

## Release Notes for Dominion® KX IV Software Version 4.1

**Date:** November 2020  
**Applicability:** Dominion KX IV – 101 (DKX4-101)

### Dominion KX IV Overview

The Dominion KX IV–101 is Raritan’s ultra-high performance, single-port KVM-over-IP Switch. It provides high-performance, flexible, KVM-over-IP remote access, control, and management, supporting 4K video resolution and 1080p at 60 frames-per-second. The KX IV-101 connects to a single computer, providing “un-blocked” access and control for multiple users via laptop, PC or Dominion User Station over LAN, WAN or even the internet for emergency access.

### Release 4.1 Firmware Overview

Release 4.1, based on Release 4.0.1, is an enhancement release with new support for remote access of serial devices via Raritan Dominion Serial Access Modules (DSAM) modules, enhancements, security improvements, fixes and documentation updates.

### Important Note

Please note that Release 4.1 is a so-called “fence release.” This means that all Dominion KX IV - 101 switches running an earlier release must upgrade to 4.1 before upgrading to future releases. Also downgrades to earlier releases are not allowed once the 4.1 firmware is loaded on a switch. Contact Technical Support with any issues.

### Dominion KX User Station Release 4.1 Features

- **Serial Access via DSAM.** Manage 2, 4, 6 or 8 serial devices with the optional DSAM-2 (2 port) and DSAM-4 (4 port) modules. DSAM’s connect via USB to the DKX4-101. Note there are only two USB ports on the DKX4-101 switches for connections by DSAM’s and keyboard/mouse.
- **Virtual Media Disk Images.** Support a wider range of ISO/Disk Images for Virtual Media.
- **Audio Playback Enhancements.** General audio enhancements to support audio on a wider range of target computers
- **TLS 1.2 and 1.3 versions.** Support these more secure TLS versions and drop support for the older versions.
- **Custom Video EDIDs.** Enhance the ability to support new video resolutions without the need for a firmware update. Contact Raritan Technical Support if you have issues with a specific video resolution.
- **Terminal Block Pulse Action.** The ability, via the DKX4-101’s Terminal Block to send a pre-configured pulse to the power pins on a connected motherboard to turn on/off that computer.
- **Support MS-CHAPv2 for RADIUS.** New option available for RADIUS authentication.
- **Firmware Update Enhancements.** Stronger encryption and security for firmware updates.
  - **Warning: once you update to Release 4.1, you cannot downgrade to an older release. Please contact Raritan Technical Support if you need to do this.**

- **Other Security Features:**
  - Ability to disable HTTP access
  - Backup/Restore with Password Protection
  - Support Subject Alternative Name in SSL Certificate
  - Only open required TCP/IP ports when in factory default configuration
  - Option for Secure Discovery with CC-SG
- **Improvements, fixes and documentation updates.**

## Dominion KX IV Documentation:

The following user documentation is available for the Dominion KX IV:

**Dominion KX IV User Guide** – guide to the KX IV’s user interfaces and general usage.

**Dominion KX IV Quick Setup Guide** –for the initial setup of the KX IV.

The Dominion KX IV documentation is available from the KX IV web-based user interface and on the Raritan.com website: [www.raritan.com](http://www.raritan.com). Go to the Support section and select Dominion KX IV. Click on the appropriate release.

## Dominion KX IV Online Help

An Online Help System is available. Click on Help – Online Help in the left hand information panel and the Online Help system will launch. You can browse to the appropriate topic via the Contents, Index and Search tabs. The entire Dominion KX IV User guide is available, including text and images, with an extensive set of links. Online help for the Raritan products is available on <http://www.raritan.com/support/online-help/>

## Cable & Adapters Overview

Dominion KX IV natively supports HDMI video from the target server it is connected to. For best performance and compatibility, connect it to the HDMI video port on the target computer with the included cable. For computers with other types of video, we offer various adapters and cables:

Cable/Adapter	Description
D4CBL-DP-HDMI	6-foot DisplayPort to HDMI cable, 4K, audio
D4CBL-MDP-HDMI	6-foot Mini DisplayPort to HDMI cable, 4k, audio
D4CBL-DVI-HDMI	6-foot DVI to HDMI cable, 1080p video, no audio
D4CBL-USBC-HDMI	USB-C to HDMI adapter with 4K HDMI, audio and USB
D4CBL-VGA-HDMI	VGA and analog audio to HDMI adapter. 1080p video

Other adapters may work but are not officially supported. We recommend the use of the above adapters.

