Video quality and network resilience

Emerald 4K

Emerald PE

Emerald SE

Emerald ZeroU

Emerald Remote App

| Remote application monitoring and IT administration | KVM matrix switching and extension for control rooms and process monitoring | KVM matrix switching and extension for applications demanding high-quality video: broadcast, media production, traffic control |

Emerald® is a high-performance IP-based KVM platform, developed by Black Box, that supports both point-to-point extension and KVM matrix switching for an unlimited number of users, computers, and virtual machines. The Emerald product family consists of multiple transmitter and receiver units that can directly connect to create a point-to-point extension or connect to an IP switch and the Boxilla® KVM Manager to build a high-performance KVM matrix switching setup. The table below highlights the different Emerald Extenders and provides application examples.

	Emerald Remote App	Emerald ZeroU TX	Emerald SE	Emerald PE	Emerald 4K
Max video resolution	1920 x 1200 at 60 Hz	1920 x 1200 at 60 Hz (DVI)			4096 x 2160 at 60 Hz (DisplayPort 1.2)
Video quality	High quality ~35fps	Visually lossless		Pixel perfect	
Dual head version	-	-	✓	✓	-
Redundant network ports	-	-	-	✓	✓
Peripheral support	USB HID only		All USB 2.0 devices		
Max extension distance	Unlimited over IP	CATx: 100 metres IP: unlimited		CATx: 100 metres Fibre: up to 10 kilometers IP: unlimited	
VM support	RDP/RemoteFX	-	RDP/Remote FX		PCoIP, RDP/Remote FX
Bidirectional analog stereo audio	-	(Speaker only)	✓	✓	✓
KVM setup	Point-to-point KVM extension that is scalable to a matrix switching setup with unlimited endpoints				
Primary applications	Remote KVM administration, IT administration, or process monitoring where high-quality video is not essential	Environments where rack space is limited or expensive	Entry-level, non-mission-critical point-to-point extension and matrix switching applications that need a migration path to virtual desktop infrastructure	High-end matrix switching that supports VMs, redundant network connections, and video resolutions up to HD	High-end graphical workplaces and operator workspaces that need very-high-resolution video, VM support, or network redundancy
Application examples	Remote (KVM) network administration or maintenance	Outside broadcast vehicles	Broadcast programming and production	HD video and audio editing	4K video editing
	Remote multisystem monitoring and control from a laptop	(Small) broadcast and post facilities	Industrial automation	Live production environments and broadcast playout	3D and graphic design
		Military vehicles (for example, planes)	Basic control room point-to-point extension	3D and graphic design	Public safety control
			Tech support applications	Government FTTD (combine with secure KVM)	High-resolution industrial process monitoring
				Medical imaging	Traffic control rooms and passenger monitoring