

=====
=====
DisplayLink Software Release: Customer Release Note
Software Package: DisplayLink Graphics
DisplayLink Core Software Version: 5.6.31854.0
DisplayLink Core Software Date: 10th April 2011
=====
=====

A. Introduction

=====

This is R5.6M1, the first Maintenance Release of R5.6. It has completed system test and is suitable for deployment to end-users.

DisplayLink Software Release 5.6 delivers the following features:

- Support for Windows MultiPoint Server 2011
- Allow installation on Windows Server platforms
- Improved stability with more than 3 DisplayLink screens

For further support and information about DisplayLink software, please visit <http://www.displaylink.com/support>

B. Contents

=====

- A. Introduction
- B. Contents
- C. New features
 - C1. Fixed issues since R5.6 (5.6.31721.0)
- D. How to Install and Use
- E. Supported Operating Systems
- F. PC Recommended Specifications
- G. Language Support
- H. Supported Hardware
- I. Summary of Software State and Issues - Installer and Auto-update
- J. Notes on Windows 7 and Vista Modes
- K. Summary of Software State and Issues - Windows 7/Vista WDDM
 - K1. Windows WDDM graphics card support
 - K2. Normal use
 - K3. Video players, rendering technologies and applications
- L. Summary of Software State and Issues - Vista XDDM, XP
 - L1. Normal use
 - L2. Video players, rendering technologies and applications
- M. Driver qualification information

C. New features

=====

DisplayLink Software Release 5.6 delivers the following features:

- Support for Windows MultiPoint Server 2011
- Allow installation on Windows Server platforms
- Improved stability with more than 3 DisplayLink screens

Support for Windows MultiPoint Server 2011

MultiPoint Server 2011 is supported to a maximum of 14 DisplayLink-based clients.

Enable installation on Windows Server platforms

The DisplayLink Software can now be installed on the following operating systems:

- Windows Server 2003 (32 bit only)
- Windows Server 2008 (32 and 64 bit)
- Windows Server 2008R2 (64 bit)

Improved stability with more than 3 DisplayLink screens

Configurations with multiple DisplayLink screens will change power state and respond to display connections more reliably.

C1. Fixed issues since R5.6 (5.6.31721.0)

If the reboot prompt after install is ignored on Windows XP, then the DisplayLink monitor set to mirror may display corrupted data. (10953)

After installing DisplayLink software on some systems with switchable graphics architectures, the main monitor may be dimmed and not responsive until reboot. (10534)

Monitor details were not being updated in "Devices and Printers" folder when changing the monitors connected to DisplayLink device. (9917)

DisplayLink monitors may flash occasionally when playing fullscreen videos on several stations. (11173)

On Windows XP after installing DisplayLink drivers several reboot cycles may be requested. (11079)

D. How to Install and use

=====

Please find detailed guidance and information about how to install and use this software in the DisplayLink Software User Guide: <http://kb.displaylink.com/298>

Corporations can apply for a corporate install version at www.displaylink.com/corporateinstall

For further support and information about DisplayLink software, please visit <http://www.displaylink.com/support>

E. Supported Operating Systems

=====

This release can be installed on the following operating systems:

- Windows XP SP2 (32-bit edition only)
- Windows XP SP3 (32-bit edition only)
- Windows Server 2003 (32-bit edition only)
(This OS has received limited testing)
- Windows Vista SP1 (32-bit and 64-bit editions)
- Windows Vista SP2 (32-bit and 64-bit editions)
- Windows 7 (32-bit and 64-bit editions)
- Windows Server 2008 (32-bit and 64-bit editions)
(This OS has received limited testing)
- Windows Server 2008 R2
(This OS has received limited testing)
- Windows MultiPoint Server

Windows 2000 SP4 is supported by older versions of the DisplayLink software: <http://www.displaylink.com/downloads>

Video: video is supported in extend mode with most popular video players on Windows XP and Windows 7/Vista in WDDM/Aero Mode. Video support is limited in other configurations including mirror mode and Windows 7/Vista Basic Mode.

Installation on Windows Server is enabled, but untested. End users may try to use DisplayLink on server editions, but these are not supported configurations.

F. PC Recommended Specifications

=====

Please find detailed information about the minimum and recommended specifications to run this software in the DisplayLink Software User Guide: <http://kb.displaylink.com/298>

G. Language Support

=====

Please find the complete list of languages supported by this software in the DisplayLink Software User Guide: <http://kb.displaylink.com/298>

H. Supported Hardware

=====

- DL115 / DL125 / DL165 / DL195 devices are supported.
- DL120 / DL160 devices are supported.
- Earlier devices are supported for backwards compatibility.

