

Integrated Security Systems Solutions

**Parker Street
CCTV System Installation Technical Submission
Prepared For
Bogdan Dragomirescu**



Submitted by: Rafik Pathan

22-36 Paxton Place, London, SE27 9SS

Mobile: 077 9614 5562 ■ Office: 020 8676 4300 ■ Fax: 020 8676 4301

Email: rafik@westlondonsecurity.com ■ www.westlondonsecurity.com

Contents

Section 1	Security Systems Overview
1.1	CCTV System
Section 2	CCTV Technical Specifications
2.1	Fixed Dome Camera
2.2	Digital Video Recorder
2.3	CCTV Control Keyboard
2.4	24" CCTV Monitor
2.5	Network PoE Switch
2.6	CCTV System Schematic

Section 1 Security Systems Overview

1.1 CCTV System

Overview & System Description

The design specification is for the installation of a CCTV system. The installation will conform to NACP 20 and BS EN50132-7. West London Security (WLS) are a National Security Inspectorate (NSI) Gold Approved installation company and upon completion will issue the customer a "NSI Certificate Of Compliance"

As detailed within the specifications and drawings an array of high-resolution colour/mono true day/night fixed cameras will be installed to provide a complete CCTV surveillance system to primarily provide monitoring and recording of pedestrian activity within the landlord areas, to provide an early warning of potential intrusion attempts and record malicious activity. A secondary objective of the system is to allow recording and playback of incidents for review by the resident and relevant authorities and provide archived evidence, which could be useful in the event of criminal or civil proceedings.

The camera solution shall be based on the use of vandal resistant high resolution 1080P colour/mono day/night cameras with integral LED.

Control & Monitoring

All of the cameras will be cabled back to a Network Recording System with a total of 8TB of storage and two 24" monitors will be provided to give archived recording of all of the cameras at the following rates at HD resolution for 31 days. All background recording shall be in continuous time lapse mode with the addition of the system providing the ability to record cameras associated with an alarmed event as follows:

- Continuously recorded, on a 24/7 basis, at a minimum of 1 images/second
- Movement activated recording (from DVR's integral video motion detection) at a minimum of 12 images/second for the period of the alarm plus 30 seconds
- Movement activated recording (from external detection device) at a minimum of 12 images/second for the period of the alarm plus 30 seconds.

If the alarm recording option is selected the DVR must record 5 seconds of pre-alarm.

The system can be connected to the clients LAN/ADSL broadband connection to allow remote control and monitoring of the system by the client using a Windows Active X enable web browser (subject to connection to client's broadband router and provision of a static IP address).

Please refer to the CCTV System schematic for the provisional location of the CCTV cameras and the control and monitoring equipment.

Section 2 CCTV Technical Specifications

2.1 Fixed Dome Camera

DEVICE	DESCRIPTION	MANUFACTURER	MODEL NO.	TYPE
Fixed Dome Camera	To be installed within the building and provide coverage of the areas as detailed on the initial design drawings.	VISTA	VK2-3MPVRDIR28V12re	Product Datasheet

DATASHEET

VK2-3MPVRDIR28V12re

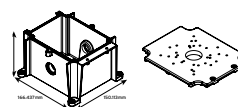
3 MEGAPIXEL VANDAL DOME CAMERA WITH
BUILT IN IR ILLUMINATION AND REMOTE SETUP
MOTORISED LENS



Using Sony STARVIS low light back illumination technology.

STARVIS

Compatible with UMBB
Universal IP66 Mounting
Box and UMFP1.



Key Features:

Sony STARVIS technology

The camera uses the latest Sony STARVIS back illumination CMOS chip set to produce exceptional images in low light situations.

3 megapixel triple streaming

The camera can output 3 individually configurable video streams that can be tailored to the needs of different applications such as recording, live viewing and remote viewing.

Remote setup lens

The motorised 2.8-12mm lens allows the end user to set up the angle of view and achieve crystal clear focus from the remote control equipment.

Alarms and audio

The alarm and audio outputs make the camera particularly suitable for integration into remote monitoring systems such as the Vista SMART range.

IR illumination

Guarantees images 24/7 at ranges of up to 20m.

Expanding the popular VK2 range, Vista have introduced a range of 3MP cameras using Sony's latest STARVIS back illumination CMOS technology. This allows the cameras to produce exceptionally good images in very low light situations.

The VK2-3MPVRDIR28V12re offers full HD triple streaming technology along with IR illumination, guaranteeing images 24/7 at ranges of up to 20m, whilst the 2.8-12mm motorised remote set up lens allows the user to simply set the angle of view and achieve crystal clear focus remotely from the control equipment. In addition the camera comes with other high end features such as local SD card event recording, 2 way audio and alarm in and out connections.

Vista's unique Event Boost™ technology enables the VK2 camera range to automatically increase the number of images per second streamed and recorded when an event occurs. This means a system can record continuously at a low frame rate but, when an event occurs, the camera automatically increases its frame rate and resolution to a user definable level.

The camera integrates with the complete range of VK2 control and recording packages, as well as many third party VMS solutions. In addition, it complies with ONVIF video over IP specifications, ensuring that any software front end that is also designed to the ONVIF specification will also be able to view the video.

