

INFRA RED CUT FILTER REMOVAL

OWER LOSS

## Surveillance Solutions

Safety and Security of People and Assets



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What we mean by...

## Surveillance Solutions



Triax is a leading, international provider of innovative, high-tech solutions for the reception, processing and distribution of video, audio and data signals.



Triax provide a range of user friendly surveillance solutions to help ensure the safety and security of people and assets.

As well as an extensive selection of cameras, we also provide a comprehensive range of accessories plus DVR and THDR video recorders.

#### **Technology**

Triax surveillance solutions utilise the latest technology across the entire range.

Our entry level analogue solutions with 700TVL and 960H CCD image sensors, when combined with the 960H DVR series, offer a quality cost effective solution over a coaxial infrastructure.

All 960H cameras are available with fixed or varifocal lenses in dome or bullet housings which meet IP66 rating and comply to EN 62262 Impact Vandal Proof requirements.

IP 3MP Cameras offer the highest possible quality within our range. The cameras can be installed on existing networks and offer PoE which eliminates the need for local power.

HD TVI (High Definition Transmit Video Interface) is the latest technology which enables real time HD transmissions up to 1080P to be sent over long distances on the existing RG59 cable infrastructure. The new cameras offer 1.3 and 2MP resolutions which can be recorded on Triax Hybrid DVR's at 720P 25fps or 1080P 15fps and allow systems to be upgraded over time as they accept Analogue, TVI and IP camera support.

High in quality but not price, we understand that cost of ownership is paramount for all business sectors. Our range has been designed to suit all budgets while utilising the latest technology to create reliable solutions with minimal installation and maintenance.

#### Where to use

Many sectors can benefit from using Triax surveillance systems, for example, housing associations, care homes, hotels, hospitality, healthcare and educational facilities.

#### Fixed / Varifocal Dome

Public Areas - Reception, Corridors, Offices, Retail, Schools and Colleges, Home, Banks, Cash Point Surveillance, Pubs, Clubs



#### Fixed / Varifocal Bullet

Entry doors, Emergency Exits, Ambulance A&E Entrances, Schools and Colleges



#### TVI + IP Cameras

Public areas where HD images and recording are required -Warehouses, Offices, Colleges, Retail Centres, Airports, Football Stadia, Concert Halls



#### PTZ

Car parks and Grounds, Perimeter Detection, Retail Shopping Centres, Colleges, Universities, Local Authorities, Industry





#### Healthcare

Video surveillance can play a key role in today's healthcare environment, ensuring the protection and wellbeing of staff and patients alike.

Installing a high quality surveillance system can give peace of mind by creating reliable, cost effective solutions requiring minimal maintenance and the ability to utilise existing cable infrastructures.

For this sector we offer complete end to end video surveillance solutions ranging from Analogue 960H to 3MP IP cameras - all with real-time monitoring via the latest DVR's at a price to meet all budgets.

#### Housing Associations, Care homes, Residential homes, Local Authority sheltered accommodation

Triax high quality CCTV surveillance cameras can help protect staff, tenants and property. With robust IP66 housings that comply to EN 62262 Impact Vandal Proof requirements - PTZ, Fixed and Varifocal Cameras can securely monitor activity, property, entrances and public places to help create a safe and secure living environment.

#### Hotels and Hospitality

With the latest innovative Triax technology, the next generation of surveillance equipment creates a relaxed and secure environment for staff and guest wellbeing. Our solutions can be installed using existing infrastructure, minimising disruption and maintaining occupancy rates.

#### We offer four solutions depending on requirements.

- The latest 960H Analogue 700TVL Cameras are well suited to low light levels where a wide angle of view is required, eg, Receptions and Restaurants.
- Varifocal Cameras allow focus / zoom on specific areas, eg, Emergency Exits, Entrances.
- TVI Cameras offer superior image quality and recordings for all applications.
- 3MP IP Cameras offer outstanding image quality and recordings.

#### At a glance

	Analogue	HD TVI	IP
Resolution (TX5012)	960H (700TVL)	720P / 1080P	n/a
Coax Twin Cable (TX5912)	180 / 300m	300m	n/a
Cat5e Cabling	Extra Cabling	200m	100m
Transmit RS 485	Extra Cabling	Yes	Yes
720P Frame Rate	n/a	25/30 fps	25/30 fps
1080P Frame Rate	n/a	15/25 fps	25/30 fps
DVR Recording	CIF / D1 / WD1	Combination 720P and 1080P	n/a
Supports 3, 4, 5 MP	n/a	n/a	Yes
DVR Combination using both 720P and 1080P Camera	n/a	Yes	Yes

## The HD-TVI Advantage



#### **HD-TVI**

#### (High Definition Transmit Video Interface)

Is High Efficiency, Long Distance, Real-Time Transmission over both general coax cable and network cable HD video transmission. The technology renders two HD video formats 1080P (1920x1080) and 720P (1280x720)



#### HD-TVI - The Advantages



#### **High Resolution**

- 720P / 1080P
- No signal drop
- High picture quality with no delay



#### Transmit multiple signals over one cable

- Video / Audio
- RS 485



#### Long distance Cabling

- 720P / 1080P over coaxial cable
- RG59 75 $\Omega$  more than 300 metres (984ft)
- RG6 upto 500 metres (1640ft)
- All network cable 200 metres (656ft)
- Live view no delay issue
- High signal transmission with no video loss



TVI is compatible with all TVI chipsets



#### Save costs

Uses existing wiring infrastructure (Coax Cat5/6/7)

#### HD-TVI - The Benefits

- High video quality on HD 720P and 1080P
- Transmit video signal, audio signal and bi-directional data communication signal over one coaxial cable
- HD video transmission without video quality loss or delay
- Long transmission distance
- The same BNC connection structure as current analogue systems utilising existing coax cabling infrastructure or UTP cables (with converters)

#### HD-TVI - Technology

TVI technology can transmit the high-definition picture quality (720P/1080P), Audio and RS 485 control over standard coaxial cable and all network cable.







# Analogue Cameras and Digital Video Recorders



## **TDF 796W TDF 796G**



700 TVL 960H CCD Fixed Dome Camera

Part No. 301000 - White Part No. 301001 - Grey

- 700 TVL
- 1/3" Sony 960H CCD
- **IP66 Weather Proof**
- 3.6mm Lens
- 24 IR LED's 21m (70ft)
- **Aluminium Housing**
- DC 12V (Not Supplied)





#### **Features**

#### High Resolution

700 TVL horizontal resolution, 960H CCD Technology.

#### Long Life IR LED Design

Enhanced High performance IR LED's with brightness several times higher and a greater life expectancy than standard IR LED's.

#### Auto D/N Switchover Operating Mode

When there is sufficient daylight the 700 TVL, 960H High performance camera operates in colour mode. At low light levels the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 21m (70ft).

#### **Product Protection**

IP66 weather proof with vandal resistant aluminium housing.

Camera		
Image Sensor	1/3" Sony 960H CCD	
Signal System	PAL	
Effective Pixels	PAL: 976 (H) x 582 (V)	
Min. Illumination	Colour:> 0.3 Lux, B&W: 0 Lux	
Shutter Speed	PAL: 1/50s ~ 1/100,000s	
Lens	3.6mm	
Day & Night	Auto	
White Balance	Auto Tracking White Balance	
BLC	Auto	
Auto Gain Control	Auto	
Synchronization	Internal Synchronization	
Horizontal Resolution	Used with Triax Compatible 960H DVR's 700 TVL 960H WDI Compatible	
S/N Ratio	52dB (AGC off)	
Video Output	1 BNC, 1.0 Vp-p, 750hm Composite	
Smart IR	Yes	
General		
Working Temperature / Humidity	$-10^{\circ}\text{C} \sim 50^{\circ}\text{C}$ / $14^{\circ}\text{F} \sim 122^{\circ}\text{F}$ Humidity 90% or less (non-condensing)	
Power Supply	DC 12V (Not Supplied)	
IR LEDs	24 pcs	
IR Distance	21m (70ft)	
Weather Proof Rating	IP66	
Dimensions	Ф94mm x 80mm (Ф3.7" x 3.1")	
Weight	330g (0.73lb)	















## **TDV 796W TDV 796G**



700 TVL 960H CCD Varifocal Dome Camera

Part No. 301002 - White Part No. 301003 - Grey

- 700 TVL
- 1/3" Sony 960H CCD
- **IP66 Weather Proof**
- 2.8 12mm Lens
- 36 IR LED's 30m (100ft)
- **Aluminium Housing**
- DC 12V (Not Supplied)





#### **Features**

#### High Resolution

700 TVL horizontal resolution, 960H CCD Technology.

#### · Long Life IR LED Design

Enhanced High performance IR LED's with brightness several times higher and a greater life expectancy than standard IR LED's.

#### Auto D/N Switchover Operating Mode

When there is sufficient daylight the 700 TVL, 960H High performance camera operates in colour mode. At low light levels the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 30m (100ft).

#### **Product Protection**

IP66 weather proof with vandal resistant aluminium housing.

