pin-Out Diagram

Pin1	Non connect (NC)
Pin2	Transmitted (TX)
Pin3	Received Data (RD)
Pin4	DTE ready connected with Pin6.
Pin5	GND
Pin6	DCE ready
Pin7	Request to send (RTS)
Pin8	Clear to send (CTS)
Pin9	Non connect (NC)

Serial 2 Pin-Out Diagram

Pin1	Non connect (NC)
Pin2	Received Data (RD)
Pin3	Transmitted Data (TD)
Pin4	DTE.
Pin5	GND
Pin6	It connects with Pin4.
Pin7	It connects with Pin8.
Pin8	It connects with Pin7.
Pin9	Non connect (NC)

Pin Number



5-3. Control and registration method

5-3-1. Control method

Control method code table (video audio synchronization)

Command	Character	ASCII	note
IN1	A	41H	
IN2	B	42H	
IN3	C	43H	
IN4	D	44H	
IN5	E	45H	
IN6	F	46H	
IN7	G	47H	
IN8	H	48H	
DISPLAY_POWER	I	49H	
POWER_CONT	J	4AH	
OPTION_A	K	4BH	
OPTION_B	L	4CH	
OPTION_C	M	4DH	
OPTION_D	N	4EH	
OPTION_E	O	4FH	
OPTION_F	P	50H	
IN_OFF	Q	51H	
IN_ON	R	52H	
CAT5	1	31H	Remark 1
SUB	2	32H	Remark 1
ON	3	33H	Remark 2
OFF	4	34H	Remark 2
CAT5, ON	5	35H	Remark 3
CAT5, OFF	6	36H	Remark 4
SUB, ON	7	37H	Remark 5
SUB, OFF	8	38H	Remark 6
Reading data	W	57H	
Pause	,	2CH	
Semicolon	;	3BH	
Return		0DH	Remark 7
ACK		06H	Remark 8
NAK		15H	Remark 8

Remark 1 : This character is used to select output.
Remark 2 : This character is used when POWER CONT, OPTION are ON/OFF.
Remark 3 : This character is used to select output (CAT5) when DISPLAY POWER is ON.
Remark 4 : This character is used to select output (CAT5) when DISPLAY POWER is OFF.
Remark 5 : This character is used to select output (SUB) when DISPLAY POWER is ON.
Remark 6 : This character is used to select output (SUB) when DISPLAY POWER is OFF.
Remark 7 : no character Only ASCII code , not described by character.
Remark 8 : "ACK" is answer backing. When this product was able to receive the command, it returns "ACK."
"NAK" is answer backing. When this product was not able to receive the command, it returns "NAK."

※ When OPTION button is used as alternate, control command can transmit ON/OFF registration command. When OPTION button is used as momentary, control command can transmit ON registration command only.

※ Memory size of control command is 32bytes (8 commands). The data length that can be sent at a time is 32bytes.
If more than 32bytes data is transmitted, please send the data after answer-back is returned.
If control command is transmitted before answer-back is returned, it may not be executed.

※ During serial communication, the operation of button may not be valid.

a) When controlling this product by sending one control command.

This product can be controlled.
Please send control command in the following order.
1. Character (input line or action select command).
2. Delimiter.
3. Character (output line select command).
4. Return.

※ Set the front dip switch to Registration mode.
Please refer to "4-1 The setting of front dip switch."

(Ex.1) input : IN2, output : CAT5

ASCII character representation	B	,	1	return
HEX representation	42H	2CH	31H	0DH

(Ex.2) input : IN6, output : SUB

ASCII character representation	F	,	2	return
HEX representation	46H	2CH	32H	0DH

(Ex.3) Turning OFF of CAT5OUT.

ASCII character representation	Q	,	1	return
HEX representation	51H	2CH	31H	0DH

(Ex.4) Turning OFF of SUBOUT.

ASCII character representation	Q	,	2	return
HEX representation	51H	2CH	32H	0DH

(Ex.5) Turning ON of POWER CONT.

