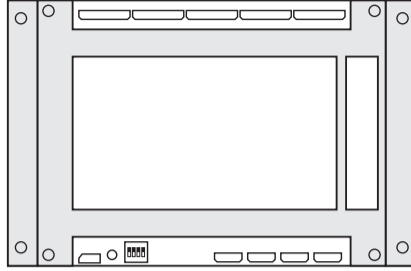
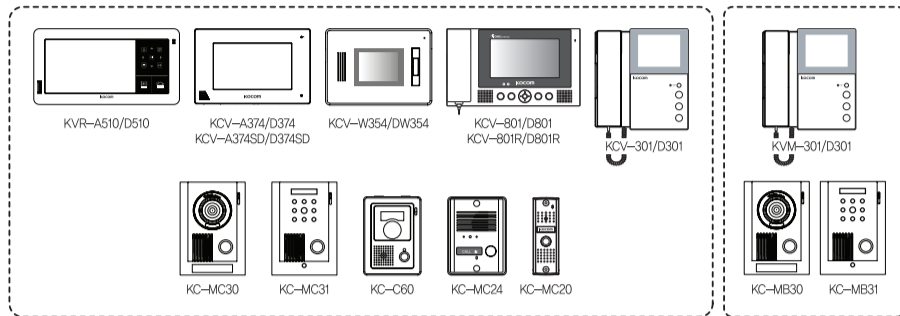


- UP TO 4 CAMERAS CONNECTION
- UP TO 16 MONITOR CONNECTION (2 MONITOR PER 1 PORT)
- UP TO PLUS 2 UNIT CONNECTION
- CAMERA MONITORING UNIT SELECTION
- ONE MONITORING CAMERA SELECTION
- INTERNAL CALL & CONVERSATION INTERFACE BETWEEN EXTENDED INDOOR UNITS
- MULTI CALL & VIDEO AMP



[Color]

[B/W]



Warranty Card

PRODUCT	
MODEL	
DATE PURCHASED	
WARRANTY PERIOD	
AGENCY ADDRESS	

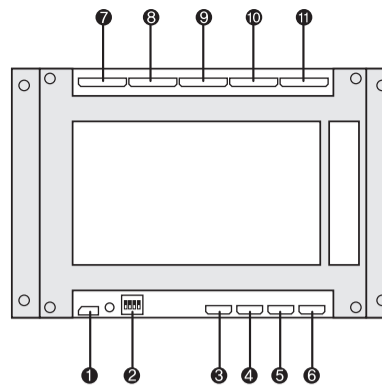
- ▶ KOCOM Warranties the original purchaser of this product as follows.
- 1. This product is produced under strict quality control and inspection procedures.
- 2. If this product breaks down during proper use as a result of product defect, KOCOM will repair it within one year from date of purchase free of charge.
- 3. The following cases will be subject to charge, even during warranty period:
 - a. Breakdown during transport, or through careless treatment, by consumer.
 - b. Breakdown caused by unauthorized repair, or system modification.
 - c. Breakdown caused by natural disaster or power disorder.
- ▶ For after-Sale service, have the following ready when you contact our branches.
 1. Name of the product.
 2. Model number of the product.
 3. The area of problem.
 4. Phone number and address at which you can be contacted.

KOCOM CO.,LTD. SINCE 1976

This manual is based on the data as shown in the right and specifications are subject to change without notice for quality improvement
www.kocom.com E-mail : export@kocom.co.kr

