

wavesight

Specialists in Outdoor Wireless
CCTV Transmission Solutions

Secure Outdoor Wireless CCTV Transmission Solutions



Powerful point-to-point and
multipoint links and networks
optimised for video



We design networks globally

We excel in designing bespoke CCTV networks that meet our clients' requirements in every respect. We pride ourselves on our clear vision: delivering innovative security solutions that helps cut costs and enhance security. Wavesight also has the experience and expertise to design and implement the CCTV network solution you require and has considerable global experience in the following sectors:

- Oil and gas production facilities
- Large-scale urban surveillance projects
- Critical national infrastructure
- Ports and airports
- Homeland security
- Border controls
- Transportation
- Military

Innovation in our DNA

Wavesight is a UK-based designer and manufacturer of specialist outdoor wireless network solutions for professional wireless CCTV surveillance all across the globe. Wavesight is a World-class leading innovator in the design, manufacture and supply of wireless communication solutions for the secure, encrypted transmission of data, voice and video. Wavesight is a highly focused, energetic business with a lineage that can be traced back to the creation of EMI in the 1930s, a company renowned for technical innovation that created many of the world's greatest communication technologies.

Wavesight offer a complete suite of professional network design and support services, supporting the effective implementation of wireless video connectivity solutions worldwide, including:

Feasibility studies

In designing a wireless network to meet the requirements specified, an outline project plan needs to be developed which may include all or some of the following key tasks:

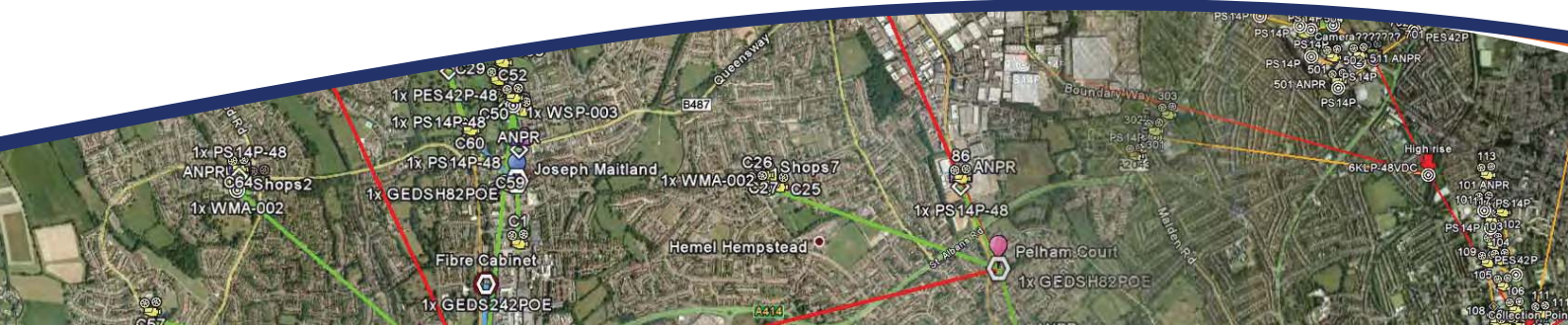
- Review the locations of existing cameras and the control facility
- Review the proposal specifications documentation, including any specific requirements and redundancy design features
- Plot the locations using a geo-mapping utility
- Design a draft network schematic
- Conduct a detailed analysis of the resulting path profiles
- Submit network design for peer checking, review and approval
- Finalise and publish network design
- Complete schematics and equipment estimates



Site surveys

If required Wavesight will conduct a full site survey and detailed review of:

- The camera and control room locations
- Key infrastructure such as buildings and existing radio masts which could be utilised to achieve clear line of sight for radio transmission
- The availability of clear radio line of sight from each camera node to an identified location or hub
- Local radio spectrum analysis to identify any existing radio transmissions that may affect the viability and performance of the proposed wireless network
- The use of a cherry picker where necessary to establish availability of radio line of sight between identified points
- The use of laser height measurements of buildings and other obstacles that might impinge on the Fresnel zones associated with each proposed wireless path
- Specific design challenges, especially those concerning the availability of radio line of sight for each part of the network.