Camera		
Image Sensor	1/3" Sony 960H CCD	
Signal System	PAL	
Effective Pixels	PAL: 976 (H) x 582 (V)	
Min. Illumination	Colour:> 0.3 Lux, B&W: 0 Lux	
Shutter Speed	PAL: 1/50s ~ 1/100,000s	
Lens	2.8 ~ 12mm	
Day & Night	Auto	
White Balance	Auto Tracking White Balance	
BLC	Auto	
Auto Gain Control	Auto	
Synchronization	Internal Synchronization	
Horizontal Resolution	Used with Triax Compatible 960H DVR's 700 TVL 960H WDI Compatible	
S/N Ratio	52dB (AGC off)	
Video Output	1 BNC, 1.0 Vp-p, 750hm Composite	
Smart IR	Yes	
General		
Working Temperature / Humidity	-10°C ~ 50°C / 14°F ~ 122°F Humidity 90% or less (non-condensing)	
Power Supply	DC 12V (Not Supplied)	
IR LEDs	36 pcs	
IR Distance	30m (100ft)	
Weather Proof Rating	IP66	
Dimensions	Ф120mm x 100mm (Ф4.7" x 3.9")	
Weight	730g (1.6lb)	

















## **TDV 796SSW**



700 TVL 960H CCD Varifocal Starlight Sensing Dome Camera

Part No. 301013 - White

- 700 TVL
- 1/3" Sony 960H CCD
- IP66 Weather Proof
- 2.8 12mm Lens
- · 3D DNR, Starlight Sensing
- · 3-Axis, OSD Menu
- Aluminium Housing
- DC 12V (Not Supplied)





Starlight with Sens-up Technology provides clear images in low light environments





Camera		
Image Sensor	1/3" Sony 960H CCD	
Signal System	PAL	
Effective Pixels	PAL: 976 (H) x 582 (V)	
Min. Illumination	0.001 Lux	
Shutter Speed	PAL: 1/50s ~ 1/100,000s	
Lens	2.8 ~ 12mm	
Day & Night	Auto	
White Balance	Auto Tracking White Balance	
BLC	Auto	
Auto Gain Control	Auto	
Synchronization	Internal Synchronization	
Digital Noise Reduction	3D DNR	
General		
Working Temperature / Humidity	-10°C $\sim$ 50°C / 14°F $\sim$ 122°F Humidity 85% or less (non-condensing)	
Power Supply	DC 12V (Not Supplied)	
Weather Proof Rating	IP66	
Dimensions	Φ140mm x 140mm x 107mm (Φ5.5" x 5.5" x 4.2")	
Weight	840g (1.9lb)	

















## **TBF 796W TBF 796G**



700 TVL 960H CCD IR Fixed Bullet Camera

Part No. 301004 - White Part No. 301005 - Grey

- 700 TVL
- 1/3" Sony 960H CCD
- **IP66 Weather Proof**
- 3.6mm Lens
- 24 IR LED's 15m (50ft)
- **Aluminium Housing**
- DC 12V (Not Supplied)





#### **Features**

THIS CCTV COLOUR SENSOR CAMERA Introduces advanced sensor and digital technology, enabling a high quality image.

- Hi-Resolution colour sensor image resolution.
- High image quality and ultra low light performance.
- Plug the Video signal into any DVR, VCR, TV or security monitor.
- The high performance digital-processing chip greatly improves the signal-to-noise ratio and distortion.
- Automatic white balance enables the camera to produce correct and natural colours in any light conditions, indoor or outdoor, by automatically adjusting the white balance point.
- The illumination distance referred to in this manual is indoor night view distance. The infrared transmission will be affected if there is high humidity or smoke in the air. In this situation the viewable distance will be shortened and the night view will be reduced when the objects are lawn, trees or anything without reflecting ability.
- This chip features a field period readout system and an electronic shutter with variable charge-storage time.

Camera		
Image Sensor	1/3" Sony 960H CCD	
Signal System	PAL	
Effective Pixels	PAL: 976 (H) x 582 (V)	
Min. Illumination	Colour:> 0.3 Lux, B&W: 0 Lux (IR LED On)	
Shutter Speed	PAL: 1/50s ~ 1/100,000s	
Lens	3.6mm	
Day & Night	Auto	
White Balance	Auto Tracking White Balance	
BLC	Auto	
Auto Gain Control	Auto	
Synchronization	Internal Synchronization	
Horizontal Resolution	700 TVL, 960H Resolution	
S/N Ratio	More than 50dB (AGC off)	
Video Output	1 BNC, 1.0 Vp-p, 75 Ohm Composite	
General		
Working Temperature / Humidity	-10°C ~ 50°C / 14°F ~ 122°F Humidity 85% or less (non-condensing)	
Power Supply	DC 12V (Not Supplied)	
Power Consumption	< 2W (LED Off) / < 6W (LED On)	
IR LEDs	24 pcs	
IR Distance	15m (50ft)	
Weather Proof Rating	IP66	
Dimensions	60 x 150 x 80mm (2.7 x 5.9 x 3.1")	
Weight	300g (0.66lb)	















## **TBV 796W TBV 796G**



700 TVL 960H CCD IR Varifocal Bullet Camera

Part No. 301006 - White Part No. 301007 - Grey

- 700 TVL
- 1/3" Sony 960H CCD
- **IP66 Weather Proof**
- 2.8-12mm Lens
- 42 IR LED's 36m (120ft)
- **Aluminium Housing**
- DC 12V (Not Supplied)



#### **Features**

THIS CCTV COLOUR SENSOR CAMERA Introduces advanced sensor and digital technology, enabling a high quality image.

- Hi-Resolution colour sensor image resolution.
- High image quality and ultra low light performance.
- Plug the Video signal into any DVR, VCR, TV or security monitor.
- The high performance digital-processing chip greatly improves the signal-to-noise ratio and distortion.
- Automatic white balance enables the camera to produce correct and natural colours in any light conditions, indoor or outdoor, by automatically adjusting the white balance point.
- The illumination distance referred to in this manual is indoor night view distance. The infrared transmission will be affected if there is high humidity or smoke in the air. In this situation the viewable distance will be shortened and the night view will be reduced when the objects are lawn, trees or anything without reflecting ability.
- This chip features a field period readout system and an electronic shutter with variable charge-storage

Camera		
Image Sensor	1/3" Sony 960H CCD	
Signal System	PAL	
Effective Pixels	PAL: 976 (H) x 582 (V)	
Min. Illumination	Colour:> 0.3 Lux, B&W: 0 Lux	
Shutter Speed	PAL: 1/50s ~ 1/100,000s	
Lens	2.8 - 12mm	
Day & Night	Auto	
White Balance	ATW	
BLC	Auto	
Auto Gain Control	Auto	
Synchronization	Internal Synchronization	
Horizontal Resolution	700 TVL 960H Resolution	
S/N Ratio	52dB (AGC off)	
Video Output	1 BNC, 1.0 Vp-p, 75 Ohm Composite	
General		
Working Temperature / Humidity	-10°C ~ 50°C / 14°F ~ 122°F Humidity 90% or less (non-condensing)	
Power Supply	DC 12V (Not Supplied)	
IR LEDs	42 pcs	
IR Distance	36m (120ft)	
Weather Proof Rating	IP66	
Dimensions	256 x 94 x150mm (10.1 x 3.7 x 5.9")	
Weight	1000g (2.2lb)	

















## **TPTZ 796W**

#### 700 TVL Analog PTZ Dome Camera



#### Part No. 301008

- 700 TVL Horizontal Resolution
- 1/3" Sony 960H CCD Sensor
- IP66 Weather Proof
- DWDR & 3D DNR & BLC
- 3.8 45.6mm Lens, 12 x Optical Zoom
- 3D Intelligent Positioning
- · Alarm I/O



Camera		
Image Sensor	1/3" Sony 960H CCD	
illage Sellsoi	NTSC: 976(H) x 494(V)	
Effective Pixel	PAL: 976(H) x 494(V)	
Horizontal Resolution	Colour: 700TVL / B/W: 750TVL	
Min. Illumination	Colour: 0.1 Lux@F1.6 (AGC On) B/W 0.01 Lux with IR (AGC On)	
White Balance	Auto/ATW/Indoor/Outdoor/One Push	
AGC	Auto / Manual	
S/N Ratio	≥ 50dB	
Dig. Noise Reduction	3D DNR	
Backlight Comp.	Yes	
Wide Dynamic Range	Digital WDR	
Shutter Speed	NTSC: 1/60s ~ 1/10,000s PAL: 1/50s ~ 1/10,000s	
Day & Night	IR Cut Filter	
Digital Zoom	16X	
Privacy Mask	8 Programmable Masks Optional Multiple Colours and Mosaics	
Focus Model	Auto / Semiautomatic / Manual	
Lens		
Focal Length	3.8 ~ 45.6mm 12X	
Zoom Speed	Approx .2s (Optical Wide-Tele)	
Angle of View	50.69 ~ 4.5 Degree (Wide-Tele	
Min. Working Dist.	10 ~ 1500mm (Wide-Tele)	
Aperture Range	F1.6 ~ F2.7	
Pan and Tilt		
Pan / Tilt Range	Pan range: 360° endless; Tilt range: -2°-90°(Auto Flip)	
Pan / Tilt Speed	Pan Manual Speed: 0.1° -200°/s, Pan Preset Speed: 200°/s Tilt Manual Speed: 0.1°-120°/s, Tilt Preset Speed: 120°/s	
Proportional Zoom	Rotation speed can be adjusted automatically according to zoom multiples	
Number of Preset	256	
Patrol	8 patrols, up to 32 presets per patrol	

Pattern	4 patterns, with the total recording time not less than 10 minutes		
Power Off Memory	Support		
Park Action	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan		
PTZ Position Display	Support		
Zone Scanning /Display	Scanning within programmed zone, display zone title		
Camera Title	Programmable title display		
Compass	Support , the north can be set		
Scheduled Task	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan		
RS-485 Communication Diagnosis	Including failure information, e.g., wrong address, baud rate errors, et., displayed on the video screen in text		
Manchester Code Com- munication Diagnosis	Including failure information, e.g., wrong address, baud rate errors s displayed on the video screen in special characters		
Alarm Input / Output			
Alarm Input	2		
Alarm Output	1 Relay output, alarm response configurable		
Alarm Action	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output		
	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay		
Alarm Action	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay		
Alarm Action  Local Output	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output		
Alarm Action  Local Output  Video Output	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output		
Alarm Action  Local Output  Video Output  General  Working Temperature /	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output $ 1.0V[p-p] / 75\Omega, NTSC (or PAL) composite, BNC \\ -30°C \sim 65°C / -22°F \sim 149°F $		
Alarm Action  Local Output  Video Output  General  Working Temperature / Humidity	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output		
Alarm Action  Local Output  Video Output  General  Working Temperature / Humidity  Power Supply	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output  1.0V[p-p] / 75Ω, NTSC (or PAL) composite, BNC  -30°C ~ 65°C / -22°F ~ 149°F Humidity 95% or less (non-condensing)  24 VAC, Max 18W		
Alarm Action  Local Output  Video Output  General  Working Temperature / Humidity Power Supply  RS-485 Protocols	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output  1.0V[p-p] / 75Ω, NTSC (or PAL) composite, BNC  -30°C ~ 65°C / -22°F ~ 149°F Humidity 95% or less (non-condensing)  24 VAC, Max 18W  HIKIVISION, Pelco-P, Pelco-D, Self Adaptive		
Alarm Action  Local Output  Video Output  General  Working Temperature / Humidity  Power Supply  RS-485 Protocols Humidity	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan / Relay output  1.0V[p-p] / 75Ω, NTSC (or PAL) composite, BNC  -30°C ~ 65°C / -22°F ~ 149°F Humidity 95% or less (non-condensing)  24 VAC, Max 18W  HIKIVISION, Pelco-P, Pelco-D, Self Adaptive  90% or less  IP66, TVS 4,000V Lightning protection, surge		



























