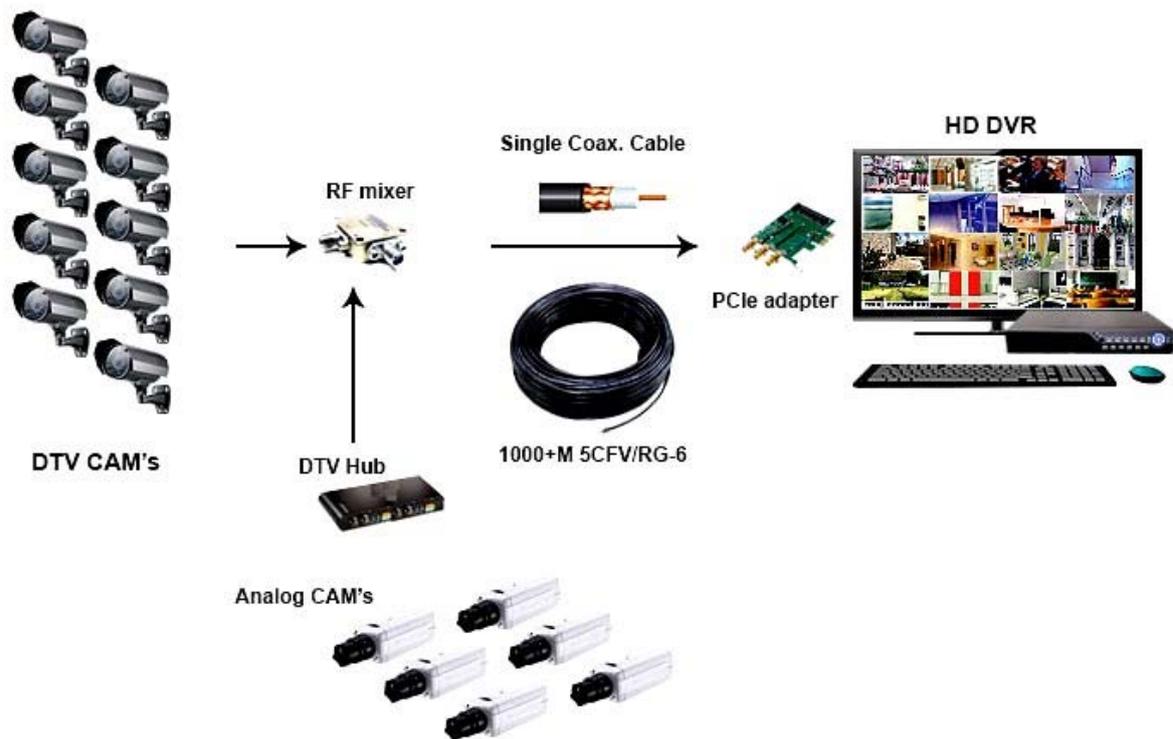


ccHDtv



What is ccHDTV?

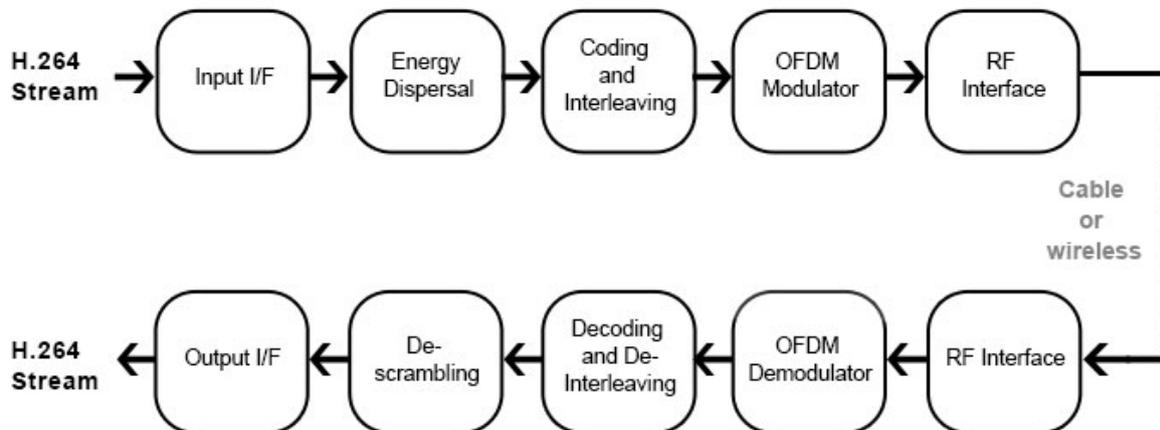
ccHDtv is a novel technique pioneered by ITE Tech. Inc.

