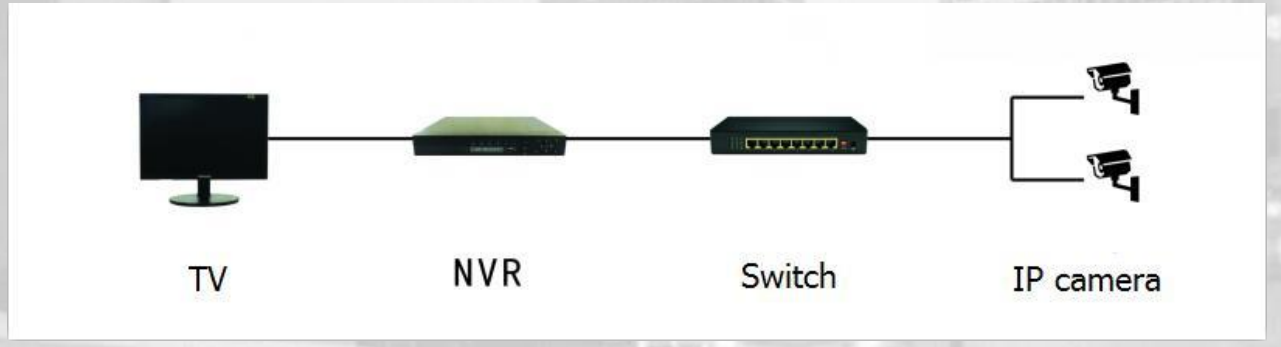
Content

WIRELESS AP Knowledge

Wired or Wireless Installation?

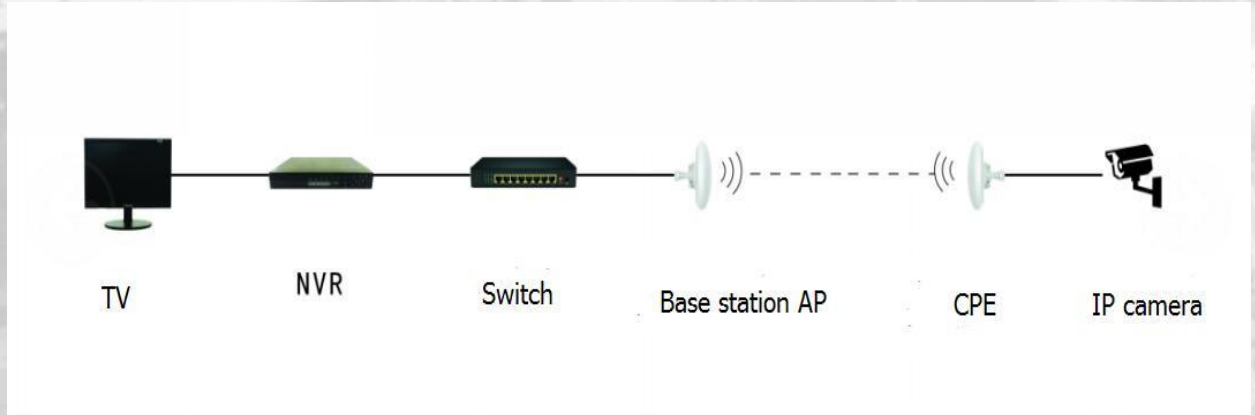
There are two types of CCTV Installation

Wired CCTV Installation：



Wired installation is commonly used of CCTV installer mostly if they have a project for Analog Type Camera and sometimes for IP Camera. They use some Cables like Coaxial and UTP Cable.

Wireless CCTV Installation：



Wireless installation is much effective for long distance video transmission using AP antenna. And also it can save more time, materials / labor cost, and it can save money for the clients.

What is Wireless AP?