TECHNICAL SPECIFICATION

Model		VK2-3MPVRDIR28V12re
IMAGE		
Lens		Motorised 2.8 ~ 12mm
Angle of View		TBD
Image Sensor	Type	1/2.8" Sony STARVIS CMOS sensor
	Pixels	2048(H) x 1536(V) 3.15M
Min. Illumination		Colour: 0.2 Lux, 50IRE BW: 0 Lux, 50IRE
Scanning Mode		Progressive Scan
Wide Dynamic Range		D-WDR (72dB)
Day and Night Mode		True D/N (Auto, Day, Night)
Noise Reduction		2DNR, 3DNR
Digital Zoom		Yes (ROI)
Exposure Control		Auto
White Balance Control		Auto, Incandescent, Fluorescent, Outdoor
Back Light Compensation		Yes
Image Effect		Flip, Mirror, Aisle
Flicker Free Mode		50Hz, 60Hz
Shutter Speed		Auto (1/10,000 ~ 1 sec), Manual
IR Illuminator	Quantity	36 IR LEDs
	Angle	76°(H)
	Distance	20m
VIDEO/AUDIO		
Compression		H.264 (Baseline, Main, High Profile), MJPEG
Bitrate Control		CVBR, VBR
Resolution		2048x1536, 1920x1080, 1280x1024, 1280x720/960, 1024x768, 704x480/576, 640x360/480, 320x240
Frame Rate		Max. 25ips/30ips
Streaming		25/30ips (Triple Stream: H.264 x 2, MJPEG x 1)
Audio Compression		G.711
Audio Streaming		2 Way
SYSTEM		
Video Contents Analysis		Defog, Tampering, Line Detector, Field Detector
Motion Detection Area		16 Programmable Area (Include Area 8, Exclude Area 8)
Privacy Mask Zone		8 Programmable Zone
FTP Uploading		MJPEG
Event Notification		E-mail, FTP, Notification Server, XML Notification, Audio Alert
Audio Alert		User-Defined 3 Audio files
Login Authority		Administrator, Operator, Guest
Event Buffering	FTP	Pre: 30sec, Post: 30sec
	SD Record	Pre: 10sec, Post: 60sec
Manual Trigger		4 Programmable Trigger
SOFTWARE		
Security		Multi User Authority, IP Filtering, HTTPS, SSL
Network Time Sync		NTP Server, Synchronized Computer, Manual
Software Reset		Restart, Reset, Factory Default
Hardware Factory Reset		Yes
Auto Recovery		Backup, Restore
Remote Upgrade		Web Browsing (IE), SmartManager
SD Recording Mode		Event, Continuous
NETWORK		
Protocols		TCP/IP, UDP, IPv4/v6, HTTP, HTTPS, QoS, FTP, UPnP, RTP, RTSP, RTCP, DHCP, ARP, Zeroconf, Bonjour
Client Software		Web, SmartManager, Client S/W, Mobile S/W
API Support		Open API, ONVIF Compliance
Mobile Support		Android, iOS
EXTERNAL IN/OUT		
Audio		1 Input, 1 Output (Terminal Block)
Alarm		1 Input, 1 Output (Terminal Block)
Ethernet		RJ-45 (10/100Base-T)
Micro SD Card		SDXC (64GB)
ETC		
Operating Humidity		0 ~ 90% RH (Non-condensing)
Operating Temperature		-10° ~ +50°
Power Supply		PoE (IEEE802.3af compliance, Class0), 12VDC
Power Consumption		TBD
Dimensions		87(W) x 98.4(H) x 300(L)mm
Net Weight		Approx 1050g
Ingress Protection		IP66 (IK10)

Models In This Range

0722930
VK2-3MPVRDIR28V12re

Associated Products

0747590
UMBB
Back box

0747600
UMFP1
Front plate 1

0747630
UMBB-CMA
Corner mount adaptors




No liability will be accepted by Vista for any errors or omissions in this information.
Subject to change without notice.

DS - VK2-3MPVRDIR28V12re - Version 1

 **EMAIL**
info@vista-cctv.com

 **WEB**
vista-cctv.com

 **TEL**
+44 (0) 118 912 5000

Vista, 210 Wharfedale Road,
Winnersh Triangle, Wokingham,
Berkshire RG41 5TP, England.

2.2 Digital Video Recorder

DEVICE	DESCRIPTION	MANUFACTURER	MODEL NO.	TYPE
Network Video Recorder	To be used to record images from the cameras	VISTA	VIPER16-XTB 8 - 16 Channel NVR	Product Datasheet

DATASHEET

VIPER

NVRS FOR THE VK2 CAMERA RANGE



VIPER04-XTB 4 Channel NVR



VIPER08-XTB/VIPER16-XTB 8-16 Channel NVR

The new VIPER range of PoE NVRs has been designed to work optimally with Vista's VK2 cameras and replaces VK-RECORDER. The NVRs allow real time recording of up to 3MP resolution cameras (max resolution 5MP at 15ips). Full control and detailed set up of the cameras is available via the GUI.

When combined with the remote keyboard (VIPERKBD) the operator has simple and responsive control of PTZ domes, and accurate replay from the Jog / Shuttle replay wheel. VIPER is also compatible with the VSIPRO retail till interface which allows data from the till, not only to be displayed and recorded on the video stream, but also as meta data making it possible for smart searches on specific text (E.g. "No Sale").

The VIPER is packed with host of useful additional features to aid the operator in running an effective system, including direct attachment to a USB printer for instant printing of still images and control of the VK2 cameras video analytics to create events actions.

The NVR can be supplied with up to 12TB of internal storage. This can be easily expanded via the E-Sata port on the rear.

VIPER is ideal for use with Vista's VK2-5MP360 fisheye camera which can be recorded at up to 15 images per second. This guarantees coverage of the complete room with no blind spots. Images can be dewarped in live or playback using the VK2-Client software supplied with all VIPER NVRs.

Optimised for use with VK2 cameras, VIPER allows the installer to commission all the functionality of the VK2 range from the NVR's GUI, with absolutely no requirement for a PC. The NVR also facilitates recording video from other ONVIF compliant cameras.