## **TPTZ 79627W**



#### 700TVL 27xOptical Zoom Analogue PTZ Dome Camera

#### Part No. 301009

- 700TVL Horizontal Resolution
- 1/3" Sony 960H CCD Sensor
- IP66 Weather Proof
- True Day/Night DWDR & DNR
- 27 x Optical Zoom, 16 x Digital Zoom
- 3D Intelligent Positioning
- 6 IR LED's 100m (330ft)
- 24VAC Power Supply



1/3" Sony 960H CCD			
976 (H) x 494 (V)			
Colour: 0.02 Lux@F1.6 (AGC On) B/W 0.001 Lux@F1.6 with IR (AGC On) 0 Lux with IR			
Auto/Manual/ATW/Indoor/Outdoor			
Auto / Manual			
≥ 50dB			
DNR			
128X Digital WDR			
1 ~ 1/10,000s			
IR Cut Filter			
16x			
Up to 8 zones, max 8 zones on same image, multiple colours and mosaics optional			
Auto / Semiautomatic / Manual			
4 ~ 108mm 27X			
Approx 4s (Optical Wide-Tele)			
57.58 ~ 3.12 Degree (Wide-Tele)			
10 ~ 1000mm (Wide-Tele)			
F1.6 ~ F3.7			
Pan and Tilt			
Pan range: 360° endless; Tilt range: -15°-90° (Auto Flip)			
Pan Manual Speed: 0.1°-160°/s, Pan Preset Speed: 240°/s Tilt Manual Speed: 0.1°-120°/s, Tilt Preset			

Proportional Zoom	Rotation speed can be adjusted automatically according to zoom multiples	
Number of Preset	256	
Patrol	8 patrols, up to 32 presets per patrol	
Pattern	4 Patterns with total recording time not less than 10 minutes	
Power Off Memory	Support	
Park Action	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama	
PTZ Position Display	On / Off	
Compass	Support, North can be set	
Schedule Task	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama	
Infrared		
IR Distance	Up to 100m (330ft)	
IR Intensity	Automatically adjust depending on the zoom ratio	
Input / Output		
Video Output	1.0V (P-P) / 75Ω, BNC	
General		
Working Temperature	-30°C ~ 65°C / -22°F ~ 149°F	
Power Supply	24 VAC, Max 30W (IR On, Heater On), Max 24W (IR On), Max 15W (IR Off, Heater Off)	
RS-485 Protocols	HIKIVISION, Pelco-P, Pelco-D, Self Adaptive	
Humidity	90% or less	
Protection Level	IP66, TVS 4,000V Lightning protection, surge protection and voltage transient protection	
Dimensions	ф245 x 399mm (9.65" x 15.71" w/o Bracket)	
Weight	Approx. 5.5kg (12.13lb w/o Bracket)	

































## **960H DVR**

4 / 8 / 16 Channel CCTV WD1 Digital Video Recorder

Part No. 301010 TR 496 Part No. 301011 TR 896 TR 1696 Part No. 301012

#### **Motion Detection**

Mark a specific area that needs extra protection. Any activity in that area can trigger alarm and analytic algorithims to prevent false positives. A simple line can also be drawn and set up as the alarm trigger.

- Real-Time High Resolution Recording
- Supports WD1 Recording
- Synchronous Playback
- H.264 Compression Technology
- Mobile Surveillance via downloadable app
- Audio Input / Output

App Store

- Remote Monitoring / Control via CMS or Web Browsers
- HDD Quota and Group Management
- **HDMI Output**
- Alarm on all Inputs & 1 CH Alarm Output



Download the mobile surveillance app

### Featuring P2P Technology





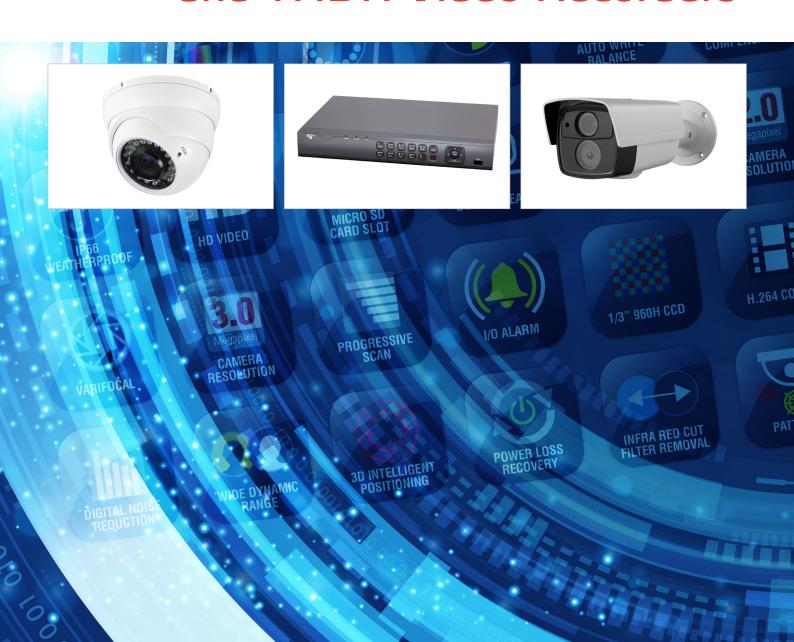




System	4 Channel	8 Channel	16 Channel	
Compression Format		Standard H.264 Height Profile		
OS	Embedded Linux			
Video				
Input	4CH, BNC (1.0Vp-p, 75Ω)	8CH, BNC (1.0Vp-p, 75Ω)	16CH, BNC (1.0Vp-p, 75Ω)	
Standard Output		1 VGA; 1920x1080, 1280x1024, 800x600, 1 B	NC+1 Spot Out	
Advanced Output		1 HDMI: 1080P: 1920x1080/60F		
Audio				
Audio Input		4CH, RCA (2.0Vp-p, 75Ω)		
Audio Output		1CH, RCA (Linear, 1kΩ)		
Bidirectional Talk		1-CH, RCA (2.0Vp-p, 1kΩ)(using 1ch Au	ıdio Input)	
Alarm				
Alarm In / Out	4CH / 1CH	8CH / 1CH	16CH / 1CH	
Recording		'		
960H		25 fps		
D1		25 fps		
CIF		25 fps		
Recording Mode		Schedule, Manual, Motion, Sens	or	
Playback				
Max Playback Channel	4CH	8CH	16CH	
Search Mode		Time, Event, File		
Backup				
USB Disk		USB 2.0 or SATA		
Remote Application				
Dual Stream		Support; Master Stream, Sub-Stream@ W	VD1/D1/CIF	
Browser	IE (Windows), Safari (Mac OS), Chrome, Firefox			
CMS	Yes			
Mobile Phone	Broview App for Apple / Android OS			
User Access	10 Users Online with professional authority management			
Storage				
HDD		1 x SATA 3TB HDD		
PTZ				
PTZ		1 RS-485 Interface Half-Dunley	v	
PTZ Control	1 RS-485 Interface, Half-Duplex Pan, Tilt, Zoom, Preset, Cruise, Trace			
PTZ Protocol	Multiple PTZ Protocols supported			
Network			- <del>-</del>	
Ethernet		1 RJ45 10M / 100M Ethernet Interl	face	
Protocol	TCP/IP, UDP, DHCP, DNS, PPPoE, DDNS, Email			
General				
Power Supply		DC12V 2A		
Consumption				
Operating Temperature	≤10W (without hard disk or DVD-R/W)  0°C ~ 50°C			
Humidity	10% - 90% Humidity			
Dimensions (W x H x D)	300 x 278 x 58mm			
DITIETISIONS (W X I I X D)	000 A 270 A 0011111			



# HD TVI Cameras and THDR Video Recorders



## TDF 1.3TVIW

#### TVI Series Fixed Dome Camera



#### Part No. 301020

- HD 720p 1.3 MP Video Resolution
- 28 IR LED's 20m (65ft)
- IP66 Weather Proof
- 2D and 3D DNR & BLC
- 3.6mm Lens
- **Aluminium Housing**
- DC 12V (Not Supplied)



#### **Features**

- High Resolution HD 720p 1.3MP video resolution
- High quality 3.6mm fixed lens
- HD TVI- High Definition Transmit Video Interface

This technology enables a high efficiency of real time HD transmissions over long distances using standard RG59 (TX5912 cable). The technology supports two HD video formats 1920x1080 (1080p) and 1280x720 (720p).

#### DNR

Employing the latest digital noise reduction technology which enables noise to be filtered even more effectively from the image whatever the light conditions.

#### Auto D/N switchover Operation Mode

When there is sufficient daylight the TVI range of cameras operate in colour mode. At low light (lux) level the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 20m (65ft).

#### **Product Protection**

IP66 weather proof vandal resistant aluminium housing.

Camera	
Image Sensor	1/3"
Signal System	PAL
Effective Pixels	PAL: 1280 (H) x 720 (V)
Min. Illumination	0 Lux (Infrared Lamps On)
Shutter Speed	PAL: 1/25s ~ 1/50,000s
Lens	3.6mm Mega Pixel Lens
Day & Night	ICR
White Balance	Auto Tracking White Balance
BLC	Auto
Auto Gain Control	Auto
Synchronization	Internal Synchronization
S/N Ratio	50dB (AGC off)
Digital Noise Reduction	2D DNR & 3D DNR
Smart IR	Yes
General	
Working Temperature / Humidity	-40°C ~ 60°C / -40°F ~ 140°F RH 85% or less (non-condensing)
Power Supply	DC 12V (Not Supplied)
IR LEDs	28 pcs
IR Distance	20m (65ft)
Weather Proof Rating	IP66
Dimensions	Ф93mm x 62mm (Ф3.7" x 2.4")
Weight	400g (0.9lb)



















## TDV 1.3TVIW

#### TVI Series Varifocal Dome Camera



#### Part No. 301021

- HD 720p 1.3 MP Video Resolution
- IP66 Weather Proof
- 2D and 3D DNR & BLC
- 24 IR LED's 20m (65ft)
- 2.8 12mm Varifocal Lens
- Aluminium Housing
- DC 12V (Not Supplied)



#### **Features**

- High Resolution HD 720p 1.3MP video resolution
- · High quality 2.8 12mm varifocal lens
- HD TVI- High Definition Transmit Video Interface

This technology enables a high efficiency of real time HD transmissions over long distances using standard RG59 (TX5912 cable). The technology supports two HD video formats 1920x1080 (1080p) and 1280x720 (720p).

