

## Perfect Video in an Instant

HDMI promised to simplify cabling and provide consumers with the highest quality AV experience. However, the issues caused by HDCP switching delays and key overruns have made the performance of many high-end AV systems erratic.

### PROBLEM 1: HDCP SWITCHING DELAYS / HANDSHAKE

HDCP switching delays traditionally occur when a new destination is added to a source (via a new switching combination) through the matrix switcher. Because the source must ensure that all connected downstream devices are HDCP compliant, once a new destination is connected, the source must effectively “mute” the video by blanking until authentication is complete. This process can take several seconds per connected display, and longer when several displays are connected. During this time, a typical user does not know what is going on. All they know is that they pushed a button to execute a switch, and nothing is happening. A frustrated and impatient user might start pressing different buttons, making the problem even worse.

### PROBLEM 2: DEVICE KEY OVERRUNS

HDMI/HDCP authentication requires sources to validate downstream display and repeater keys to ensure that all destinations are HDCP compliant. However, there is no requirement specifying how many of those device keys a source manufacturer must support. As a result, varying HDMI/HDCP sources support a range of downstream keys. Even within a single manufacturer’s product line, key support numbers vary and are rarely provided in product documentation. This unknown key support limit is generally only discovered once it is exceeded and the source device simply shuts itself off. Some manufacturers of matrix switching equipment actively query source devices to determine how many keys are supported. As a result, they actively limit the number of outputs a given input may be switched to at any one time. Ultimately, this greatly reduces the flexibility of a matrix switcher, thus resulting in a solution that only allows each source device to send video to a handful of displays simultaneously.

### WELCOME TO INSTAGATE PRO FROM AMX

InstaGate Pro satisfies the HDCP expressed goal of verifying HDCP compliant destination devices, including the required revocation steps based on the latest SRM list, prior to delivering protected content to any destination. InstaGate Pro provides for true, non-limited



matrix switching from any HDCP source device to any or all connected destination devices.

InstaGate Pro technology addresses HDCP authentication as soon as a source and destination are plugged in. Consequently, there is zero HDCP-related delay or blanking during the switching process. Furthermore, InstaGate Pro incorporates an HDCP key management system within the matrix switcher which eliminates the switching limitations typically associated with HDCP key limited source devices. As such, InstaGate Pro allows traditionally key limited sources to be switched freely to all connected HDCP compliant displays. InstaGate Pro achieves this with no tools, no switching limitations and no key constraints. It just works.

For the end user, this means a dramatically improved user experience. For dealers and integrators, this means shorter deployment times and fewer hassles. And this allows consultants to be confident that the systems they are designing and specifying will work with full matrix switching functionality.

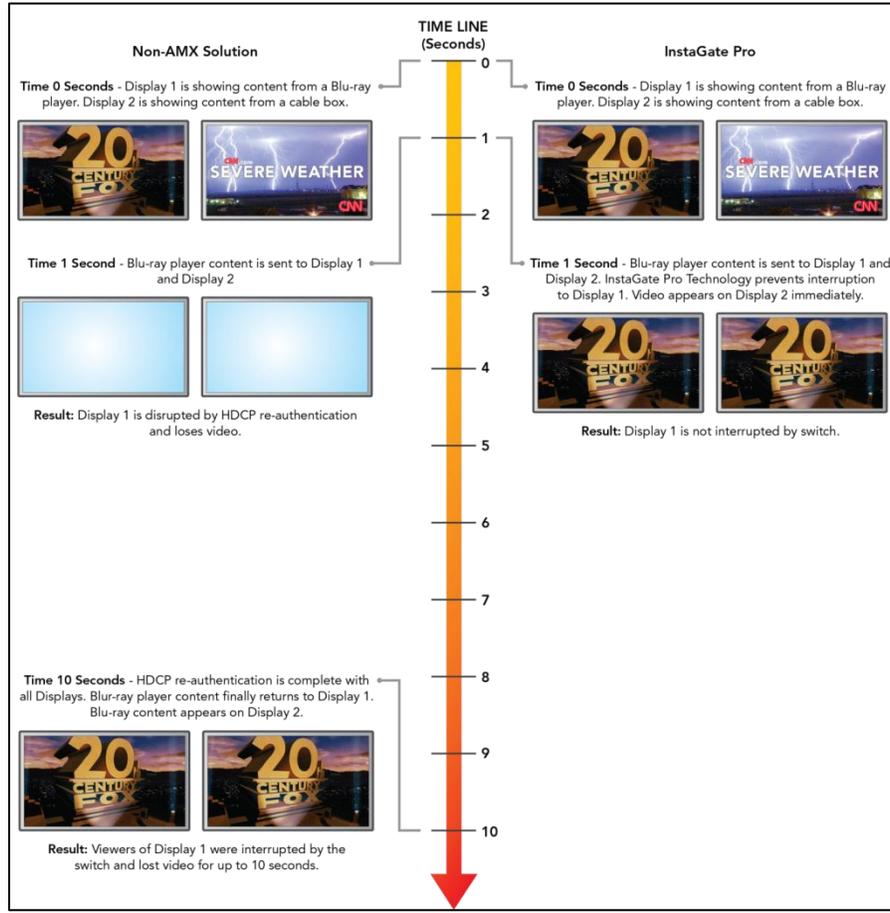


### ENOVA DGX & DVX

AMX’s revolutionary InstaGate Pro Technology is found in products such as the **Enova DGX Digital Media Switcher** and the **Enova DVX-3150HD All-in-One Presentation Switcher**.

*To learn more about AMX and InstaGate Pro, please visit [www.amx.com](http://www.amx.com).*

## INSTAGATE PRO EXAMPLE 1: ELIMINATION OF HDCP SWITCHING DELAYS



## INSTAGATE PRO EXAMPLE 2: ELIMINATION OF HDCP KEY OVERRUNS

