



## KVM in Outside Broadcasting: Maximum Flexibility With a Small Footprint

- **Industry:** Broadcast
- **Client:** Public Broadcaster
- **Region:** Germany
- **Solution:** Emerald® KVM over IP

### THE CHALLENGE

When building an OB van, broadcasters and production companies always face the challenge of addressing three key factors: weight, space, and functionality. A leading public broadcaster in Germany was looking to modernize an aging OB van recently and turned to Black Box for an innovative KVM solution that would ease integration with existing infrastructure and ensure the utmost in performance and flexibility.

Having seen the Black Box Emerald KVM platform in use at another facility, the broadcaster deliberately sought out Black Box early in the design process. The two companies collaborated to identify a forward-looking system design for the mobile unit that would support agile HD production, with an easy path to 4K in the future, as well as the option to connect to virtual machines.

### THE SOLUTION

Replacing an old analog KVM matrix, the Black Box equipment installed in the newly updated OB van included Emerald SE Receivers, Emerald Zero U Transmitters, and a central power hub, with the Boxilla® centralized KVM system manager providing all means to easily control and administrate the setup. A license for the Emerald Remote App provided operators with easy access to remote physical and virtual servers without the need for an additional hardware receiver. All components were installed directly in the network cabinets of the OB van. Because the entire Emerald family is based on the IP protocol, these solutions were integrated into the existing network infrastructure with ease.

The Emerald KVM system allows operators to share and control local computers in the van while providing access to remote PCs, servers, and virtual machines that are at the broadcaster's headquarters from anywhere over the internet. The Black Box KVM system also plays a critical role in reducing the number of monitors and keyboards needed, in turn freeing up space in the van and reducing weight.

### RESULTS

In replacing the legacy KVM matrix switches, the Black Box Emerald KVM systems create much-needed space in the OB van while reducing its overall weight. With flexible, reliable extension and switching of video, audio, USB, and serial signals across local and remote servers, operators can instantly access any device they need from any workstation within the OB van. With a dongle design that allows them to attach directly to computers in the network cabinets, the Emerald Zero U Transmitters keep space requirements as low as possible. The intuitive operation of the Emerald systems allows operators of all technical abilities to get the most out of newly installed systems.

The Emerald Remote App from Black Box supports simple administration by IT specialists working anywhere over a WAN connection. The installation of the app on a laptop along with a VPN gives administrators the secure access they require without the need for additional hardware. As an IP-based solution, the Emerald KVM system provides much greater flexibility for today's remote productions, as well as the scalability essential to future expansion or upgrades. The system is fully upgradeable from HD to 4K, so full matrix functionality will be preserved with minimal changes if the broadcaster chooses to upgrade individual workstations and computers to 4K in the future.

