

# WIPRO SECURITY



## LAUNCHING Video Surveillance Systems

PRODUCT CATALOGUE 2009





impacting your lives  
in many ways...



# Productivity, Comfort and now **Security**

Safety and security is the need of the hour. A person going to office wants a safe working environment, a shopper wants a hassle free shopping experience, a business enterprise wants to protect its physical assets 24x7, a retailer wants to monitor and control his environment and do better business. We all want to stay secure and breathe easy. Secure environment results in smooth operations, greater productivity and confident people. More than anything else, it brings complete peace of mind and gives the confidence that puts people at ease, wherever they are.

Wipro Security comes from Wipro Consumer Care and Lighting, a part of diversified Rs. 250 billion Wipro Corporation having interests in Information Technology, Healthcare, Infrastructure Engineering and Consumer Care.

With its comprehensive and diverse portfolios in Lighting, Furniture and LV Electrical products, Wipro has come to be known for enhancing productivity, providing comfort and touching peoples lives across segments.

Taking a step further, Wipro now launches Security and Building Solutions, with a clear focus on small and medium enterprises and a commitment to provide value for money products and solutions.

## Video Surveillance Systems



# WIPRO SECURITY



## Meeting today's security challenges

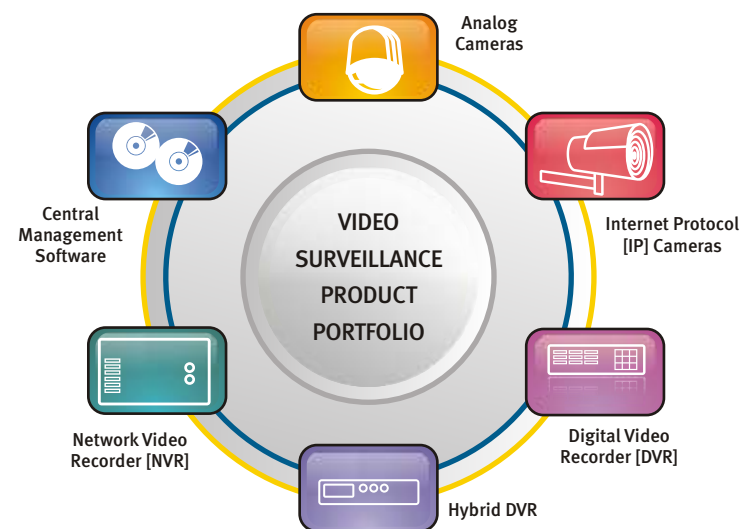


Environments teem with life when they are safe and comfortable. With increasing need for efficient security and ever shrinking budgets, Security Products are fast replacing man guards and human intervention. Amongst the security solutions, Video surveillance is the most preferred and reliable one.

Mere presence of overt or discreet video monitoring is a huge deterrent to a potential crime. The new video technologies have increased our capabilities and set a new standard in security. Wipro's Video Surveillance offers a complete integrated solution that goes way beyond just close circuit television (CCTV) cameras.

The two technology paradigms that are in race to meet the demands for enhanced security tools are:

- **Analog video surveillance:**  
The one stop shop closed architecture
- **Internet Protocol [IP] video surveillance:**  
Technologically diverse open architecture



## Reliable solutions to protect people and property



The need for security encompasses virtually every vertical segment and category. It can simply be a small store, or your office in any geographical location, a shopping complex, a bank or an entertainment centre, your kid's school or a museum; everything needs to be safeguarded from potential risks.

Wipro Security now offers you entire range of products, solutions and expertise that protects you and your valuable assets, always.



**Modern Workspaces**



**Industries**



**Banks and Financial Institutions**



**Healthcare**



**Hospitality**



**Retail**



**Educational Institutions**



**Art and Culture**



**Pharmaceuticals & Life Sciences**



**Homes**

## Time-tested and Reliable



### CUSTOMER BENEFITS

- Easy to use, cost effective and low on maintenance
- Wide variety of cameras supported for all kinds of applications
- Trusted CCTV solution used world wide
- Less and inexpensive hard disk drive (HDD) requirement to store video
- Tamper proof design with closed system architecture
- Readily available with standard output interfaces

### OUR ANALOG PRODUCT PORTFOLIO



Box Cameras



Fixed Dome Cameras



Infrared Cameras



Speed Dome Cameras

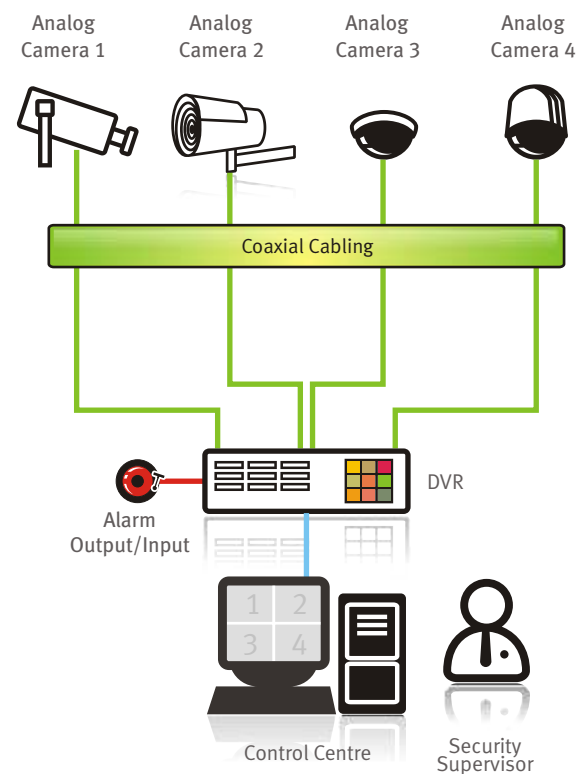


Digital Video Recorders



Hybrid Digital Video Recorders

### SYSTEM ARCHITECTURE





### Analog Box Camera Range



	Wipro Model	WSVBX 352CS	WSVBX 351CS[H]	WSVBX 332CSVF	WSVBZ 432CS	WSVBX322CS [D]	WSVBX383CS
<b>GENERAL</b>	Dimension [mm]	122 L x 61 W x 47 H	105 L x 66 W x 52 H	120 L x 60 W x 55 H	105 L x 58 W x 70 H	122 L x 61 W x 47 H	105 L x 57 W x 52 H
	Net Weight	350 g	320 g	400 g	360 g	350 g	350 g
	Power Supply	DC12 V or AC 24 V	DC12 V or AC 24 V	DC12 V or AC 24 V	DC12 V	DC12 V	DC12 V or AC 24 V
<b>IMAGING &amp; VIDEO</b>	Camera Type	Fixed Box	Fixed Box	Fixed Box	Professional Zoom Box	Fixed Box	License Plate Camera
	Camera Option	Day & Night	Colour	Colour	Colour	Day & Night	Day & Night
	Image Sensor	1/3" Sony Super HAD CCD	1/3" Sony Super HAD CCD	1/3" Sony Super HAD CCD	1/4" Sony CCD	1/3" Sony Super HAD CCD	Sony HQ1 CCD
	DSP System	Sony HQ 1	Hitachi DSP	Sony DSP	Sony DSP	Sony DSP	Sony DSP
	TV System	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC
	WDR	–	YES	–	–	–	–
	AGC	YES	YES	YES	–	–	YES
	IR Cut Filter	–	–	–	–	–	YES
	White Balance	Auto White Balance	Auto White Balance	Auto White Balance	Auto White Balance	Auto White Balance	Auto White Balance
	Back Light Compensation	YES	YES	YES	YES	YES	YES
	On Screen Display	–	–	YES	YES	–	YES
<b>LENS TECHNOLOGY</b>	Video Out Put	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0 Vp-p at 75 ohm
	Lens	C/CS	C/CS	3.5 -8 mm (Manual Varifocal)	( 30 x Zoom Lens)	C/CS	C/CS
	Auto Iris	Video /DC Switchable	Video / DC Switchable	–	–	Video / DC Switchable	–
	Electronic Shutter	1/50 -1/120000 sec	1/50 -1/120000 sec	1/50 -1/100000 sec	1/50 -1/120000 sec	1/50 -1/120000 sec	10 Modes of Electronic Shutters
<b>RESOLUTION</b>	S/N ratio	48 db (AGC Off)	48 db (AGC Off)	48 db (AGC Off)	more than 52 db	48 db (AGC Off)	48 db
	Television Lines	540 TVL	540 TVL	480 TVL	480 TVL	420 TVL	540 TVL
<b>SENSITIVITY</b>	Minimum Illumination	0.02 L/F1.2	0.001 L/F1.2	0.05L	0.05 L/F1.2	0.05 L/F1.2	0.2 L/F1.2
<b>ENVIRONMENT</b>	Operation Temp	– 10 to 50°C	– 10 to 50°C	– 10 to 50°C	– 10 to 50°C	– 10 to 50°C	– 10 to 60°C