I. Summary of Software State and Issues - Installer and Auto-update

=====

The installer and auto-update function, if enabled, work on all supported operating systems.

Important note: after uninstalling the DisplayLink software a reboot is required before installing the same or a different version of the software. Upgrading the software will require a reboot only when necessary. (5329)

Users who have v3.x, R4.1 and R4.2 DisplayLink software installed in Add/Remove Programs must uninstall it before installing this release. Old devices will continue working after this release is installed.

Known issues

On Windows XP on some hardware configurations the DisplayLink Software installer may reboot the system without warning the user. (6287)

Virus checkers set to very high security may prevent the installer from running. They should be set to lower security during installation and restored to high security once installation is complete. (935)

When installing, make sure that only a single user is logged into the PC. That user needs administrator privileges. (1112)

On Windows XP, very occasionally, the DisplayLink devices might not work after installing the DisplayLink drivers using the 'Update driver' function in Device Manager or using Windows Update. Rebooting solves the issue. (5369)

On Windows 7 and Vista WDDM, the machine may drop to Basic Mode when a new DisplayLink screen is connected. This is because of Vista's normal performance calculation when new screens are attached. Aero mode can be restored through Control Panel -> Windows Color and Appearance -> Open classic appearance properties for more color options -> Windows Aero. (2069)

When using multiple displays on XP, if a user uninstalls an earlier software package, the associated display may sometimes not come back on after uninstall. This can be remedied by unplugging and re-plugging the affected display. (7348)

Some installer strings are not yet localized in all languages. (5810)

When using multiple displays including a composite device, if a user uninstalls an earlier software package, the associated display may sometimes not come back on after uninstall. This can be remedied by uninstalling all DisplayLink packages and installing again just the needed ones. (7348)

Occasionally, immediately after installing the DisplayLink software on Windows XP and attempting to clone the primary screen, the DisplayLink screen may show corruption. This issue won't occur after the first reboot. (7525)

Very occasionally a DisplayLink screen may remain blank when first connected to a system or after installing the DisplayLink software with the device connected. This issue can be resolved by disconnecting and reconnecting the affected displays. (6616, 8784, 8510)

When Intel GPU graphics drivers version 8.15.10.2281 are installed, upgrading DisplayLink software may cause the PC to hang. On next restart, a reboot prompt will be shown. Please reboot again, and after this second reboot the system will operate normally. (11058)

This release will not support the Kensington Office Dock on Windows XP. This is because this driver is not compatible with the autoinstall in the Office dock. Please use v5.5 DisplayLink software or older on Windows XP, with the Kensington Office Dock. (10790)

J. Notes on Windows 7 and Vista Modes

=====

Normally, Windows 7/Vista is in WDDM mode. In this mode, Windows 7/Vista graphics drivers are used, and the Aero Glass and Basic themes are available.

Windows 7/Vista PCs whose graphics drivers are not Windows Vista native will run in XDDM (XP-Compatible) mode. In this mode, the 3D Aero Glass theme is not available. This mode will be limited to PCs that were upgraded from XP to Vista and PCs with low-end graphics cards.

DisplayLink software supports both modes in different ways on Windows Vista and the level of support and issues are different in the two cases.

On Windows 7 XDDM is not supported.

K. Summary of Software State and Issues - Windows 7/Vista WDDM

=====

K1. Windows 7/Vista WDDM graphics card support

Because of restrictions in Windows WDDM support for graphics cards, the DisplayLink software works closely with the graphics drivers for the PC's graphics card. This software supports interworking with single graphics cards from Intel, ATI, NVIDIA and Via.

The following GPU configurations are supported:

- Switchable Graphics (ATI/Intel)
- Switchable Graphics (ATI/ATI)
- Switchable Graphics (NVIDIA/Intel)
- NVIDIA SLI in SLI mode

Other GPU configurations, including the following, are currently unsupported and will not function on Windows 7/Vista:

- Hybrid Graphics
- Hybrid SLI
- Hybrid Crossfire
- Crossfire
- SLI not in SLI mode
- Multiple WDDM 1.1 graphics drivers active at once

DisplayLink is improving its support for multiple graphics adapter PCs and will include improved support in future versions of the DisplayLink software.