#### DNR

Employing the latest digital noise reduction technology which enables noise to be filtered even more effectively from the image whatever the light conditions.

#### Auto D/N switchover Operation Mode

When there is sufficient daylight the TVI range of cameras operate in colour mode. At low light (lux) level the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 20m (65ft).

#### Product Protection

IP66 weather proof vandal resistant aluminium housing.

Camera	
Image Sensor	1/3"
Signal System	PAL
Effective Pixels	PAL: 1280 (H) x 720 (V)
Min. Illumination	0.01 Lux@(F1.2, AGC ON), 0 Lux with Infrared Lamps On)
Shutter Speed	PAL: 1/25s ~ 1/50,000s
Lens	2.8-12mm @ F1.4, Angle of View: 80° - 27.2°
Lens Mount	Ф14
Angle Adjustment	Pan: 0-360°, Tilt: 0-75°, Rotation: 0-360°
Day & Night	ICR
White Balance	Auto Tracking White Balance
Synchronization	Internal Synchronization
S/N Ratio	More than 52dB
Video Frame Rate	720p@25fps/720p@30fps
HD Video Output	1 Turbo HD Output
Digital Noise Reduction	2D DNR & 3D DNR
Smart IR	Yes
General	
Working Temperature / Humidity	-40°C ~ 60°C / -40°F ~ 140°F RH 90% or less (non-condensing)
Power Supply	DC 12V (Not Supplied)
IR LEDs	24 pcs
IR Distance	20m (65ft)
Weather Proof Rating	IP66
Dimensions	Ф130.54mm x 102.4mm (Ф5.1" x 4.0")
Weight	565g (1.24lb)



















## **TDV 2TVIW**

#### TVI Series Varifocal Dome Camera



#### Part No. 301022

- HD 1080p 2MP Video Resolution
- 36 IR LED's 30m (100ft)
- IP66 Weather Proof
- 2D and 3D DNR & BLC
- 2.8 12mm Varifocal Lens
- Aluminium Housing
- DC 12V (Not Supplied)



#### **Features**

- High Resolution- HD 1080p 2MP video resolution
- High quality 2.8-12mm Varifocal lens Dome Camera
- HD TVI- High Definition Transmit Video Interface
   This technology enables a high efficiency of real time
   HD transmissions over long distances using standard
   RG59 (TX5912 cable). The technology supports two HD

#### DNR

Employing the latest digital noise reduction technology which enables noise to be filtered even more effectively from the image whatever the light conditions.

video formats 1920x1080 (1080p) and 1280x720 (720p).

#### BLC- Back Light Compensation

A feature that enables detail to be seen in otherwise dark or shadowed areas where silhouetting would otherwise occur.

#### Auto D/N switchover Operation Mode

When there is sufficient daylight the TVI range of cameras operate in colour mode. At low light (lux) level the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 30m (100ft).

#### Product Protection

IP66 weather proof vandal resistant aluminium housing.

Camera	
Image Sensor	1/2.8"
Signal System	PAL
Effective Pixels	PAL: 1920 (H) x 1080 (V)
Min. Illumination	0 Lux (Infrared Lamps On)
Shutter Speed	PAL: 1/25s ~ 1/50,000s
Lens	2.8 - 12mm Mega Pixel Lens
Day & Night	ICR
White Balance	Auto Tracking White Balance
BLC	Auto
Auto Gain Control	Auto
Synchronization	Internal Synchronization
S/N Ratio	50dB (AGC off)
Digital Noise Reduction	2D DNR & 3D DNR
Smart IR	Yes
General	
Working Temperature / Humidity	-10°C ~ 50°C / 14°F ~ 122°F RH 85% or less (non-condensing)
Power Supply	DC 12V (Not Supplied)
IR LEDs	36 pcs
IR Distance	30m (100ft)
Weather Proof Rating	IP66
Dimensions	Ф139mm x 105mm (Ф5.5" x 4.1")
Weight	710g (1.5lb)























## TBF 1.3TVIW

#### TVI Series Fixed Bullet Camera



#### Part No. 301023

- HD 720p 1.3MP Video Resolution
- 24 IR LED's 20m (65ft)
- IP66 Weather Proof
- DNR & BLC
- 3.6mm Fixed Lens
- Aluminium Housing
- DC 12V (Not Supplied)



#### **Features**

- High Resolution- HD 720p 1.3MP video resolution
- · High quality 3.6mm Fixed lens Bullet Camera
- HD TVI- High Definition Transmit Video Interface

This technology enables a high efficiency of real time HD transmissions over long distances using standard RG59 (TX5912 cable). The technology supports two HD video formats 1920x1080 (1080p) and 1280x720 (720p).

#### DNR

Employing the latest digital noise reduction technology which enables noise to be filtered even more effectively from the image whatever the light conditions.

#### BLC- Back Light Compensation

A feature that enables detail to be seen in otherwise dark or shadowed areas where silhouetting would otherwise occur.

#### Auto D/N switchover Operation Mode

When there is sufficient daylight the TVI range of cameras operate in colour mode. At low light (lux) level the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 20m (65ft).

#### Product Protection

IP66 weather proof vandal resistant aluminium housing.

Camera	
Image Sensor	1/3"
Signal System	PAL
Effective Pixels	PAL: 1280 (H) x 720 (V)
Min. Illumination	0.01 Lux@(F1.2, AGC ON) 0 Lux (Infrared Lamps On)
Shutter Speed	PAL: 1/25s ~ 1/50,000s
Lens	3.6mm Lens, Angle of View: 76.88°
Day & Night	ICR
White Balance	Auto Tracking White Balance
BLC	Auto
Auto Gain Control	Auto
Synchronization	Internal Synchronization
S/N Ratio	More than 52dB
Digital Noise Reduction	Yes
HD Video Output	1 Analog HD output
General	
Working Temperature / Humidity	-40°C ~ 60°C / -40°F ~ 140°F RH 85% or less (non-condensing)
Power Supply	DC 12V (Not Supplied)
Power Consumption	Max. 3.5W
IR LEDs	24 pcs
IR Distance	20m (65ft)
Weather Proof Rating	IP66
Dimensions	Ф70mm x 149.5mm (Ф2.8" x 5.9")
Weight	360g (0.8lb)





















## **TBV 2TVIW**

#### TVI Series Varifocal Bullet Camera



#### Part No. 301024

- HD 1080p 2MP Video Resolution
- True Day/Night
- IP66 Weather Proof
- 120dB True WDR, 3D DNR & Smart IR
- Matrix IR Illumination 50m (165ft)
- OSD Menu via UTC Technology
- 2.8 12mm Varifocal Lens
- **Aluminium Housing**
- DC 12V (Not Supplied)



#### **Features**

- High Resolution- HD 1080p 2MP video resolution
- High quality 2.8-12mm Varifocal lens Bullet Camera
- Matrix IR
- HD TVI- High Definition Transmit Video Interface

This technology enables a high efficiency of real time HD transmissions over long distances using standard RG59 (TX5912 cable). The technology supports two HD video formats 1920x1080 (1080p) and 1280x720 (720p).

#### DNR

Employing the latest digital noise reduction technology which enables noise to be filtered even more effectively from the image whatever the light conditions.

#### **BLC-Back Light Compensation**

A feature that enables detail to be seen in otherwise dark or shadowed areas where silhouetting would otherwise occur.

#### Auto D/N switchover Operation Mode

When there is sufficient daylight the TVI range of cameras operate in colour mode. At low light (lux) level the camera automatically switches using the Smart IR functionality to black and white ensuring high quality images over 50m (165ft).

#### **Product Protection**

IP66 weather proof vandal resistant aluminium housing.























Camera	
Image Sensor	1/3"
Signal System	PAL
Effective Pixels	PAL: 1920 (H) x 1080 (V)
Min. Illumination	0.014 Lux@(AGC ON) 0 Lux (Infrared Lamps On)
Shutter Speed	PAL: 1/25s ~ 1/50,000s
Lens	2.8 - 12mm Lens, Angle of View: 92° -32°
Day & Night	ICR
Synchronization	Internal Synchronization
Video Frame Rate	PAL 1080p@25fps
S / N Ratio	More than 52dB
HD Video Output	1 Analog HD output
Menu	
Scene	Indoor, Outdoor, Indoor1, LOW-LIGHT
Camera ID	On/Off (15 Characters, position programmable
AGC	Support
D/N Mode	Colour / BW / EXT
White Balance	ATW, AWC-SET, Indoor, Outdoor, Manual
Privacy Mask	On/Off, Max 8 Zones
Motion Detection	On/Off, Max 4 Zones
BLC	Support
Anti-Flicker	On/Off
Language	English, Japanese, CHN1, CHN2, Korean, German, French, Italian, Spanish, Polish, Russian, Portuguese, Dutch, Turkish, Hebrew and Arabic
Function	Eclipse, DNR, Digital Zoom(62x), Slow shutter, Mirror, Defog, Defect Pixel Correction, SMART D-ZOOM
General	
Working Temperature / Humidity	-20°C ~ 60°C / -4°F ~ 140°F 90% or less (non-condensing)
Power Supply	DC 12V (Not Supplied), 24V AC
Power Consumption	Max. 10W
IR Distance	50m (165ft)
Weather Proof Rating	IP66
Dimensions (without Junction Box)	300.8mm x 100.8mm x 107.6mm (11.8" x 4.0" x 4.2")
Weight (without Junction Box)	700g (1.5lb)

## **TPTZ MTVIW**



TVI PTZ Dome Camera, 23 x Optical Zoom

#### Part No. 301025

- 720P Video Output
- 1/3" CMOS Sensor
- IP66 Weather Proof
- True Day/Night DWDR & DNR
- 23 x Optical Zoom, 16 x Digital Zoom
- 3D Intelligent Positioning
- 24VAC Power Supply
- Built-In Fan and Heater