### PRODUCT HIGHLIGHTS

- Interchangeable lens capability offers options to select the lens suitable to a specific surveillance application
- Models with high resolution up to 580 TVL results in sharper images for clear and accurate identification
- Models with special features like Wide Dynamic Range (WDR), Back light Compensation (BLC), Auto Gain Control (AGC) for better image clarity
- State-of-the-art Sony Super HAD sensor enhances image quality and low light performance
- Outstanding performance backed with extreme flexibility and versatility
- Option of weather proof housing for outdoor environments
- Dual voltages use 12 V DC or 24 V AC
- Ready to install with mounting brackets
- Suitable for passage areas, corridors and outdoor applications

# AVID*i* | Analog Fixed Dome Camera Range

## Analog Fixed Dome Camera Range



	Wipro Model	WSVDX373CSVF	WSVDX362CS0	WSVDA37CS36	WSVDA23CSVF	WSVDX325CS06 H
<b>GENERAL</b>	Dimension [mm]	136.4 Ø x 107.8 H	100 W x 80 H	126 Ø x 80 H	165 Ø x 100 H	113.3 x 78.7 H
	Net Weight	400 g	280 g	850 g	900 g	410 g
	Power Supply	DC12 V	DC12 V	DC12 V	DC12 V	DC12 V
	3 axis Rotation	YES	YES	–	YES	–
<b>IMAGING &amp; VIDEO</b>	Camera Type	Varifocal dome	Fixed dome	Vandal Proof Dome	Vandal Proof Dome	Fixed IR Dome
	Camera Option	Colour	Colour	Colour	Colour	Day & Night
	Image sensor	1/3" Sony CCD	1/3" Sony Super HAD	1/3" Sony HAD	1/3" Sony CCD	1/3" Sony SS -11
	DSP System	Sony DSP	Sony DSP	Sony DSP	Sony DSP	Sony DSP
	TV system	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC
	AGC	YES	–	YES	YES	YES
	White Balance	AWB	AWB	AWB	AWB	AWB
	Back Light Compensation	YES	YES	YES	YES	YES
	Video Out Put	Composite 1.0 Vp-p at 75 ohm	Composite 1.0 Vp-p at 75 ohm	Composite 1.0 Vp-p at 75 ohm	Composite 1.0 Vp-p at 75 ohm	Composite 1.0 Vp-p at 75 ohm
<b>LENS TECHNOLOGY</b>	Lens	3.7 – 12 mm Varifocal	3.6 / 4 / 6 / 8 mm	3.6 mm fixed	3.7 – 12 mm Varifocal	6 mm Fixed Lens Optional 8 mm
	Auto Iris	Yes	Video DC Switchable	–	YES	–
	Electronic Shutter	AES	AES	AES	AES	AES
	S/N ratio	more than 48 db	more than 48 db	more than 48 db	more than 48 db	more than 48 db
<b>RESOLUTION</b>	Television Lines	550 TVL	540 TVL	550 TVL	420 TVL	420 TVL
<b>SENSITIVITY</b>	Minimum Illumination	0.3L/F 1.2	0.02 L /F 1.2	0.03 L/F1.2	0.3 L/F1.2	0 Lux IR ON / 0.5 L @ F 1.4
<b>ENVIRONMENT</b>	Operation Temp	– 10 to 50°C	– 10 to 50°C	– 10 to 50°C	– 10 to 50°C	– 10 to 60°C
	Vandal Resistance	–	–	YES	YES	–
	Water proof	–	–	IP 66 Weatherproof	IP 66 Weatherproof	–

## PRODUCT HIGHLIGHTS

- Best design for discrete surveillance
- High performance imaging technologies deliver excellent picture quality
- Ease of installation and usage
- Cameras with superior Ingress Protection (IP) for outdoor application
- Vandal resistant dome camera for enhanced protection
- Options in wall and ceiling mounting
- Best suited for homes, offices, banks, retail, education etc



### Analog Infrared Camera Range



	Wipro Model	WSVDI373CSVF	WSVDA323CSVF	WSVI1325CS36	WSVI2365CS06	WSVI3325CSVF	WSVI4365CS06	WSVI1325CS04 H
<b>GENERAL</b>	Dimension [mm]	124 W x 104 H	98.8 W x 29.6 H	76.5 L x 60 W x 53.5 H	130L x 75W x 80H	220 L x 100 W x 90 H	138 L x 89 W x 89 H	71.8 L x 74 H
	Net Weight	420 g	1600 g	460 g	640 g	960 g	490 g	300 g
	Power Supply	DC12 V	DC12 V	DC 12 V	DC 12 V	DC 12 V	DC12 V	DC12 V
	3 axis Rotation	YES	YES	-	-	-	-	-
<b>IMAGING &amp; VIDEO</b>	Camera Type	Fixed IR Varifocal dome	Vandal Proof IR dome	IR Camera	IR Camera	IR Camera	IR Camera	IR Bullet Camera
	Camera Option	Day & Night	Day & Night	Day & Night	Day & Night	Day & Night	Day & Night	Day & Night
	Image Sensor	1/3" Sony Super HAD	1/3"Sony CCD	1/3" Sony Super HAD	1/3" Sony Super HAD	1/3" Sony Super HAD	1/3" Sony Super HAD	1/3"Sony
	DSP System	Sony DSP	Sony DSP	Sony DSP	Sony DSP	Sony DSP	Sony HQ1	Sony DSP
	TV System	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC
	AGC	-	YES	YES	YES	YES	YES	YES
	IR Cut Filter	YES (Optional)	YES	-	-	-	-	-
	White Balance	AWB	AWB	AWB	AWB	AWB	AWB	AWB
	Back Light Compensation	YES	YES	YES	YES	YES	YES	YES
	IR LED	28 nos	28 nos	12 nos	30 nos	36 nos	64 nos	21 nos
	IR View Distance	20 m	25 m	10 m at 0 lux	25 m	30 m	40 m	15 m
	Video Out Put	YES	YES	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm	Composite 1.0Vp-p at 75 ohm
<b>LENS TECHNOLOGY</b>	Lens	2.9 - 10 mm Varifocal	2.9 - 10 mm Varifocal	3.6 mm	6 mm	4- 9 mm Varifocal	6/8/12 mm	4 mm Fixed Lens Optional 6 / 8 mm
	Auto Iris	YES	YES	-	-	-	-	-
	Electronic Shutter	AES	AES	1/50 -1/120000 sec	1/50 -1/100000 sec	1/50 -1/120000 sec	1/50 -1/120000 sec	1/50 -1/120000 sec
	S/N Ratio	more than 48 db	more than 48 db	48 db (AGC OFF)	48 db	48 db	48 db (AGC OFF)	more than 48 db
<b>RESOLUTION</b>	Television Lines	550 TVL	420 TVL	420 TVL	540 TVL	420 TVL	540 TVL	420 TVL
<b>SENSITIVITY</b>	Minimum Illumination	0.3 L /F 1.2	0.05 L/F1.4	0 Lux IR ON / 0.5 Lux IR OFF	0 Lux IR ON / 0.5 Lux IR OFF	0 Lux IR ON / 0.5 Lux IR OFF	0 Lux IR ON/ 0.5L IR OFF	0 Lux IR ON / 0.5L IR OFF
<b>ENVIRONMENT</b>	Operation Temperature	- 10 to 50°C	- 10 to 50°C	- 10 to 50°C	- 10 to 50°C	- 10 to 50°C	- 10 to 50°C	- 10 to 60°C
	Vandal Resistance	-	YES	-	-	-	-	-
	Waterproof	-	IP 66 Weatherproof	Water Proof	Water Proof	Water Proof	Water Proof	IP 66

### PRODUCT HIGHLIGHTS

- Designed to work in complete darkness
- Cameras for different night vision detection level imaging up to 40 m
- Infrared imaging design helps the power of infrared illumination to deliver outstanding images in day & night
- State-of-the-art Sony Super HAD chipset enhances image quality and low light performance
- Models with high resolution upto 540 TVL with mechanical IR cut filter technology
- Option of weather proof housing for outdoor environments
- Best suited for outdoor perimeter surveillance, warehouses, parking areas etc