ccHDTV cameras transmit compressed H.264 data to NVR units. The technology is similar to that used in digital television broadcasts. This is a proven way of delivering stable high quality video transmission on a large scale. **Data is transmitted via standard analog video coaxial cables with up to 16 cameras sharing a single cable.** The most obvious advantage of this technology is that **existing coaxial cable infrastructure for legacy analog CCTV systems can be used** as the required coaxial cables and connectors for this technology are exactly the same.

ccHDtv(closed circuit HDTV) is a newly developed solution for transmitting full HD digital video in a surveillance system. The core concept of ccHDtv is to deliver high definition video using digital TV (DTV) transmission. With ccHDtv, high definition digital video can be transmitted easily over coaxial cables, twisted pairs, or simply over the air. Multiple 1080p30 and 1080p60 video streams can be easily transmitted using ccHDtv over a single 5C2V/RG6 cable up to a length of 1000 meters without any repeater (Up to 500 meters in case of 3C2V/RG59).

One of the unique features of this technology is the ability to create flexible “daisy chain” connections using BNC couplers and cameras set to operate on different “channels”. Adding new cameras can therefore be achieved simply by inserting a T connector and connecting a camera on a

non-conflicting channel. Loops can even be formed as a fail-safe measure against broken cables. As a result, ccHDTV systems have the potential to be scaled easily with a high level of stability.



Features of ccHDTV

- Existing cable can be used when an analog system migrates to ccHDTV.
- Deployment is similar to analog CCTV so no special skills required
- Has high capacity bandwidth
- Support transmission for longer distance - Multiple full HD camera video streams are able to be transmitted over a single coaxial cable
- Supports hybrid media – cable and wireless.
- Supports call redundancy and data encryption.
- Any iDTV set with DVB-T feature is able to receive ccHDTV signal without an HD DVR
- No frame drops and real-time delivery

Components of a ccHDTV system

DTV CAM

A surveillance camera which supports ccHDTV

DTV HD DVR

The backend digital video recorder for ccHDTV

DTV HUB

A hub which converts (digitizes) the CVBS and audio signals of 1~N analog surveillance cameras to digital TV signal. With DTV HUB's, existing analog cameras can be supported by the new ccHDTV system

DTV Gateway

A bridge links between DTV CAM's and CMS/NVR/IVA IP network. All DTV CAM's are seen as virtual IP CAM's from servers' perspective.

Repeater

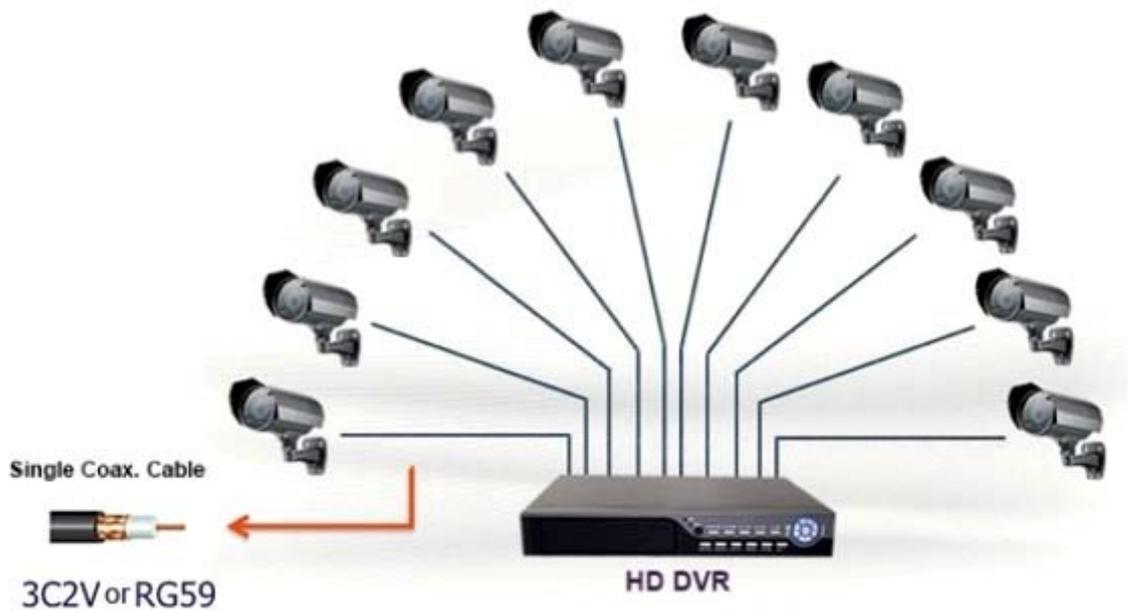
No special repeater is required. Any cable or aerial-TV repeater from the market is applicable.