Key Features:

Full 3MP real time recording

Produces excellent quality recorded images

PoE connections and auto connection to VK2 cameras

Help to make the system Plug and Play

Front end GUI control for all VK2 cameras functionality

Means the engineer does not need a laptop for system commissioning

Integration to Retail EPoS systems

Via the VSI-PRO till interfaces

Direct connection to USB or Network printers

For instant stills printing

ONVIF compatibility

Allows multiple manufacturers' cameras to be used

TECHNICAL SPECIFICATION

Model	VIPER04	VIPER08	VIPER16
PoE camera Inputs	4 x RJ45	8 x RJ45	16 x RJ45
Embedded PoE Switch	Gigabit Ethernet IEEE802.3af		
Throughput	34Mbps	68Mbps	128Mbps
Supported Resolutions	5MP, 3MP, 1080P, 960P, 960H, D1, VGA		
Recording capability	Up to 3MP - 25ips, 5MP -15ips (5MP supported on chn 1-4 only)		
Supported Protocols	ONVIF V2.3 Base		
Video outputs	HDMI and VGA		
Output Resolution	Up to 1920 x 1080		
Screen split modes	Single, 4	Single, 4, 9	Single, 4, 9, 13,16
Digital Zoom	X2, x4, x6, x8		
Audio output	1 x RCA		
Frame Rate	Adjustable per camera input (Up to real time Full HD 480fps)		
Recording type	Continuous, Motion, Alarm, Schedule, Manual		
Recording protection	Video and audio recording can be protected from over writing		
Still image capture	Local capture of still images form Live or Replay		
Internal HDDs	1xHDD (Up to 6TB)	2xHDDs (Up to 12TB)	
Remote Monitoring control	Remote viewing and control via Gigabit Ethernet		
	Dynamic / Static and Zero Config Support		
	Web Browser and Client software support		
	NAT Traversal		
	Dual Streaming for live and record		
	E-map support Via VK2-Client software		
Playback screen mode	Single, 4	Single, 4, 9	Single, 4, 9, 13,16
Playback FPS	Full HD at 120fps		
Playback speeds	FF(REW): 1, x2(-2), x4(-4), x8(-8), x16(-16), x32(-32), x64(-64) And x1/2(-1/2), x1/4(-1/4), x1/8(-1/8)		
Search modes	Date/Time, Calendar, Event, Protected, Images Captured		
Alarm connections	4 inputs, 1 output	8 inputs, 1 output	
Data back up connectors	1 x USB 3.0, 1 X USB 2.0 (max 6TB)		
Back up formats	AVI and Encrypted H4V		
Video Content Analysis	Support on specific VK2 camera models		
NTP Server/Client	Supported		
System Keyboard	USB keyboard - VIPERKBD		
Printer connections	USB or Network printer		
Mobile Phone Support	Android and iOS		
Control options	Mouse, IR Remote, USB Keyboard, Client Software		
Event log	System and Event log management supported		
Pre-Alarm recording	Alarm input or motion pre-record supported		
languages	48 languages supported		
Power	DC48V, 1.2A	DC48V, 2.0A	AC 110-230V, 50-60Hz
PoE budget	30 Watts	50 Watts	144 Watts
PoE per channel	IEEE 802.3af max 13.5 Watts per channel		
Operating temperature	0-45°C		
Operating humidity	0-90% RH		
Weight (NVR only)	1Kg (W/O HDDs)	2.5Kg (W/O HDDs)	
Weight (inc packaging)	1.5Kg (W/O HDDs)	3.0Kg (W/O HDDs)	
Dimensions mm (NVR only)	300(W) x 47(H) x 209(D)	378(w) x 47(H) x 317(D)	
Dimensions mm (packaged)	425(W) x 100(H) x 270(D)	480(W) x 95(H) x 370(D)	
Certification	CE ROHS2: 2011/65/EU		

Models In This Range

0764940
VIPER04-1TB

0764950
VIPER04-2TB

0764960
VIPER04-4TB

0764970
VIPER08-2TB

0764980
VIPER08-3TB

0764990
VIPER08-4TB

0765000
VIPER08-6TB

0765010
VIPER08-8TB

0765020
VIPER16-4TB

0765030
VIPER16-6TB

0765040
VIPER16-8TB

0765050
VIPER16-8TB

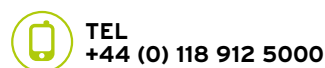
Associated Products

0765330
VIPERKBD



No liability will be accepted by Vista for any errors or omissions in this information.
Subject to change without notice.

DS - VIPER - Version 1



Vista, 210 Wharfedale Road,
Winnersh Triangle, Wokingham,
Berkshire RG41 5TP, England.

2.3 CCTV Control Keyboard

DEVICE	DESCRIPTION	MANUFACTURER	MODEL NO.	TYPE
CCTV NVR Controller	To be used to control the NVR and CCTV Monitors	VISTA	VIPERKBD	Product Datasheet

DATASHEET

VIPERKBD

USB KEYBOARD FOR VIPER NVR



The VIPERKBD is a USB keyboard for use with Vista's VIPER NVR.

The keyboard gives the operator accurate and responsive 3 axis joy-stick control of PTZ domes.

In playback mode the the Jog/Shuttle control make reviewing of recorded footage extremely simple and fast. Allowing the operator to quickly switch between paused framed advance mode, to 64x fast forward reviewing.

The keyboard also allows simple screen mode selection between single screen, quad, 9 way or 16 way split screens.

Key Features:

USB keyboard

3 Axis PTZ joystick

Jog Shuttle play back control

Screen mode control

TECHNICAL SPECIFICATION

Model	VIPERKBD
ELECTRICAL	
LCD	16 X 2 Line LCD
Joystick	3 AXIS Joystick
Input Voltage	12 VDC
Power Consumption	0.5A (6W)
USB	USB Control to VIPER NVRs
MECHANICAL	
Dimension	15.9 X6.9 X 4.2 (Unit : inch) : 405x176x107 (Unit : mm)
Unit Weight	Approx 1.2 kg
Shipping Weight	Approx 2.2 kg
Shipping Size	19.7 X9.1 X 6.3 (Unit : inch) : 500 x 230 x 160 mm
ENVIRONMENT	
Operating temperature	0°C to 50°C (32°F to 122°F)
Operating humidity	0 to 90%RH (non-condensing)
Storage temperature	-20°C to 60°C (-4°F to 140°F)

Models In This Range

0765330
VIPERKDB
USB Keyboard for Vista Viper NVR



No liability will be accepted by Vista for any errors or omissions in this information.
Subject to change without notice.