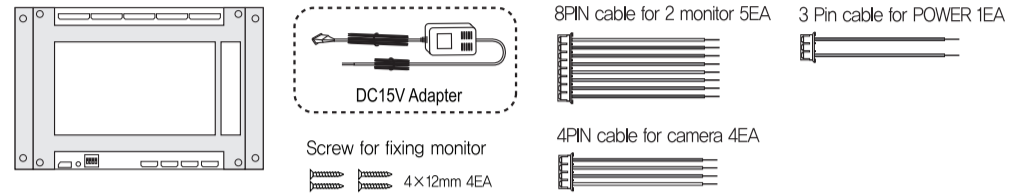
KU-ESA
N0812

Name and Functions of each part



No	Name	Brief description
①	POWER TERMINAL	Connects DC power with 3 wire polarity.
②	MODE SWITCH	ON/OFF 1~4 SWITCH FOR MODE SETUP
③	CAMERA 1 TERMINAL	Connects camera 1 with 4 wire polarity.
④	CAMERA 1 TERMINAL	Connects camera 2 with 4 wire polarity.
⑤	CAMERA 1 TERMINAL	Connects camera 3 with 4 wire polarity.
⑥	CAMERA 1 TERMINAL	Connects camera 4 with 4 wire polarity.
⑦	MONITOR 1,2 TERMINAL	Connects monitor1 (1~4), monitor2 (5~8) with 8 wire polarity
⑧	MONITOR 3,4 TERMINAL	Connects monitor3 (1~4), monitor4 (5~8) with 8 wire polarity
⑨	MONITOR 5,6 TERMINAL	Connects monitor5 (1~4), monitor6 (5~8) with 8 wire polarity
⑩	MONITOR 7,8 TERMINAL	Connects monitor7 (1~4), monitor8 (5~8) with 8 wire polarity
⑪	MONITOR 9 OR EXTENSION TERMINAL AND RELAY TERMINAL	Monitor 9 Port or Extension Port (1 ~ 4) Relay Port (5 ~ 7)

Components of product



Specifications

Model No.	KU – ESA
Power Supply	DC 15V ±1V (Stand by : 1,7W, Operation : 13W)
Warranted Operation Temperature	-10 ~ 50°C
Wiring Type	4 Wire Type (Monitor and front door camera)
Mount Type	Flush Mount
Dimension(mm)	145(W) x 90(H) x 40(D) mm
Monitor Connection	Color : KVR-A510/D510, KCV-A374/D374, KCV-A374SD/D374SD, KCV-W354/DW354, KCV-801/D801, KCV-801R/D801R, KCV-301/D301 (KIP-602G X) B/W : KVM-301/D301 (KIP-602G X)
Camera Connection	Color : KC-C60, KC-MC30/MC31, KC-MC24, KC-MC20 B/W : KC-B61, KC-MB30, KC-D20, KC-MB20
Communication Type	1 way Hands free communication
Distance	CAMERA TO MONITOR (UTP pair cable : 100m / 0,85 single cable : 100m / 0,65 single cable : 50m) UNIT TO UNIT (UTP pair cable : 20m / 0,85 single cable : 20m / 0,65 single cable : 10m)
Capacity	up to Max one camera per camera port up to Max two monitors per monitor port up to Max three unit to extension port

Cautions for safety

For safe use, please stick to the following cautions.

- Please, save this manual after reading these instructions carefully. · Read and understand all instructions to set up rightly.
- This Cautions for Safety may include items that are not contained in specifications of the product that consumer purchases.
- If you need assistance with the set-up or operation, please contact with A/S center.

The important marks in the manual.

To help our customers to understand this manual, to prevent any personal injury or property damage, some marks are used in the manual. The marks and the drawing signs are below, Please, understand the marks before reading the manual.

The meaning of the drawing signs.

	Sign to show what not to do		Mishandling the device with ignoring this sign may result in serious injury or death.
	Mishandling the device with ignoring this sign may result physical injury or material damage.		Sign to tell you that you should follow the instructions.
	Sign to tell you that you need more attention including high voltages, electric shock, danger, warning)		Sign to tell you that you must unplug the unit.
	Sign to tell you that you can't disassemble this unit.		Sign to tell you that you need more attention including high voltages, electric shock, danger, warning)

Caution

Cautions for set-up

- The law limits distributing the power lines to an authorized person from government, The work from an unauthorized person cause fire or electric shock.
- Place this unit securely on a stable surface. Serious damage and/or injury may result if the unit falls.
- Do not set up this unit near the leaking place because it may expose you to dangerous voltages or other risks.
- Even if your product is water proof, do not install it slanted place of water leakage, which can a short circuit.
- The work of distributing wires needs skills and experiences, So please, for assistance, contact your dealer or call service center.
- The communication lines should be built in being distant from the power source. This may result in the risk of fire, electric shock and communication disorder.
- Setting the communication lines in a high humid place such as outside without any protection from rain causes the communication disorder.
- Keep the hook at the wall-mounted device safe. The hook may cause the physical injury.
- Think about the thickness and quality of wall material. The unqualified material may make the device fall.