DisplayLink cannot exclude severe problems in the case of graphics cards or driver versions that have not been interoperability tested with DisplayLink software. Should such problems arise,

- First, upgrade to the latest graphics drivers for your PC. Latest drivers can be found on the PC manufacturer's or graphics card manufacturer's website as well as Windows Update.
- Second, upgrade to the latest DisplayLink software available for your device. To find and download latest software use 'Check now...' from the DisplayLink GUI, visit www.displaylink.com or use Windows Update.
- If this does not help, please inform your DisplayLink device manufacturer's support line. Please give these details:
 - + PC make, CPU and memory
 - + graphics card make, model and driver version.

Windows 7 Starter Edition supports duplicate mode and 'notebook monitor off' mode. It does not support extend mode. This is a limitation introduced by Microsoft. See <http://windowsteamblog.com/blogs/windows7/archive/2009/05/29/let-s-talk-about-windows-7-starter.aspx>

Known Issues - General

DisplayLink screens are not supported on systems with two graphics cards used simultaneously (supporting separate screens, or in ATI Crossfire configuration). Two graphics cards in NVIDIA SLI configuration are supported. (1704, 4441)

DisplayLink software may cause blue screens on software configurations where WDDM drivers from different manufacturers have been installed on the same system, even if just one graphics card is present. (4323)

On Vista WDDM, TMM does not appear when DisplayLink screens are attached. It works normally when no DisplayLink screens are attached. (2569)

On some systems with switchable graphics architectures a maximum of 3 DisplayLink screens is supported when in High Performance GPU mode. (4459)

On a switchable graphics machine with DisplayLink software installed do not change the bios settings to ATI only or Intel only. If you need to change those BIOS settings please first uninstall the DL software, then reinstall it once the new settings have been applied. (4339, 4506)

On Windows 7 in Basic Mode, very occasionally, if the DisplayLink screen is primary with the main screen off, then both the main and DisplayLink screens may show corruption when resuming from hibernation. To cure the problem, enable and disable the main screen. (6388)

On Windows 7/Vista WDDM aero, DisplayLink software can cause some PCs to become more susceptible to TDRs (Timeout Detection and Recovery). More info at http://www.microsoft.com/whdc/device/display/wddm_timeout.mspx. Suggested workarounds are (1) upgrade to the latest drivers for the native graphics card; (2) increase TDR timeouts as described in the linked article. (3217)

(Vista and Windows7) Some GPUs do not have enough resources to work with more than three DisplayLink screens in aero mode. This may cause intense flickering, failure to apply mode changes, or in some cases video failing to play. If this occurs switch the system to operate in Basic Mode. (5705, 5704)

On some configurations, using multiple DisplayLink screens might cause some DisplayLink screens to show corrupt or missing graphics. Detaching and reattaching the screens cures the problem in most cases, a reboot is required in few cases. (4747, 4835, 6688)

On Windows 7 in Basic Mode, few software applications may show corruption when their windows are dragged to a DisplayLink screen. To recover, open the same or another window from the same application directly on the DisplayLink screen. (6725)

Occasionally on Windows 7, applying a layout change involving DisplayLink screens can change the resolution of or turn off one or more screens. To recover, press the Windows+P keys and select a different setting. (6010, 8741, 9768, 8618, 8741)

On Windows 7 and in very few hardware configurations, connecting two DisplayLink devices when in Basic Mode can cause one DisplayLink screen to blank intermittently. (6844)

On Windows 7 on some hardware platforms the backlight of the laptop internal LCD might remain powered on while in 'Projector only' mode. To avoid this issue connect one display to the laptop's built in video output in addition to any DisplayLink screens. (7573)

On some switchable graphics systems when the GPU is switched immediately after connecting a DisplayLink device for the first time, the DisplayLink screen may change from extend to duplicate mode. (8991)

On few Windows 7 laptops using two portrait DisplayLink screens, using one of the screen to duplicate the internal screen can cause corruption when the system resumes from hibernation. A restart is required to recover. (9277)

On Windows Multipoint Server after upgrading from previous versions monitors may remain blank. A reboot is required to recover (10299).

On Windows Multipoint Server in Normal Mode replugging DisplayLink monitors to different USB ports may lead to incorrect layout changes. A reboot is required to resolve. (10302, 10306)

On Windows Multipoint Server after DisplayLink software installation, and before first reboot, DisplayLink monitors may remain blank when connected. A reboot is required to resolve. (10226)

On Windows Multipoint Server, HD video playback performed simultaneously on multiple client stations may cause the system to hang. A reboot is required to resolve. (10212)

DisplayLink tray application is not present on Windows Server editions. However DisplayLink monitors will still work correctly and can be configured from Windows Desktop Properties dialog. (10416)

Occasionally DisplayLink monitor may freeze during operation. To recover, press ALT+CTRL+DEL and Cancel to go back. (10230)