DisplayPort or Mini DisplayPort are recommended; they provide up to 4K digital video and audio. VGA and DVI only provide up to 1080p (1920x1080) resolution. The VGA adapter provides analog audio but it must be powered via an included USB adapter and cable. The DVI adapter does not support audio or 4K. The USB-C adapter provides 4K, audio and USB through a single USB-C connection to the target server.

## Release 4.1 Compatibility Information

1. The above Dominion KX IV model and Release 4.1 have been certified for use with CommandCenter® Secure Gateway (CC-SG) Release 9.0 and future CC-SG Release 9.5.
2. The KX III and KX IV User Stations with firmware releases 4.2, 4.2.1 and future Release 4.3 support the KX4-101.
3. Computers connected to KX IV switches can be remotely accessed by three KVM remote clients:

KVM Client	Description
HTML KVM Client (HKC)	Java-free KVM Client that runs in the browser. For Linux and Mac users. <b>Can force launch by &lt;IP Address&gt;/hkc</b>
Active KVM Client (AKC)	Java-free, Microsoft .NET-based Client for Windows platforms. <b>Can force launch by &lt;IP Address&gt;/akc</b> <b>For Microsoft Edge Chromium, must enable Clickonce</b>
Virtual KVM Client (VKCS)	Java-based client invoked from web browser. For Windows, Linux and Mac users. <b>Can force launch by &lt;IP Address&gt;/vkcs</b> <b>Use &lt;IP Address&gt;/vkcs on Chrome &amp; Edge</b>

4. **KVM Clients with 4K Video.** We recommend the AKC and VKC KVM Clients for customers using 4K video on PC's and laptops. A higher-end, dual or quad core computer with at least 8 GB of RAM is recommended. Consult the documentation for hardware recommendations.
5. Oracle Java™ Runtime Environment (JRE) version 8 is supported up to **build 261**. **Version 9 and above is not supported.** These were the current Java versions at release time. Future Java versions should work correctly assuming no incompatible changes are made. For any issues, please contact Tech Support.
  - Note that Oracle is changing its licensing and support policies for Java version 8; contact the Oracle website for more information.
  - For best results, we recommend that Java Plug-in Caching is not enabled.
  - For greater security and fewer Java and browser warning messages, Raritan recommends customers upload their own SSL certificate to each KX IV switch.
  - Customers need to affirmatively click through all security warnings for the Raritan Java applets to load.
 See [www.raritan.com/java](http://www.raritan.com/java) for more information.
6. Supported browser versions include: Internet Explorer 11; Microsoft Edge 85; Firefox 81,85; Chrome 85; and Safari 13.1.2,14.0.
7. The Active KVM Client (AKC), the native Windows Client, requires Internet Explorer 11, Microsoft Edge and Microsoft .NET Framework versions: 4.5 and above.
  - For Microsoft Edge Chromium versions, you must enable Clickonce for AKC to operate.
8. The above JRE version information applies to the Dominion KX IV when used standalone. When used with CC-SG, please consult the CC-SG Release Notes and Compatibility Matrix.

## Release 4.1 Important Notes and Information

1. **Locking Power Adapter.** Follow the instructions in the shipping package to connect and lock the power cord to the KX IV switch. Only use the provided Raritan adapters. Using other power adapters could damage the switch.
2. **Video Adapters and cables.** Dominion KX IV natively supports HDMI video from the target server it is connected to. For best performance and compatibility, connect to an HDMI video port on the target computer. For computers with other types of video, we recommend the Raritan KX IV video adapters and cables. Other adapters may work, but are not officially supported. If using VGA, then set the “Enable VGA Mode” on the Port Configuration page.
3. **Ultra HD Video.** 4K video has four times the pixels as high definition video (1080p)! For best 4K performance, utilize the new KX IV User Station (DKX4-UST). For 4K on the KX III User Station, for best video performance, connect to the monitor(s) using a DisplayPort cable. For PC/laptop access, we recommend the AKC and VKC KVM Clients for 4K video. A high-end, modern PC is required – check the documentation for requirements. KVM Sessions utilizing 4K video are not recommended for KVM sessions on HKC KVM Client or Apple mobile devices.
4. **Changing Video Resolutions.** The KX IV uses an “EDID” data structure to tell the target server what video resolution is wanted. It is important to set the “Preferred Resolution” on the Port Configuration page. If you want to change the video resolution on the target server, change the “Preferred Resolution” to the new resolution. This should change the resolution; if not, then also change the resolution on the target server.
5. **Local Port.** The Dominion KX IV-101 has a pass-through, digital local port providing fast, at-the-rack access via HDMI and USB. **As a pass-through local port, you cannot configure the KX IV using the local port.** For best results with the local port video, we recommend connecting it to an HDMI monitor.  
  