Wireless Network Design

Following the feasibility study and the site survey, and based on a budget, our applications team will then design a network custom tailored to the client requirements, comprising wired and wireless (licensed, license-exempt) and integrated with network switches supplied by our recommended technology partners. This allows us to propose a complete communications network solution comprising:

- Simple point to point daisy-chain network
- Simple point to multi-point network
- Partial redundant or fully redundant system with no single point of failure
- Combination of highly reliable standard IEEE Technologies



Commissioning

Wavesight can handle every aspect of end-to-end system specification, commissioning and installation assistance. We provide full support (if required) to ensure the project is delivered on time, within budget and fully compliant with the specification. If technical assistance is required Wavesight are able to:

- Provide installation instructions (including network layout schematics)
- Pre-configure units ready to be installed
- Manage aspects of the installation
- Commission the system



Training

For full in-house product training, The Wavesight Training Academy provides two main courses designed to help with product installation and the other more advanced one is for larger and more complex wireless network design. Wavesight Training Academy courses will help to:

- Provide guidance, advice and mentoring
- Transfer knowledge relating to the design of wireless networks
- Advise on radios and antenna installation



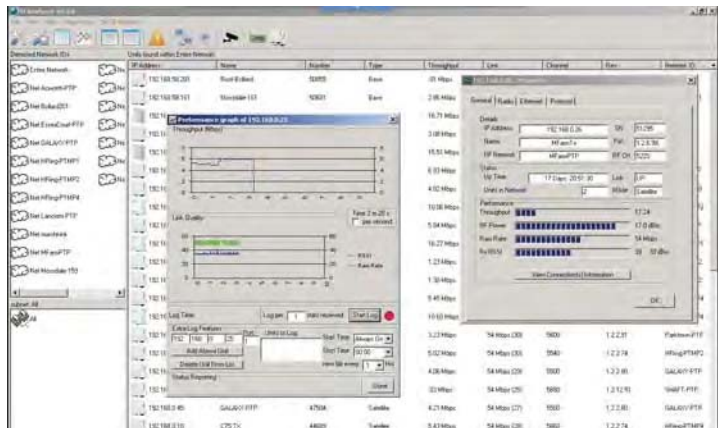
After-Sales Support

Our after-sales service can help manage and maintain your wireless CCTV network – simply and cost-effectively. Within our after-sales team we have technical advisers on hand to provide constant support and peace of mind. We pride ourselves on long standing relationships with our clients, always ensuring an efficient and professional response. We always stress the importance of this ongoing support relationship to ensure you obtain the best value from your network. Managed services, post sales include:

- 24/7 technical support
- A dedicated onsite maintenance repair facility
- Spare or replacement parts anywhere in the World
- Advanced replacements if needed

Wavesight Wireless CCTV Security Solutions

- Megapixel and 1080p quality video images
- Extremely low latency
- Operating on licenced and license-exempt frequency bands
- Rapid deployment
- Cost effective alternative to cable or leased line fibre
- Transmission rates from 54Mbps to 4Gbps
- Connection distances up to 60Km
- Highest levels of data encryption and security
- Easy, low-cost installation
- IP67 rated for the harshest environments



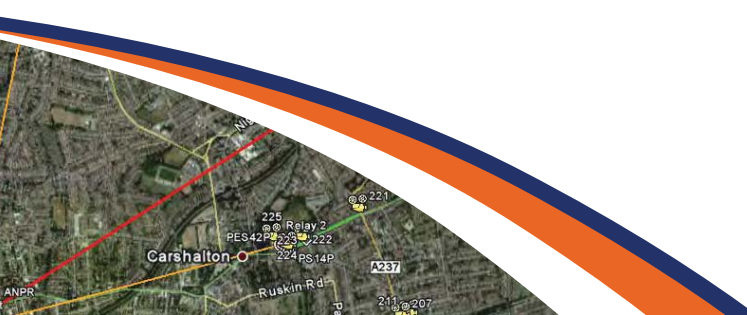
RF Analyser

Wavesight's unique configuration and monitoring tool is included for fast and accurate deployment of all Wavesight transceivers



Network Design Services

Wavesight's team of professional network engineers can assist with site surveys, radio path profiling and complete network design.