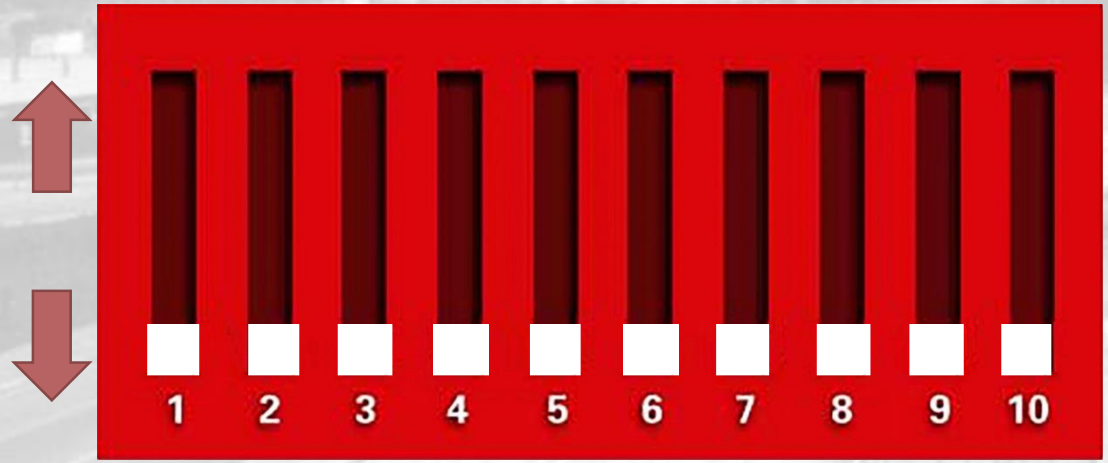
Access Point (AP) receives data by wired Ethernet, and converts it to a 2.4Ghz or 5Ghz wireless signal. It sends and receives wireless traffic to and from nearby wireless clients.

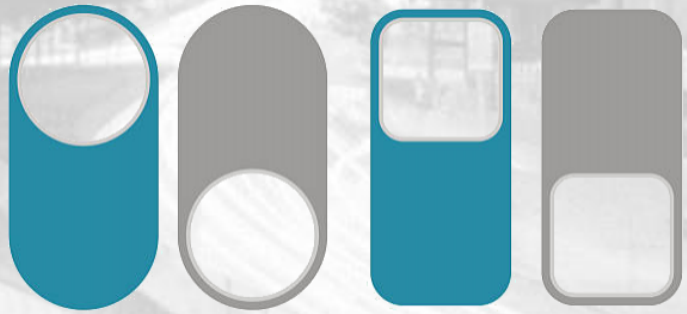
Usually the data transmitter is directly called AP, while the data receiver is called CPE (Customer Premises Equipment). All products can be set as AP or CPE mode.

Why choose DIP?

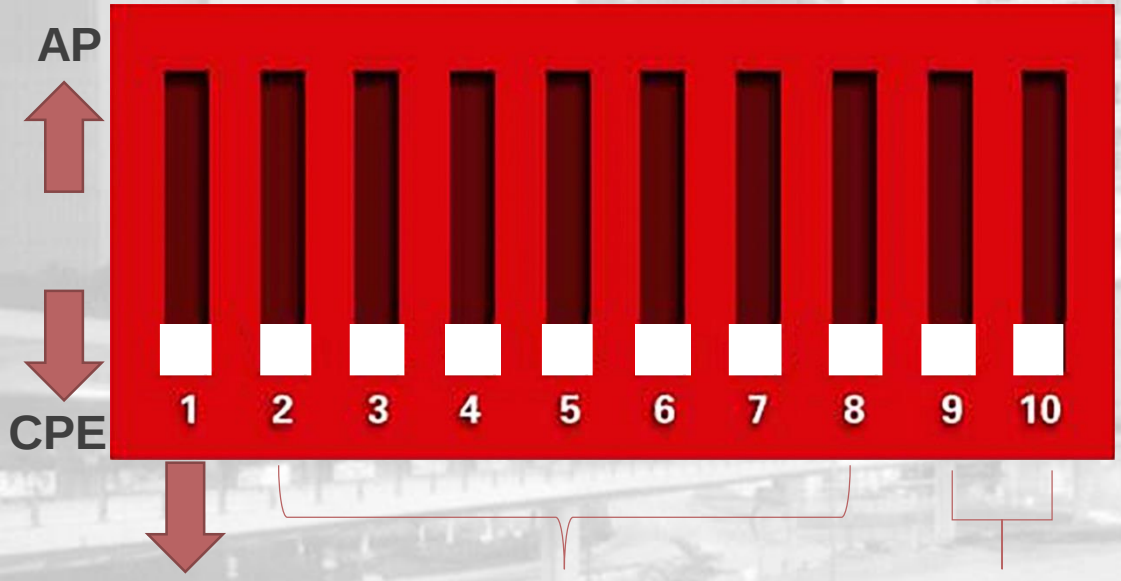
The first dial-up wireless AP in India. No need computer for operation, no technical settings, no professional guidance. Easy dial to achieve wireless communications.