Sometimes system may drop to Aero Basic Mode after state changes (restart, hibernate, sleep). Aero Glass mode can be restored through Control Panel -> Windows Color and Appearance -> Open classic appearance properties for more color options -> Windows Aero. (10300, 10383)

Sometimes disabling a native screen causes system to drop to Basic Mode. To recover, reconnect the DisplayLink screen. (10054)

Sometimes attaching external VGA monitor when also using DisplayLink monitor may cause continuous flickering of primary screen. (9680)

On some systems with switchable graphics architectures after first connection the DisplayLink monitor may remain black until reboot. (10785)

Known Issues - Intel GMA Integrated Graphics

On Vista WDDM systems with Intel 945GM graphics and with graphics driver versions around 7.14.10.1461 and 7.14.10.1504, playing a video on a DisplayLink attached screen can cause the whole system to run very slow. A reboot is needed to resolve this. To avoid the problem, do not play video on such DisplayLink screens, or downgrade the graphics drivers. (3076)

On Vista WDDM, some computers with Intel graphics reset DisplayLink screens from extend to mirror when coming out of sleep. A workaround is to disable the Intel persistence application, by removing HKLM\Software\Microsoft\Windows\CurrentVersion\Run\Persistence (The normal value would be C:\windows\system32\igfxpers.exe). (2546)

DisplayLink software may cause blue screens on few specific systems with Intel GMA 500 graphics chipsets. To work around this issue, switch to Basic Mode before using DisplayLink devices on such systems. (5192)

Intel 915 chipset: Intel do not provide a WDDM driver for this chipset. DisplayLink hardware will not operate correctly without a WDDM 1.0 or higher driver.

On Windows 7 WDDM with Intel Series 4 graphics all screens may blank for a moment when scrolling large windows on a rotated DisplayLink screen. (7540)

Known Issues - ATI graphics

The ATI Catalyst Control Center is a tool provided by ATI to control ATI graphics cards. In the presence of DisplayLink attached screens, some parts of the tool, such as its adjustments submenu, may not work. This is on all OSes. (1596)

Some versions of the ATI Catalyst Control Center crash or show errors in the presence of DisplayLink software. This has been observed with versions since ATI driver version 8.360. This can cause problems when a screen is attached to the PC. To work around the problem, uninstall the ATI Catalyst Control Center. (4897, 6216, 6038)

On Vista WDDM with ATI graphics, the ATI External Event Utility can interfere with remembered settings for DisplayLink screens. To avoid this, disable the ATI External Event Utility as follows: Navigate to Control Panel -> System and Maintenance -> Administrative Tools -> Services: Ati External Event Utility and change the startup type to Disabled. (2674)

On Windows 7 in Basic Mode with ATI graphics, with when a DisplayLink and a directly attached screen are both connected, it may not be possible for the laptop screen to extend one of the other screens. (5903, 5915)

Computer may freeze when running OpenGL application on an AMD Radeon HD6870 graphics card. A reboot is needed to recover. (10242)

Known Issues - NVIDIA graphics

With Vista, a maximum of four DisplayLink screens are supported on machines with NVIDIA graphics. In certain rare cases, exceeding this has been seen to cause repeated serious crashes. (1781)

On some NVIDIA SLi systems, it is not possible to enable or disable SLi mode while a DisplayLink screen is attached. (3147)

Triple SLi systems are not supported. (3146)

On some systems with NVIDIA Optimus graphics, sometimes a Displaylink screen connected for the first time after the DisplayLink software installation might remain blank. A reboot will restore normal functionality. (9127)

Blue screen on Windows 7 with NVIDIA NVS300 graphics card when resuming from hibernation. (10203)

On some NVIDIA systems with NVIDIA drivers 267.76 or newer DisplayLink monitor may remain blank. (11314)

DisplayLink monitors are not compatible with NVIDIA PhysX technology. (11347)

K2. Normal use

System behaviour with DisplayLink attached screens has been well tested. Testing covers plug/unplug, mode changes, playing video, hibernate, sleep/standby, multiple users, different user rights, attached screen as primary screen, attached screen as only screen, and other aspects.

There are many minor issues. General recommendations if something goes wrong:

- detach then reattach the DisplayLink device's USB cable
- change display settings using DL-GUI (Vista only)
- change display settings using WDP.