## Analog Speed Dome Camera Range

### Analog Speed Dome Camera Range



	Wipro Model	WSVMSI12439CSZ	WSVMSO12439CXZ	WSVHSI18432CXZ	WSVHSO18432CXZ	WSVHSO26452CXZ	WSVHSO35432CSZ
<b>GENERAL</b>	Dimension [mm]	133 x 173	172 x 260	131 x 226	172 x 302.5	172 x 302.5	172 x 302.5
	Net Weight	1.2 kg	2.1 kg	2.6 kg	1.6 kg	2.6 kg	2.6 kg
	Power Supply	DC 12 V / AC 24 V	AC 24 V	DC 12 V / AC 24 V	AC 24 V	AC 24 V	AC 24 V
<b>IMAGING &amp; VIDEO</b>	Camera Type	Mini Speed Dome 12 X	Mini Speed Dome 12 X	High Speed Dome 18 X	High Speed Dome 18 X	High Speed Dome 26 X	High Speed Dome 35 X
	Camera Option	Indoor	Outdoor	Indoor	Outdoor	Outdoor	Outdoor
	Image Sensor	1/4" Sony Super HAD CCD	1/4" Sony Ex View CCD	1/4" Sony EX view CCD	1/4" Sony EX view CCD	1/4" Sony EX view CCD	1/4" CCD
	TV System	PAL/NTSC	PAL/NTSC	PAL/NTSC	PAL/NTSC	PAL/NTSC	PAL/NTSC
	WDR	–	–	YES	YES	YES	YES
	AGC	YES	YES	YES	YES	Auto / Manual	Auto / Manual
	IR Cut Filter	YES	YES	YES	YES	YES	YES
	White Balance	Auto	Auto	Auto / Manual	Auto / Manual	Auto / Manual	Auto / Manual
	Back Light Compensation	YES	YES	ON / OFF	ON / OFF	ON / OFF	ON / OFF
	Video Out Put	1.0 Vp – p / 75 ohm	1.0 Vp – p / 75 ohm	1.0 Vp – p / 75 ohm	1.0 Vp – p / 75 ohm	1.0 Vp – p / 75 ohm	1.0 Vp – p / 75 ohm
<b>PAN TILT ZOOM [PTZ]</b>	Optical Zoom	12X	12 X	18 X	18 X	26 X	35 X
	Digital Zoom	10 X	10 X	1 x~12 X variable	1 x~12 X variable	1 x~12 X variable	1 x~12 X variable
	Pan Travel	720°	720°	360°	360°	360°	360°
	Tilt Travel	– 10° to 100°	– 10° to 100°	– 10° to 190°	10° to 190°	10° to 190°	10° to 190°
	Manual Speed	0.5° to 55°	0.5° to 55°	0.5° to 90°	0.5° to 90°	0.5° to 90°	0.5° to 90°
	Presets	256	256	256	256	256	256
<b>LENS TECHNOLOGY</b>	Lens	4 - 48 mm (12 X)	4 - 48 mm (12 X)	4.1 -73.8 mm (18 X)	4.1 -73.8 mm (18 X)	35 -91 mm	3.4 to 119 mm
	Auto Iris	YES	YES	YES	YES	YES	–
	Electronic Shutter	1/5 – 1/10,000 sec	1/5 – 1/10,000 sec	1/ 1– 1/10,000 sec	1/ 1– 1/10,000 sec	1/ 1– 1/10,000 sec	1/5– 1/10000 sec
<b>RESOLUTION</b>	Television Lines	470 TVL	470 TVL	480 TVL	480 TVL	530 TVL	540 TVL
<b>SENSITIVITY</b>	Minimum Illumination 1 L / 0 Lux IR on		1 L / 0 Lux IR ON	0.1 L	0.1 L	0.07 Lux / 0.01 L (B/W)	0.05L / 0.019B/W
<b>ENVIRONMENT</b>	Operation Temp	0° to 40°	– 30° to 45°	0° to 40°	– 45° to 50° C	– 45° to 50° C	– 45° to 50° C
	Vandal Resistance / Water proof	–	IP 66	–	IP 66	IP 66	IP 66

### PRODUCT HIGHLIGHTS

- High speed Pan Tilt Zoom [PTZ] cameras for surveillance in indoor and outdoor applications
- Crystal clear video performance with full motion control
- High end cameras used for remote imaging and monitoring of business
- Can switch to manual control mode at any time, to focus on a particular area of interest and switch back to the present loop
- Option of wall & ceiling mounting with ease of operations
- Superior night time image quality
- Suitable for parking areas, malls and bigger size surveillance

## Digital Video Recorder [DVR]

Digital Video Recorder



Recorder Information	Wipro Model	WSVDS - 7004 HI- S	WSVDS 7008 HI- S	WSVDS 7016 HI- S	WSVDS SA 4100 S
<b>SYSTEM</b>	Signal Format	PAL /NTSC	PAL /NTSC	PAL /NTSC	PAL /NTSC
	Recording Resolution	704 x576 (PAL) /704 x 480(NTSC)	704 x 576 (PAL) /704 x 480(NTSC)	704 x 576 (PAL) /704 x 480(NTSC)	704 x 576 (PAL) /704 x 480(NTSC)
	Recording Speed	4CIF/2CIF/CIF/QCIF Real Time	4CIF/2CIF/CIF/QCIF Real Time	4CIF/2CIF/CIF/QCIF Real Time	CIF and D1
	Playback Speed	25 (PAL) / 30 (NTSC)	25 (PAL) / 30 (NTSC)	25 (PAL) / 30 (NTSC)	25 (PAL) / 30 (NTSC)
	Operating System	Embedded Linux	Embedded Linux	Embedded Linux	Windows 2000
	Codec	H.264	H.264	H.264	Standard H.264 baseline
<b>RECORDING</b>	Video Input	4	8	16	4
	Video Output	4	8	16	2
<b>CONTROL</b>	Alarm Input	4	16	16	4
	Alarm Output	2	4	4	1
	Serial Port	RS 485	RS 485	RS 485	RS 485
	PTZ Control	YES	YES	YES	YES
<b>NETWORK INTERFACE</b>	Ethernet	10 M /100 M Ethernet port	10 M /100 M Ethernet port	10 M /100 M Ethernet port	10 M /100 M Ethernet port
<b>STORAGE</b>	Storage	No HDD by Default	No HDD by Default	No HDD by Default	No HDD by Default
	Back Up	USB storage	USB storage	USB storage	USB Flash , USB HDD, DVD RW
	Interface	SATA x 4	SATA x 4	SATA x 4	SATA x 1
<b>GENERAL</b>	Operating Temperature	- 10° to 55°C	- 10° to 55°C	- 10° to 55° C	- 10° to 55° C
	Operating Humidity	10 % to 90 %	10 % to 90 %	10 % to 90 %	10 % to 90 %
	Power Supply	100 -240 V AC, 6.3 A, 50 -60 Hz	100 -240 V AC, 6.3 A, 50 -60 Hz	100 -240 V AC, 6.3 A, 50 -60 Hz	DC 12V
	Dimensions (W x D x H in mm)	440 x 390 x 70	440 x 390 x 70	440 x 390 x 70	300 x 260 x 58

Wipro Digital Video Recorders [DVR] are just more than recording systems. It offers a superior high-quality digital recording upto 16 channels, with advanced features to view and control cameras, handle alarms and check device status all through one convenient interface.

The DVR is easy to operate, and it features a control center application to remotely manage the system. It connects a variety of external devices and adds flexible options to create a scalable video management system.

Above all, Wipro DVR comes with peace of mind. Using an embedded design, it maintains the security of your recordings while eliminating the hassle of software patches and anti-virus installs. In fact, it is so simple to set up, operate and maintain that it saves time and money while increasing security. This DVR comprises all the essential closed circuit television (CCTV) system elements plus new features that makes it simply outstanding.