Cautions for Repairs and Maintenance

- Keep the inside of the device clean. Having the dust inside without any cleaning for a long time causes the fire. If necessary, contact your dealer or service center to get cleaning service.
- Unplug this device when you want to check the inside. If there is no plug, please, turn off the circuit breaker.
- Unplug this device when you try to move it to another place. If the electric line is connected inside of the unit, please contact your dealer or service center.
- Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning

Warning

Warnings for Usage

- Do not install this unit near the water and dust, for example, in a bathroom or near the washing machine. It caused fire and electric shock.
- Do not install this unit near the fire, for example, near kitchen sink, heater or the like.
- Do not install near the noxious gas such as Hydrogen Sulfide, metal powder and the like.
- Do not install near the water and chemicals.
- Do not give any damage, break and modify the plug. Overloading, heating, pulling causes the damage.
- Do not place the plug near the heater. The damaged code causes fire and electric shock. Do not pull the power code when unplugging.
- The damaged code causes fire and electric shock. Must pull with plug. Do not touch with wet hands. It causes the electric shock.
- Do not use any other voltage, except the marked regular voltage.
- Do not use the power terminal at the units to other electric device except the designed device.
- Do not install the units at the leaking place if it doesn't have any waterproof mark. Do not install the unit when the power is on.
- Install the circuit breaker after checking the safety such as electric shock and leakage. Turn off the power before you install or A/S

- Check the suitability of the lines for installing when you use the exiting lines.
- Do the wiring work by using the designed material.
- Connect the electric wire with the designed ways and ground.
- Do not connect with any other devices except the designed devices to compose the system.
- Unplug electric wire and communication lines from the units before moving to another place.

Cautions for Use

- This unit is not designed for security purpose. · Do not handle the unit with the wet hands.
- Do not place a pot with water or a small metal material on the Units.
- Do not cover the ventilating opening or put any metal material in the units.
- During thunderstorms, avoid using this unit. There may be a remote risk of an electric shock from lightning.
- Do not modify the unit. · Open the main gate after checking ID if the image and sound system do not work, Call A/S

- Do not disassemble the back and cabinet cover.

Cautions for Abnormality

- Change the damaged electric code.
- Unplug this unit from plug socket and refer servicing to an authorized service center when the following conditions occur:
 - If liquid has been spilled into the unit.
 - If the unit does not work normally by following the operating instructions.
 - If the unit exhibits a distinct change in performance.
 - If the unit has been dropped or physically damaged.

Caution

Safety Instructions, Warnings and Cautions of Each System

- Do not disassemble this unit at will as this device is composed by precision parts. · Install the unit by following the set-up instructions of Kocom.
- Do not touch or insert any foreign substances, for example, sticker, magnetic, opener and the like
- Make U-type at the end of wires as the rain can effect on the system by following the wires during the rainy season.

Videophone

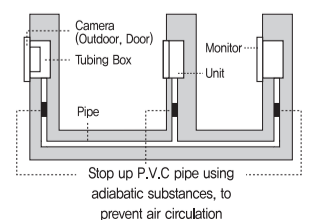
- Separate the AC/DC lines with the hook of the wall-mounted type when installing. · Connect the lines after peeling the wires properly
- Do not distribute signal line with AC line. · Use the designed driver to connect the lines to terminal
- Do not clean the LCD with the damp cloth for cleaning. Use the only dry and soft cloth. · Do not install the main gate monitor at the leaking place.

