Firmware Revision Information

Product Code(s) :
ZeroU Appliances : EMD200DV-T, EMD200DP-T
SE Appliances : EMD2000SE-T/R, EMD2002SE-T/R, EMD2000SE-DP-T, EMD2002SE-DP-T, EMD2000SE-T-R2, EMD2000SE-DP-R, EMD2002SE-DP-R
PE Appliances : EMD2000PE-T/R, EMD2002PE-T/R, EMD2000PE-DP-T, EMD2002PE-DP-T, EMD2000PE-T-R2, EMD2002PE-T-R2, EMD2000PE-DP-R, EMD2002PE-DP-R
4K Appliances: EMD4000T/R

Product Name(s): 7.0.4_r13736

Date Modified: 17 Sep 2026

This document outlines:

1. Product Description
2. Firmware Installation
3. Notes on Release

Product Description:

Emerald is a high-performance KVM matrix switching solution that connects to both Physical and Virtual Machines. The zero-client IP-based KVM platform delivers pixel-perfect HD and UHD resolution over an IP network.

Firmware Versions:

7.0.4_r13736 – software for all Emerald Transmitter and Receiver appliances

This release is compatible with the following product software versions:

- Boxilla Manager 5.2.3
- DESKVUE 1.7.1
- Gateway 4.1.1
- RemoteApp 2.8.3 (Windows) & 3.0.0 (macOS)

Key Features added (since last release 6.11.0):

- Extended support for *cloudLink* compression, Black Box's industry leading CODEC, up to 4K resolutions. Available as an **optimized** compression mode designed to facilitate 4K resolution connections between Emerald DESKVUEs, Emerald4K Receivers and an Emerald4K Transmitter
- Emerald4K Transmitters and Receivers support both 1G & 10G SFP modules
- Emerald4K Transmitters supports selection of **Optimized** or **Scaled optimized** compression modes
- Added alphanumeric sorting on Connection Group View
- Added Video Source Optimization (VSO) for dual head EmeraldPE Transmitters
- Major enhancements on security e.g. support TLS 1.3

Defects Resolved (since last release 6.11.0):

- General improvements in reliability and stability.
- 1176 – LFP 443 are not functional with Emerald 4K appliances.
- 1251 – Stability fix for power supply interruptions on Emerald 4K devices
- 8605 - VM connections terminate when a USB headset is removed from a Receiver
- 8643 - HTTP API Connection is refused on Emerald4K Receivers during Force Connection request
- 8545 - Emerald Receivers - Folder View is missing icons for Private, Shared, Exclusive, Bonded connections
- 8334 - After disconnecting the bonded connection, OSD flickers multiple times
- 7676 - Emerald4K Transmitter failed to access shared, lossless connections occasionally
- 6961 - Mouse and Keyboard are working in view-only connection on Emerald4K Receiver
- 8467 - Auto-launch is not working on first login sometimes
- 8544 - Emerald Receivers with a flat view is missing the icon for private connections
- 3390 - Power LED does not blink on upgrading on EmeraldSE Receivers
- 7510 - Unable to see Transmitter and Receiver alerts on Boxilla after device reboot at times
- 6880 - No disconnect message on Emerald4K Receivers when connected VM is preempted by another User.
- 1288 – Touch is not working of Eizo touchscreen after reboot of target machine
- 1265 – Analog audio is non functional in connection
- 9933 – unable to terminate the connection using Hotkey + O

Known issues/Limitations:

- LFP-415 is not operational on Emerald4K SFP interfaces.
- This release is **incompatible** with Boxilla versions before v5.1.5.
- It is not possible to configure or upgrade an Emerald Transmitter running release v6.10.0 with an Emerald Receiver running any previous release.
- Emerald4K Transmitters are not supported in Paired connections.
- In a paired connection, both Transmitters must have the same video quality settings
- In paired connections, while using EmeraldPE Transmitters together with EmeraldSE or Emerald ZeroU Transmitters, *best quality* video setting is not supported.
- Legacy VMs that do not support RFX settings are not supported on EmeraldSE/PE Receiver units.
- EmeraldSE/PE/ZeroU Transmitters cannot be upgraded by an EMD4000R when unmanaged and vice versa.
- When initiating a new connection request via the northbound API from a different user, an Emerald4K Receiver might exhibit a black screen.
    - **Workaround**
        - Re-launch a connection from Boxilla or via northbound API
        - Terminate a connection via northbound API, before launching a new connection
        - Set the OSD to Auto, then the new connection launch request via the northbound API will terminate existing Boxilla connection and then launch the new connection
- EMD200xSE-DP-R Receivers cannot be downgraded below FW V6.9.2.
- On a Swedish keyboard, it is not possible to use the special characters "Å", "Ö", and "Ä" in capital letters for an Active Directory password.

- Some video artifacts may be observed when connected at 4096x2160 resolution from Emerald DESKVUE or Emerald4K Receiver to an Emerald4K Transmitter using *cloudLink* compression.
- Connections from Emerald2K Receiver to Emerald4K Transmitter are supported only up to HD resolution (1920x1200) when the Transmitter is in *Optimized* mode; if the Emerald4K Transmitter resolution exceeds this limit, connection attempts will be rejected, and any active sessions will result in the disconnection of these clients, with appropriate error codes provided in both cases. If the Transmitter is in *Scaled Optimized* mode, then the Transmitter will scale the resolution so that it can be displayed by the Emerald2K Receiver.