Known Issues - Hibernate / sleep / monitor power save / screensavers

On Vista, very occasionally, DisplayLink devices fail to resume from hibernation or sleep. This is due to issues in the Vista USB subsystem. Hotfix <http://support.microsoft.com/kb/941600> should help. This is believed to be fixed in Vista Service Pack 1. (2126)

On Vista WDDM, DisplayLink attached screens can be slow when resuming from hibernation or sleep. This is a Vista problem and is believed to be improved in Vista Service Pack 1. (2165)

On all OSes, the desktop background is occasionally missing after restart or after resume from sleep or hibernation. The screens are still usable, and the background can be set again to the desired picture. (2154, 2072)

On all OSes, detaching or attaching DisplayLink attached screens while a screensaver is running may cause strange effects. Sometimes it is necessary to detach and reattach the DisplayLink attached screen after exiting the screensaver. (1984)

3D screensavers do not run well on DisplayLink devices and can cause flicker, decreased graphics performance and/or layout changes. This is on all OSes. (1150, 1177, 4426, 7892)

On some Windows 7 and Vista configurations, resuming from hibernate or sleep the desktop layout and/or screens resolutions might change. In most cases this is due to third party utilities (please see <http://www.displaylink.com/support/ticket.php?id=279>) but in some cases this is a genuine issue. To recover change the setting in WDP or through the DisplayLink GUI. (5887, 7827, 7951)

On some Windows 7 and Vista configurations, disconnecting a DisplayLink screen might cause the desktop layout to be set incorrectly. To recover change the setting in WDP or through the DisplayLink GUI. (6696, 6755)

On few configurations a DisplayLink screen set to be the only active display may show a black screen when resuming from standby. To recover unplug and replug the DisplayLink device. (8106)

On some configurations if a display is attached to the built-in video output after having disconnected a DisplayLink display, all the displays on the system may fail to wake from monitor power save. To recover unplug the display connected to the built-in video output. (8323)

On Windows 7 in Basic Mode specific screensavers (Mystify, Ribbons) can crash while exiting from the screensaver state. (8952)

Sometimes the sequence [hibernate - unplug a DisplayLink device - wake - hibernate - replug the DisplayLink device - wake] can cause the notebook's built in screen to remain powered off. To recover, change the brightness of the internal screen. (9140)

One model of USB docking station on some systems switches to USB full speed after the system resumes from standby. This causes the DisplayLink screen to update very slowly. Unplug and replug the docking station to recover. (9276)

Known Issues - Other

In PowerPoint, the "Display slide show on:" menu has a bug which means that it does not work when there are gaps in the numbering of enabled displays (as shown in WDP). Users of PowerPoint 2007 can get round this by using "Show presentation on:" in the ribbon, rather than the "Set up slide show" box. (2337)

CRT monitors may show speckles at very high resolutions. This is because the DisplayLink device cannot always support the high pixel clock required with high CRT refresh rates. (2155)

After a reboot, the numbers used in Windows Display Properties to identify the attached screens may change. This is normal. (596)

Occasionally, on rotating a DisplayLink screen the monitor may freeze, change resolution or go black. This is most likely if several screens are attached. To recover, detach and reattach the DisplayLink screen. (4061)

After installing the DisplayLink software on a tablet PC, the pen calibration software may not work correctly. Rebooting solves the issue. (4448)

On ATI graphics, function key enabled display layout utilities may not work correctly when the DisplayLink software is installed. (4964)

On a very small number of systems, a DisplayLink device might not work correctly after having been quickly disconnected and reconnected. A reboot is necessary to recover. To avoid the issue, wait a few more seconds before reconnecting the device. (5471)

Occasionally, on Windows 7 desktop settings are not restored if multiple DisplayLink devices are attached at the same time. The consequence is that one of the DisplayLink screens may be black, or in the wrong display mode. If this happens, set the display mode via WDP or Windows-P. (5444)

On all OSes we have seen a few instances of DisplayLink-attached screens occasionally going black during normal use. They can be brought back by changing resolution. (6106)

When attaching multiple DisplayLink screens in Basic Mode, sometimes one of the displays may initially be blank on Windows 7. This can be resolved by moving a window onto the display. (6844)

When using more than one DisplayLink screen, very occasionally, unplugging a DisplayLink device might not remove the screen from the Desktop and from DisplayLink's tray icon. A reboot is necessary to recover from this situation. (7275)

On one specific Windows 7 platform with a Radeon HD 4200 GPU the system might occasionally fail to resume from hibernate. A hard reboot is required to recover. (7701)

The DDC/CI communication between a monitor and a DisplayLink device can fail on some monitors that do not comply with the I2C specification. (8752)

Very occasionally a DisplayLink screen can display corruption or a black screen when set to duplicate a display driven by the system's GPU. A reboot is necessary to completely recover from this issue. (8859)