DS - VIPERKBD - Version 1



EMAIL
info@vista-cctv.com



WEB
vista-cctv.com



TEL
+44 (0) 118 912 5000

Vista, 210 Wharfedale Road,
Winnersh Triangle, Wokingham,
Berkshire RG41 5TP, England.

2.4 24" CCTV TFT Monitor

DEVICE	DESCRIPTION	MANUFACTURER	MODEL NO.	TYPE
24" TFT Monitor	To be used to view multi screen images from the CCTV cameras	VISTA	VFS124WLEDe	Product Datasheet

VFS100E SERIES HDMI LED MONITORS

HIGH PERFORMANCE, LOW POWER CONSUMPTION



The VFS100e series monitors produce high resolution, high contrast images. The whole range is certified by Sony as being 960H compliant, guaranteeing excellent quality video when used in conjunction with other 960H cameras and DVRs.

A fast response time down to 5mS reduces blur on movement and 1000:1 contrast further facilitates sharp images. The range also comes with HDMI, Looping BNC, S-Video, PC and audio connections. The internal clock can be used to give exact usage for any service queries.

An intuitive multilingual menu system makes the monitors very simple to set-up and comes in English, French, German and Spanish. Front panel key locks stop unwanted adjustment of monitor settings, while the combination of a Vesa mount and desk stand allows the monitors to be mounted anywhere.

A standard VESA 100 mount configuration on the rear of the monitor means simple installation with virtually any standard mounting bracket.

To learn more about this product range please visit vista-cctv.com

Key Features:

Sony 960H Certified

Guarantees excellent high quality images when used in conjunction with 960H cameras and DVRs

Multiple input: HDMI Composite, DVI and VGA

Can be used as a CCTV or PC monitor - saving valuable reception desk space

Glass fronted

Added protection for screen

LED back lit panel

Greater reliability and lower running costs compared to TFT monitors

FLEXIBILITY BY DESIGN™



TECHNICAL SPECIFICATION

Model Description	VFS117LEDe	VFS119LEDe	VFS121WLEDe	VFS124WLEDe
PANEL TYPE	17" LCD PANEL (LED BACKLIGHT)	19" LCD PANEL (LED BACKLIGHT)	21" LCD PANEL (LED BACKLIGHT)	24" LCD PANEL (LED BACKLIGHT)
Screen size - Diagonal	431mm	483mm	547mm	610mm
Viewable size	338x270mm	376x301mm	477x268mm	531 x 299mm
Dot pitch	0.264x0.264mm	0.294x0.294mm	0.248x0.248mm	0.276x0.276mm
Viewing angle (L/R/T/B)	85 / 85 / 80 / 80			
Contrast ratio	1000:1			
Brightness	250 cd/m ² (Typical)			
Resolution	1280x1024 (4:3)		1920 x 1080 Full HD (16:9)	
Display color	16.7M			
Response time	5ms			
Multi Media input	HDMI			
PC Input	15 pin D-SUB VGA - VESA timing			
Video input	1 x Looping composite BNC connector (1Vp-p / 75 Ohm) 1x S-Video input (4 pin Mini-din 1Vp-p / 75 Ohm)			
Power input	AC 100-240VAC			
Power consumption	18W	18.5W	24W	28W
User's control	Power Key/ USB Mouse with pop-up manual			
Operating temperature	0°C ~ 40°C			
Storage Temperatures	-20°C ~ 60°C			
Housing	Slim Plastic Bezel			
Dimension W x H x D	437x137x465mm	461x572x117mm	565x420x114mm	564x442x195mm
Weight N.W / G.W	2.94/3.71Kg	3.6/4.42Kg	3.43/4.48Kg	4.3/5.7kg
Wall mount	VESA 100 (100x100)			
Panel Protection	Hard glass front			
Certified	Sony 960H Certified			
Regulation	CE, RoHS			

Models In This Range

0710890 VFS117LEDe

0710900 VFS119LEDe

0710910 VFS121WLEDe

0710920 VFS124WLEDe



No liability will be accepted by Vista for any errors or omissions in this information.
Subject to change without notice.

DS - VFS100e56465- Version 2



EMAIL
info@vista-cctv.com



WEB
vista-cctv.com



TEL
+44 (0) 118 912 5000

Vista, 210 Wharfedale Road,
Winnersh Triangle, Wokingham,
Berkshire RG41 5TP, England.

2.5 Network PoE Switch

DEVICE	DESCRIPTION	MANUFACTURER	MODEL NO.	TYPE
PoE Switch	To be used to link the Security LAN for the CCTV cameras and NVR	D Link	DGS-1210-28P	Product Datasheet



Green Technology

- IEEE 802.3az Energy Efficient Ethernet
- D-Link Green 3.0 power-slaving features
 - LED and Port Shutoff
 - Port Standby
 - System Hibernation
 - Cable Length Detection
 - Link Status Detection
 - Time-based PoE (PoE model only)

Security Features

- Access Control List
- D-Link Safeguard Engine
- Port Security
- ARP Spoofing Prevention
- Smart IP-MAC-Port Binding

Intuitive Management

- IPv4/ IPv6 Dual Stack¹
- Web GUI (supports 10 languages)
- SmartConsole utility
- SNMP and RMON
- Simplified CLI through Telnet

QoS

- Supports IEEE 802.1p QoS
- Supports DSCP

Advanced Features

- Auto Surveillance VLAN
- Auto Voice VLAN
- Port or VLAN-based Loopback Detection
- Cable Diagnostics
- LLDP/LLDP-MED

Trap & Logs

- SNMP Trap
- Trap for SmartConsole Utility
- System Log

¹ IPv6 management and configuration supported since firmware v3.10.

Web Smart Switches



The DGS-1210 Series is the latest generation of D-Link Web Smart Switches featuring D-Link Green 3.0 technology. The series complies with the IEEE 802.3az Energy Efficient Ethernet standard. Support for IPv6 management and configurations ensure your network remains protected after the upgrade from IPv4 to IPv6¹. By offering multiple management options, the DGS-1210 series allows quick deployment, infrastructure expansion, and seamless function upgrades. Targeting small and medium-sized businesses, the DGS-1210 Web Smart Switches provide functionality, security, and manageability for a fraction of the standard cost of ownership.