Firmware Installation

Supported upgrade paths

The following versions can be upgraded to this release

- V7.0.0_r13012
- v6.11.0_r12810
- v6.10.2_r12548

Managed System Upgrade

See the Boxilla Manager Manual for details of upgrade procedure.
Boxilla Manager Version 5.1.5 or higher is required to manage appliances on this firmware version.

Unmanaged System upgrade

Note: When upgrading, the Transmitter must be upgraded before the Receiver.

To upgrade the Transmitter:

1. Download the Transmitter image file to the root of a memory stick. Please ensure the memory stick is formatted to a FAT file system.
2. Reboot both the Receiver and the Transmitter. Preferably, connect them point-to-point with a network cable.
3. On the Receiver, login and select the following menu options: Control > Transmitter.
4. Enter the IP address of the Transmitter and select *Apply*.
5. Select *Upgrade*.
6. Select the clu/fit image file. The Receiver will then initiate the Transmitter upgrade.
7. The Transmitter will reboot once the upgrade has been completed.

To upgrade the Receiver:

1. Download the Receiver image file to the root of a memory stick. Please ensure the memory stick is formatted to a FAT file system.
2. Power up the Receiver and plug in the memory key.
3. Login and select the following menu options: Control > System > Upgrade
4. A list of clu/fit files located at the root of your memory stick will be displayed. Select the latest upgrade image file. Select OK.
5. The files will be copied to the Receiver, and a message will appear. Select *OK*.
6. The upgrade will begin, and the Receiver will reboot once completed.
7. Once completed, log in and select the Information tab to confirm the software version.

Documentation

For downloading the manuals or getting Black Box support – please go to: www.blackbox.com.

Previous Release Information

6.11.0 Release

Software version – v6.10.2_r12810

Key Features include

- Connection folder feature: This feature allows the Enterprise Manager to organize connections either as a flat list or in a folder-style tree with up to three levels, making browsing easier using Emerald Receivers.
- General improvements in reliability and stability

Defects Resolved:

- 1026 - Using incorrect AD login password crashes Receiver.
- 1037 – EDID clone failure on few Transmitters.
- 1025 – Hotkey Previous does not functional properly
- 1092 – Tx preferences settings configuration does not work from OSD in unmanaged mode
- 1038 – Elgato Streamdeck becomes unresponsive after multiple connection switches
- General improvements in reliability and stability

6.10.2 Release

Software version – v6.10.2_r12548

Key Features include

- General improvements in reliability and stability

Defects Resolved:

- 986 - Stream Deck functionality issue after firmware upgrade.
- 987 – Ross Xpression Keyboard functionality issue after firmware upgrade.
- General improvements in reliability and stability

6.10.1 Release

Software version – v6.10.1_r12453

Key Features include

- Pairing feature which enables one dual-head Receiver to simultaneously connect to two single-head Transmitters (or the primary heads of two dual-head Transmitters), creating a virtual dual-head Connection.
- Security fixes (SSH disable)
- USB redirection management
- Capability for users to view their password while typing on the on-screen display (OSD)
- General improvements in reliability and stability

Defects Resolved:

- 97 – Swiss/German keyboard support
- 851 - LDAP user unable to log in to OSD when using 16 or more characters in password.
- 929 - Emerald4K is incompatible with Eizo CG319X display with display resolution 4096x2160
- General improvements in reliability and stability

6.9.2 Release

Software version – v6.9.2_r12177

Key Features include

- Support for new DisplayPort Receivers – EMD2002SE-DP-R, EMD2000PE-DP-R, EMD2002PE-DP-R

- Allow import by Users with Administration rights, of idle screen images in PNG formats on Receivers.
- General improvements in reliability and stability

Defects Resolved:

- 817, 837: Introducing a new mouse acceleration mode to replicate the performance of a mouse in the Windows OS. This mode will be enabled by default unless users have previously customized their mouse acceleration settings.
- 887: Enabled web service on all unmanaged Receivers.
- 822: Enabling USB redirection of the Elgato Stream Deck
- General improvements in reliability and stability

6.8.0 Release

Software version – v6.8.0_r11889

Key Features include

- Implementing a new category of shared connection, termed as “Exclusive”, which allows only one user to have exclusive control over the Keyboard/Mouse/USB Redirection, while other users connected via the shared connection are limited to viewing only.
- Addition of new hotkey combination that allows disconnection of an active connection and subsequently displays idle screen instead of the On-Screen Display (OSD)
- General improvements in reliability and stability

Defects Resolved:

- 817, 837: Introducing a new mouse acceleration mode to replicate the performance of a mouse in the Windows OS. This mode will be enabled by default unless users have previously customized their mouse acceleration settings.
- 887: Enabled web service on all unmanaged Receivers.
- 822: Enabling USB redirection of the Elgato Stream Deck
- General improvements in reliability and stability