DIPs are specialized for CCTV Video Transmission compare to other AP brands that applicable for NETWORK Transmission only, DIPs can transmit from Short Distance up to Long Distance Video Transmission.





How the DIP Switch Works?



Button 1 changes the mode of the device.
UP is access point (AP/SENDER) mode for using with your NVR and PC, etc..
DOWN is for CPE(RECEIVIER) using with your cameras.

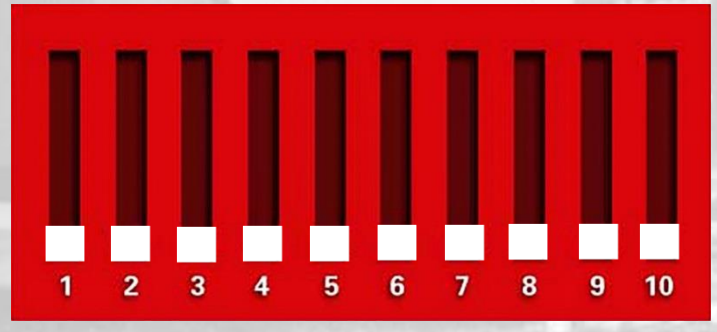
Button 2 to 8 are for matching AP and CPE together. Different combinations corresponds to different SSIDs and different segments.

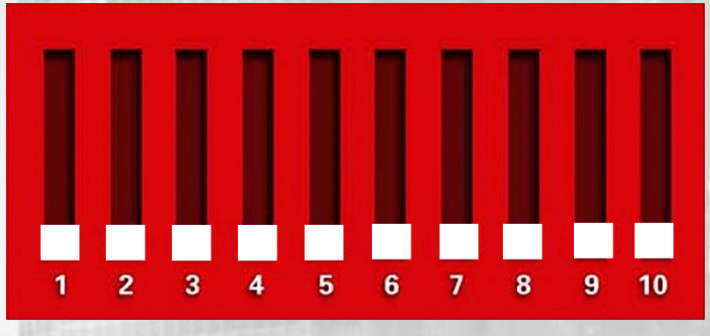
Button 9 &10 are for point to multi-point functionality. To use up to 4 cameras with one recorder, different orders of button 9 &10 stand for different CPE.

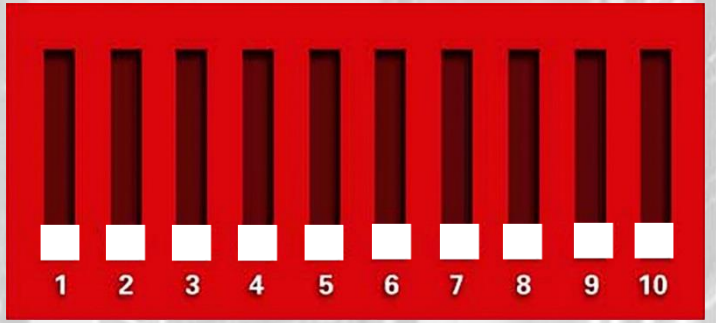
Each DIP AP(master) can be connected up to 4 DIP CPE(slave) only

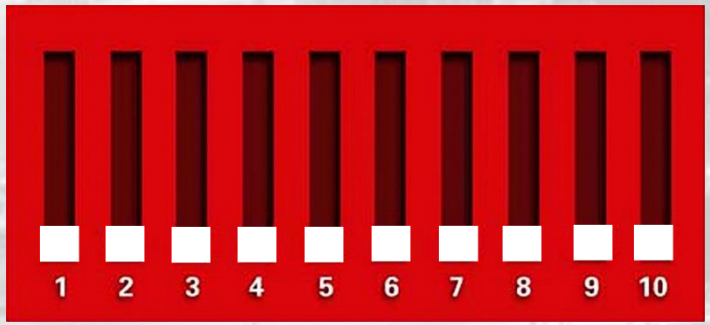
Sample DIP Setup

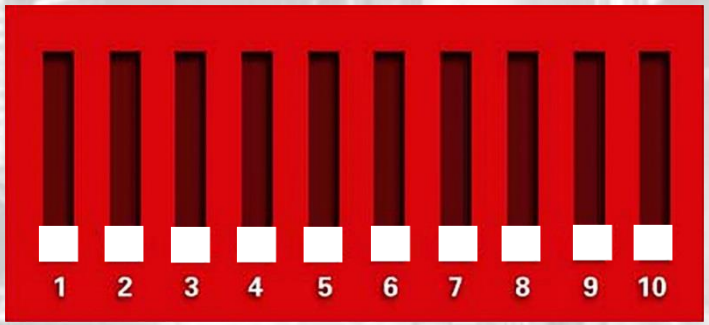
Access Point











1. Setup the Working Mode of all APs.
2. Set the Frequency of AP (master).
3. Follow the Frequency Pattern of AP (master) in CPE (slave).
4. Set the IP Keys of AP (master) and CPE (slave).
5. Follow the procedure in other AP (master) & CPE (slave) but in different Frequency Pattern.