On some Windows 7 systems, with Intel graphics, changing the color depth to 16 bit can disable extended DisplayLink screens. To recover use Windows Display Properties to re-enable the DisplayLink screen. (9116)

When playing the PC game Just Cause 2, patching the game from version 1.0.0.1 to 1.0.0.2 may provoke screen flashing on a DisplayLink connected monitor. The recommended workaround is to disable the "V-Sync" setting from within the games "Advanced Settings" menu. (9369)

Under some circumstances when using a DisplayLink screen in 'Notebook monitor off' mode, switching to a full screen and back to windowed mode causes the desktop to move to the notebook monitor and the following error message bubble to appear: "The system cannot write to the specified device". To restore the DisplayLink display, unplug and re-plug the USB cable. (6270)

On some systems when changing resolution a DisplayLink monitor may show corruption for a brief moment during mode transition. (10370)

Pressing the button controlling the layout of the DisplayLink monitor on some docking stations has no effect. (10612, 10666)

After disconnecting the DisplayLink monitor the device status is not updated in the "Devices and Printers" folder. (10669)

Occasionally on Windows 7, applying a layout change involving DisplayLink screens can change the resolution of or turn off one or more screens. To recover, press the Windows+P keys and select a different setting. (6010, 8741, 9768, 8618, 8741)

K3. Video players, rendering technologies and applications

Applications, including the Desktop Windows Manager, use the DirectX 9 rather than DirectX 10 interface in the presence of DisplayLink software on Windows 7.

Video is supported on Windows 7/Vista in extend mode in WDDM (Aero) mode. Video playing and rendering using hardware overlays is not supported. The following players are tested by DisplayLink:

- Windows Media Player 11 (www.microsoft.com/windows/windowsmedia/default.mspx)
- Windows Media Player 12 (Windows 7 only)
- WinDVD 9 (www.intervideo.com)
- WinDVD 2010 Ultra (www.intervideo.com)
- PowerDVD 9 (www.cyberlink.com)

This table shows what rendering interfaces are supported:

Interface	Supported on Vista WDDM Aero?
DxVA	Yes, if supported by the GPU
D3D	Yes, but not if the DisplayLink screen is primary
DirectDraw	Yes
OpenGL	Yes, but not full screen, windowed only
GDI+	Yes, but not full screen, windowed only

On Windows 7/Vista WDDM Basic, video is not supported. It may work in some cases but exhibits poor performance. It may stop working after an update from Windows Update that affects the graphics subsystem. (2028)

On Windows 7/Vista WDDM (Aero) Mode in mirror mode, video support is limited: some players may show errors, stop playing or show corruption. (6238)

On all platforms, depending on the player, there may be problems if the video window is moved between screens while video is running. It may be necessary to close and restart the video player.

With Vista WDDM, on some lower-spec PCs, videos on DisplayLink attached screens pause frequently for several seconds at a time. This is because there is insufficient system performance to display video smoothly. (1798)

Known Issues - General

Don't change the logged-on user or the display mode, position or arrangement of attached screens while a video is running. This usually confuses the video player and it may stop playing and/or show corruption on screen. (1982, 4435, 5260)

On Vista WDDM, video players sometimes use hardware overlays to display video. DisplayLink software does not support hardware overlays and these videos do not display on DisplayLink screens. Examples: PowerDVD 7 uses overlays when playing DVDs and so cannot display DVDs on DisplayLink screens. vlc can be configured to use overlays and will not work on DisplayLink screens if so configured. (1807)

On Vista WDDM, some graphics-intensive applications use the GDI or OpenGL interfaces. On DisplayLink attached screens, such applications can display in a window but not full screen. Examples of such applications are Starcraft, Quake 3. Also, video players such as Windows Media Player, WinDVD fail to play in full screen mode on DisplayLink screens on some PCs. (1655, 2134)

On Windows 7 and Vista WDDM, applications such as games that use Direct3D will not display on a DisplayLink attached screen that is set to primary. (1815)

Some players, including Windows Media Player, do not play DVD content well on DisplayLink attached screens which are set as primary. (2084)

On Vista in Basic Mode, video will not play on DisplayLink screens after installation until the PC is rebooted. In Aero mode no reboot is needed before video will play. (4432)

Under Windows 7 with an NVIDIA display adapter, Google Earth (or other OpenGL application) may result in a system error or corruption of the DisplayLink device display (5656)

On Windows 7/Vista WDDM, video players might fail to play video on a DisplayLink screen, showing a 'digital copy protection' error. (6037)