### PRODUCT HIGHLIGHTS

- Maximum savings on hard disk storage with H.264 video compression
- Technologically advanced digital video recorder captures, stores and retrieves important video contents
- Alarm and motion activated recording standard, while smart motion search makes quick work of locating specific events
- Provides a reliable and comprehensive solution for all video storage needs
- Embedded Linux design, the DVR maintains the security of your recording
- Can be integrated with other products and softwares
- Easily up-gradeable for longer recording duration by just adding external hard disk drive
- The Wipro DVR is remarkably easy to use



## Technology for the Future



### CUSTOMER BENEFITS

- Superior image quality enables the user to more closely follow the details and changes in images
- Option to access real time video any time from any authorized computer, any where
- Easy future proof integration and scalability
- Efficient centralized management system reduces the maintenance cost
- Multi-user access is possible as many people can view simultaneously at different geographical locations
- Mega pixel camera can replace multiple analog cameras, reducing total cost of ownership

### OUR IP PRODUCT PORTFOLIO



Fixed Cameras



Pan Tilt  
[PT] Cameras



Infrared Cameras



Mega Pixel  
Cameras

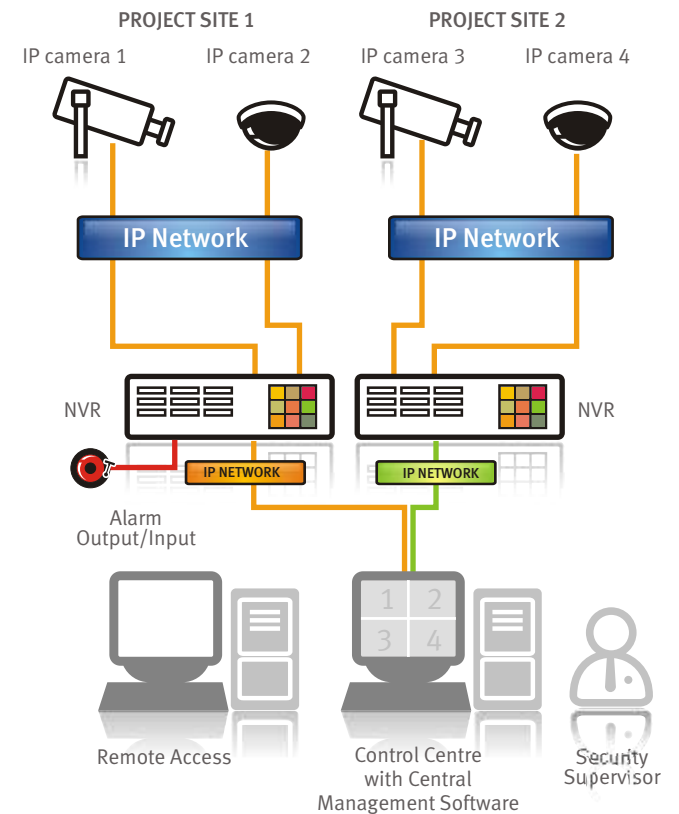


Network Video  
Recorders



Central Management  
System [CMS]

### SYSTEM ARCHITECTURE



### Internet Protocol IP Camera Range



	Wipro Model	WSVNBX415M4	WSVNBR415M4 [Wireless]	WSVNIMX415M4	WSVNIMR415M4 [Wireless]	WSVNDP412M4
<b>IMAGING &amp; VIDEO</b>	Camera Type	Fixed Camera	Fixed Camera	PT Camera	PT Camera	Color Dome
	Image Sensor	1/4" Color CMOS	1/4" Color CMOS	1/4" Color CMOS	1/4" Color CMOS	1/4 " Colour CMOS
	Compression	MPEG 4/MJPEG (Dual Streaming)	MPEG 4/MJPEG (Dual Streaming)	MPEG 4/MJPEG (Dual Streaming)	MPEG 4/MJPEG (Dual Streaming)	MPEG 4/MJPEG (Dual Streaming)
	Day & Night /Color	Day & Night	Day & Night	Day & Night	Day & Night	Color
	Motion Detection	Hardware Motion Detection	Hardware Motion Detection	Hardware Motion Detection	Hardware Motion Detection	Hardware Motion Detection
	PAN /TILT/Preset	–	–	+165° to –165° / +90° to –15° /8 position Preset	+165° to –165° / +90° to –15° /8 position Preset	–
	AGC	YES	YES	YES	YES	YES
	AWB	YES	YES	YES	YES	YES
	IR LED	YES	YES	YES	YES	–
	Lens	Board Lens	Board Lens	Board Lens	Board Lens	Broad Lens 94 mm
<b>IP STREAMING</b>	Frames Per Second	30	30	30	30	30
	Max Resolution	640 x 480	640 x 480	640 x 480	640 x 480	640 x 480
<b>COMMUNICATION</b>	POE	–	–	–	–	YES
	Build in Mic	YES	YES	YES	YES	YES
	Audio Detection	YES	YES	YES	YES	YES
	Audio Support	YES	YES	YES	YES	YES
	Wireless	–	YES	–	YES	–
<b>SENSITIVITY</b>	Minimum Illumination	0.5 L	0.5 L	0.5 L	0.5 L	0.1 L
<b>ENVIRONMENT</b>	Weather Proof	–	–	–	–	--

### PRODUCT HIGHLIGHTS

- Complete integration with Wipro Navigator Central Management system
- IP Connectivity allows view and control cameras from virtually anywhere
- Digital Pan / Tilt lets operators examine all details in a scene
- Models with built in active infrared illumination produce high signal, low noise images in all lighting conditions, ensuring efficient compression and low bit rates
- Cameras with MPEG-4 compression reduce band width and storage
- Dual streaming technology optimizes bandwidth usage
- IR IP Cameras with day /Night IR sensitivity offers 24 hours security, giving you detailed images anytime
- Vandal Resistance camera offers maximum protection for your security equipment

# LUCIDI | Internet Protocol [IP] Camera Range

## Internet Protocol [IP] Camera Range



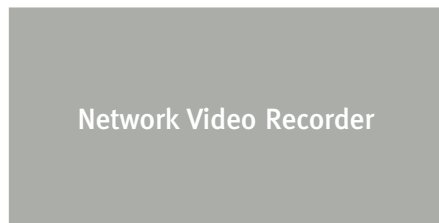
	Wipro Model	WSVNBX313CS4	WSVNBP313CS4	WSVNHP332CS5	WSVNHP412M5	WSVNIA1313C4
<b>IMAGING &amp; VIDEO</b>	Camera Type	Color Fixed Box	Color Fixed Box	Megapixel Camera	Color Fixed Box	IR Camera
	Image Sensor	1/3 " CCD	1/3 " CCD	1/3 " CCD	1/4" Color CMOS	1/3" Sony high resolution HAD
	Compression	MPEG 4/MJPEG (Dual Streaming)	MPEG 4/MJPEG (Dual Streaming)	H.264 MPEG 4/MJPEG	MPEG 4 /MJPEG	MPEG4 /MJPEG
	Day & Night /Color	Color	Color	Color	Color	Day & Night
	Motion Detection	Hardware Motion Detection	Hardware Motion Detection	Hardware Motion Detection	Hardware Motion Detection	–
	AGC	YES	YES	YES	YES	YES
	AWS	YES	YES	YES	YES	YES
	IR LED	–	–	–	–	YES
	Lens	CS Mount	CS Mount	CS Mount	CS Mount	CS Mount (6mm)
<b>IP STREAMING</b>	Frames Per Second	30	30	20	30	30
	Max Resolution	470 TVL	470 TVL	1600 X 1200	640 x 480	480 TVL
<b>COMMUNICATION</b>	POE	–	YES	YES	YES	–
	Build in Mic	YES	YES	YES	YES	–
	Audio Detection	YES	YES	YES	YES	–
	Audio Support	YES	YES	YES	YES	–
	Wireless	–	YES	–	–	–
<b>SENSITIVITY</b>	Minimum Illumination	0.3 L	0.3 L	0.1 L	0.1L	0.03L
<b>ENVIRONMENT</b>	Weather Proof	–	–	–	–	IP 66

## PRODUCT HIGHLIGHTS

- Power over Ethernet (POE) enables easy installation with no extra power supply
- Complete integration with Wipro Central Management system
- Ultra high resolution in mega pixel cameras results in large, detailed, clear images that are ideal for identification
- IP Connectivity allows view and control cameras from virtually anywhere
- Cameras with MPEG-4 compression reduce band width and storage
- Dual streaming technology optimizes bandwidth usage



