



# Aukua Case Study

## UK Live Broadcasting - Global Motorsport Events

**Customer : A large Broadcast Video Equipment Manufacturer (Customer)**  
**Aukua's Solution : MGA2510 Network Impairment Emulator - 1GbE & 10GbE**

### Customer Objective

The Customer is currently streaming live video feeds from 22 cars, with 4 cameras per car, from any position on the track at any given time. The need for 4K definition is pushing the current solution to its absolute limits. When issues arise, the increasingly hectic race schedule, with shrinking transportation, setup, and takedown time, leaves very little opportunity for fault-finding during the race season. The Customer needs to develop a new system that supports 100+ cameras in 4K Ultra High-Definition, over dual redundant globally pathed links, back to London before distribution to content providers.

To summarise, the Customer needs to develop a new video/audio streaming platform that supports 100+ 4K cameras, has the capacity to cope with the next increase in video definition, and is robust enough to withstand the imperfections of global network infrastructures.

### Customer Pain Points in Summary

1. The need for 4K definition is pushing the current solution to its limits.
2. The hectic race schedule, with limited time for build and takedown, leaves very little time for fault-finding during the race season.
3. Separate data routes around the globe, intended to ensure application redundancy, have been found to experience intermittent performance issues.

### Aukua Solution

The Aukua Systems MGA2510 3-in-1 Ethernet Test Platform enabled the Customer to significantly speed up both fault diagnosis and the testing of new designs in the lab, rather than in the high-pressure environment of the racetrack. The MGA2510 allowed for rapid, repeatable testing of new hardware and software configurations by emulating the many real-world error conditions that are still prevalent in networks. The Customer can now test and benchmark how new hardware and software perform when receiving corrupted packet data, dropped packets, re-ordered packets, or variably delayed packets (jitter). Worst-case scenarios can safely be tested in the lab prior to deployment in a live environment.

### Aukua Advantage

The Customer was immediately impressed by Aukua, particularly by how the multiple applications (Traffic Generation, Packet Capture & Analysis, and Impairment & Latency Testing) supported by a single chassis will assist in the development of future applications and products, while also reducing CAPEX. (They simply purchased a function license as needed.) The Aukua solution is hardware-based (FPGA), capable of handling full line rate with no performance issues, even when managing a large number of small-sized packets and complex impairment scenarios. The web-based GUI is a model of intuitive simplicity, with users typically up and running within minutes.

## Network Test Bed Topology

The Customer placed an Aukua MGA2510 between their wireless access point and camera controller/transcoder hardware to emulate backhaul network imperfections and gain visibility. Having the Aukua MGA2510 in place helped simplify and speed up troubleshooting for intermittent or hard-to-find issues. Additional MGA2510s were used to test network hardware performance and emulate global redundant WAN links.

## Conclusion

Using the Aukua MGA2510 solution, the Customer has developed a more robust, fault-tolerant infrastructure that achieves greater throughput, saves engineering time and costs by resolving performance issues much faster than before, and, most importantly, reduces errors during live broadcasts, leading to an improved user experience.