Camera	
Image Sensor	1/3" CMOS
Effective Pixel	1400K
Max Image Resolution	1280 x 720
Resolution	50Hz: 50fps(1280x720), 25fps(1280x720); 60Hz: 60fps(1280x720), 30fps(1280x720)
Min. Illumination	Colour: 0.05 Lux@F1.6 (AGC On) B/W 0.01 Lux@F1.6 (AGC On)
White Balance	Auto/Manual/ATW/Indoor/Outdoor
AGC	Auto / Manual
S/N Ratio	≥ 50dB
3D DNR	Support
Digital WDR	Support
EIS	Support
Backlight Compensation	Support
Shutter Time	1-1 / 10,000s
Day & Night	IR Cut Filter
Digital Zoom	16x
Privacy Mask	Up to 8 programmable, max 8 zones on same video screen
Focus Mode	Auto / Semiautomatic / Manual
Lens	
Focal Length	4 ~ 92mm 23X
Zoom Speed	Approx 4s (Optical Wide-Tele)
Angle of View	49 ~ 2.2 Degree (Wide-Tele)
Min. Working Dist.	10 ~ 1000mm (Wide-Tele)
Aperture Range	F1.6 ~ F3.7
Pan and Tilt	
Pan / Tilt Range	Pan range: 360° endless; Tilt range: -2°-90° (Auto Flip)

Pan / Tilt Speed	Pan Manual Speed: 0.1°-160°/s, Pan Preset Speed: 160°/s Tilt Manual Speed: 0.1°-120°/s, Tilt Preset Speed: 120°/s
Proportional Zoom	Rotation speed can be adjusted automatically according to zoom multiples
Number of Preset	256
Patrol	8 patrols, up to 32 presets per patrol
Pattern	4 Patterns with total recording time not less than 10 minutes
Power Off Memory	Support
Park Action	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama
PTZ Position Display	On / Off
Preset Freezing	Support
Schedule Task	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama
Input / Output	
Monitor Output	1 HD TVI Output, 1.0V (P-P) / 75Ω, BNC
RS-485 Interface	Half duplex mode; Pelco-P, Pelco-D protocol
UTC Function	Self adaptive PELCO_C
General	
Working Temperature	-30°C ~ 65°C / -22°F ~ 149°F
Power Supply	24 VAC, Max 18W (heater 6W)
Heater	Built-In 6W
Humidity	90% or less
Protection Level	IP66 standard (outdoor dome), TVS 4,000V Lightning protection, surge protection and voltage transient protection
Dimensions	φ179.4 x 239.5mm (7.06" x 9.43" w/o Bracket)
Weight	Approx. 2kg (4.4lb)

































## **TPTZ TVWIR**



#### TVI PTZ

Dome Camera, 23 x Optical Zoom with IR

#### Part No. 301026

- 950TVL Horizontal Resolution
- 1/3" CMOS Sensor
- **IP66 Weather Proof**
- True Day/Night DWDR & DNR
- 23 x Optical Zoom, 16 x Digital Zoom
- IR Distance 100m (328ft)
- 3D Intelligent Positioning
- 24VAC Power Supply
- Built-In Fan and Heater



Camera	
Image Sensor	1/3" CMOS
Effective Pixel	1490K
Horizontal Resolution	950TVL
Signal System	PAL / NTSC
Min. Illumination	Colour: 0.2 Lux@F1.6 (AGC On) B/W 0.02 Lux@F1.6 (AGC On)
White Balance	Auto/Manual/ATW/Indoor/Outdoor
AGC	Auto / Manual
S/N Ratio	≥ 50dB
3D DNR	Support
Digital WDR	Support
EIS	Support
Backlight Compensation	Support
Shutter Time	1-1 / 10,000s
Day & Night	IR Cut Filter
Digital Zoom	16x
Privacy Mask	Up to 8 programmable, max 8 zones on same video screen
Focus Mode	Auto / Semiautomatic / Manual
Lens	
Focal Length	4 ~ 92mm 23X
Zoom Speed	Approx 4s (Optical Wide-Tele)
Angle of View	49 ~ 2.2 Degree (Wide-Tele)
Min. Working Dist.	10 ~ 1000mm (Wide-Tele)
Aperture Range	F1.6 ~ F3.7
Pan and Tilt	
Pan / Tilt Range	Pan range: 360° endless; Tilt range: -15°-90° (Auto Flip)
Pan / Tilt Speed	Pan Manual Speed: 0.1°-160°/s, Pan Preset Speed: 240°/s Tilt Manual Speed: 0.1°-120°/s, Tilt Preset Speed: 200°/s

Proportional Zoom	Rotation speed can be adjusted automatically
Proportional Zoom	according to zoom multiples
Number of Preset	256
Patrol	8 patrols, up to 32 presets per patrol
Pattern	4 Patterns with total recording time not less than 10 minutes
Power Off Memory	Support
Park Action	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama
PTZ Position Display	On / Off
Preset Freezing	Support
Schedule Task	Preset / Patrol / Pattern / Pan / Tilt / Auto Random / Frame / Panorama
Infrared	
IR Distance	Up to 100m (328ft)
IR Intensity	Automatically adjust depending on the zoom ratio
Input / Output	
Monitor Output	1.0V (P-P) / 75Ω, BNC
RS-485 Interface	Half duplex mode; Self-adaptive HIKVISION, Pelco-P, Pelco-D protocol
UTC Function	Self adaptive PELCO_C, HIKVISION_C (need controller)
General	
Working Temperature	-30°C ~ 65°C / -22°F ~ 149°F
Power Supply	24 VAC, Max 30W (IR On, Heater On), Max 24W (IR On), Max 15W (IR Off, Heater Off)
Heater	Built-In 20W
Humidity	90% or less
Protection Level	IP66 standard (outdoor dome), TVS 4,000V Lightning protection, surge protection and voltage transient protection
Dimensions	ф220 x 353.4mm (8.66" x 13.91" w/o Bracket)
Weight	Approx. 5.5kg (12.13lb w/o Bracket)







































## THDR Range

4, 8 or 16 Channel HD-TVI Digital Video Recorder

Part No. 301030 THDR 4 THDR 8 Part No. 301031 **THDR 16** Part No. 301032

#### **Smart Search**

Never again have to fast forward to find a single incident. Select an area and smart search will only show related footage. Narrow things down to just when the event occurred and eliminate excess searching.

#### **Motion Detection**

Mark a specific area that needs extra protection. Any activity in that area can trigger alarm and analytic algorithims to prevent false positives. A simple line can also be drawn and set up as the alarm trigger.

- H.264 & Dual Stream Video Compression Technology
- Support HD-TVI/Analog/IP Camera Triple Hybrid
- Full Channel 1080P@15fps, 720P@25fps Recording
- HDMI and VGA Output up to 1920x1080P Resolution
- Long Transmission Distance over Coax Cable
- Support up to 4, 8 or 16 Ch Synchronous Playback

#### 1-Click camera adding

Even cameras on an external PoE switch are easy to install. 1-Click will automatically add new cameras to the THDR. Let the THDR figure out what addresses are free and take care of the IP camera configuration



Download the mobile surveillance app

### Featuring P2P Technology



Download on the

App Store





System	THDR 4	THDR 8	THDR 16
Video / Audio Input			
Video Compression		H.264	
Analog and HD-TVI Video Input	4Ch	8Ch	16Ch
IP Input	1Ch (1080p@25fps)	1Ch (1080p@25fps)	2Ch (1080p@25fps)
Audio Compression		G.711u	
Audio Input	1-Ch, RCA (2.0 Vp-p, 1kΩ)	1-Ch, RCA (2.0 Vp-p, 1kΩ)	1-Ch, RCA (2.0 Vp-p, 1kΩ)
2 Way Audio Input		1-Ch, RCA (2.0 Vp-p, 1kΩ)	
Video / Audio Output			
HDMI / VGA Output	1920 x 1080p / 60	OHz, 1280 x 1024 / 60Hz, 1280 x 720 / 60Hz,	1024 x 768 / 60Hz
Encoding Resolution		m: 1080P (non-real-time) / 720P / VGA / WD1 D1 (non-real-time) / 4CIF (non-real-time) / CIF	
Frame Rate		Main Stream: 1/16 fps - Real time frame rate Sub Stream: 1/16 fps - Real time frame rate	
Video Bit Rate	32 Kbps - 4 Mbps	32 Kbps - 8 Mbps	32 Kbps - 10 Mbps
Audio Output	1-Ch, RCA (Linear, 1kΩ)	1-Ch, RCA (Linear, 1kΩ)	2-Ch, RCA (Linear, 1kΩ)
Audio Bit Rate		64 Kbps	
Dual-Stream		Support	
Stream Type		Video, Video & Audio	
Playback Resolution	10	080P / 720P / VGA / WD1 / 4CIF / QVGA / QC	IF
Synchronous Playback	4-Ch	8-Ch	16-Ch
Network			
Remote Connections		128	
Network Protocols	TCP/IP, PPPoE, DHCP	, DNS, DDNS, NTP, SADP, SMTP, SNMP, NF	S, iSCSI, UpnP, HTTPS
Hard Disk			
SATA	1 SATA Interface	1 SATA Interfaces	2 SATA Interfaces for 2xHDD's; 1x eSATA Interface
Capacity		Up to 6TB for each disk	
External Interface			
Network Interface		1:10M / 100M Self-adaptive Ethernet Interface	9
Serial Interface		1 RS-485 Serial Interface, Half Duplex	
USB Interface	2 x U\$	SB 2.0	3 x USB 2.0
Alarm In / Out	4/1	8/4	16/4
Others			
Power Supply	12V DC	12VDC	100 ~240VAC, 47 ~ 63Hz
Consumption	≤15W	≤20W	≤55W
Working Temperature		-10°C ~ +55°C, 14°F ~ 131°F	
Working Humidity		10% ~ 90%	
Chassis	1U Chassis	19" Rack Mounted 1U Chassis	19" Rack Mounted 1.5U Chassis
Dimensions (W x D x H)	315 x 230 x 45mm (12.4 x 9.1 x 1.8 inch)	315 x 230 x 45mm (12.4 x 9.1 x 1.8 inch)	440 x 280 x 45mm (17.3 x 11 x 1.8 inch
DITTELISIONS (WX X D X D)			



