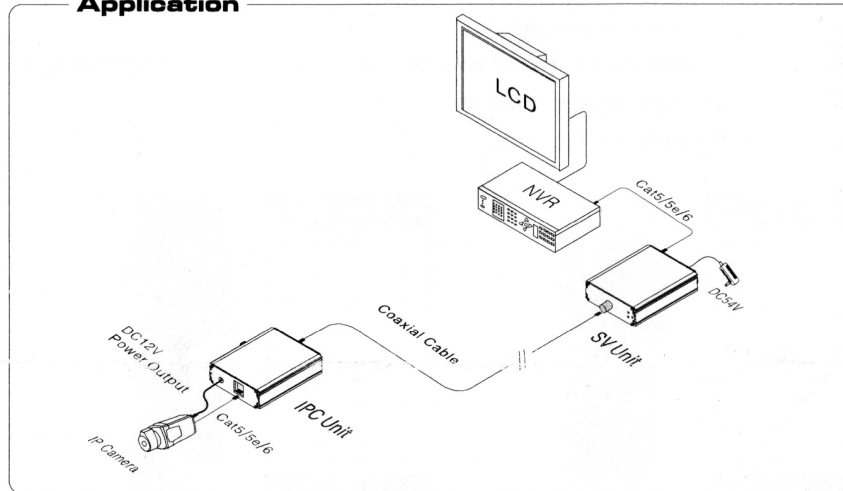


# Ethernet Extender

This Ethernet extender consists of one SV-Unit and one IPC-Unit. It can transfer Ethernet signal from IPC-Unit to carrier signal and extend it to SV-Unit through coaxial cable or network cable. Then it transfers carrier signal to Ethernet signal, and supply power at the same time. It can fully satisfy the transmission requirements of long distance Ethernet signal and power supply, and be widely used in security network surveillance and network transformation project where coaxial cables and ethernet cables are arranged mixed.

## Application



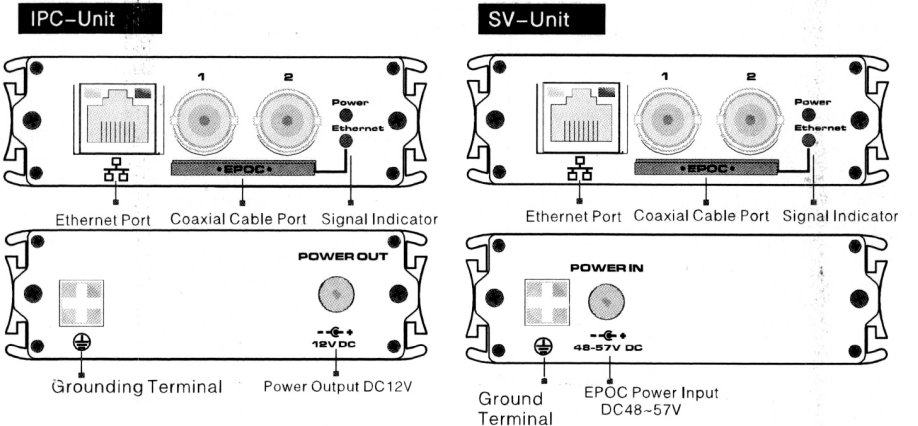
## Feature

- Use coaxial cable to transmit Ethernet signal and power, maximum distance up to 500m;
- Network delay less than 1ms;
- Optional transmission medium: coaxial cable, network cable;
- Meet point-to-point mode;
- Loop circuit mode, if there is one breakdown in the circuit, the system still can work normally;
- Meet Standard: IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX;
- Appearance and structure: Solid and delicate, meet MIT rack installation standard;
- Protection: Excellent circuit isolation protection, effectively improve product's
- lightning protection, ESD and anti-interference.

## Caution

- 1) Transmission distance is related with the connecting cable, we suggest standard coaxial cable or Cat5/5e/6 cable to get the longest transmission distance;
- 2) The network rate decreases with increasing of transmission distance;
- 3) Grounding and anti-lightening can greatly increase the protection level of the switch, please connect the earth terminal by using at least wire 20.