Things You Need to Know

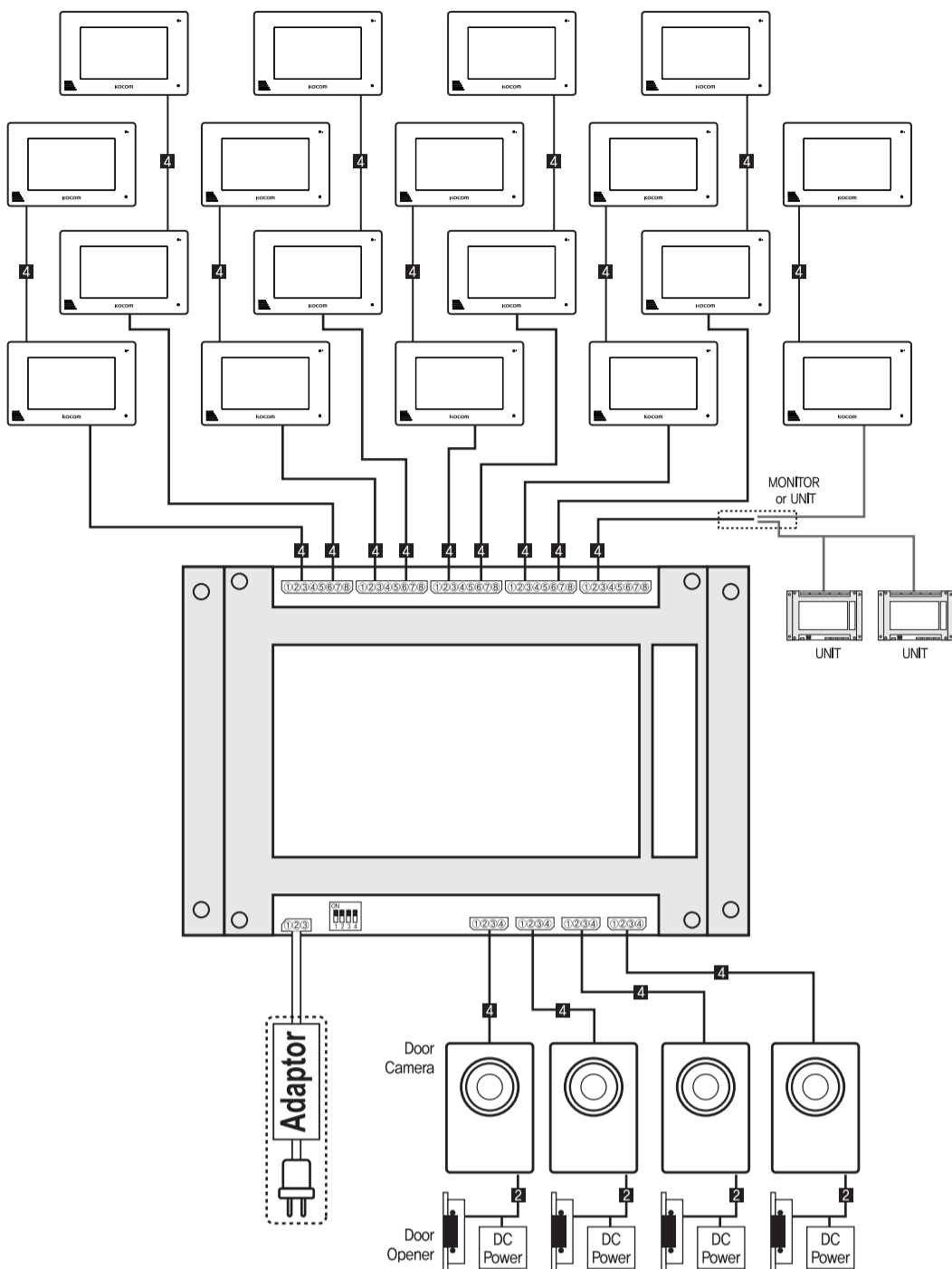
- This product is designed as a home videophone and cannot use continuously like monitor camera.
- If there is temperature difference between inner part of camera and surrounding, dew condensation occurs on camera lens and may disturb image. If dew condensation is removed from camera lens, image quality recovers.
- While LED light examination range is narrower than camera shot range at night, so there is less amount of light at night than day. So it is difficult to see the face in low illumination condition due to noise increase on screen, but it is not from defect.
- Monitor screen (liquid crystal panel) is not in defect when some pixels always light or black out.
- Please install monitor and camera over 5cm away. Also, avoid installing at a place with too much noise, because too much noise around camera causes phone call inferiority.
- Do not place an object within 20cm in front of monitor. It causes phone call inferiority, especially because microphone is installed at the top of monitor.
- Outside power authorizing this product must be confirmed of product description and use rated voltage. Beware that if higher voltage is authorized, unfixable damage might be caused due to product destruction.
- This is not a defect, so please do not install camera where a direct ray of light do not flow if possible.