How many IP Cameras you can transmit?

The IP cameras are connected with the CPE(slave). The bandwidth of AP(master) and the cameras decide how many cameras can be carried in one solution.

Bandwidth of wireless access point:

Frequency	Transmission Speed	Model	Transmission Distance	Total Bandwidth
5.8 GHz	150Mbps	VSW1	≤1km	20-60M
		VSW2	≤2km	30-60M

How many IP Cameras you can transmit?

Bandwidth of camera:

H.264 Video Compression			H.265 Video Compression		
IP Camera	Megapixel	Bandwidth	IP Camera	Megapixel	Bandwidth
720P	0.92	1 - 3Mbps	1080P	2.07	1 - 4Mbps
960P	1.23	2 - 5Mbps	2K Res.	3.69	2 - 7Mbps
1080P	2.12	3 - 8Mbps	4K Res.	8.85	6 - 18Mbps
2K Res.	3.69	5 - 15Mbps			
4K Res.	8.85	11 - 35Mbps			

How many IP Cameras you can transmit?

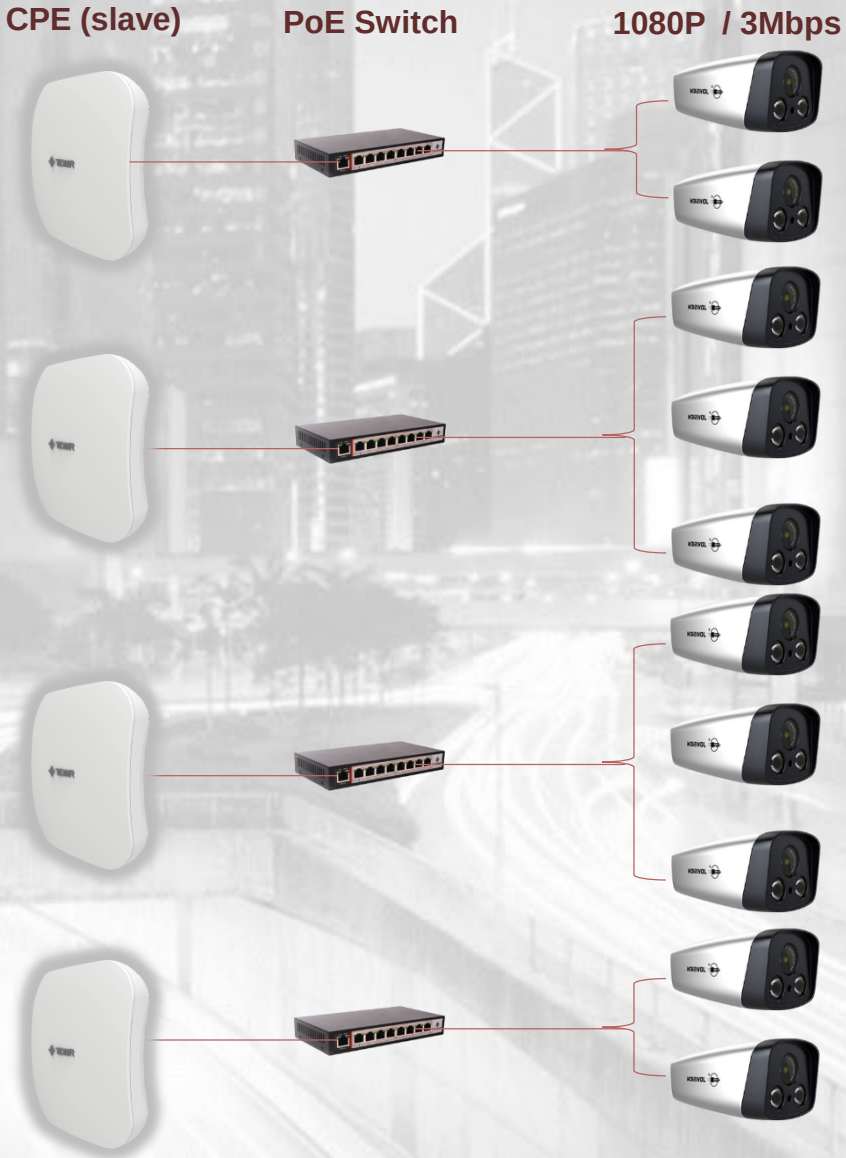
VSW2 / 5.8Ghz /150Mbps speed
Maximum Bandwidth: 50M
(save 30% value for camera bandwidth fluctuation)