To connect to Raritan’s T1700-LED or T1900-LED keyboard trays, we recommend using the Raritan CVT-HDMI-VGA HDMI to VGA adapter. Do not connect via DVI.
6. **Audio.** The KX IV-101 supports digital stereo audio via HDMI, supporting playback from the target server. USB audio is not currently supported.
7. **KVM Features.** KX IV-101 has many of the popular features of the KX III, but it doesn’t contain them all. Consult the KX IV-101 Features and Benefits document and the online help for a list of features. We will be adding in additional features in future releases.
8. **Raritan KVM App.** The “Raritan KVM” App from the Apple App Store can be used for local access to the KX IV-101. Search for “Raritan KVM” in the Apple App Store and download. Connect your smartphone to the KX IV-101 via USB cable to install and configure the switch. If you reboot the KX IV or factory reset it, then you should disconnect and connect the cable to continue. You can also configure the KX IV-101 via serial port or by Cat5 connection.
9. **DHCP.** DHCP is the default LAN mode with the KX IV. You can also manually set a static IP address.
10. **Remote Power Control.** With the “Virtual Power Button” feature, users can remotely power on or off a computer device — without the use of an outlet-switched PDU! This requires a wired connection between the KX IV-101’s terminal block and the computer motherboard. The KX IV-101 does not support remote power control via an iPDU.
11. **Video Bandwidth and Quality.** Using the Connection Properties panel during a KVM Session, a user can change the video encoding to optimize for 8 different settings for best quality or least bandwidth. There are two overall modes for (a) video, and (b) general computer applications. Using the settings on the left will improve quality; move to the right to lower bandwidth. There is a Connection Info panel that shows the amount of bandwidth used. To further increase video speed and responsiveness, you can disable encryption if your security policy allows for this.
12. **Dominion KX Client SDK & API.** This is available for purchase for approved customers that sign a legal agreement. Detailed programming experience with the Microsoft Windows C# Programming Language, Visual Studio IDE & .NET Framework Library is required to use the SDK.

## Firmware Upgrades

**Warning: once you update to Release 4.1, you cannot downgrade to an older release. Please contact Raritan Technical Support if you need to do this.**

Raritan provides new firmware upgrade releases that contain software enhancements, new features, and improvements. These upgrades are available on the Raritan Website: [www.raritan.com](http://www.raritan.com). Please go to the Support page and click on Dominion KX IV in the “Choose a Product” button.

Locate the entry for the new firmware release. Release Notes are available with: (a) brief descriptions of new features/enhancements, (b) important operating instructions, and (c) firmware upgrade instructions. Follow the Release Notes instructions to upgrade the device.

## Firmware Upgrade Prerequisites

If you have any questions, or do not meet the pre-requisites listed below, please STOP and contact Raritan Technical Support for further instructions. Please read the entire instructions (this document) before proceeding.

## General Upgrade Instructions (standalone upgrade from the browser based user interface):

1. Note: for best results, the KX IV device should be re-booted before the firmware upgrade is applied. This will ensure no users are logged in or sessions active.
2. The user upgrading the KX IV device must be a member of the Admin Group to have sufficient administrator-level privileges to update the Dominion KX IV unit.
3. Please allow sufficient time for the update to complete.
4. We recommend backing up the KX IV using the “Backup / Restore” function on the Maintenance menu on the Remote Console before starting the upgrade.
5. Close any remote or local KX IV sessions to all devices connected to the Dominion KX IV unit.
6. If doing the firmware upgrade over a VPN, ensure that the connection is stable and that no inactivity timeouts have been set.
7. Check out the detailed, step-by-step instructions in the User Guide or Online-Help to perform the upgrade.
8. The software upgrades are written to flash memory, and this takes time to complete. Please do not power-off the unit, or disconnect the Ethernet connection while the upgrade is going on.
9. The KX IV firmware can be upgraded by CC-SG; consult the CC-SG documentation for more information.
10. Should you experience any difficulties with the upgrade, call Raritan Technical Support for assistance.