Cautions

- In some cases there is occurrence of product destruction, malfunction, noise mixing and picture quality deterioration due to mixing of other tool's induced voltage or thunder with communication wiring of monitor/camera, monitor/extended monitor.
- Do not wire with power line such as outdoor wiring or AC power, or phones and other tools.
- You cannot use it if you incorrectly wire the AC voltage between monitor/camera, monitor/extended monitor. Call the store or agency where you purchased this product and consult to solve the problem.
- Beware that unfixable damage might be caused due to authorizing AC voltage on communication wiring of monitor/camera, monitor/extended monitor.
- Do not ever disjoint this product. It may cause electrocution accident when touching high-voltage circuit inside this product.
- Outside power authorizing this product must be confirmed of product description and use rated voltage. Beware that if higher voltage is authorized, unfixable damage might be caused due to product destruction.
- Power must be connected to domestic voltage (product rated voltage) consent or interior wiring.
- If connected to other motive power or inverter-type power, product destruction, noise mixing, and picture distortion may occur.
- Do not drop this product. Glass is used for monitor and might break, or cause other circuit inferiority.
- In such case, immediately turn down the power switch, and call to consult agency or store in which this product was purchased.
- If installed near transmission antenna such as broadcasting station, electric wave may mix and cause picture distortion or voice mixing.
- Avoid installing near tools with strong electromagnetic waves such as microwaves and cell phones, or it may cause picture distortion.
- Do not install monitor in following places.
 - ① Above or around water heater, rice-cooker, heater
 - ② Place exposed to direct rays of the sun
 - ③ Place with temperature below 0°C such as cold store
 - ④ Place with high humidity such as bathroom, washroom, heated room
 - ⑤ Place with a lot of gas, dust, smoke
 - ⑥ Dangerous place with sprays of water or chemicals
- Do not use the power terminal at the units to other electric device except the designed device.
- Beware of occurrence of image quality deterioration or malfunction from cause of humidity due to penetration of chemicals or water into camera's urea resins.
- As in the picture, it prevents temperature difference of camera (outside) and monitor (inside), and removes dew condensation caused by humidity of camera window.
- Camera must be installed when wall cement is completely dry.
- When product is installed in winter below -5°C, wait for approximately 2 hours to connect. Dew formation in monitor and camera due to temperature difference inside and outside may cause product defect.
- Avoid installing monitor and camera in place directly exposed to heat or where gas noxiousness is highly occurring.