AP (master)

PoE Switch

NVR

10 units IPC x 3Mbps = 30Mbps

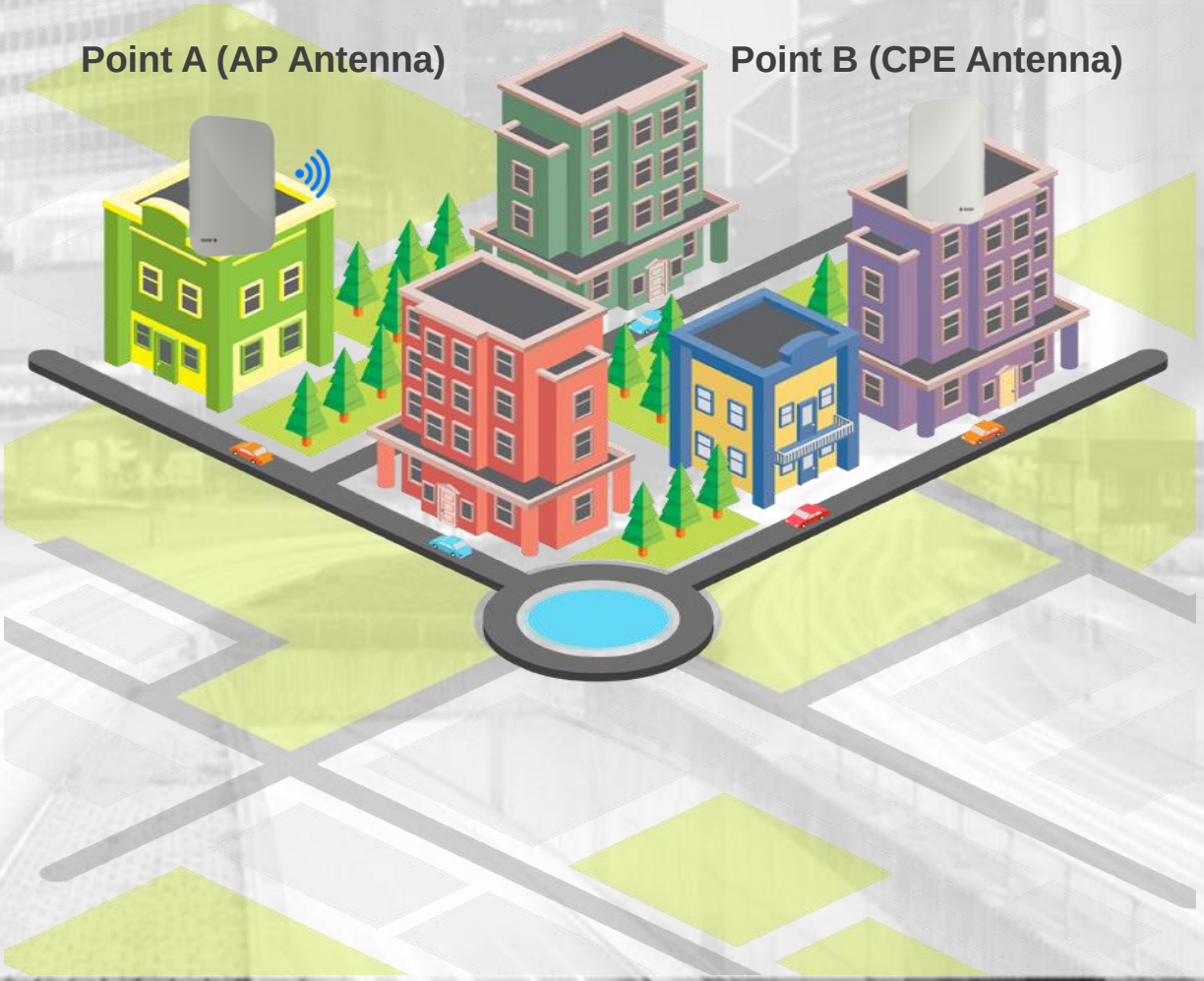


Wireless Transmission Mode

This is the common Transmission Mode for Access Point (AP)

Point-to-Point Transmission (PTP)

For example PTP Transmission



-Two units of Wireless AP work as Fiber Cable or Network Cable.
-To the device which has Network port can be used for Wireless Transmission.