On Windows 7, Cyberlink Power Cinema 6 when playing on a DisplayLink screen will display corrupted video in extend mode and a black screen in duplicate mode. (6255)

On Windows Vista, Windows Media player may fail to play with a 'Media Foundation' error if there are 4 or more attached screens. To work around this issue disconnect some of the screens before playing video. (2831)

Known issues with specific players and applications

On Vista WDDM, if a paused Windows Media Player window is moved to the DisplayLink screen and is then made full-screen, the screen blanks. To get out of this situation, either double click on the blank screen and the player window is restored to non-full screen mode, or right click on the blank screen to invoke the player context menu and select exit full screen. (2032)

On Vista WDDM, if WinDVD is asked to play High-Definition content on a DisplayLink screen, the content will not display and the player may crash. This functionality is currently not supported by DisplayLink software. (1986)

Skype video is believed to be unreliable with Vista. It may cause crashes (no bug number).

On Vista WDDM, if PowerDVD 7 is playing video on a DisplayLink attached screen, and if the screen is rotated, then PowerDVD 7 crashes. The workaround is to apply rotation to the screen before launching PowerDVD 7. (2013)

On Vista 64-bit WDDM, dragging a WinDVD 9 playing video window between screens may cause the video or the user interface to freeze. To recover, detach and reattach the DisplayLink screen(s). (5258)

VLC can show poor performance on Windows 7 while playing full screen video. (8333)

L. Summary of Software State and Issues - Vista XDDM, XP

=====

L1. Normal use

XDDM mode on Vista 64-bit is not supported. Please upgrade your graphics card driver to the latest native Vista version available.

System behaviour with up to three DisplayLink attached screens has been well tested. Testing covers plug/unplug, mode changes, playing video, hibernate, sleep/standby, multiple users, different user rights, attached screen as primary screen, attached screen as only screen, and other aspects.

There are many annoyances and intermittent issues. General recommendations when something goes wrong:

- try detaching then reattaching the DisplayLink device's USB cable
- try changing its display settings using the DisplayLink GUI or the Windows Display Properties dialog box.

Known issues - hibernate / sleep / monitor power save / screensavers

On all OSes, the desktop background is occasionally missing after restart or after resume from sleep or hibernation. The screens are still usable, and the background can be set again to the desired picture. (2154, 2072)

On all OSes, detaching or attaching DisplayLink attached screens while a screensaver is running may cause strange effects. Sometimes it is necessary to detach and reattach the DisplayLink attached screen after exiting the screensaver. (1984)

3D screensavers do not run well on DisplayLink devices and can cause flicker, decreased graphics performance and/or layout changes. This is on all OSes. (1150, 1177, 4426, 7892)

3D screensavers are not displayed on DisplayLink screens that are rotated in portrait mode. (5076)

When the machine is set to ask for a password after standby / sleep / hibernate / screensaver etc, sometimes the login screen displays on all attached screens and sometimes it displays on a single screen only.

There is an incompatibility on Windows XP between DisplayLink drivers and older drivers for ASIX USB to Ethernet devices, which are included in some USB docking stations. If you have problems in connecting/disconnecting DisplayLink devices please make sure you have installed version 3.4.3.29 or later of the ASIX drivers for your USB to Ethernet devices. (5433)

On a very small number of systems, a DisplayLink device might not work correctly after having been quickly disconnected and reconnected. A reboot is necessary to recover. To avoid the issue, wait a few more seconds before reconnecting the device. (5471)

On all OS's we have seen a few instances of DisplayLink-attached screens occasionally going black during normal use. They can be brought back by changing resolution.

Some strings are not yet localized for all languages (5810).

When using multiple DisplayLink screens on Windows XP, very occasionally one DisplayLink screen may fail to update its contents after resuming from sleep or hibernation. To recover, unplug and replug the DisplayLink device. (7981)

On few laptop models with Intel GPUs the backlight of the built-in screen might not be turned on when resuming from standby. On these system this is only happening when a DisplayLink screen is used in "Notebook monitor Off" without connecting a secondary screen to the laptop built-in video output. To re-enable the backlight set the DisplayLink screen to Extend or Mirror, set the system to standby and resume. (7118)

One model of USB docking station on some systems switches to USB full speed after the system resumes from standby. This causes the DisplayLink screen to update very slowly. Unplug and replug the docking station to recover. (9276)

Known issues - other

When fast user switching to an user account without administrative privileges and then logging off, the DisplayLink screens may go black. (4446)

