

Power over Coax

HDCVI technology evolution, Simplify wiring
and maintenance

White Paper by Dahua Technology



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Power over Coax

(HDCVI 3.0 technology evolution)

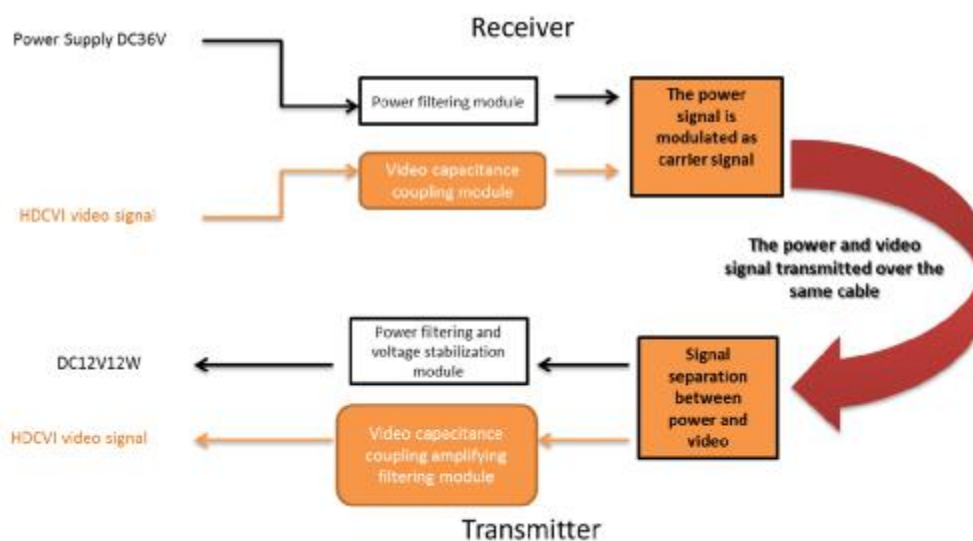
1 What is PoC?

Power over Coax, short in PoC, is a type of technology which is to transmit HD video, power supply and control signal etc. over one coaxial cable. As a standard specification, PoC compliance should be able to transmit the following signals in the coaxial cable at the same time.

- HD Video surveillance signal
- Power signal
- Other signals like control, audio and others can also be transmitted through the coaxial cable.

2 Development of PoC

The main function blocks of PoC are shown in the following figure.



2.1 Technology development

PoC development can be separated into two phases which are analog PoC and HD PoC. Analog PoC is to realize the analog video signal and power to be carried in one coaxial cable in order to save the investment and maintenance cost etc in power cable realizing analog video surveillance.

HD analog is to couple and de-couple the HD video signal with power signal in order to be transmitted in one coaxial cable.

Dahua patented HDCVI PoC is one of the HD PoC standards, in which the HD video signal, in HDCVI format, together with control and power signal to be transported in

one coaxial cable while different signals will be moderated in different frequency in transmitting side and de-modulated signals including HDCVI video and power to be separated as in the receiving side. With the most updated technology development, PoC in HDCVI format can be transmitted maximal 400m without affecting both HDCVI Video and power signal.

Dahua with its know-how and knowledge in coupling HD Video signal with power supply and unique techniques in minimizing interference between strong and light current in the scenario of video and power signal in one transmitting cable is able to solve the problems the industry is facing and bring the HDCVI PoC in commercial applications.

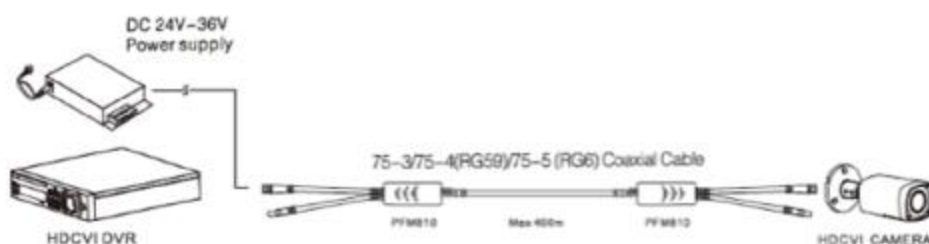
The phase I PoC is realized with external PoC converter, which means additional converters are required in both transmitting and receiving side, to couple and de-couple the HDCVI video signal with power signal.

2.2 Advantages of PoC

From day 1, PoC has the born advantage of easy wiring, installation and maintenance thus to save cost. The 400m transmission distance can cover current majority application scenarios and makes centralized power supply possible instead of traditional distributed ones.

3 Application scenarios

Typical application and connection diagram of HDCVI PoC is as following.



3.1 Typical application I: Video surveillance in lift

Lift is usually used with limited space. How to simplify the wiring, minimize the potential failure points and solve the interference between strong and light current

is one of the big questions when engineers plan the lift installation. With the PoC, new in market, engineers can easily solve the problem with simple coaxial cable transmitting both video and power signal, which can not only stabilize both video and power signal, but also deliver even better image quality.



3.2 Typical application II: Gas station

As a high-risk industry with explosive material onsite, gas stations are regarded as highly sensitive location that all wiring, fire source, electricity etc need to be carefully planned. Extra power cables are difficult to find for video surveillance. PoC with advantage of transmitting in shielded coaxial cable can in reality minimize the risk and is an ideal way of realizing video surveillance in gas station.



About Dahua Technology

Dahua Technology is a world-leading video surveillance solution provider. Our company enjoys the world's second largest market share according to the IMS 2015 report. We believe in investing and building strong R&D capabilities for new technology and innovation. The company invests more than 10% of sales revenue in R&D every year. Dahua technology has more than 4000 professionals in R&D team, who are dedicated to provide cutting edge products and solutions for our valuable customers. The company has 592 patents in total till end of 2005 and advocates opens to share or license its technical know-how with global partners.

Dahua's product portfolio includes: Advanced Video Surveillance Products/Solutions and related Software, Access Control, VDP, Alarm, Intelligent Building Management Systems and Intelligent Traffic Management System etc.

Dahua's products are widely used in banking, public security, energy infrastructure, telecommunication, intelligent-building and intelligent-transportation etc. Many significant projects have been installed with Dahua's solutions including: The Sanxia Hydropower Plant, Six-Country Summit, Beijing Olympic Venues, APEC, Shanghai World Expo, UNESCO site in Italy and London Underground Subway as well as many others.