ASCII character representation	J	,	3	return
HEX representation	4AH	2CH	33H	0DH

(Ex.6) Turing OFF of DISPLAY POWER (switching to CAT5 OUT).

ASCII character representation	I	,	6	return
HEX representation	49H	2CH	36H	0DH

(Ex.7) Turing ON of OPTION B.

ASCII character representation	L	,	3	return
HEX representation	4CH	2CH	33H	0DH

※ This product sends, ACK (06H), as answer-back when operation of one control command is executed.
This product sends, NAK (15H), as answer-back when operation of one control command is not executed.

b) When controlling this product by sending control command consecutively.
This product can be controlled.
8 control commands can be sent consecutively.
Please send control commands in the following order.

1. Character (selecting IN)
2. Delimiter (,)
3. Character (selecting OUT)
4. Delimiter (;)
5. Character (selecting IN)
6. Delimiter (,)
7. Character (selecting OUT)
8. Delimiter (;)

•
•
•

n－3. Character (selecting IN)
n－2. Delimiter (,)
n－1. Character (selecting OUT)
n. Return (n≦32)

※ Set the front dip switch.
Please refer to "4-1. The setting of front dip switch."

(Ex.1) Turning ON of POWER CONT, turning ON of OPTION A, turning ON of OPTION B.

ASCII Character representation	J , 3 ; K , 3 ; L , 3 return
HEX representation	4AH 33H 4BH 33H 4CH 33H
	2CH 3BH 2CH 3BH 2CH 0DH

※ This product sends, ACK (06H), as answer back when operation of consecutive control command is executed.
This product sends, NAK (15H), as answer back when operation of control command is not executed.

c) Reading data
To read the data, the current state of this product can be understood.

Sending
1. Character (reading data command)
2. Return

Receiving
1. State of selection of CAT5
2. Delimiter (;)
3. State of selection of SUB
4. Return

(Ex.1) When IN3 is selected for CAT5 OUT and IN4 is selected for SUB OUT.
Sending

ASCII Character representation	W	return
HEX representation	57H	0DH

Receiving

ASCII Character representation	C	;	D	return
HEX representation	43H	3BH	44H	0DH

(Ex.2) When OFF is selected for CAT5 OUT, IN4 is selected for SUB OUT.
Sending

ASCII Character representation	W	return
HEX representation	57H	0DH

Receiving

ASCII Character representation	Q	;	D	return
HEX representation	51H	3BH	44H	0DH

※ Do not send together with control command consecutively.

5-3-2. Registration method
Special software is needed for the command registration.

□ Please see instruction manual for the special software.

6. Parallel interface

This product can be controlled by connecting parallel interface.
This product can be controlled as the same operation by front buttons.

Parallel connector signal arrangement

connecter-pin	Signal	Input or Output
1	POWER_CONT	OUT
2	DISPLAY_POWER	OUT
3	OPTION_A	OUT
4	OPTION_B	OUT
5	OPTION_C	OUT
6	OPTION_D	OUT
7	OPTION_E	OUT
8	OPTION_F	OUT
9	IN1(Composite1)	OUT
10	IN2(Composite2)	OUT
11	IN3(Composite3)	OUT
12	IN4(Component)	OUT
13	IN5(RGB1)	OUT
14	IN6(RGB2)	OUT
15	IN7(RGB3)	OUT
16	IN8(RGB4)	OUT
17	CAT5	OUT
18	SUB	OUT
19	OFF(MUTE)	OUT
20	-	
21	GND	
22	GND	
23	GND	
24	GND	
25	GND	
26	**+5V**	
27	**+5V**	
28	**+5V**	
29	**+5V**	
30	**+5V**	
31	POWER_CONT	IN
32	DISPLAY_POWER	IN
33	OPTION_A	IN
34	OPTION_B	IN
35	OPTION_C	IN
36	OPTION_D	IN
37	OPTION_E	IN
38	OPTION_F	IN
39	IN1(Composite1)	IN
40	IN2(Composite2)	IN
41	IN3(Composite3)	IN
42	IN4(Component)	IN
43	IN5(RGB1)	IN
44	IN6(RGB2)	IN
45	IN7(RGB3)	IN
46	IN8(RGB4)	IN
47	CAT5	IN
48	SUB	IN
49	OFF (MUTE)	IN
50	—	