## **IP Cameras**



## TDF IP

#### 1.3MP Matrix IR Fixed Turret Camera



#### Part No. 301039

- 1.3MP Resolution
- 2.8mm Lens
- · HD Real-Time Video
- IP66 Weather Proof
- DWDR & 3D DNR
- Matrix IR Illuminator 30m (100ft)
- Day / Night Auto Switch



Camera	
Image Sensor	1/3" Sensor
Min. Illumination	0.0028 Lux@F2.0 (AGC On) 0 Lux with IR
Shutter Speed	1/25s ~ 1/100,000s
Lens	2.8mm@F2.0, 1280x960: Angle of View 92.5°
Lens Mount	M12
Day & Night	ICR
Dig. Noise Reduction	3D DNR
Wide Dynamic Range	Digital WDR
Angle Adjustment	Horizontal 0°~360°, Vertical: 0°~75°, Rotation: 0°~360°
Compression Standa	rd
Video Compression	H.264 / MJPEG
Bit Rate	32 Kbps ~ 16 Mbps
Dual Stream	Yes
Image	
Max. Image Res	1280 x 960
Frame Rate	60Hz: 30fps (1280 x 960), 30fps (1280 x 720) 50Hz: 25fps (1280 x 960), 25fps (1280 x 720)
Image Settings	Saturation, brightness, contrast adjustable through client software or web browser
Network	
Network Storage	NAS (iSCSI Optional)
Alarm Trigger	Motion detection, tampering alarm, network disconnect, IP address conflict, storage exception

Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, SNMP, HTTPS, FTP, 802.1x, Qos, (SIP, SRTP, IPv6 optional)
System Capability	ONVIF, PSIA, CGI
General Functionalities	Flickerless, Heartbeat, Mirror, User Authentication, Video Mask, Watermark, Reset
Interface	
Communication Interface	1 RJ45 10M / 100M Ethernet Port and 1 RS-485 Interface
General	
Working Temperature / Humidity	-25°C ~ 60°C / -13°F ~ 140°F Humidity 95% or less (non-condensing)
Working Temperature	20 0 00 07 10 1 110 1
Working Temperature / Humidity	Humidity 95% or less (non-condensing) DC 12V ±10%, PoE (802.3af)
Working Temperature / Humidity Power Supply	Humidity 95% or less (non-condensing) DC 12V ±10%, PoE (802.3af) (Not Supplied)
Working Temperature / Humidity  Power Supply  Power Consumption	Humidity 95% or less (non-condensing)  DC 12V ±10%, PoE (802.3af) (Not Supplied)  Max. 7W
Working Temperature / Humidity  Power Supply  Power Consumption IR Distance	Humidity 95% or less (non-condensing) DC 12V ±10%, PoE (802.3af) (Not Supplied) Max. 7W 30m (100ft)
Working Temperature / Humidity  Power Supply  Power Consumption IR Distance Weather Proof Rating	Humidity 95% or less (non-condensing)  DC 12V ±10%, PoE (802.3af) (Not Supplied)  Max. 7W  30m (100ft)  IP66



































## **TDV IP**

#### 3.0MP IR Varifocal Dome Camera



#### Part No. 301040

- 3.0MP (2048 x 1536) High Resolution
- 2.8 12mm Lens
- Full HD 1080p Real-Time Video
- IP66 Weather Proof
- DWDR & 3D DNR & BLC
- IR LED's 20m (66ft)
- Onboard Storage (up to 32GB)
- Vandal Proof
- · Audio I/O, Alarm I/O



Camera		
Image Sensor	1/3" Sensor	
Min. Illumination	0.07 Lux@F1.2 (AGC On) 0 Lux with IR	
Shutter Speed	1/25s ~ 1/100,000s	
Lens	2.8 - 12mm@F1.4, Angle of View 80°~28.7°	
Lens Mount	ф14	
Auto Iris	DC Drive	
Day & Night	ICR	
Dig. Noise Reduction	3D DNR	
Wide Dynamic Range	Digital WDR	
Backlight Comp.	Yes, Zone configurable	
Angle Adjustment	Pan 0°~360°, Tile: 0°~75°, Rotation: 0°~360°	
Compression Standa	rd	
Video Compression	H.264 / MJPEG	
H.264 Compression Profile	Main Profile	
Bit Rate	32 Kbps ~ 16 Mbps	
Audio Compression	G.711 / G.726	
Audio Bit Rate	64Kbps (G.711) / 16Kbps (G.726)	
Image		
Max. Image Res	2048 x 1536	
	60Hz: 15fps (2048 x 1536), 30fps (1920 x 1080), 30fps (1280 x 720) 50Hz: 12.5fps (2048 x 1536), 25fps (1920 x 1080), 25fps (1280 x 720)	
Frame Rate	1080), 30fps (1280 x 720) 50Hz: 12.5fps (2048 x 1536), 25fps (1920 x	

Network		
Network Storage	NAS (iSCSI Optional)	
Alarm Trigger	Motion detection, tampering alarm	
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, SNMP, HTTPS, FTP, 802.1x, Qos, UPnP (SIP, SRTP, IPv6 optional)	
System Capability	ONVIF, PSIA, CGI	
General Functionalities	Dual Stream, User Authentication, Watermark	
Interface		
Communication Interface	1 RJ45 10M / 100M Ethernet Port	
On-Board Storage	Built in Micro SD Card Slot, upto 32GB	
General		
Working Temperature / Humidity	-30°C ~ 60°C / -22°F ~ 140°F Humidity 95% or less (non-condensing)	
Power Supply	DC 12V ±10%, PoE (802.3af) (Not Supplied)	
Power Consumption	Max. 5.5W	
Impact Protection	IEC60068-2-75Eh, 50J; EN50102, up to IK10	
IR Distance	20m (66ft)	
Weather Proof Rating	IP66	
Dimensions	ф140 x 99.9mm (5.5 x 3.9")	
Weight	750g (1.7lb)	







































## TBF IP

#### 1.3MP IR Fixed Mini Bullet Camera



#### Part No. 301038

- 1.3MP Resolution
- HD Real-Time Video
- 4mm Lens
- IP66 Weather Proof
- DWDR & 3D DNR & BLC
- Low Illumination
- 30 IR LED's 30m (100ft)
- True Day / Night



Camera		
Image Sensor	1/3" Sensor	
Min. Illumination	0.01 Lux@F1.2 (AGC On) 0 Lux with IR 0.028 Lux@F2.0 (AGC On) 0 Lux with IR	
Shutter Speed	1/25s ~ 1/100,000s	
Lens	4mm@F2.0, Angle of View 45.3°	
Lens Mount	M12	
Day & Night	ICR with Auto Switch	
Dig. Noise Reduction	3D DNR	
Compression Standard		
Video Compression	H.264 / MJPEG	
H.264 Compression Profile	Main Profile	
Bit Rate	32 Kbps ~ 16 Mbps	
Image		
Max. Image Res	1280 x 960	
Frame Rate	60Hz: 30fps (1280 x 960), 30fps (1280 x 720) 50Hz: 25fps (1280 x 960), 25fps (1280 x 720)	
Image Settings	Saturation, brightness, contrast, sharpness adjustable through client software or web browser	
BLC	Yes, Zone configurable	

Network		
Network Storage	NAS (iSCSI Optional)	
Alarm Trigger	Motion detection, tampering alarm, network disconnect, IP address conflict, storage exception.	
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, SNMP, HTTPS, FTP, 802.1x, Qos, (SIP, SRTP, IPv6 optional)	
System Capability	ONVIF, PSIA, CGI	
Security	User Authentication, Watermark, Flicker- less, Heartbeat, Dual Stream, Mirror	
Interface		
Communication Interface	1 RJ45 10M / 100M Ethernet Port	
General		
Working Temperature / Humidity	-25°C ~ 60°C / -13°F ~ 140°F Humidity 95% or less (non-condensing)	
Power Supply	DC 12V ±10%, PoE (802.3af) (Not Supplied)	
Power Consumption	Max. 5W	
IR Distance	30m (100ft)	
Weather Proof Rating	IP66	
Dimensions	φ60.4 x 76.5mm x 138.1mm (2.4" x 3" x 5.4")	
Weight	300g (0.66lb)	































## **TBV IP**

#### 3.0MP IR Varifocal Bullet Camera



#### Part No. 301041

- 3.0MP (2048 x 1536) High Resolution
- Full HD 1080p Real-Time Video
- 2.8 12mm Lens
- · IP66 Weather Proof
- DWDR & 3D DNR & BLC
- 42 IR LED's 30m (100ft)
- Onboard Storage (up to 32GB)
- Vandal Proof
- · Audio I/O, Alarm I/O



Camera		
Image Sensor	1/3" Sensor	
Min. Illumination	0.07 Lux@F1.2 (AGC On) 0 Lux with IR	
Shutter Speed	1/25s ~ 1/100,000s	
Lens	2.8 - 12mm@F1.4, Angle of View 98°~30.5°	
Auto Iris	DC Drive	
Day & Night	ICR	
Dig. Noise Reduction	3D DNR	
Wide Dynamic Range	Digital WDR	
Backlight Comp.	Yes, Zone configurable	
Compression Standa	rd	
Video Compression	H.264 / MJPEG	
H.264 Compression Profile	Main Profile	
Bit Rate	32 Kbps ~ 16 Mbps	
Audio Compression	G.711 / G.726	
Audio Bit Rate	64Kbps (G.711) / 16Kbps (G.726)	
Image		
Max. Image Res	2048 x 1536	
Frame Rate	60Hz: 15fps (2048 x 1536), 30fps (1920 x 1080), 30fps (1280 x 720) 50Hz: 12.5fps (2048 x 1536), 25fps (1920 x 1080), 25fps (1280 x 720)	
Image Settings	Saturation, brightness, contrast adjustable through client software or web browser	