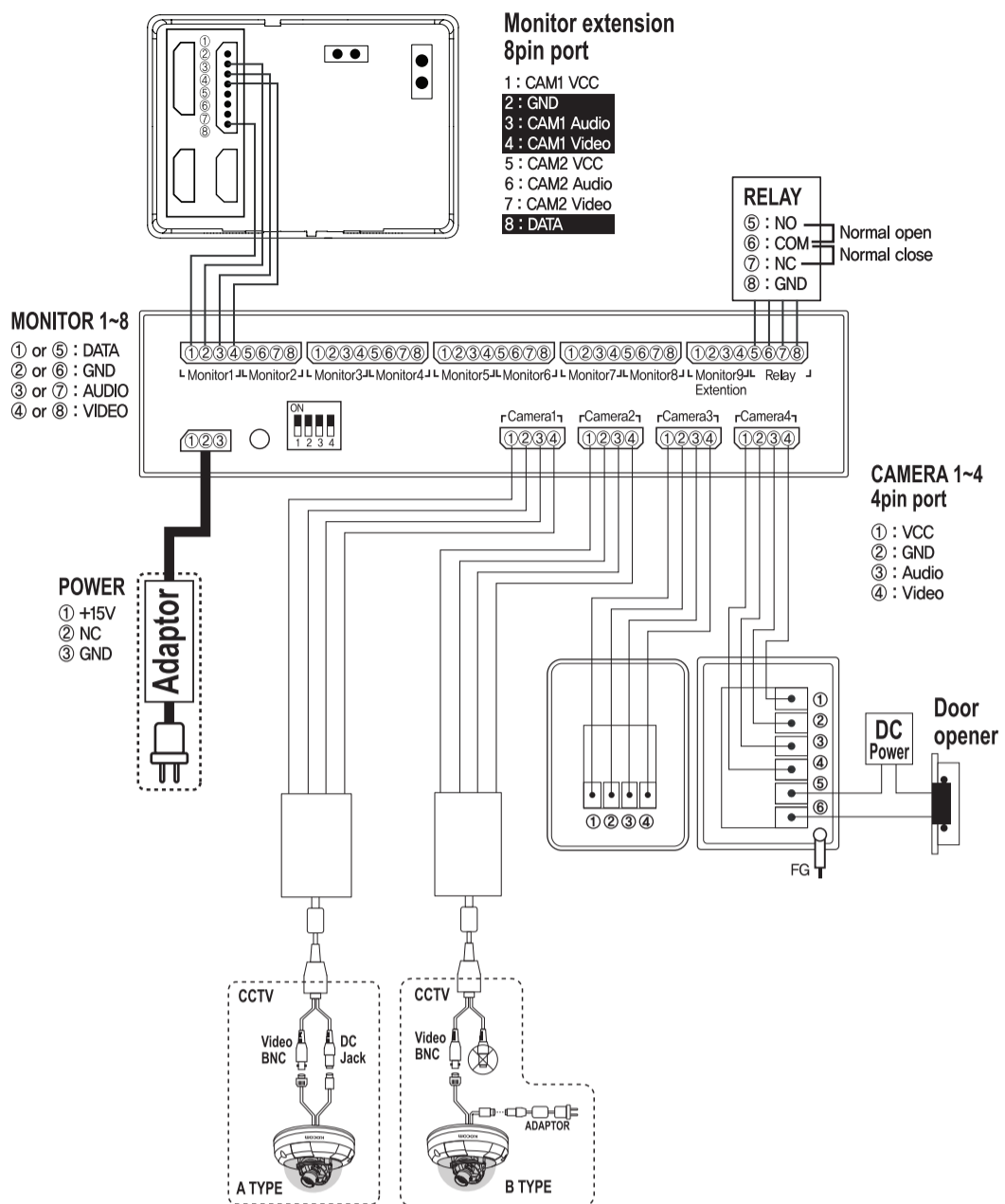


System Diagram (MAX)