Wireless Transmission Mode

Point-to-Multi Point Transmission (PTMP)

-The Point-to-Multipoint topology (also called star topology or simply P2MP) is a common network architecture for outdoor wireless networks to connect multiple locations to one single central location. In a point-to-multipoint wireless Ethernet network, all remote locations do not communicate directly with each other but have a single connection towards the center of the star network where one or more base station is typically located.

For example PTMP Transmission

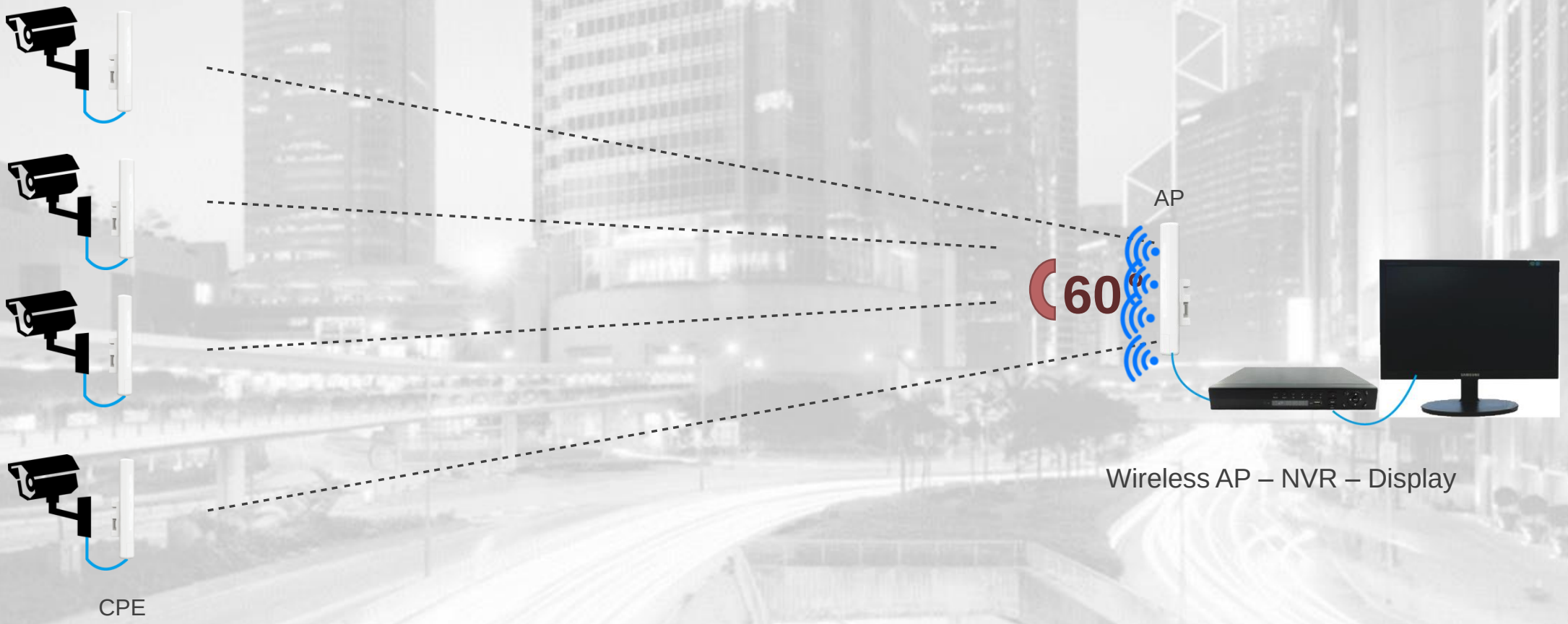
Wireless Transmission Mode

Repeater / Access Point Mode

-A **wireless repeater** (also called **wireless range extender**) takes an existing signal from a wireless access point and rebroadcasts it to create a second network. When two or more hosts have to be connected with one and the distance is too long for a direct connection to be established, a wireless repeater is used to bridge the gap.

For example PTMP Transmission

The transmission angle of wireless AP



The farther the distance, the greater the scope of coverage.
The smaller the angle, the farther the transmission distance.