The new DGS-1210-28P is a PoE Web Smart Switch that provides 24 10/100/1000 Base-T PoE ports with 4 Gigabit SFP ports. In addition to IEEE 802.3af compliance, ports 1-4 provide up to 30 watts of power output following IEEE 802.3at. The design allows more flexibility in power allocation for a variety of powered devices with affordable installation costs.

Energy Saving

DGS-1210 switches are capable of conserving power without sacrificing operational performance or functionality by using D-Link Green 3.0 technology. Using the Energy Efficient Ethernet standard, the network will automatically decrease the power usage when traffic is low with no setup required. For environments not fully supporting the standard, DGS-1210 switches offer advanced power-saving settings including port shutoff and standby, LED shutoff, and system hibernation based on custom time profiles. The time profiles can also be applied to the PoE switch so that unnecessary power consumption can be saved during off hours. The DGS-1210 Series switches can also detect the length of connected cables to automatically reduce power usage on shorter cable connections.

Easy Management

The D-Link Web Smart Switch series is designed for easy management. All configurations can be made through a Web interface regardless of the host PC's operating system. Furthermore, the web UI

contains ten language options to make operations more straightforward. In the first installation, the SmartConsole Utility will automatically discover all D-Link Smart switches in the network, allowing administrators to assign IP addresses and the subnet mask quickly. It also allows simultaneous firmware upgrades to multiple switches, saving a great deal of time. Important management commands, such as download firmware or configuration file, offer a sophisticated method of batch operations for multiple switches.

Auto Surveillance VLAN and Voice VLAN

The D-link Web Smart series automates the process of setting up IP surveillance and VoIP devices on a network. Auto Surveillance VLAN consolidates data and surveillance video transmission through the network, sparing businesses the expense of maintaining dedicated facilities. ASV also protects the quality of real-time video by grouping IP surveillance devices on a single high priority VLAN. This ensures that surveillance video streams will not be affected when ordinary data traffic are at their highest levels. Similarly, the Auto Voice VLAN guarantees clear quality and efficient transmission for all voice communication.

Extensive Layer 2 Features

Equipped with a complete lineup of L2 features, these switches include IGMP Snooping, Port Mirroring, Spanning Tree, and Link Aggregation Control Protocol (LACP). The IEEE 802.3x Flow Control function allows servers to directly connect to the switch for fast, reliable data transfer. At 2000 Mbps Full Duplex, the Gigabit ports provide high-speed data pipes to servers with minimum data transfer loss. Network maintenance features include Loopback Detection and Cable Diagnostics. Loopback Detection is used to detect loops created by a specific port and automatically shut down the affected port. The Cable Diagnostic feature designed primarily for administrators and customer service representatives, can rapidly discover the type of error and determine the cable quality.

Web Smart Switches





Secure your Network

D-Link's innovative Safeguard Engine protects the switches against traffic flooding caused by virus attacks. The switches also support 802.1X port-based authentication, allowing the network clients to be authenticated through external RADIUS servers. In addition, the Access Control List (ACL) feature enhances network security and protects the network by screening traffic from illegal MAC or IP addresses. ARP Spoofing Prevention prevents malicious intruders from sending massive fake ARP messages through a manipulated source. This protects important data from being stolen by Man-in-the-Middle attacks, and prevents wasting CPU cycles on these packets. For added security, the DHCP Server Screening feature blocks rogue DHCP server packets from user ports to prevent unauthorized IP assignment.





Web Smart Switches

Technical Specifications		DGS-1210-20	DGS-1210-28	DGS-1210-52	DGS-1210-28P
					
General	Port Standards & Functions	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Flow Control for Full-Duplex Mode Auto-negotiation	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Flow Control for Full-Duplex Mode Auto-negotiation	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Flow Control for Full-Duplex Mode Auto-negotiation	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.3x Flow Control for Full-Duplex Mode IEEE 802.3af compliance IEEE 802.3at compliance Auto-negotiation
	Number of Ports	16 10/100/1000 Mbps, 4 SFP	24 10/100/1000 Mbps, 4 SFP	48 10/100/1000 Mbps 4 dual-speed SFP	24 10/100/1000 Mbps PoE capable, 4 SFP
	Network Cables	UTP Cat. 5, Cat. 5e (100 m max.) EIA/TIA-568 100-ohm STP (100 m max.)			
	Full/Half Duplex	Full/half duplex for 10/100 Mbps speeds Full duplex for Gigabit speed			
	Media Interface Exchange	Auto or configurable MDI/MDIX			
Performance	Switching Capacity	40 Gbps	56 Gbps	104 Gbps	56 Gbps
	Transmission Method	Store-and-forward			
	MAC Address Table	16,000 entries per device			
	MAC Address Update	Up to 256 static MAC entries Enable/disable auto-learning of MAC addresses			
	Maximum 64 bytes packet forwarding rate	29.8 Mpps	41.7 Mpps	77.4 Mpps	41.7 Mpps
	Packet Buffer Memory	1 MB per device			
PoE	PoE Standard	—	—	—	IEEE 802.3af and IEEE 802.3at
	PoE Capable Ports	—	—	—	Ports 1 to 4: Up to 30 W Ports 5 to 24: Up to 15.4 W
	PoE Power Budget	—	—	—	Max. 185 W



