

# CCTV

## DEFCON 5

CCTV / ELECTRONIC SECURITY | DIGITAL SECURITY INTEGRATION:  
INSTALLATION & MAINTENANCE

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### BUSINESS PROFILE

CCTV • ACCESS CONTROL • ALARMS • NETWORKING • WIRELESS LINKS

Defcon 5 is an owner managed business that was established August 2000. During this period the company's primary function was Electronic Gaming Repair, IT, Network Installations and Support. Since then we have applied our expertise in electronics and IT to the ever growing Electronic Security industry. Being able to supply not only turnkey electronic security and network infrastructure solutions but also offering maintenance and repair services in the same field. Our highly skilled management have over 20 years' experience in the electronic installation and design field, giving us not only an edge in workmanship but also in the very important design stages of any installation. Being skilled in the industry allows for quicker diagnostics which in turn leads to less down time. Our installation, service quality and technical support is unrivaled by any in the industry.

In this brochure you will find info on our CCTV related products & services and how we seamlessly integrate them into wired and wireless networks. With installation examples and references.

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MANAGING MEMBER - DEFCON 5



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Dahua is the 2<sup>nd</sup> largest manufacturer of indoor and outdoor CCTV products in the world. With an impressively diverse product range and an even more impressive 3 year guarantee. Their products are also locally supported in South Africa. Their CCTV product range is divided into the follow groups:

- Analogue CCTV (HDCVI) – Dahua designed a propriety signaling process that allows high definition video to be transmitted over standard analogue (coaxial) cables. This allows for upgrading from old standard definition CCTV systems to high definition without having to replace the entire system. HDCVI is available in 720P, 1080P and 4K resolutions. Furthermore their XVR recorders support all known CCTV formats eg. Analogue, HDCVI, HDTVI, AHD and IP meaning any CCTV camera can be connected to their systems. This format also allows for impressive cable run distances of up to 800M.
- IP / NETWORK – Dedicated NVR recorders and cameras from 1MP up to 12MP and a full range of Fixed Lens, Vari-Focal, PTZ, Thermal, LPR/ANPR Number plate recognition, Full Analytic And Drone Cameras to name just a few.



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# UBIQUITI NETWORKS

Ubiquiti Networks are the leading manufacturers of outdoor wireless products. Their products service many large ISPs and data providers' wireless back bone in South Africa.

At DEFCON 5 we simply love outdoor CCTV simply because of the complexity of these designs and all the outdoor elements which play a huge role in the overall functionality and quality of the CCTV system. The networks supporting these CCTV systems are extremely important to eliminate downtime as much as possible. What better way to ensure system stability than to install the world's most stable outdoor network products? We use their products for long (5Km) and short range wireless links between different Networks, Cameras and Recorders that are located too far away for conventional network cabling. Stability is key in any security system. Without this the whole security system is pointless.

- Gated Communities, Estates, Farms and Plots, where trenching and cable laying is too costly
- Factories and Warehouses with many different buildings to link CCTV and network systems
- Businesses and Shopping Centers with more than one building



## OUTDOOR RURAL INSTALLATION EXAMPLES:

These are only a few examples where we have incorporated CCTV and WIRELESS NETWORKS on farms, small holdings & large open areas. The examples below were selected due to uniqueness and individual challenges not normally found in suburban or industrial areas.

- **Bashewa Agricultural Holdings Community Project:**

An ongoing project started 2015 with camera stations at intersections and street corners being implemented as funds were available. The system has grown steadily and currently consists of 5 camera stations with 19x 2MP, 80M infra-red night vision, 1x 2MP 25x optical Zoom PTZ camera with 100M infra-red night vision and 1x LPR (License Plate Recognition) cameras. With a redundant localized and remote recording system ensuring no footage loses during network down times. The entire wireless network consists of Ubiquiti 5GHz M (150mbps) and AC (500mbps) series dish and sector antennas with links as long as 5KM.

- **Tierpoort Agricultural Holdings Community Project:**

This community driven project only started in 2018 with the same expansion principals as the Bashewa project. A single camera station erected consisting of 3x LPR (License Plate Recognition) cameras and 1x 4MP camera with 40M infra-red night vision. The system includes a wireless access point and wireless link to a base station for remote viewing.

- **Zoekmekaar Avo Farm:**

The idea here was simply to view the farm fence lines and monitor monkeys who would cause massive losses due to half eaten fruits. A few 4MP, 40M infra-red cameras to monitor the sheds and equipment were installed together with a high powered 2MP IP PTZ camera capable of 30x optical zoom and 200M infra-red laser sight. The camera is equipped with full analytics allowing for different trip wire and loss prevention intelligent scenarios. It's has an auto tracing feature that smartly detects and follows human beings and animals around the farm. It alerts the farmer if preselected areas are accessed by unauthorized persons.

- **Eleazer Mine Potchefstroom:**

A simple combination of 2MP vandal proof cameras and a wireless link between the refinery, smelter and security office to monitor workers working with high value minerals. The challenge with this installation was that no footage loss was allowed during power failures, attempted vandalism, break-ins or robberies. All enclosures and conduits had to be custom manufactured on sight from high strength metals.



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## OUTDOOR SUBURBAN INSTALLATION EXAMPLES:

A few examples where we have incorporated CCTV and wireless networks at security complexes in ordinary suburban locations.

- **Rubida Flats - Murrayfield:**

A mixture between 4MP IP & 1.3MP HDCVi CCTV that protects the Gate, Driveways, Parkings & Boundary Walls of Rubida Flats linked at various points with Ubiquiti AC nano beams. Wireless links were used as the terrain along the koppies canals are too rocky to trench deep enough.

- **Selikats Villa - FaerieGlen:**

4MP IP based CCTV was installed here to monitor incoming and outgoing vehicles, passengers and license plate numbers. A wireless Access Point was installed for remote access to footage.

- **RiverSide Security Complex - Waterkloof:**

2MP & 1.3MP High definition HDCVi CCTV system to monitor the Access gate, Parking Areas, Drive Ways, Pool and Boundary Walls along the river's edge, with a link to the guardhouse for 24 hour monitoring.

- **Lynn de Grace Security - Community:**

Lynn de Grace Security community is a densely treed 2.5KM SQ suburb located in the Mountain range in Lynnwood that contains an 80M geographical drop over a 500M stretch down the hillside. This was without a doubt one of the most challenging installations we have worked with to date. The installation was done as a community project with volunteers a few years prior. The system worked well with only a hand full cameras. Expansion was needed and the whole system collapsed to the point where wireless signals were lost on a daily basis and live monitoring of cameras was impossible. We were contacted by Mr. Jaco Engelbrecht, then director of the home owner's association, in an effort to salvage the failing system. At this point they had contacted numerous service providers all who had failed to remedy the failing system. Line of sight for wireless devices was impossible so all wireless dishes had to be "daisy chained" from street corner to street corner. The completed installation consisted of 36x 1.3MP IP Cameras and 38x Ubiquiti wireless dishes all relaying to a single control room. Simply put, there were more dishes than available frequencies on the 5GHz band. It took 4 weeks of repairing and very meticulous fine tuning of a very limited number of available frequencies to get the system working properly. Today, two years later the system is still running smoothly allowing guards in the control room 24/7 viewing of the entire area.



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