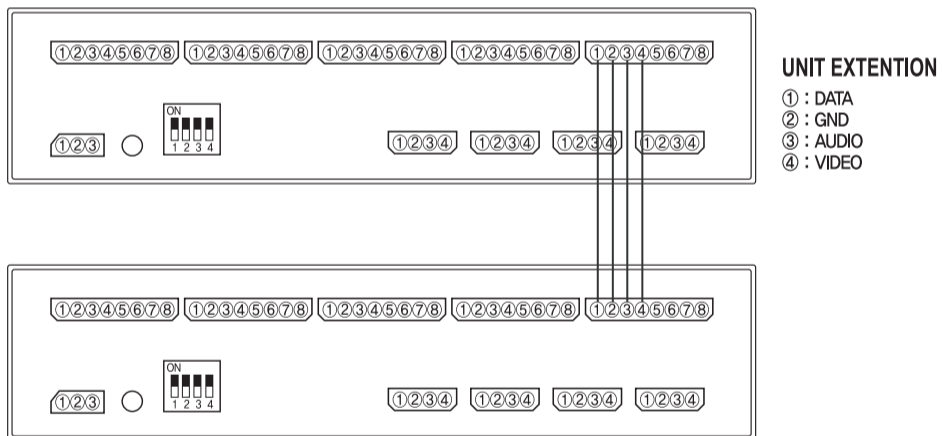
Wiring Diagram

Wiring Diagram – DC POWER, CAMERA, RELAY, MONITOR 1~8



Wiring Diagram

Wiring Diagram – UNIT EXTENTION



Wiring Diagram – CABLE REQUIREMENT

CAMERA TO MONITOR WIRING

Upto 100m : CAT5 cable

Orange	⊗	① VCC
Brown	⊗	double up
Green	⊗	② GND
W/Green	⊗	double up
Blue	⊗	③ Audio
W/Blue	⊗	double up
W/Brown	⊗	④ Video
W/Orange	⊗	double up

Upto 50m : TIV 0.65mm² cable

Upto 100m : TIV 0.8mm² cable

Upto 150m : TIV 0.8mm² cable+RG-59/U

RG-59/U (coaxial cable) for video signal
(connect core to Video & shield to GND)

※Based on distance from a camera to the monitor

※CAT5 wire configuration

※In case of more than 50m of CAT5 cable length, the screen and voice quality can get lower.

But the symptom is not a kind of fault. So less than 50m is recommended.

※According to outside environment, you may view the images somewhat unclear.

However, they do not result from any defect or trouble of the product.

UNIT TO UNIT 4PIN PORT WIRING

Upto 20m : CAT5 cable

Orange	⊗	① DATA
Brown	⊗	double up
Green	⊗	② GND
W/Green	⊗	double up
Blue	⊗	③ Audio
W/Blue	⊗	double up
W/Brown	⊗	④ Video
W/Orange	⊗	double up

Upto 10m : TIV 0.65mm² cable

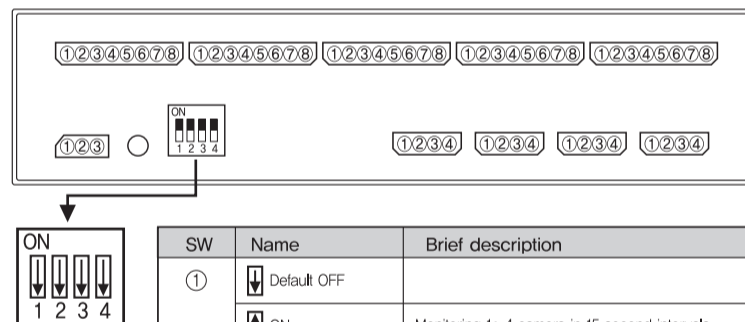
Upto 20m : TIV 0.8mm² cable

Upto 20m : TIV 0.8mm² cable+RG-59/U

RG-59/U (coaxial cable) for video signal
(connect core to Video & shield to GND)

Functional Description

Wiring Diagram – Dipswitch setting



SW	Name	Brief description
①	Default OFF	
	ON	Monitoring 1~4 camera in 15 second intervals
②	Default OFF	Monitoring Master Mode
	ON	Monitoring Slave Mode
③ ④	Default OFF OFF	CAMERA 1 SELECTION FOR Monitoring BY ONING SW②
	OFF ON	CAMERA 2 SELECTION FOR Monitoring BY ONING SW②
	ON OFF	CAMERA 3 SELECTION FOR Monitoring BY ONING SW②
	ON ON	CAMERA 4 SELECTION FOR Monitoring BY ONING SW②

※Master/Slave Mode → When more than 2 KU-ESA are connected in a single system, please select camera you would like to monitor and set one of the KU-ESA you will connect the camera as Master. And set the others as Slave. Monitoring cameras connected to Slave KU-ESA is not possible.

※MONITORING → Monitoring one camera selected of Master KU-ESA is possible.