Network		
Network Storage	NAS (iSCSI Optional)	
Alarm Trigger	Motion detection, tampering alarm	
Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, RTSP, PPPoE, SMTP, NTP, SNMP, HTTPS, FTP, 802.1x, Qos, UPnP (SIP, SRTP, IPv6 optional)	
System Capability	ONVIF, PSIA, CGI	
General Functionalities	Dual Stream, User Authentication, Water- mark	
Interface		
Communication Interface	1 RJ45 10M / 100M Ethernet Port	
On-Board Storage	Built in Micro SD Card SLot, upto 32GB	
General		
Working Temperature / Humidity	-30°C ~ 60°C / -22°F ~ 140°F Humidity 95% or less (non-condensing)	
Power Supply	DC 12V ±10%, PoE (802.3af) (Not Supplied)	
Power Consumption	Max. 5.5W (7.5W with ICR On)	
IR Distance	30m (100ft)	
Weather Proof Rating	IP66	
Dimensions	ф105 x 295.6mm (4.13 x 11.64")	
Weight	1200g (2.65lb)	







































## **TPTZ IP**

#### 2.23MP Network IR PTZ Dome Camera



#### Part No. 301042

- 1080P Full HD Resolution
- 1/2.8" CMOS Sensor
- IP66 Weather Proof
- True Day/Night DWDR & 3D DNR & BLC
- 4.7 94mm Lens, 20 x Optical Zoom
- 3D Intelligent Positioning
- 6 IR LED's 100m (330ft)
- 24VAC / High-PoE Power Supply





Camera		
Image Sensor	1/2.8" Sensor	
Effective Pixel	2230K Pixels	
Min. Illumination	Colour: 0.05 Lux@F1.6 (AGC On) B/W 0.01 Lux@F1.6 with IR (AGC On) 0 Lux with IR	
White Balance	Auto/Manual/ATW/Indoor/Outdoor/Daylight Lamp/ Sodium Lamp	
AGC	Auto / Manual	
S/N Ratio	≥ 50dB	
Dig. Noise Reduction	3D DNR	
Backlight Comp.	Yes	
Wide Dynamic Range	128X Digital WDR	
Shutter Speed	1 ~ 1/10,000s	
Day & Night	IR Cut Filter	
Focus Mode	Auto / Semiautomatic / Manual	
Lens		
Focal Length	4.7 ~ 94mm 20X	
Zoom Speed	Approx 3s (Wide-Tele)	
Angle of View	58.3 ~ 3.2 Degree (Wide-Tele)	
Min. Working Dist.	10 ~ 1000mm (Wide-Tele)	
Aperture Range	F1.6 ~ F3.5	
Pan and Tilt		
Pan / Tilt Range	Pan range: 360° endless; Tilt range: -15°-90° (Auto Flip)	
Pan / Tilt Speed	Pan Manual Speed: 0.1°-160°/s, Pan Preset Speed: 240°/s Tilt Manual Speed: 0.1°-120°/s, Tilt Preset Speed: 200°/s	
Proportional Zoom	Rotation speed can be adjusted automatically according to zoom multiples	
Number of Preset	256	
Patrol	8 patrols, up to 32 presets per patrol	
Power Off Memory	Support	
Park Action	Preset / Patrol / Pattern / Pan scan / Tilt scan / Random scan / Frame scan / Panorama scan	

Infrared		
IR Distance	Up to 100m (330ft)	
IR Intensity	Automatically adjust depending on the zoom ratio	
Input / Output		
Audio Input	Audio input (LINE input), 2 ~ 2.4V[p-p]; Output impedance: $1K\Omega$ , $\pm 10\%$	
Audio Output	Line level impedance 600Ω	
Image		
Max. Image Resolution	1920 x 1080	
Frame Rate	60Hz: 30fps (1920 x 1080), 30fps (1920 x 1080), 30fps (1280 x 720) 50Hz: 12.5fps (2048 x 1536), 25fps (1920 x 1080), 25fps (1280 x 720)	
Image Compression	H.264/MPEG4	
Network		
Ethernet	10Base-T / 100Base-TX, RJ45 Connector	
Audio Compression	G.711u / G.711a / G.726	
Protocols	IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE	
Simultaneous Live View	Up to 6	
Streams	Dual Streams	
Mini SD Memory Card	Micro SD Slot up to 32GB	
User / Host Level	Up to 32 users, 3 levels: Administrator, Camera Control, Live View Only	
Security Measures	User authentication (ID and PW), Host authentication (MAC address), IP address filtering	
Integration		
Application Programming	Open-ended API, support Onvif, PSIA and CGI	
Web Browser	IE7, IE8, IE9, Chrome8+, Firefox 3.5+, Safari5+	
General		
Working Temperature	-30°C ~ 65°C / -22°F ~ 149°F	
Power Supply	24 VAC, High PoE; Max 30W/21W (IR On/Off)	
RS-485 Protocols	HIKIVISION, Pelco-P, Pelco-D, Self Adaptive	
Humidity	90% or less	
Protection Level	IP66, TVS 4,000V Lightning protection, surge protection and voltage transient protection	
Dimensions	ф220 x 353.4mm (8.66" x 13.91" w/o Bracket)	
Weight	Approx. 5.5kg (12.13lb w/o Bracket)	













































## Accessories





#### WD Purple™ Surveillance Hard Drives (use with DVR / THDR)

#### WD10PURX

WD Purple™ 1TB

Part No. 301057

#### WD20PURX

WD Purple™ 2TB

Part No. 301058

#### WD40PURX

WD Purple™ 4TB

#### Part No. 301059

\* Used in conjunction with TVI DVR's only.



#### Peace of mind

Built for 24/7 always-on, high temperature surveillance systems ensuring reliability and quality video playback when you need it most.

#### Desktop vs Surveillance storage

WD Purple™ drives are designed to replace standard desktop drives that were not designed for 24/7 always-on surveillance. Desktop drives are built to run for short intervals only and are not engineered to withstand high-temperature fluctuations and equipment vibrations found in typical surveillance applications.

#### Improve performance

Allframe™ technology works with ATA streaming to reduce error pixilation and video interruptions that occur when desktop hard drives are incorrectly used in storage systems.

#### Compatibility

Built for compatibility with industry leading chassis and chip set manufacturers for seamless integration.

#### Supports up to 32 cameras

Optimised to support up to 32 high definition surveillance cameras, providing flexibility to upgrade in the future.

#### Lower power consumption

Crucial in high temperature, always-on surveillance environments. With IntelliSeek™ technology, WD Purple™ drives calculate the optimum seek speeds which lowers power consumption, noise and vibration that can damage and cause drives to wear out sooner.

Interface: SATA 6 Gb/s
Form Factor: 3.5 inch

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#### 3D Controller

#### PTZ C

3D (Pan / Tilt / Zoom) Controller

Part No. 301060

Enables control of PTZ cameras from a central control area.



#### Power Extension DC Cable

## DC 1x4 Split

Power Extension DC Cable 1 x Female - 4 x Male

Part No. 301071

Splits DC voltage upto 4 cameras on a CCTV system



#### DC 1x8 Split

Power Extension DC Cable 1 x Female - 8 x Male

Part No. 301072

Splits DC voltage upto 8 cameras on a CCTV system



#### RG59 + 12VDC Cable

#### TX5912

RG59 + 12VDC Cable - Black 100m

Part No. 370783



#### TX5912

RG59 + 12VDC Cable - Black 200m

Part No. 370784

Enables video and voltage to be delivered to a CCTV camera through a twin cable.





#### Connectors + Tools

#### MPP 1

Male Power Plug Screw Terminal

Part No. 301073

Connects to a TX5912 cable. Plugs into CCTV camera to deliver power from source.



#### FPP 1

Female Power Plug Screw Terminal

Part No. 301074

Connects to TX5912 cable. Plugs into your power source to deliver power to your CCTV camera.



#### BNC C1

**BNC Compression Connector** 

Part No. 301075

Professional connector for TX5912 cable to deliver video from your CCTV camera to your DVR.



#### **BNC C2**

**BNC Crimp Connector** 

Part No. 301076

Professional connector for TX5912 cable to deliver video from your CCTV camera to your DVR.



#### CBT 2

**BNC Crimp Ratchet Tool** 

Part No. 301084

Professional crimp ratchet tool for use with BNC C2 crimp connector. (Part No. 301076)



#### CBT 1

**BNC Compression Tool** 

Part No. 301086

Professional compression tool for use with BNC C1 compression connector. (Part No. 301075)





#### Converters

#### VTC C1

CCTV Video RG59 CAT5 Converter Pair

Part No. 301077

Enables CAT cable to be used between CCTV camera and DVR for video.



#### VAP B1

CCTV Video Audio Power RG59 CAT5 Balun Pair

Part No. 301078

Enables CAT cable to be used between CCTV camera and DVR for video, audio and power.



#### **Power Supplies**

#### PSU 129/9

12VDC 9 Port, 9 AMP PTC Protection

Part No. 301080

Connects upto 9 CCTV cameras (depending on camera power requirements)



#### PSU 1218/12

12VDC 18 Port, 12 AMP PTC Protection

Part No. 301081

Connects upto 18 CCTV cameras (depending on camera power requirements)



#### PSU 249/8

24VAC 9 Port, 8 AMP

Part No. 301082

Connects upto 9 PTZ CCTV cameras (depending on camera power requirements)





#### **PSU 125**

12VDC, 5 AMP

Part No. 301087

Use with DC 1x4 Split (Part No. 301071) and DC 1x8 Split (Part No. 301072) to provide power for CCTV cameras up to 5 amps.



#### **CCTV Tester / Analyser**

#### **T1**

Professional CCTV Tester / Analyser (includes carry case)

Part No. 301083

Enables appropriate positioning of CCTV cameras during installation.



#### **PTZ Mounts**

#### **TPTZ MC1**

PTZ Ceiling Mount - Suitable for all Triax PTZ Cameras

Part No. 301088



#### **TPTZ CM2**

PTZ Corner Mount - Suitable for all Triax PTZ Cameras

Part No. 301089



#### Miscellaneous

### **CCTV Warning Sign**

457 x 279mm

Part No. 301085





# What we mean by...





#### **700 TVL**

The number of analogue TV lines you will see on your TV screen (in theory, for PAL systems you will only ever see 576 TV Lines on your TV). The Triax range of analogue CCTV cameras feature 700 TVL.

#### 960 H

Represents the number of horizontal pixels in the CCD image sensor and is the highest resolution available for analogue CCTV. It provides a 30% increase in resolution compared to D1, enabling cameras to obtain resolutions up to 700 TVL and DVRs to capture the images.