7. Specifications

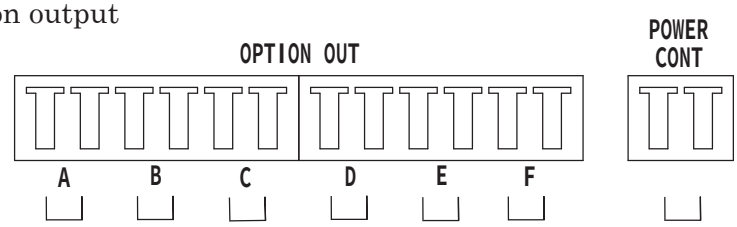
7-1. The Specifications of this product

Model name		KE811CT(w-type)
Input signal		Video :RGB 4 system、Component 1 system、Composite: 3 system、Audio: 8 system
Output signal		Video:SUB output (RGB/component、composite) each 1 system、 Output for extension 1 system(2 distribution) Audio output :1system
Input connector		Video:RGB:15pin HD female、Component/Composite:RCAconnector、Audio:RCAconnector/mini-jack
Output connector		Video:RGB/component:15pin HD female、composite:RCAconnector、Audio:RCAconnector、 Output for extension RJ-45connector
Extension cable		Enhanced CAT5 cable、CAT6 cable
Video input and output		Analog:RGB 0.7V[p-p](75Ω)、 HD,VD :TTL Y 1V[p-p](75Ω)、Pb/Pr ±0.35V[p-p](75Ω) VBS/VS 1V[p-p](75Ω) Digital: HD TTL VD TTL
Video frequency response		30Hz～100MHz ±3dB
Audio input level		−10dBu 50kΩ
Audio output level		−10dBu loading over 10kΩ
Audio frequency response		20Hz～20kHz ±1dB
Control and remote	RS232C	RS232C:DB9 connector×2
	Parallel I/O	Ribbon connector 50-pin
	Tally I/O	6pin Terminal connector for Contact output×2、2pin Terminal connector for Power control
Operating temperature and humidity		Temperature：0～40℃ humidity：20～80% (no condensation)
Power consumption		Approximately 10W
Power (AC adapter)		Input:AC100V-240V 50/60Hz 1.0A Output:DC16V 2.5A
Dimensions		W422×D250×H44 (mm)
Weight		Approximately 3kg

Note : This product complies with the EMC standards listed below.
EN55022 : 1998+A1 : 2000+A2 : 2003
EN61000-3-2 : 2000+A2 : 2005
EN61000-3-3 : 1995+A1 : 2001
EN55024 : 1998+A1 : 2001+A2 : 2003

7-2. The specification of control system connectors

7-2-1.Contact output connectors for power control (POWER CONT) and option (OPTION A-F) button output

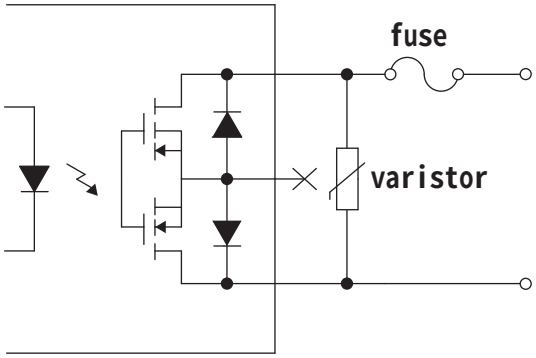


Relay specification

relay (no polarity) relay (no polarity)

Relay type : photo MOS relay, make contact
Rating : maximum 50mA, less than AC/DC 24V

Internal circuit is as follows.