Web Smart Switches

Technical Specifications

DGS-1210-20

DGS-1210-28

DGS-1210-52

DGS-1210-28P



Physical & Environmental	AC Input	100 to 240 VAC 50/60 Hz internal universal power supply			
	Maximum Power Consumption	14.06 W	16.81 W	43.5 W	238.4 W (PoE on), 27.4 W (PoE off)
	Standby Power Consumption	6.7 W/110 V, 7.2 W/240 V	5.9 W/110 V, 6.42 W/240 V	20.68 W/110 V, 22.05 W/240 V	16 W/110 V, 14 W/240 V
	Fan Quantity	0	0	Two smart fans	Three smart fans
	Acoustics	0 dB(A)	0 dB(A)	47.1 dB(A)	52.2 dB(A)
	Heat Dissipation	47.97 BTU/hr	57.36 BTU/hr	148.42 BTU/hr	813.42 BTU/hr
	Operating Temperature	-5 to 50 °C (41 to 122 °F)			
	Storage Temperature	-20 to 70 °C (-4 to 158 °F)			
	Operating Humidity	0% to 95% non-condensing			
	Storage Humidity	0% to 95% non-condensing			
	Dimensions	440 x 140 x 44 mm (17.32 x 5.51 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 210 x 44 mm (17.32 x 8.27 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 250 x 44 mm (17.32 x 9.84 x 1.73 inches) 19" standard rack mounting width, 1U height	440 x 250 x 44 mm (17.32 x 9.84 x 1.73 inches); 19" standard rack mounting width, 1U height
	Weight	2.2 kg (4.85 lbs)	2.9 kg (6.39 lbs)	4.1 kg (9.04 lbs)	3.7 kg (8.15 lbs)
	Diagnostic LEDs	Power (per device) Link/Activity/Speed (per 10/100/1000 Mbps port) Link/Activity/Speed (per SFP port)	Power (per device) Link/Activity/Speed (per 10/100/1000 Mbps port) Link/Activity/Speed (per SFP port)	Power (per device) Link/Activity/Speed (per 10/100/1000 Mbps port) Link/Activity/Speed (per SFP port) Fan (per device)	Power (per device) PoE Max (per Device) Link/Activity/Speed (per 10/100/1000Base-T port) Link/Activity/Speed (per SFP port) Fan (per device) Button to switch LED display mode between PoE and Link/Activity
	MTBF	253,460 hours	236,739 hours	201,517 hours	224,530 hours
	Certifications	FCC Class A CE Class A ICES-003 VCCI Class A C-Tick BSMI			
	Safety	cUL CE LVD			



Web Smart Switches

Software Features

L2 Features

- MAC Address Table
 - 16,000 entries
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- IGMP Snooping
 - IGMP v1/v2 Snooping
 - Supports 256 IGMP groups
 - Supports at least 64 static multicast addresses
 - IGMP per VLAN
 - Supports IGMP Snooping Querier
- Spanning Tree Protocol
 - 802.1D STP
 - 802.1w RSTP
- Loopback Detection
- 802.3ad Link Aggregation
 - DGS-1210-20:
 - Max. 10 groups per device/8 ports per group
 - DGS-1210-28/28P:
 - Max. 14 groups per device/8 ports per group
 - DGS-1210-52:
 - Max. 26 groups per device/8 ports per group
- Port Mirroring
 - One-to-One, Many-to-One
 - Supports Mirroring for Tx/Rx/Both
- Multicast Filtering
 - Forwards all unregistered groups
 - Filters all unregistered groups
- LLDP, LLDP-MED

VLAN

- 802.1Q
- VLAN Group
 - Max. 256 static VLAN groups
 - Max. 4094 VIDs
- Management VLAN
- Asymmetric VLAN
- Auto Voice VLAN
 - Max. 10 user-defined OUI
 - Max. 8 default OUI
- Auto Surveillance VLAN

QoS (Quality of Service)

- 802.1p Quality of Service
- 4 queues per port
- Queue Handling
 - Strict
 - Weighted Round Robin (WRR)
- CoS based on
 - 802.1p Priority Queues
 - DSCP
 - ToS¹
- Bandwidth Control
 - Port-based (Ingress/Egress, min. granularity for 10/100/1000Base-T ports is 64 Kb/s)

Access Control List (ACL)

- DGS-1210-20/28/28P
 - Max. 50 profiles
 - Max. 240 rules shared by profiles
 - Single or multiple ports (each rule)
- DGS-1210-52
 - Max. 50 profiles
 - Max. 450 rules shared by profiles
- ACL based on
 - MAC Address
 - IPv4 Address (ICMP/IGMP/TCP/UDP)
 - 802.1p
 - DSCP
 - Ether type
- ACL Actions
 - Permit
 - Deny

Security

- Port Security
 - Supports up to 64 MAC addresses per port
- Broadcast/Multicast/Unicast Storm Control
- Static MAC
- D-Link Safeguard Engine
- DHCP Server Screening
- Trusted Host
- ARP Spoofing Prevention
 - Max. 64 entries
- SSL
 - Supports v1/v2/v3
 - Supports IPv4/IPv6¹
- Traffic Segmentation
- Smart Binding
 - Supports 512 entries of IP-MAC-Port binding
 - Discover connected devices and click to bind
 - Inspect ARP packets and/or IP packets
 - Supports DHCP Snooping

AAA

- 802.1X Port-based Authentication
 - Supports RADIUS Server
 - Supports EAP, OTP, TLS, TTLS, PEAP

OAM

- Cable Diagnostics
- Factory Reset

MIB

- 1213 MIB II
- 1493 Bridge MIB
- 1907 SNMP v2 MIB
- 1215 Trap Convention MIB
- 2233 Interface Group MIB
- D-Link Private MIB
- Power-Ethernet MIB
- LLDP MIB

RFC Standard Compliance

- RFC 783 TFTP
- RFC 854 Telnet Server
- RFC 951 BootP/DHCP Client
- RFC 1157 SNMP v1, v2, v3
- RFC 1213 MIB II, IF MIB
- RFC 1215 MIB Traps Convention
- RFC 1350 TFTP
- RFC 1493 Bridge MIB
- RFC 1542 BootP/DHCP Client
- RFC 1769 SNTP
- RFC 1901 SNMP v1, v2, v3
- RFC 1907 SNMP v2 MIB
- RFC 1908 SNMP v1, v2, v3
- RFC 2068 FCS
- RFC 2131 BootP/DHCP Client
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Authentication
- RFC 2233 Interface Group MIB
- RFC 2246 SSL
- RFC 2475
- RFC 2570 SNMP v1, v2, v3
- RFC 2575 SNMP v1, v2, v3
- RFC 2598 CoS
- RFC 2616 FCS
- RFC 2618 RADIUS Authentication
- RFC 2819 RMON v1
- RFC 2865 RADIUS Authentication
- RFC 3164 System Log
- RFC 3195 System Log
- RFC 3411-17 SNMP
- RFC 3621 Power Ethernet MIB

Management

- Multi-Language Web-based GUI
 - English (default)
 - Simplified Chinese
 - Traditional Chinese
 - French
 - German
 - Italian
 - Japanese
 - Portuguese
 - Russian
 - Spanish
- SmartConsole Utility
- Simplified CLI
- Telnet Server
- TFTP Client

¹ IPv6 management and configuration supported since firmware v3.10.