960H creates a wide-screen picture by default so the image does not need to be stretched to fit wide-screen TVs and monitors. Since 960H's horizontal resolution is 960 x 480. you're going to get the best results from a 700 TVL camera (a 700 TVL camera has an effective resolution of 976 x 582). The Triax range of analogue CCTV cameras feature 960H sensors.

#### Addressing

Addressing provides a means of identifying individual items that are located on a network.

#### **AGC**

Automatic Gain Control. A circuit that provides a method of keeping a signal at a constant level. Cameras use AGC to keep the video signal level high under low light conditions.

#### AI C

Automatic Level Control. This is found on auto iris lenses and is a means of 'fine tuning'the sensitivity of the lens. If set to 'peak', bright areas can show more detail and if set to 'average'dark areas will show more detail. The default setting is halfway on most lenses and will suit the majority of installations.

#### Angle of View

The maximum width of view available from a CCD imager, regardless of the lens fitted. The bigger the CCD imager format, the wider the angle of view.

#### **Aperture**

A means of adjusting the amount of light passing through a lens. In the CCTV environment the lens iris is the aperture control method.

#### Auto Iris

A facility built into lenses to control the amount of light allowed through the lens. The auto iris compensates for differing light levels, allowing the camera picture to be consistent under varying light conditions.

#### **Auto White Balance**

This is a facility provided on most colour cameras to adjust while levels relative to other colours.

#### **Back Focus**

The position of the imaging device in relation to the focal point of the lens, it is sometimes referred to a "rack focus". When setting up a zoom lens the back focus must be set to allow correct tracking of focus throughout the zoom range.

The frequency response capability of a device or communications medium. The greater the bandwidth, the larger the capacity of the system i.e. the more information carrying ability the CCTV or network system has.

#### **BLC**

Back Light Compensation. A feature found on some cameras that allows it to deal with different lighting levels in the scene of view, such as looking from a dark room into a doorway. BLC enables detail to be seen in otherwise dark or shadowed areas where silhouetting would otherwise occur.

Used for terminating coaxial cables, the main connector in the CCTV industry.

Charge Coupled Device. A light sensitive imaging device for almost all cameras. Typical sizes for CCTV cameras: 1/2", 1/3"& 1/4"

#### **CCTV**

Closed Circuit Television

#### **Composite Video**

A complete video signal, in which the Luminance (brightness) and Chrominance (colour)

#### Compression

Compression techniques are used in digital CCTV to reduce the file sizes of recorded video images. Typical compression formats used for video are: MJPEG, MPEG-4 & H.264.

#### Day/Night Camera

A type of camera that can capture video during the day or night. In low light conditions, the sensor may switch from colour to black & white in order to enhance the picture quality.

#### **Digital Noise Reduction**

The chip inside your camera is constantly picking up noise from interference and by-products produced by other circuits and electronic components within it. These noise artefacts can translate into images and video as fine static, snow or fuzzy

Digital Noise Reduction (DNR) is a method by which the camera's imager digitally removes noise from the image. 3D DNR is an advancement of this technology which enables noise to be filtered even more effectively from the image, even in low light conditions.

#### **Digital Zoom**

A facility provided on some video multiplexers and CCTV cameras, which allows the image to be 'zoomed into', the higher the zoom ration the more 'blocky'the image can become.



#### **DSP**

Digital Signal Processing. A system supported by some CCTV cameras, which allows intelligent manipulation of the video signal in the camera for features such as backlight compensation.

#### **Dwell**

The time period in which a switcher will remain on one camera input before switching to the next in the sequence. It can also refer to the time spent by a device at a preset position when in tour mode.

#### FΙ

Electronic Iris. This is a system within CCTV cameras where an electronic shutter is built into the camera. It allows a normal fixed iris lens to be fitted in a wider range of applications. It should not be assumed that El would negate the need for an auto iris lens.

#### **Ethernet**

Ethernet is the most widely utilised network technology. Specified in a standard, IEE 802.3, Ethernet was originally developed by Xerox and then developed further by Xerox, DEC, and Intel. It is now a popular means of distributing data and / or video.

#### Sony EXwave/EXview

Are terms relating to an enhanced CCD imager that features improved light gathering techniques, which give improved low light sensitivity, particularly near the IR end of the spectrum.

#### Field

A field is one half of a complete TV picture and can comprise of all odd lines or all even lines.

#### **Focal Length**

This is a distance from the centre of the lens to a point at which images come into focus. The CCD imager is usually set at this point to ensure image clarity. This value is what denotes the angle of view and size of the target image.

#### **Frame**

A complete TV picture comprising of two fields, one odd and one even.

#### Frame Rate

The quality of a Digital Surveillance Systems is often determined by the Total Frame Rate it can record at. The higher the Frame Rate, the higher the quality of recording and the more Real Time your CCTV recording will be - Real Time recording for 1 camera is 25 Frames Per Second (PAL)

#### F-Stop

In photography, this is a term used to indicate the speed of a lens in terms of exposure. It directly relates to the iris setting of the lens and thus the amount of light allowed through. The smaller the f-stop setting, the more light is allowed through.

#### H.264

A video codec standard which can achieve high quality video in relatively low bitrates. The Triax Range of DVR's and NVR's use the latest H.264 Compression technology saving valuable space on your HDD during Recording.

#### **HD TVI**

HD TVI High Definition Transmit Video Interface - This technology enables a high efficiency of real time HD Transmissions over long distance using standard RG 59 coaxial cable. The technology supports two HD video formats 720p and 1080p.

#### Infrared

Frequency range within the spectrum of light that is invisible to the human eye. CCTV Illumination is usually designed around the infrared range of 730 – 815 nanometres.

#### IP rating

A system of rating a piece of equipment against dust and water ingress.

#### IR LED

Infra-red light emitting diode. Emits infra-red light not visible to the naked eye to provide illumination in low light.

#### LAN

Local area network, usually within the same building or series of buildings.

#### Luminance

The brightness element of a video signal.

#### LUX

Measurement used to express light intensity.

#### **Motion Detection**

Recording method for digital surveillance systems. When a subject walks in front of a camera, the pixels change and the DVR defines this as motion. The surveillance system will record these images to the hard disk. This is a popular recording setup since motion recording reduces or eliminates unnecessary recording of unoccupied spaces

#### MPFG

Motion Picture Experts Group. Standard user for conditional refresh capture and transition of digital video images.

#### **ONVIF**

Open Network Video Interface Forum development of a Global Standard for interfacing IP - based physical security products

#### **PAL**

Phase Alternating Line. The colour TV system used in the UK, Europe and some other parts Of the world, 625 lines, 50 fields per sec.



#### Pan

Camera movement on the horizontal plane.

#### **Pixel**

Term used for a single picture element. A monitor or TV has a display That comprises millions of pixels; each pixel is illuminated with varying intensity to create the picture display.

Functionally that is supported by some telemetry equipment.

Position related feedback is provided by the zoom lens and pan/tilt head. Either the telemetry receiver or matrix stores this feedback whenever a position is stored as a preset. The system operator can recall preset positions very quickly with the minimum of key presses.

#### Privacy zone

A feature present on some CCTV equipment to comply with the data protection act. The feature allows sensitive areas of a PTZ cameras view to be blanked out so that they cannot be viewed.

#### **Protocol**

A set of rules that govern how elements of a system intercommunicate.

#### Quad

Either a 4 way video processing unit or the 4 way screen generated by a video multiplexer.

#### Resolution

A measurement of the ability of a piece of CCTV equipment or system to display Detail. Measured in TV lines.

#### **RS485**

2 wire balanced, party line multi-drop data transmission presentation, used in many telemetry and matrix switcher networks. Can run in simplex or half-duplex mode.

#### **Shutter Speed**

Electronic circuit found in many CCD cameras which allows the light gathering period of the camera to manually altered.

#### Surveillance

The object must fill at least 5% of the frame in order to be distinguishable from other objects. One must be able to distinguish between a person or an object/ overview image of what is happening in an area.

#### TCP/IP

Transmission control protocol/Internet protocol. Title given to suite of protocols that are used on computer networks, without which the Internet signal would be not possible.

A system that provides camera control via coding. The coding is either sent with the video signal or is transmitted as data via a network.

#### **Terabyte**

1024 Gigabytes = 1 Terabyte.

#### **Termination**

A method of matching electrical signals to the transmission medium. In the CCTV environment termination is important for the video signals and also any data networks using RS485 or RS422.

#### Tour / Cruise

Facility provided by some CCTV control systems where a PTZ camera or dome can be programmed to tour between a specified series of presets. It is usually possible to program a dwell time to stay at each preset and also a speed value at which the camera will travel between presents.

#### Twisted pair

Refers to a generic cable type, originally from the telecommunications industry where internal cable pairs are twisted together equally for the entire cable length. This type of cable is ideal for balanced data transmission.

#### Varifocal lens

A CCTV camera lens whose focal length / viewing angle can be manually adjusted to suit the camera view required. Typical Vari-Focal lens lengths are: 2.5mm-10mm, 2.8mm-12mm, 3.5mm-8mm, 5mm-50mm.

#### **WD1** Resolution

The recording quality from CCTV cameras. CCTV resolution is measured in vertical and horizontal pixel dimensions and is typically limited by the capabilities of both the camera and the recorder. Until recently the best resolution for recording an analogue camera using a DVR was D1 resolution (720x576).

However, the highest analogue resolution now available is referred to as WD1 (Wide D1), which has a resolution of (960x576). WD1 resolution offers a high quality analogue recording using a 16:9 ratio image size. Triax DVR's record in WD1 resolution when used with Triax 960H analogue cameras. The DVR records larger images, providing a greater amount of image detail.

#### **WDR**

Wide Dynamic Range allows Analogue Security Cameras to treat different areas in the image individually and apply separate brightness modifications within the same view giving a more balanced lighting effect.





#### White Balance

White balance basically means colour balance. It is a function which gives the camera a reference to "true white" - it tells the camera what the colour white looks like, so the camera will record it correctly. Since white light is the sum of all other colours, the camera will then display all colours correctly.

## Notes





# Surveillance Solutions











# Featuring P2P Technology

Easily setup remote viewing via QR code

Eliminates complicated setup via router







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