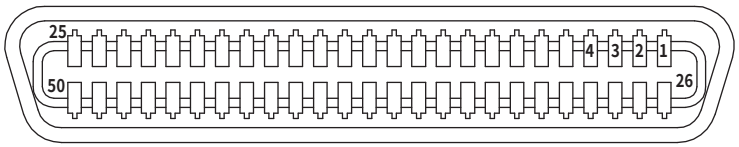


◆Caution

・Do not supply more than AC/DC 24V.

※ When option button is set as momentary output, output pulse width is about 200msec.

7-2-2. Connector for tally output



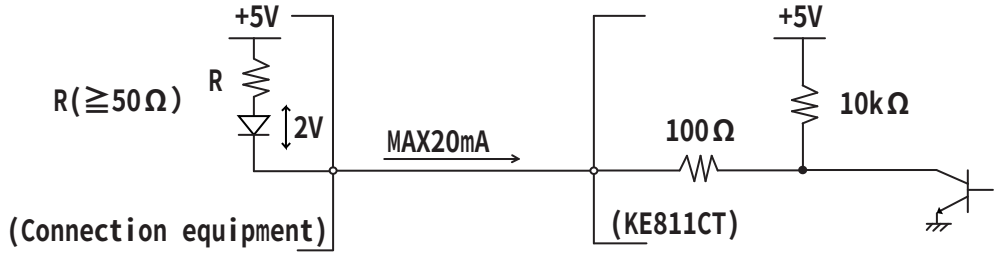
PARALLEL REMOTE

Connector pin No. 1-19 for output
Connector pin No. 21-25 for GND
Connector pin No. 26-30 DC5V

Output type : open-collector. Pullup (internal 10KΩ, 5V connection)
Rating : maximum 20mA, DC5V

◆Caution

Do not exceed the rating. Please put register ,R, to protect overcurrent as follows.



(Ex.) When putting LED (forward voltage 2V), maximum current is

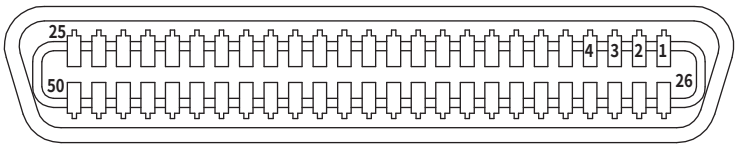
$$I = \frac{5-2}{R+100} \leqq 20mA \ ,$$

and then $R \geqq 50\Omega$.

◆Caution

Please use within 20mA when DC5V is used.

7-2-3. Connector for parallel input

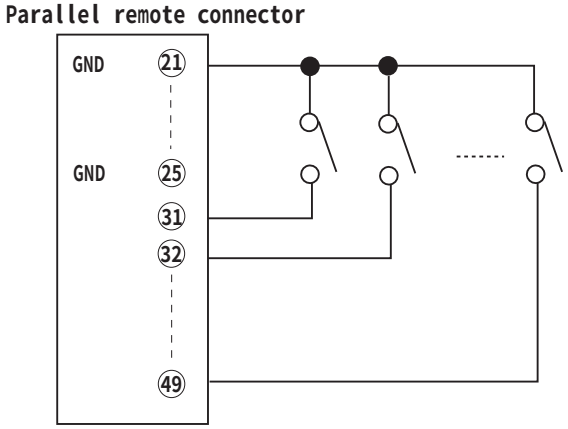


PARALLEL REMOTE

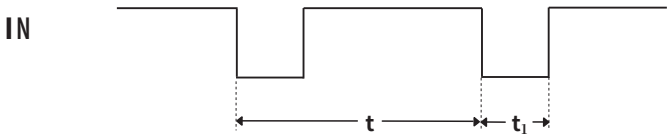
Connector pin No. 31-49 for input
Connector pin No. 21-25 GND
Connector pin No. 26-30 DC5V

Contact type : Non-voltage contact

※ Please use non-voltage contact by momentary switch (non-lock) or open-collector of transistor when parallel input is executed.



Please input as following timing.



t＞500ms
t_1＞20ms

※ Parallel input may not operate when this product is controlled in serial communication.