Web Smart Switches

Software Features

- Configurable MDI/MDIX
- SNMP
 - Supports v1, v2, v3
- SNMP Trap
- System Log
 - Max. 500 log entries
- BootP/DHCP Client

- SNTP
- ICMPv6¹
- IPv4/v6 Dual Stack¹
- DHCP Auto Configuration
- RMON v1
- Time-based PoE (PoE model only)

- D-Link Green 3.0 Technology**
- Power Saving by:
 - Link Status
 - Cable Length detection
 - LED or Port Shutoff
 - Port Standby mode
 - System Hibernation mode

¹ IPv6 management and configuration supported since firmware v3.10.

Optional Products

Optional WDM SFP Transceivers

DGS-1210-20/28/28P	
DEM-330T	1000BASE-BX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 10 km
DEM-330R	1000BASE-BX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 10 km
DEM-331T	1000BASE-BX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 40 km
DEM-331R	1000BASE-BX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 40 km

Optional WDM SFP Transceivers

DGS-1210-52	
DEM-220T	100BASE-BX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 20 km
DEM-220R	100BASE-BX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 20 km
DEM-330T	1000BASE-BX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 10 km
DEM-330R	1000BASE-BX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 10 km
DEM-331T	1000BASE-BX, Wavelength Tx:1550 nm Rx:1310 nm, Single-mode, 40 km
DEM-331R	1000BASE-BX, Wavelength Tx:1310 nm Rx:1550 nm, Single-mode, 40 km

Optional SFP Transceivers

DGS-1210-20/28/28P	
DGS-712	1000BASE-T Copper
DEM-310GT	1000BASE-LX, Single-mode, 10 km
DEM-311GT	1000BASE-SX, Multi-mode, 550 m
DEM-312GT2	1000BASE-SX, Multi-mode, 2 km
DEM-314GT	1000BASE-LHX, Single-mode, 50 km
DEM-315GT	1000BASE-ZX, Single-mode, 80 km

Optional SFP Transceivers

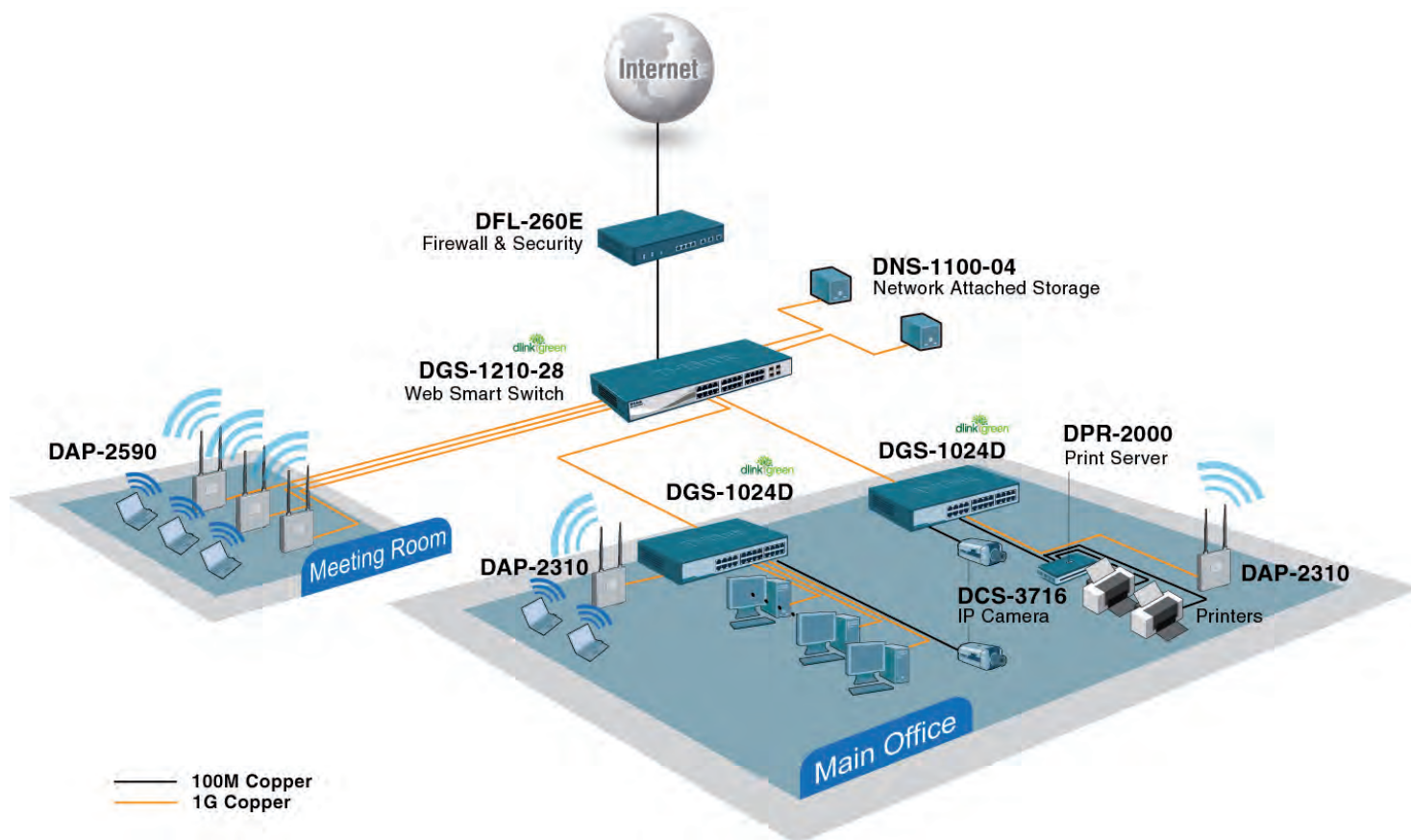
DGS-1210-52	
DGS-712	1000BASE-T Copper
DEM-310GT	1000BASE-LX, Single-mode, 10 km
DEM-311GT	1000BASE-SX, Multi-mode, 550 m
DEM-312GT2	1000BASE-SX, Multi-mode, 2 km
DEM-314GT	1000BASE-LHX, Single-mode, 50 km
DEM-315GT	1000BASE-ZX, Single-mode, 80 km
DEM-210	100BASE-FX, Single-mode, 15 km
DEM-211	100BASE-FX, Multi-mode, 2 km