## Network Video Recorder [NVR]



Recorder Information	Wipro Model	WSNVN1000	WSNVN1016	WSNVN1032
<b>RECORDING</b>	IP Cameras	1 to 4	1 to 16	1 to 32
	Recording Performance	Upto 30 FPS (4 Channel)	Upto 30 FPS (4 Channel) / VGA / QVGA / QQVGA	Upto 30 FPS (4 Channel) / VGA / QVGA / QQVGA
	Recording Type	Manual, Schedule, Alarm, Motion	Manual, Schedule, Alarm, Motion	Manual, Schedule, Alarm, Motion
	Video Resolution	VGA / QVGA / QQVGA	VGA / QVGA / QQVGA / Mega pixel	VGA / QVGA / QQVGA / Mega pixel
<b>CONTROL</b>	RAID Type	Standard/RAID 0/ RAID 1 /JPOD	Standard/RAID 0/ RAID 1 /JPOD	Standard/RAID 0/ RAID 1 /JPOD
	Multiple Recording Support	–	YES	YES
	Networking Protocols	CIFS /SMB	CIFS /SMB	CIFS /SMB
	File System Type	EXT3,FAT 32,	FAT 32/NTFS	FAT 32/NTFS
	PTZ Control	YES	YES	YES
	Ethernet	YES (RJ 45 -10/100/1000)	YES 1 X LAN (RJ 45 -10/100/1000)	YES 2 x LAN (RJ 45 -10/100/1000)
<b>STORAGE</b>	Storage	1-2 (SATA I/II) upto 2TB	1-2 (SATA I/II) upto 1 TB	1-2 (SATA I/II) upto 2TB
	System Memory	–	2 GB	2 GB
	Back Up (USB Interface)	x 2 (USB2.0)(One for Print Server)	x 2 (USB2.0) (One for Print Server)	x 2 (USB2.0) (One for Print Server)
<b>SYSTEM &amp; SERVER</b>	iTune Server	YES	YES	YES
	FTP(Back up)Server	YES	YES	YES
	System (CPU INTEL TBD	–	Core 2 Duo	Core 2 Duo
	UpnP Multimedia Server	YES	YES	YES
	Printer Server	YES	YES	YES
<b>GENERAL &amp; OTHERS</b>	Support CMS	–	YES	YES
	Remote View Tools	LAN Configuration, IP finder	LAN Configuration, IP finder	LAN Configuration, IP finder
	Language GUI	English	English	English

Wipro IP-based Network Video Recorder (NVR) can be managed remotely via Internet or LAN/wireless environment. It can also be integrated with Internet cameras (up to 4 units) and Internet monitor.

Moreover, NVR can be remotely accessed and can record live stream video simultaneously. The device is easy to use and install. Just simply connect it to router or switch on the network, and the device will automatically communicate

with linked cameras is using default IP protocol. The device also has powerful built-in Network Attached Storage (NAS) feature. The users can backup, share, video and audio media and print files via SMB/CIFS protocols.

Wipro standalone NVR can be located at any point on a network allowing recording and playback across multiple sites regardless of location

### PRODUCT HIGHLIGHTS

- Powerful NVR and supports real-time live viewing, recording and playback on different channels at the same time
- Advanced recording by round-the-clock, motion detection, alarm and schedule .Record live audio streaming up to 32 CH
- Wipro NVR is user friendly as IP Finder program helps users to search NVR and IP CAM at the same time by your PC
- Intelligent WATCHDOG technology in side Remote backup to save different functions through network
- Video Analytics compatible

# ZENTRIS | Central Management System [CMS]



Wipro Central Management System [CMS] is a PC based IP Surveillance System that gets installed to your Server directly. Wipro CMS records by bunch of the model and brands. It could be integrated with the Internet cameras up to 1~128 Channel together. This software is easy to install and uses Windows platform. The device is built-in with powerful recoding feature inside and can give real-time alarm event signal. Users can select 3 compression formats as M-JPEG/H.264/MPEG4. CMS also allows users to remote access and view live video streams any where, any time by 3GPP support.

Wipro CMS supports all PTZ control through RS-485 and IR remote control operating for small and medium business enterprise surveillance purpose.

Model	WSVCM1100 (Standard)	WSVCM1101 (Advanced)
IP Cameras Support	32 / 64 CH	64 / 128 CH
GUI	AP	AP
Data Base	Access	SQL
Account	Yes (Admin)	Yes (Admin /User/ Group)
Alarm	No	Yes
Group	Yes	Yes
Full Screen Ready	No	Yes
Compression Format	Motion JPEG / MPEG4 / H.264(*)	Motion JPEG / MPEG4 / H.264(*)
E-MAP Support	Single	Multiple
File format	. AVI	. AVI
Record Type	RTC, Schedule	RTC, Schedule, DI, Motion
File System Type	EXT3	EXT3
IP CAM Setup	YES (Basic)	YES
Playback	YES (1ch)	YES (1/4ch)
PTZ	YES (Basic)	YES (preset/PT Speed...)
Support Brands	Bundle (One)	Multiple
Languages GUI	English	English

## PRODUCT HIGHLIGHTS

- The Wipro CMS manages, configures and controls all video security assets quickly and with ease
- Seamless management of digital video, audio and data across any IP network
- Advance search filters include alarm /event management, text, camera, time and date over multiple site locations
- Control of PTZ and dome cameras using a mouse / control board
- Powerful recording search and export functionality
- Remote viewing, recording and event management
- View up to 128 cameras remotely
- Supports H.264, MPEG 4 and Motion JPEG video compression techniques

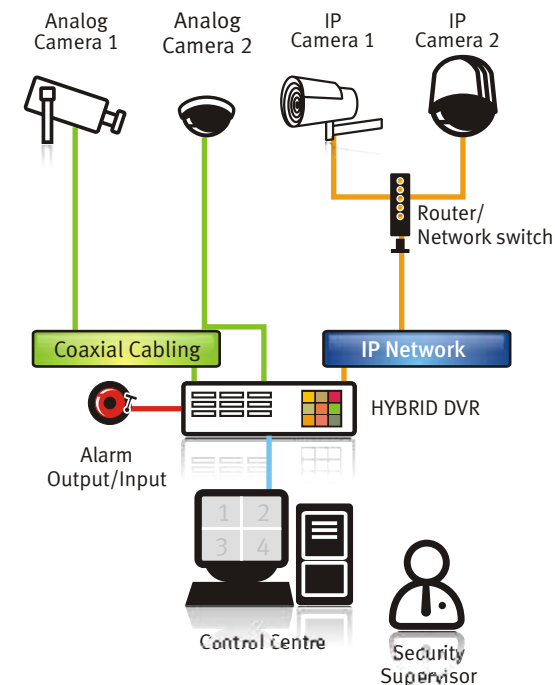
## Value for Money proposition with Hybrid DVR

Wipro hybrid video surveillance system can take benefit of existing analog infrastructure along with new digital (IP) ones. It is possible to visualize and record events in local or remote locations in real time. The system can record uninterruptedly or can be configured to be activated only when motion is detected or when a certain behavior pattern is recognized. The platform has an easy to use interface in which its users can easily, drag or drop cameras and quickly detect security threats. The system also incorporates feature like alarms in which it is possible to test and grab the security professional attention. It is also possible to configure the system to record only a small part of the total image.