8. Trouble shooting

Problem	Please check the following	Reference
The video can't be seen	● Is the power of the connection equipment turned on ?	—
	● Is the power adapter cable properly connected to AC100-240V line and this product ?	—
	● Is the POWER CONT button of this product turned on?	—
	● Is the CAT5e or CAT6 cable properly connected to OUT 1 or OUT2 of this product?	—
	● Isn't unexpected fore applied to the CAT5e or CAT6 cable connected to OUT1 or OUT2 of this product ?	→3-3.Cable mounting kit and Rack mounting kit
	● Is the cable properly connected to the video input connector?	—
	● Is the INPUT button properly selected ?	→4-3.Operation of buttons
	● Is the CAT5, SUB button properly selected ?	→4-3.Operation of buttons
	● Are cables properly connected to IN connectors?	—
	● Is the length of the cable within the recommended maximum transmission distance ?	→1-2.General information
	● Are the cables wired correctly?	→3-2.Preparation of cable
	● Is the power of the twisted pair receiver turned on ?	—
	● Did you adjust a LEVEL /PEAKING of a twisted pair receiver?	Please refer to the instructions manual of the receiver with this product.
The video is flickering or there is noise	● Is the twisted pair cable near the AC line? It should be far from the line.	–
	● Is there a source causing noise close to AC adapter of this product ? A noise filter should be used in case of noise.	—
	● Is the CAT5e or a CAT6 cable properly connected to OUT 1 or OUT2 of this product ?	—
	● Isn't unexpected fore applied to the CAT5e or CAT6 cable connected to OUT1 or OUT2 of this product ?	→3-3.Cable mounting kit and Rack mounting kit
	● Is the cable properly connected to the video input connector of this product?	—
	● Are cables properly connected to IN connectors?	—
	● Is the length of the cable within the recommended maximum transmission distance?	→1-2.General information
	● Did you adjust a LEVEL /PEAKING of a twisted pair receiver?	Please refer to the instructions manual of the receiver with this product .
Sound can't be output	● Is the power of the connection equipment turned on ?	—
	● Is the POWER CONT button of this product turned on?	—
	● Is the power adapter cable properly connected to AC100-240V line and this product ?	—
	● Is the INPUT button properly selected ?	—
	● Is the CAT5, SUB button properly selected ?	—
	● Is the CAT5e or CAT6 cable properly connected to OUT 1 or OUT2 of this product?	—
	● Isn't unexpected fore applied to the CAT5e or CAT6 cable connected to OUT1 or OUT2 of this product ?	→3-3.Cable mounting kit and Rack mounting kit
	● Is the cable properly connected to the AUDIO IN connector of this product?	—
	● Is the power of the twisted pair receiver turned on ?	—
	● Is the length of the cable within the recommended maximum transmission distance?	→1-2.General information

Sound has noise	● Is the twisted pair cable near the AC line? It should be far from the line. ● Is there a source causing noise close to AC adapter of this product ? A noise filter should be used in case of noise. ● Is the CAT5e or a CAT6 cable properly connected to OUT 1 or OUT2 of this product ? ●Isn't unexpected fore applied to the CAT5e or CAT6 cable connected to OUT1 or OUT2 of this product ? ● Is the cable properly connected to the AUDIO IN connector of this product? ● Is the cable properly connected to the AUDIO OUT connector of the twisted pair receiver ? ● Is the length of the cable within the recommended transmission distance?	— — — →3-3.Cable mounting kit and Rack mounting kit — — →1-2.General Information
Serial communication can't be performed.	● Is the cable properly connected ? ● Does the kind of cable suit? (straight or cross) ● Does a setup of a front dip switch suit? ● Does the command suit?	→5-2.Connection of RS232C cable — →4-1.The setting of front dip switch →5-3-1.Control method
Command registration can't be performed.	● Is the cable properly connected ? ● Does the kind of cable suit? (straight or cross) ● Does a setup of a front dip switch suit?	→5-2.Connection of RS232C cable — →4-1.The setting of front dip switch

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