Topologies supported

- Star - Exactly the same deployment as the traditional CCTV system
- Bus
- Ring

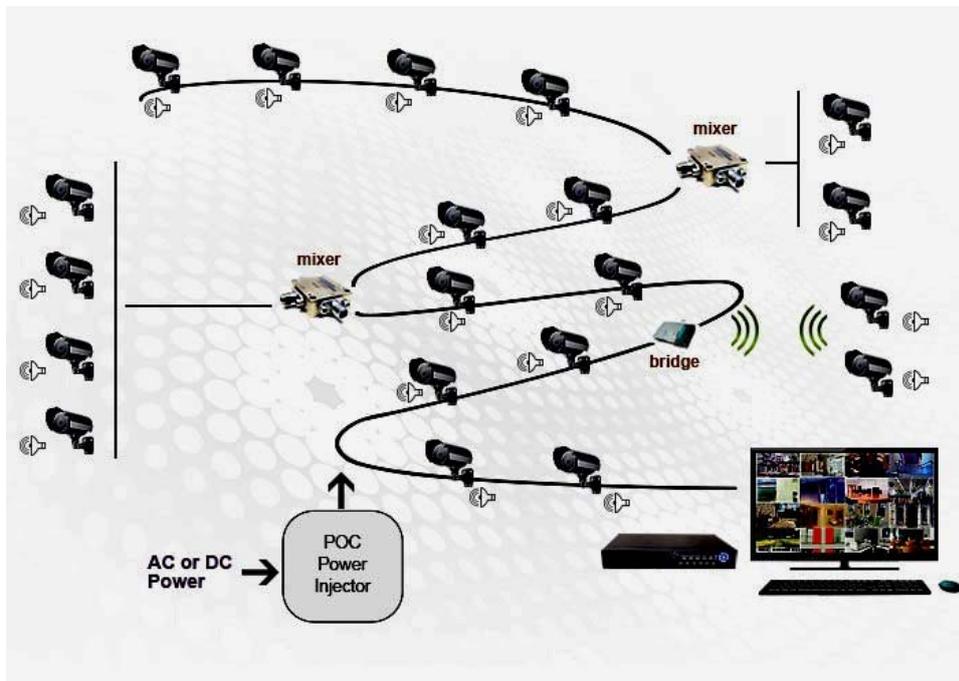
Star Topology

The coaxial cable and connector is the same as for analog CCTV.



Bus Topology

This is similar to cable TV deployment with multiple DTV CAM's running on a single cable. This uses the same coaxial cables, connectors, mixers and amplifiers.



Ring Topology

Ring and multi-path connection are allowed in cchDtv. This makes it possible to provide an alternate route in case the cable is cut at one point.



Is cHDTV an alternative to IP Video?

While IP transmission is capable of delivering superior image quality compared with traditional analog video signal transmission formats such as NTSC, PAL and SECAM, there are still some issues with this technology. IP transmission is often affected by bottlenecks in the network. This can lead to frame rate reduction due to skipped images. cHDTV on the other hand transmits data through a dedicated channel, and is therefore not affected by bandwidth bottlenecks and never skips frames.

IP-based systems are complex to set up and maintain and require careful management of IP addresses. Avoiding the problem of network traffic bottlenecks therefore requires well-managed IT skills and Systems.

In essence, IP video surveillance needs I.T. competence and a different set of skills when compared to the simple connections found in traditional CCTV systems. On the other hand, cHDTV can transmit high quality compressed video, but without the complexity of I.P. systems.

Conclusion

- Existing coaxial cable infrastructure for legacy analog CCTV systems can be used as the required coaxial cables and connectors for this technology are exactly the same.
- This has the unique ability to create flexible “daisy chain”
- Both the AC and DC power is supported
- Bus topology is supported – it is similar to the cable TV deployment.
- No special knowledge is required for bandwidth planning.
- The performance or throughput is NOT affected by the number of DTV CAM’s, TVR’s, monitors, CMS servers or the cable length.
- The cable network is flexible, scalable and easy to plan. Does not require newer I.T. skills to be learnt.

Caveat

- cHDTV still needs to prove itself.
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