## Board Diagram



## Installation steps

Please check the following items before installation. If any missing, please contact the dealer.

- |  |      |
|--|------|
| ● Ethernet Extender-IPC Unit/Ethernet Extender-SV Unit | 1pc  |
| ● Power Adapter  | 1pc  |
| ● Hanger   | 2pcs |
| ● BNC Connector  | 2pcs |
| ● User Manual  | 1pc  |

### Please follow the following steps

- 1) Please turn off the signal source and the device's power, installation with power on may damage the device;
- 2) Use network cable to connect IP camera with IPC's RJ45 port;
- 3) Use network cable to connect SV's RJ45 port and NVR;
- 4) Use telephone cable or UTP cable/Coaxial cable to connect with IPC and SV's transmission ports;
- 5) Check if the installation is correct and device is good, make sure all the connection is reliable and power for the system;
- 6) Make sure every network device has power supply and work normally.

## Specification

Item	Description	
Power	Power Supply	SV: Power adapter; IPC: Powered by SV Unit through Coaxial Cable
	Voltage Range	DC48V ~ 57V
	Consumption	Total < 5W, other consumption for EPOC power output
	EPOC Power Voltage	48V~57V (IPC Unit without this input)
	IPC-Unit Output Voltage	DC12V
Ethernet Port	Ethernet Port	EPOC Port: Use coaxial cable to transmit Ethernet signal and power Ethernet Port: 10/100Mbps
	Transmission Distance	EPOC Port uses Coaxial Cable: Maximum 500m, transmission rate decreases with increasing of transmission distance; Ethernet port uses Cat5\5e\6: 100m
LED Status Indicator	Power	1 (Red)
	EPOC Ethernet Indicator	1 (Green)
	RJ45 Ethernet Indicator	1 (Green), 1 (Yellow) Indicat Link/act
Protection	ESD	Level 3, per: IEC61000-4-2 Per: IEC61000-4-2 Per: IEC61000-4-2
Environmental	Working Temperature	0°C~55°C
	Storage Temperature	-40°C~85°C
	Humidity (Non-condensing)	0~95%
Mechanical	Dimension (L x W x H)	82mm x 100mm x 25mm
	Material	Aluminum
	Color	Black
	Weight	IPC:180g; SV:180g

Product are subject to change without prior notice

## Trouble Shooting

Please find the following solution when the device doesn't work

- Please confirm if the installation is correct;
- Please confirm if the RJ45 cable order is in accordance with the EIA/TIA568A or 568B industry standards;
- The maximum transmission distance depends on the signal source and cable quality, please do not exceed the maximum transmission distance;
- Please replace a normal device with a failure one to check if the device is broken;
- If the problem still exists, please contact the factory.

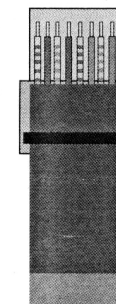
## RJ45 Making Method

Tools to make RJ45: wire crimper, network tester.

Wire sequence of RJ45 plug should conform with EIA/TIA568A or EIA/TIA568B standard.

- 1) Strip off the 2cm insulating layer to expose the 4 pairs UTP cable;
- 2) Separate the 4 pairs of UTP cable and straighten them;
- 3) Line up the 8 separated pieces of cables per EIA/TIA 568A or 568B;
- 4) Cut the cables to leave 1.5cm bare wire and make sure 8 thread ends are flat and neat ;
- 5) Insert 8 cables into RJ45 plugs, make sure each cable is inserted in each pin;
- 6) Then use wire crimper to crimp the RJ45;
- 7) Do the above 5 steps again to make the another end of the twisted pair and make sure consistent cable order between two ends ;
- 8) Using network tester to test the cable.

pin	color
1	white/green
2	green
3	white/orange
4	blue
5	white/blue
6	orange
7	white/brown
8	brown



EIA/TIA 568A

pin	color
1	white/orange
2	orange
3	white/green
4	blue
5	white/blue
6	green
7	white/brown
8	brown



EIA/TIA 568B



### Notice

- Make sure both ends use EIA/TIA568A connection method when using RJ45 port.
- Make sure both ends use EIA/TIA568B connection method when using RJ45 port.