	Wipro Model	WSVHDG604S /T	WSVHDG608S/V	WSVHDG616S /T/U
<b>VIDEO</b>	Operating System	EMBEDDED Linux	EMBEDDED Linux	EMBEDDED Linux
	Video Standard	NTSC /PAL Switchable	NTSC /PAL Switchable	NTSC /PAL Switchable
	Input	BNC x 4, 1.0 Vp -p/75 ohm	BNC x 8, 1.0 Vp -p/75 ohm	BNC x 16 , 1.0 Vp -p/75 ohm
	Input IP Device	upto 4 CH	upto 8 CH	UPTO 16 CH
	Outputs (Main Monitor)	BNC x 1,S -Video x 1,1.0 Vp-p/75 ohm	BNC x 1,S -Video x 1,1.0 Vp-p/75 ohm	BNC x 1,S -Video x 1,1.0 Vp-p/75 ohm
	Digital Display / VGA Output	800 x 600,1024 x768 ,1280 x 1024 pixels	800 x 600,1024 x768 ,1280 x 1024 pixels	800 x 600,1024 x 768 ,1280 x 1024 pixels
<b>RECORDING</b>	Compression Method	MJPEG/ MPEG -4	H.264	H.264
	Recording Mode	Schedule, Alarm, Motion Detection	Schedule, Alarm, Motion Detection	Schedule, Alarm, Motion Detection
	Recording Quality	8 Level Presets, Adjustable	8 Level Presets, Adjustable	8 Level Presets, Adjustable
<b>STORAGE</b>	Build in storage interface	X 4 SATA for HDD and DVD+ RW	X 4 SATA for HDD and DVD+ RW	X 4 SATA for HDD and DVD+ RW
	Export	X 4USB 2.0 Port	X 4USB 2.0 Port	X 4USB 2.0 Port
<b>ALARM</b>	Alarm Input	X 4 TERMINAL Block (TTL)	X 8 TERMINAL Block (TTL)	X 16 TERMINAL Block (TTL)
	Alarm Relay Out Put	X 2, Terminal Block,3.0A /30 V DC	X 2 , Terminal Block,3.0A /30 V DC	X 3, Terminal Block, 3.0A /30 V DC
	Motion Detection	15 x 11 Grid Array, Sensitivity, Trigger Level Adjustable	15 x 11 Grid Array, Sensitivity, Trigger Level Adjustable	15 x 11 Grid Array, Sensitivity, Trigger Level Adjustable
	Video Loss Detection	Programmable	Programmable	Programmable
<b>COMMUNICATION</b>	Network connectivity	Ethernet RJ 45,Connector,10/100/1000Mbps	Ethernet RJ 45,Connector,10/100/1000Mbps	Ethernet RJ 45,Connector,10/100/1000Mbps
	Compatible IP cameras	Wipro, Vivitek, Sony, HUNT, AXIS, ACTi	Wipro, Vivitek, Sony, HUNT, AXIS, ACTi	Wipro, Vivitek, Sony, HUNT, AXIS, ACTi
	Remote Control Software	Wipro CMS	Wipro CMS	Wipro CMS
	Remote Operation	Monitoring, Playback, Recording, Dome Camera control, Archiving	Monitoring, Playback, Recording, Dome Camera control, Archiving	Monitoring, Playback, Recording, Dome Camera control, Archiving
<b>GENERAL</b>	Unit Dimesion (W x H x D)	440 x 90 x 413 mm	440 x 90 x 413 mm	440 x 90 x 413 mm
	Unit Weight	7 Kg	7 kg	7 kg
	Power Consumption& Input	AC 100 -240V,50-60HZ, 100 W (Manual Select)	AC 100 -240V,50-60HZ, 100 W (Manual Select)	AC 100 -240V,50-60HZ, 100 W (Manual Select)

### SYSTEM ARCHITECTURE





# Choose the best fit for your needs – Analog or IP



## Analog Surveillance

- Analog CCD cameras perform well in many lighting conditions and manage motion well
- As analog compresses the video in the DVR there are more hardware and software resources available to provide increased video quality and frame rate.
- Analog cameras transmit the video image to the DVR uncompressed where it can be viewed live with no latency pre-compression.

- Legacy cabling for analog cameras utilizes coaxial cables, which are cumbersome.

- Analog video signal is not subject to networking issues or risks. Bandwidth is virtually unlimited. It is a passive connection, similar to an analog telephone connection, and cannot be interfered with due to problems external to the video surveillance system.

- Analog cameras are unmanaged devices. No IP address to manage, no worries about programming, software, IT skills, etc. It either works or it doesn't. Once installed, they require no "skilled" maintenance.

- Analog cameras which use radio frequencies to transmit video wirelessly are limited to about a dozen cameras before it reaches capacity in the unlicensed spectrum.

- Any analog camera can plug into any Digital Video Recorder [DVR]. There are no compatibility issues when changing either the DVR or any of the cameras. As such many DVRs today are hybrids wherein they have seamless communication and management with both IP and analog cameras on a common software interface.

- Analog cameras can be virtually expanded as there is no requirement for bandwidth or data transmission between the cameras and the recorders. Since analog cameras do not require bandwidth they can exponentially scale with minimal network concerns.

## IP Surveillance

- IP cameras excel in capturing high definition, megapixel images but have trouble with low lighting conditions.
- IP cameras are limited in encoding resources. As a result, selection is made respect to codec, frame rates and quality where the selection of one decreases quality of another.
- Since the video is being compressed before monitoring, highest quality or real time images are never possible. Encoding at the camera introduces latency, a concern when the operator needs to track something with a PTZ controller and overcorrects.

- The advantage of IP cameras is the ability to use an existing network wiring infrastructure to support a surveillance system. Structured cable in the IP camera architecture is capable of transmitting power (PoE), video and data.

- IP signal is subject to a myriad of potential faults, like bandwidth limitations, network congestion, varying bit rates, large file sizes, load balancing, viruses etc. If the network fails, even momentarily, the recorded or monitored video will cease or degrade.

- An IP camera is a network appliance and requires continuous "skilled" management.

- One of the clear advantages of IP cameras is the flexibility to integrate with a wireless network. Whereas wireless IP is "virtually" unlimited in terms of expansion, bandwidth and the topology is still a concern.

- IP cameras require a Network Video Recorder (NVR) or browser that will communicate with each particular model of camera, which is proprietary and unique. Each time you add an IP camera, you have to make sure that the NVR supports that particular model. Many IP camera producers have a large variety of communication protocols.

- One of the advantages of IP is its ability to simply add on cameras by plugging into any network connection. When scaling an IP camera system to an enterprise level there is a requirement for substantial managed networking equipment and significant bandwidth.

## Accessories

Our security portfolio is incomplete without these accessories. Stringent requirements of any application is complete only with a variety of options in lenses and housings along with the cameras. Wipro Security offers an exhaustive range of accessories to deliver a comprehensive solution, complete in all aspects.



### Housing

Model	Description	Unit
WSVSH 01	Short aluminum alloy housing with back open cover	145 W x 115H x 295 L mm
WSVLH02	Long aluminum alloy housing with back open cover	145 W x 115 H x 370 L mm
WSVB01	Aluminum camera bracket for models PR-H01/PR-H02	100 x 84 x 280 mm
WSVSH03	Short aluminium alloy housing with side open cover	135 W x 102 H x 290 L mm
WSVLH04	Long aluminium alloy housing with side open cover	135 W x 102 H x 395 L mm
WSVB02	Aluminium camera bracket for models PR-H04/PR-H05	88 x 210 mm
WSVHF05	Heater and Fan for all housing models INPUT POWER- 12V 24V 220V. temperature: 5 c~24 c. Heater starts work when temperature is below 5degrees,work current 700mA-1300mA .Fan start work when temperature is higher than 48degrees,work current 200mA.	60 x 60 / 80 x 80mm
WVB03	Short plastic camera bracket (usually use indoor)	79 W x 74 H x 145 L mm
WVB04	Long plastic camera bracket (usually use indoor)	79 W x 74 H x 193 L mm

### Control Key Board

Model	Description	Unit
WSVDC7313 H	Dome camera control Key board (3axis Joystick) for manual Pan /Tilt/Zoom, Preset, sequence, cruise, auto pan & zoom facility tele / wide	103 x 330 x 175 mm

### Vari-focal and Manual Lenses

Model	Iris Type	Horizontal Angle	Focal Length	Aperture	Mount	Format (Inch)
VARI-FOCAL LENSES						
WSLAIV2812	Auto Iris	96°-22°	2.8-12 mm Vari-focal	1.4	CS	1/3
WSLAIV358	Auto Iris	84°-40°	3.5-8 mm Vari-focal	1.4	CS	1/3
WSLAIV4818	Auto Iris	48°-18°	6-15 mm Vari-focal	1.4	CS	1/3
WSLAIV3012	Auto Iris	30°-12°	12-30 mm Vari-focal	1.6	CS	1/3
WSLAIV4735	Auto Iris	47°-3.5°	7-70 mm Vari-focal	1.6	CS	1/3
WSLAIV4529	Auto Iris	45°-2.9°	5-100 mm Vari-focal	1.8	CS	1/3
WSLMIV358	Manual Iris	84°-40°	3.5-8 mm Vari-focal	1.4	CS	1/3
WSLMIV4818	Manual Iris	48°-18°	6-15 mm Vari-focal	1.4	CS	1/3

#### MONO FOCAL LENSES

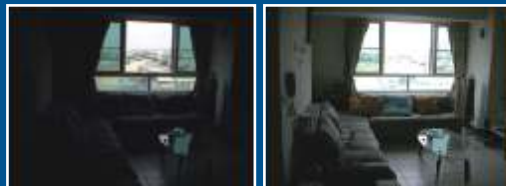
Model	Iris Type	Horizontal Angle	Focal Length	Aperture	Mount	Format (Inch)
WSLF21	Fixed Iris	120°	2.1mm	1.6	CS	1/3
WSLF25	Fixed Iris	110°	2.5mm	1.6	CS	1/3
WSLF04	Fixed Iris	70°	4mm	1.6	CS	1/3
WSLF06	Fixed Iris	48.1°	6.0mm	1.6	CS	1/3
WSLF08	Fixed Iris	33.4°	8.0mm	1.6	CS	1/3
WSLF12	Fixed Iris	28°	12mm	1.6	CS	1/3
WSLF16	Fixed Iris	18°	16mm	1.6	CS	1/3
WSLF14	Fixed Iris	20°	25mm	1.4	CS	1/3

## Tech Corner

### Back-light Compensation (BLC)

A special feature on cameras which electronically compensates for high background lighting to give detail which would normally be silhouetted.