Optional Software

Optional Management Software

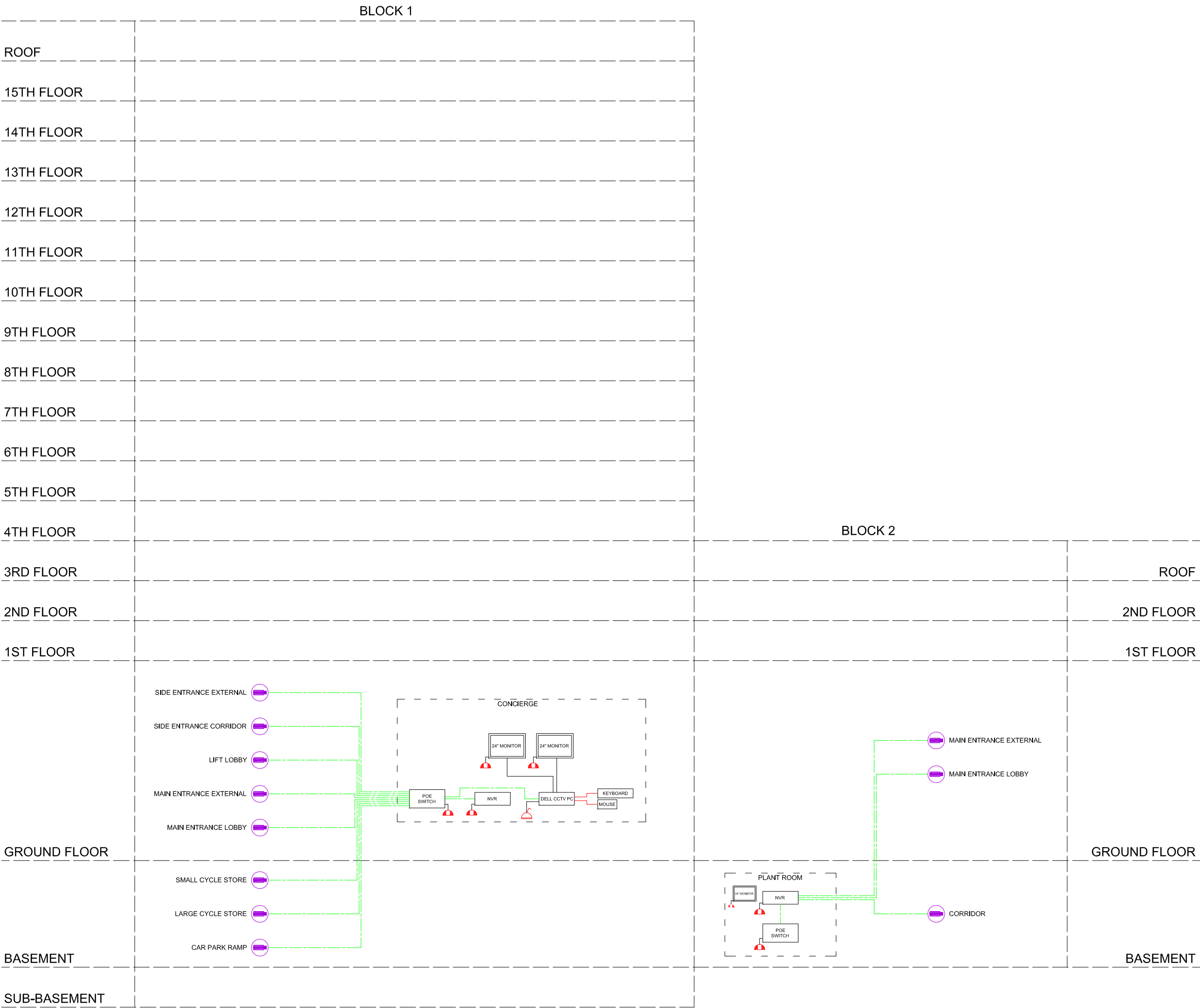
DV-600S	D-View 6.0 Network Management System (Standard Edition)
DV-600P	D-View 6.0 Network Management System (Professional Edition)

Deploying the DGS-1210 Series in an Office Environment



D-Link Corporation
No. 289 Xinhua 3rd Road, Neihu, Taipei 114, Taiwan
Specifications are subject to change without notice.
D-Link is a registered trademark of D-Link Corporation and its overseas subsidiaries.
All other trademarks belong to their respective owners.
©2012 D-Link Corporation. All rights reserved.
Release 01 (May 2012)

2.6 CCTV System Schematic





Integrated Security System Solutions

22-36 Paxton Place, London, SE27 9SS

Mobile: 077 9614 5562 ■ Office: 020 8676 4300 ■ Fax: 020 8676 4301

Email: rafik@westlondonsecurity.com ■ www.westlondonsecurity.com

Company Registration No. 05739633