Optimised For Short Range Point-To-Point Applications Up To 1Km

WaveSPRINT offers a class-leading performance package optimised for short range point-to-point applications up to 54Mbps (1Km). Extremely compact and unobtrusive, WaveSPRINT is the smallest outdoor wireless link product available.



Optimised For Short Range Point-To-Point And Multipoint Applications Up To 2km

Incredibly compact, the WaveSPRINT-TURBO supports a wireless CCTV link operating at up to 54Mbps (2Km) or up to a full 108Mbps (1Km). Suitable for use in point-to-point applications or multipoint applications in conjunction with a suitable base unit.



Base Unit Optimised For Short Range Multipoint Applications Up To 2km

Incredibly compact, the WaveSPRINT-TURBO MP supports a wireless CCTV link operating at up to 54Mbps (2Km) or up to a full 108Mbps (1Km). Supplied pre-configured as a multipoint base station capable of receiving video feeds from up to 4 individual satellite units.



Mid Range Point-To-Point And Multipoint Bridging Applications Up To 5km

WaveFLOW delivers data rates of up to 108 Mbps (Turbo mode) – providing cabled Ethernet comparable performance to meet the requirements of high resolution CCTV and other bandwidth-hungry applications.



Long Range Point-To-Multipoint Bridging For Applications Up To 40km

WaveMAX offers a flexible, cost effective and high-performance outdoor bridging solution for use in both point-to-point (PtP), point-to-multipoint (PtMP) and networking configurations. The advanced OFDM radio and proprietary technologies used within WaveMAX enable data transmission ranges of up to 40Km and data rates of up to 108 Mbps. WaveMAX is available with an integrated vertically polarised antenna or as a stand-alone version for use with an external antenna.



NEW RANGE

WaveSPRINT[®] N150

Optimised For Short Range Point-To-Point Applications Up To 1Km

WaveSprint offers a class-leading performance package based on the 802.11n standard and optimised for short range point-to-point applications up to 150Mbps. Extremely compact and unobtrusive, WaveSPRINT N150 is the smallest outdoor wireless link product available in its class.



WaveSPRINT[®] N300

Base Unit Optimised For Short Range Multipoint Applications Up To 2km

Incredibly compact, the WaveSPRINT N300 supports wireless CCTV links operating at up to 300Mbps (2Km). Suitable to use as a point-to-point or as a multipoint base station capable of receiving video feeds from up to 4 individual satellite units.



WaveFLOW-N[®]

Mid Range Point-To-Point And Multipoint Bridging Applications Up To 5km

WaveFLOW-N delivers data rates of up to 300 Mbps - providing cabled Ethernet comparable performance to meet the requirements of high resolution CCTV and other bandwidth-hungry applications.



WaveMAX-N[®]

Long Range Point-To-Multipoint Bridging For Applications Up To 60km

Optimised for creating high quality, exceptionally low latency video links, the WaveMAX-N wireless IP transceiver is ideal for backhaul transport of high resolution real time video and is particularly suitable for use with high resolution mega-pixel cameras in applications over long distances. The advanced OFDM radio and propriety technologies used within WaveMAX-N enable data transmission ranges of up to 60Km and data rates of up to 300 Mbps.



wavesight[®] NMS

Wavesight Remote Network Management System

Simply connect WaveNMS to a convenient networked Ethernet Switch to enable full remote management and live performance monitoring of that network segment over the internet using a standard web browser interface. In addition to providing link status, radio signal integrity, data throughput and overall network activity, WaveNMS enables the remote configuration and reboot of any Wavesight wireless link connected to that network segment.