BLC prevents the effect that everything appears dark in front of a bright object.



Regular

BLC

### Wide Dynamic Range (WDR)

The Wide Dynamic Range [WDR] function of a camera is intended to provide clear images even under back light circumstances where intensity of illumination can vary extensively, namely when there are both very bright areas and very dark areas simultaneously in the field of view of the camera. WDR enables the capture and display of both bright areas and dark areas in the same frame in a way that details in both areas are perfectly rendered. i.e. brightness is not saturated or burnt out and dark areas are not too dark to get shadowed.



Regular

BLC



WDR

### Mega pixel IP Cameras: Image Quality Advantage

The picture quality advantages of megapixel network cameras benefit end-users in many ways. In some applications, a megapixel network camera could cover the same area as a CCTV camera with an improved level of picture quality so you could actually identify people. For other applications, megapixel meant covering a much wider area than CCTV cameras. Comparing apples-to-apples, a one megapixel network camera can cover more than four times the area of a CCTV camera with the same resolution. This means you can replace four CCTV cameras with a single megapixel camera, or 10 CCTV cameras with one 3.1 megapixel camera. End-users embraced this new power and efficiency immediately and the migration from CCTV to megapixel network cameras has predictably accelerated.



CCTVcamera

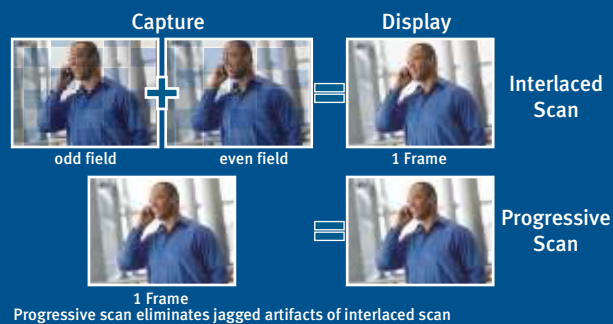
Megapixel IP Camera

## Progressive scan vs. interlaced scan

Today, two different techniques are available to render the video: interlaced scanning and progressive scanning. Which technique is selected will depend on the application and purpose of the video system, and particularly whether the system is required to capture moving objects and to allow viewing of details within a moving image.

The difference is the way that the image is displayed on to the screen. The basic idea is that in an interlaced mode, an image is displayed in two passes. In the first pass every other row is displayed. In the second pass the lines that were skipped get displayed. This is how analog video gets displayed on a tv (typically). In progressive scan mode, all lines are displayed every time.

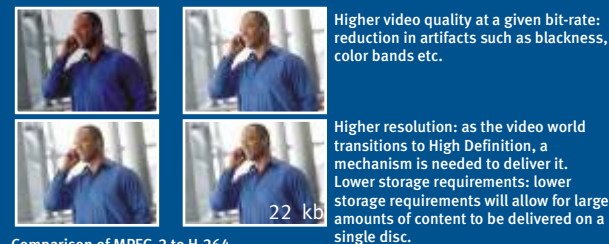
In all circumstances you'll get a better picture with progressive scan, because you're not skipping anything when you display the image.



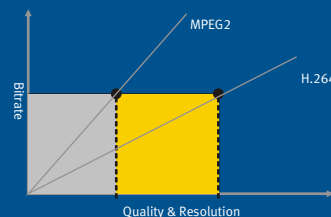
## What is H.264?

H.264 is a new video compression scheme that is becoming the worldwide digital video standard for video Surveillance. In particular, H.264 has already been selected as a key compression scheme (codec) for the next generation of optical disc formats, HD-DVD and Blu-ray disc (sometimes referred to as BD or BD-ROM). H.264 has been adopted by the Motion Picture Experts Group (MPEG) to be a key video compression scheme in the MPEG-4 format for digital media exchange. H.264 is sometimes referred to as "MPEG-4 Part 10" (part of the MPEG-4 specification), or as "AVC" (MPEG-4's Advanced Video Coding).

This new compression scheme has been developed in response to technical factors and the needs of an evolving market: MPEG-2 and other older video codecs are relatively inefficient. Much greater computational resources are available today. High Definition video is becoming pervasive, and there is a strong need to store and transmit more efficiently the higher quantity of data of HD (about 6 times more than Standard Definition video).

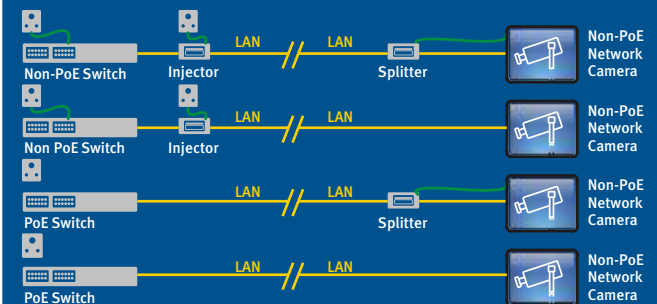


Comparison of MPEG-2 to H.264



## Power over Ethernet (PoE)

PoE is, supposed to make the powering of devices easy. You take your camera or other device that accepts power via the Ethernet port, you plug in the RJ45 jack to the port, and you walk away. Inside the head end, you plug the other end of the same Ethernet cable into a PoE switch or PoE injector and voila, power is magically delivered to the device along with the data connection.