CRT monitors may show speckles at very high resolutions. This is because the DisplayLink device cannot always support the high pixel clock required with high CRT refresh rates. (2155)

The ATI Catalyst Control Center is a tool provided on machines with ATI graphics cards for managing extra screens. Some versions of this tool crash in the presence of DisplayLink software. This has been observed with versions since ATI driver version 8.360. The workaround is to uninstall the ATI Catalyst Control Center. (2054)

After a reboot, the numbers used in Windows Device Properties to identify the attached screens may change. This is normal. (596)

On Windows XP, very occasionally, a 'The system cannot write to the specified device' warning may be displayed after changing the display mode several times (e.g. Extend/Dock mode) from the DisplayLink GUI. If this happens, detach and reattach the devices to restore normal operation. (4991)

The DDC/CI communication between a monitor and a DisplayLink device can fail on some monitors that do not comply with the I2C specification. (8752)

Occasionally a DisplayLink screen can take over a minute to start displaying after a power state or user change on the system. Restarting the system recovers this issue. (8912)

After installing the DisplayLink software a reboot is required before using the full screen command prompt on a DisplayLink screen. (8673)

When using Microsoft Windows 7 in Aero Basic Mode opening Microsoft PowerPoint 2010 presentation may cause PowerPoint application to stop responding. The workaround is to use Aero Glass mode when using Powerpoint 2010. (9875)

Sometimes after upgrade to 5.6 beta on Windows XP, DisplayLink monitors remains blank. A reboot is required to recover. (9849,10340,10409)

On some systems when changing resolution a DisplayLink monitor may show corruption for a brief moment during mode transition. (10370)

L2. Video players, rendering technologies and applications

On Vista XDDM, video support is very limited. With extended screens, video or DVD playback are not supported in general. Exceptions: PowerDVD7 and Quicktime are able to display video on a DisplayLink attached display, so long as that display is the primary display. Video is not supported in clone mode. It works, but exhibits poor performance. (1495)

On XP, video support is limited to players that support hardware overlays. In extend mode, the following media players work:

- Windows Media Player 11 (www.microsoft.com/windows/windowsmedia/default.mspx)
- Windows Media Player 12 (Windows 7 only)
- WinDVD 9 (www.intervideo.com)
- WinDVD 2010 Ultra (www.intervideo.com)
- PowerDVD 9 (www.cyberlink.com)

There is limited support for other video players, and for video in mirror mode.

This table shows what rendering interfaces are supported:

Interface	Supported on XP extend?
DxVA	No
D3D	No
DirectDraw	Yes
OpenGL	No
GDI+	No

On all platforms, depending on the player, there may be problems if the video window is moved between screens while video is running. It may be necessary to close and restart the video player.

Simultaneous playback of multiple videos is not supported.

Known issues - general

Don't change the logged user or the display mode, position or arrangement of attached screens while a video is running. This usually confuses the video player and the video may stop playing. (1982)

Known issues with specific players and applications

Windows Media Player sometimes fails to play DVDs on extended screens on Windows XP. The workaround is to switch off VMR in WMP. (3884)

RealPlayer does not play DVDs on extended or mirrored screens on Windows XP. This is the case whether the extra screens are DisplayLink screens or directly attached. (2802)

Blu-ray playback is not supported on DisplayLink screens. Players may crash or behave erratically when trying to play Blu-ray content on a DisplayLink screen. (3785, 5257)

On Windows XP PowerDVD 8 (and Windows Media Player when using the PowerDVD 8 codecs) refuses to play DVDs on DisplayLink displays. Other media files play correctly. (6259)

On Windows XP in a few software configurations Windows Media Player may not correctly play DVDs on DisplayLink displays, eventually showing a 'digital copyright protection' error. Other media files play correctly. (5276)

On Windows XP, Microsoft PowerPoint 2010 will not display correctly on DisplayLink screens used in duplicate mode. To work around this issue set the DisplayLink screen to extend the desktop and configure PowerPoint to use the correct screens for the presentation and the speaker notes. (8383)

On Windows XP systems with ATI or NVIDIA graphics Skype Video may not function correctly on a DisplayLink screen unless it is set as the primary display. (9256)

Video is flickering on the DisplayLink monitor when played using iTunes player. (10731)

M. Driver qualification information

=====

The following DisplayLink driver components included in this release have been qualified and signed by Microsoft's Windows Quality Labs (WHQL) with the specified submission identification number:

ID 1443777 - usb-v5.6.31854.0

ID 1443369 - mirror-v5.6.30731.0

ID 1443367 - extend-v5.6.30731.0

ID 1443368 - filter-v5.6.31777.0