WaveSPRINT
WSP-001



WaveSPRINT-TURBO/MP
WSP-002/WSP-003



WaveFLOW
WFL-001



WaveMAX
WMA-001 WaveMax Intergrated
WMA-002 WaveMax Stand Alone

SPECIFICATIONS
PRODUCT CODES

RADIO				
Operating Frequency	5.150-5.350GHz/ 5.470-5.725GHz/ 5.725-5.825 GHz (country dependant)			
Operating Range	Up to 1Km	Up to 2Km (54Mbps) Up to 1Km (108Mbps)	Up to 5KM	Up to 40Km
Operating mode				
- Satellite	•	•	•	•
- Single-Point Base Station	•	•	•	•
- Multi-Point Base Station	•	(WaveSPRINT-TURBO MP only)	•	•
- Max Satellites Supported	1	1 (WaveSPRINT-TURBO) 4 (WaveSPRINT- TURBO MP)	4	4
Modulation	802.11a, OFDM	802.11a, OFDM	802.11a, OFDM	802.11a, OFDM 802.11b, 802.11g (WaveMax SA)
Maximum RF Output Power	1W EIRP	1W EIRP	4W EIRP	4W EIRP
Data Rate	Up To 54Mbps	Up to 54 Mbps or 108 Mbps (Turbo Mode)	Up to 54 Mbps or 108 Mbps (Turbo Mode)	Up to 54 Mbps or 108 Mbps (Turbo Mode)
Frequency & Power Control	DFS, TPC	DFS, TPC	DFS, TPC	DFS, TPC
Antenna	Vertically Polarised 14cBi, 40°	Vertically Polarised 14dBi, 40°	Vertically Polarised 18dBi, 18°	Vertically Polarised 23dBi, 9° Stand Alone: External antenna
Management Tools	RF Analyser software suite: Real time device monitoring / SNMPv 1			
QUALITY OF SERVICE				
IEEE	801.1P	801.1P	801.1P	801.1P
VLAN	802.1Q	802.1Q	802.1Q	802.1Q
INTERFACE				
Ethernet Interface	10/100 BaseT Auto Sensing, All ports screened			
Antenna Port	-	-	-	Stand Alone: 1 x N Type (F)
SECURITY				
Security	WEP 64/128/152, WPA, 128/256 Bit pre-shared key AES with TKIP, Access Control, SSID Supress, MAC Address Filtering IEEE 802.1x/EAP, 802.1x Radius Client Support			
Authentication	802.1x with Radius Authentication			
POWER SUPPLY				
Input to PoE Injector	110VAC - 240VAC, 47Hz - 63Hz	110VAC - 240VAC, 47Hz - 63Hz	110VAC - 240VAC, 47Hz - 63Hz	110VAC - 240VAC, 47Hz - 63Hz
Output from PoE Injector	48V (802.3af compliant)	48V (802.3af compliant)	48V (802.3af compliant)	48V (802.3af compliant)
Power Consumption	6W at 48VDC	6W at 48VDC	9W at 48VDC	9W at 48VDC
PHYSICAL				
Dimensions (HxWxD)	110x119x51mm	110x119x51mm	190x190x72mm	Integrated: 310x310x80mm Stand Alone: 138x165x74mm
Weight	0.3Kg	0.3Kg	1.2Kg	1.6Kg (Stand Alone: 0.98Kg)
Mounting	Wall / pole mount	Wall / pole mount	Wall / pole mount	Wall / pole mount
ENVIRONMENTAL				
IP Rating	IP65	IP65	IP67	IP67
Operating Temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
Humidity	95% Relative Humidity (Non-Condensing)			
APPROVALS				
Approvals	EN 300 328; EN 301 893; EN 302 502; EMC EN 201 489-17; EN 60950			