# Glossary

- **AGC** - Automatic gain control. A section in an electronic circuit that has feedback and regulates a certain voltage level to fall within predetermined margins.
- **Analog signal** - Representation of data by continuously varying quantities. An analog electrical signal has a different value of volts or amperes for electrical representation of the original excitement (sound, light) within the dynamic range of the system.
- **Aperture** - The opening of a lens that controls the amount of light reaching the surface of the pickup device. The size of the aperture is controlled by the iris adjustment. By increasing the F-stop number (F/1.4, F/1.8, F/2.8, etc.) less light is permitted to pass to the pickup device.
- **Auto iris (AI)** - An automatic method of varying the size of a lens aperture in response to changes in scene illumination.
- **Automatic Level Control (ALC)**-This is a feature of some cameras that allows the camera to either bring out detail in bright areas of the image, or bring out more detail in the darker areas, depending on how it is set up. This is often useful where the view has a window in the background, where the sunlight is causing the image of the room to be much darker than required.
- **Angle of View** – The table below gives an approximate value for the angle of the field of view for lenses of various focal lengths. 30° is considered to be a normal view, telephoto (longer) lenses have lower angles. Most CCTV cameras have one of the 3 sizes of imaging devices listed below, 1/4", 1/3" or 1/2". As you can see, this makes a big impact when choosing lenses.
- **Automatic White Balance (AWB)**-This is a feature of some cameras that automatically adjusts the color settings to maintain the quality of the white areas of the image.
- **BNC Connector** – BNC is a bayonet style connector for coaxial cable that is most commonly used for CCTV installations.
- **CCD** - Charge-coupled device. The new age imaging device, replacing the old tubes. When first invented in the 1970s, it was initially intended to be used as a memory device. Most often used in cameras, but also in telecine, fax machines, scanners, etc.
- **CCTV** - Closed circuit television. Television system intended for only a limited number of viewers, as opposed to broadcast TV.
- **CCTV camera** - A unit containing an imaging device that produces a video signal in the basic bandwidth.
- **C-mount** - The first standard for CCTV lens screw mounting. It is defined with the thread of 1" (2.54 mm) in diameter and 32 threads/inch, and the back flange-to-CCD distance of 17.526 mm (0.69"). The C-mount description applies to both lenses and cameras. C-mount lenses can be put on both, C-mount and CS-mount cameras; only in the latter case an adaptor is required.
- **CS-Mount** - A newer standard for lens mounting. It uses the same physical thread as the Cmount, but the back flange-to-CCD distance is reduced to 12.5 mm in order to have the lenses made smaller, more compact and less expensive. CS-mount lenses can only be used on CSmount cameras.
- **Coaxial cable** - The most common type of cable used for copper transmission of video signals. It has a coaxial cross-section, where the center core is the signal conductor, while the outer shield protects it from external electromagnetic interference.
- **Compression**-Digital video pictures can be compressed with a number of techniques. These include: JPEG and JPEG-2000 (for still images), M-JPEG and MPEG (for moving pictures).
- **CODEC**-Code/Decode. An encoder plus a decoder is an electronic device that compresses and decompresses digital signals. CODECs usually perform A/D and D/A conversion.
- **Depth of field**-The area in front of and behind the object in focus that appears sharp on the screen. The depth of field increases with the decrease of the focal length, i.e., the shorter the focal length the wider the depth of field. The depth of field is always wider behind the objects in focus.
- **Digital Video Recorder (DVR)** – This is a device that records video signal digitally. Normally this is on a large hard drive in the machine. For this reason it is sometimes known as a hard disk recorder (HDR).
- **DSP** - Digital signal processing. It refers to electronic circuit section of a device capable of processing digital signals.
- **Ethernet** - A local area network used for connecting computers, printers, workstations, terminals, etc. within the same building. Ethernet operates over twisted wire and coaxial cable at speeds up to 10 Mbps. Ethernet specifies a CSMA/CD (carrier sense multiple access with collision detection). CSMA/CD is a technique of sharing a common medium (wire, coaxial cable) among several devices.
- **Electronic Iris (EI)**-This is an electronic implementation of an auto iris. It uses electronics to simulate the effect of opening and closing the iris, by increasing or decreasing the effective shutter time of the camera.
- **Fixed focal length lens** - A lens with a predetermined fixed focal length, a focusing control and a choice of iris functions.
- **F-number** - In lenses with adjustable irises, the maximum iris opening is expressed as a ratio (focal length of the lens) / (maximum diameter of aperture). This maximum iris will be engraved on the front ring of the lens.
- **Frame** - Refers to a composition of lines that make one TV frame. In CCIR/PAL TV system one frame is composed of 625 lines, while in EIA/NTSC TV system of Steps.
- **HAD** - Hole accumulated diode. A type of CCD sensor with a layer designed to accumulate holes (in the electronic sense), thus reducing noise level.
- **Imaging device** - A vacuum tube or solid state-device in which the vacuum tube light-sensitive face plate or solid-state light-sensitive array provides an electronic signal from which an image can be created.
- **IR light** - Infrared light, invisible to the human eye. It usually refers to wavelengths longer than 700 nm. Monochrome (B/W) cameras have extremely high sensitivity in the infrared region of the light spectrum.
- **Iris** - A means of controlling the size of a lens aperture and therefore the amount of light passing through the lens.
- **JPEG** - Joint Photographic Experts Group. A group that has recommended a compression algorithm for still digital images that can compress with ratios of over 10:1. Also the name of the format itself.
- **LED** - Light Emitting Diode. A semiconductor that produces light when a low voltage is applied to it in one direction.
- **Lux [lx]** - Light unit for measuring illumination. It is defined as the illumination of a surface when luminous flux of 1 lumen falls on an area of 1 m<sup>2</sup>. It is also known as lumen per square meter, or meter-candelas.
- **Manual iris** - A manual method of varying the size of a lens's aperture.
- **Monochrome** - Black-and-white video. A video signal that represents the brightness values (luminance) in the picture, but not the color values (chrominance).
- **MPEG** - Motion Picture Experts Group. An ISO group of experts that has recommended manipulation of digital motion images. Today there are a couple of MPEG recommendations, of which the most well known are MPEG-1 and MPEG-2. The latter one is widely accepted for high definition digital television, as well as multimedia presentation.
- **PAL** - Phase alternating line. Describes the color phase change in a PAL color signal. PAL is a European color TV system featuring 625 lines per frame, 50 fields per second and a 4.43361875-MHz sub-carrier. Used mainly in Europe, China, Malaysia, Australia, New Zealand, the Middle East and parts of Africa. PAL-M is a Brazilian color TV system with phase alternation by line, but using 525 lines per frame, 60 fields per second and a 3.57561149 MHz sub-carrier.
- **PTZ camera** - Pan, tilt and zoom camera.
- **Resolution** - A measure of the ability of a camera or television system to reproduce detail. The number of picture elements that can be reproduced with good definition.
- **RG-11** - A video coaxial cable with 75-W impedance and much thicker diameter than the popular RG-59 (of approximately 12 mm). With RG-11 much longer distances can be achieved (at least twice the RG-59), but it is more expensive and harder to work with.
- **RG-58-A** coaxial cable designed with 50-W impedance; therefore, not suitable for CCTV. Very similar to RG-59, only slightly thinner.
- **RG-59-A** type of coaxial cable that is most common in use in small to medium-size CCTV systems. It is designed with an impedance of 75-W. It has an outer diameter of around 6 mm and it is a good compromise between maximum distances achievable (up to 300 m for monochrome signal and 250 m for color) and good transmission.
- **RS-232**-A format of digital communication where only two wires are required. It is also known as a serial data communication. The RS-232 standard defines a scheme for asynchronous communications, but it does not define how the data should be represented by the bits, i.e., it does not define the overall message format and protocol. It is very often used in CCTV communications between keyboards and matrix switchers or between matrix switchers and PTZ site drivers. The advantage of RS-232 over others is its simplicity and use of only two wires.
- **RS-485**- This is an advanced format of digital communications compared to RS-422. The major improvement is in the number of receivers that can be driven with this format, and this is up to 32.
- **Signal-to-Noise ratio (S/N)**- An S/N ratio can be given for the luminance signal, chrominance signal and audio signal. The S/N ratio is the ratio of noise to actual total signal, and it shows how much higher the signal level is than the level of noise. It is expressed in decibels (dB), and the bigger the value is, the crisper and clearer the picture and sound will be during playback. An S/N ratio is calculated with the logarithm of the normal signal and the noise RMS value.
- **Television Lines (TVL)**-This is a measure of the resolution of a video device. Higher number is higher resolution. 380 TVL is considered medium resolution. 480 TVL or greater is considered high resolution.
- **VGA** - Video graphics array.
- **Video Server (Network Video Server)**-This is a device that accepts inputs from CCTV cameras using the PAL, composite video signal. It digitizes the signal and then transmits images via a network, dialup or GSM connection. Advanced video servers have built-in video motion detection, and can buffer images while they are being uploaded to a remote server, where they are recorded
- **White balance**- An electronic process used in video cameras to retain true colors. It is performed electronically on the basis of a white object in the picture..
- **Zoom lens** - A camera lens that can vary the focal length while keeping the object in focus, giving an impression of coming closer to or going away from an object. It is usually controlled by a keyboard with buttons that are marked zoom-in and zoom-out..

## Our Institutional Businesses



### WIPRO LIGHTING

At Wipro Lighting, we understand the inherent nature of Light and apply it to bring shape, texture, form and colour to life. Wipro Lighting is committed to providing winning solutions for its Customers through:

- Product Innovation Team engaged in creating new products
- Product Range with Latest Technology drives the company to deliver best lighting solutions for the people
- Energy Efficient Solutions through Luminaires with right optics, New Generation light sources, Energy efficient control gear and Lighting Management Systems
- Lighting Solutions Team of highly qualified Lighting Design Professionals and Application Experts
- Application- specific Solutions through Customized Products that fit Customer requirements perfectly
- Network of more than 20 Branches and over 150 Stockists across the country to deliver seamless services

contact : [helpdesk.lighting@wipro.com](mailto:helpdesk.lighting@wipro.com)  
website: [www.wiprolighting.com](http://www.wiprolighting.com)



### WIPRO FURNITURE

At Wipro Furniture we believe that as business grows and work styles change, workspaces too evolve. We research evolving work environments then design, deliver products and services that make these environments work better. Our furniture is designed for people and the way they work today.

Our association with international designers like Tim Wallace, Eric Chan and others is a conscious effort to bring in International design and research benefits to Indian customers.

Innovation and Design is a way of life at Wipro Furniture. Our focus has always been to create futuristic, vibrant and sustainable products for modern workspaces.

contact : [vibrant.solutions@wipro.com](mailto:vibrant.solutions@wipro.com)



### NORTH-WEST

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North-West is an 18 year old renowned switches brand.

We at North-West, design and manufacture the premium quality switchgear, our philosophy is based on core values of STYLE & RELIABILITY.

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- ACCeL-V
- Power Trip
- RCCB
- Distribution Boards
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## Wipro Security Advantage

### Innovative Video Surveillance Systems through:

- Comprehensive CCTV product range
- Option in Analog or IP surveillance technologies
- Application based CCTV design solutions
- Trustworthiness and reliability of Wipro



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Innovation and improvement are a way of life at Wipro.  
We reserve the right to modify the product / specification without prior intimation.