Specialists in Outdoor Wireless CCTV Transmission Solutions



SPECIFICATIONS PRODUCT CODES

WaveSprint-N150
WSP-004

WaveSPRINT-N300
WSP-005

WaveFlow-N
WFL-002

WaveMax-N
WMA-003

RADIO				
Operating Frequency	5.150-5.350GHz/ 5.470-5.725GHz/ 5.725-5.825 GHz (country dependant)			
Operating Range	Up to 1Km	Up to 2Km	Up to 5KM	Up to 40KM
Operating mode				
- Satellite	•	•	•	•
- Single-Point Base Station	•	•	•	•
- Multi-Point Base Station	•	•	•	•
- Max Satellites Supported	•	•	4	5
Modulation	OFDM	OFDM	OFDM	OFDM
Maximum RF Output Power	4W EIRP	4W EIRP	4W EIRP	4W EIRP
Data Rate	IEEE802.11n version 2.0 up to 150Mbps	IEEE802.11n version 2.0 up to 300Mbps	IEEE802.11n version 2.0 up to 300Mbps	IEEE 802.11n version 2.0 up to 300Mbps
Frequency & Power Control	DFS, TPC	DFS, TPC	DFS, TPC	DFS, TPC
Antenna	Vertically Polarised 14dBi 40°	Integrated: Dual Polarised Antenna (35°V x 35°H) 13dBi @ 5.15-5.825 GHz	Integrated: Dual Polarised Antenna (17°V x 17°H) 18dBi @ 5.15-5.825 GHz	2x2 MIMO with spatial multiplexing, Intergrated: Dual polarised antenna (9°V x 9°H) 23dBi @ 5.15-5.825 GHz
Management Tools	Web Browser/ SNMPv1/ RF Analyser software suite: Real time device monitoring			
QUALITY OF SERVICE				
IEEE	801.1P	801.1P	801.1P	801.1P
VLAN	802.1Q	802.1Q	802.1Q	802.1Q
WMM	802.11e	802.11e	802.11e	802.11e
INTERFACE				
Ethernet Interface	10/100/1000 BaseT Auto Sensing, All ports screened			
SECURITY				
Security	WEP 64/128/152, WEP 2, WPA, 128/256 Bit pre-shared key AES with TKIP, Access Control, SSID Supress, 802.11i, EAP-Transport Layer Security (TLS), MAC Address Filtering			
Authentication	802.1x with Radius Authentication			
POWER SUPPLY				
Input to PoE Injector	110VAC - 240VAC, 47Hz - 63Hz/110VAC - 240VAC, 47Hz - 63Hz/110VAC - 240VAC, 47Hz - 63Hz			
Output from PoE Injector	48V (802.3at compliant)	48V (802.3at compliant)	48V (802.3at compliant)	48V (802.3at compliant)
Power Consumption	5W at 48VDC	5W at 48VDC	5W at 48VDC	9W at 48VDC
PHYSICAL				
Dimensions (HxWxD)	128x119x62mm	128x119x62mm	190x190x72mm	310x310x80mm
Weight	0.4Kg	0.4Kg	1.2Kg	1.6Kg
Mounting	Wall / pole mount	Wall / pole mount	Wall / pole mount	Wall / pole mount
ENVIRONMENTAL				
IP Rating	IP65 Impact resistant ABS	IP65 Impact resistant ABS	IP67	IP67
Operating Temperature	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C	-20°C to +80°C
Humidity	95% Relative Humidity (Non-Condensing)			
APPROVALS				
Approvals	ETS 301-893; ETS 300-328; EMC 301-489/17; EN60950			

World Leaders in Wireless Infrastructure

Wavesight have sold and deployed wireless transceivers
in more than 30 countries Worldwide

Algeria

United States

Bosnia and Herzegovina

Italy

France

Greece

Bahrain

Spain

United Arab Emirates

DRC

Bangladesh

Czech Republic

Ghana

Croatia

Hungary

Qatar

Iraq

Belgium

Ireland

Egypt

India

Cyprus

Nigeria

Saudi Arabia

Netherlands

United Kingdom

Philippines

Mexico

Australia

Turkey

Germany

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When operating this radio equipment in bands A, B or C please consider the local governing radio authority legislation in the design of your radio network. There is a level of harmony within the unlicensed radio spectrum for the 5GHz band but there are worldwide variances.

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