



## V2.1.1 Release Notes

July 28, 2009

This Release Notes document describes the key product features, enhancements, bug fixes and known issues for hardware and software systems utilizing Pipeline, Pipeline Quad and Pipeline HD Dual hardware, and Pipeline for Mac OS X and Pipeline Control for Windows software. This release consists of **Pipeline for Mac OS X** software v2.1.1, **Pipeline Control for Windows** software v2.0, FlipFactory **Pipeline HD Update** patch 6.1.46371, **Multiple Pipeline Controller** application for Mac OS X v2.1, **Pipeline SC/Quad** v2.2 firmware and **Pipeline HD Dual** v2.2 firmware. Included in this document are installation and update instructions; system requirements; and, technical support contacts.

### Key features:

- **New Pipeline Control for Windows** application – v2.0.0
  - **New** - Entirely re-architected and redesigned application
    - Improved scheduling functionality
  - **New** – Adds Record & Automate functionality
    - Includes enhanced Web Service API
  - **New** – Adds Avid MXF OPAtom format wrapper
    - Create native AAF/MXF for Avid systems
  - **New** – Adds Generic MXF OP1a format wrapper
    - Supports DV, DVCPRO HD, DNxHD (VC-3) and IMX
  - **New** – Adds XDCAM MXF OP1a format wrapper
    - Supports DV and IMX
  - Adds DVCPROHD 1080pSf support
  - Adds support for delivering metadata to FlipFactory
- **New Pipeline for Mac OS X** application – v2.1.1
  - Adds support for non-drop frame NTSC
  - Adds MPEG2 I-Frame codec support
  - Adds DVCPROHD 1080pSf support
  - Adds support for delivering metadata to FlipFactory
  - Updated Final Cut Pro/Episode desktop plug-in
    - Fixed QT MOV anamorphic flag issue within plug-in
    - Added better visual status indicators for improved feedback
  - Record & Automate functionality
    - Adds updated Web Services
- Updated **Pipeline HD Dual** firmware – v2.2
  - Fixes Bonjour issue causing Pipeline channels to disappear
  - Fixes IMX issue causing random channel disconnects
  - Pro Res 422 codec improvements
- Updated **Pipeline SD/Quad** firmware – v2.2
  - Fixes Bonjour issue causing Pipeline channels to disappear
  - Fixes IMX issue causing random channel disconnects
  - Pro Res 422 codec improvements
- Updated **Multi-Pipeline Controller** application V2.1
  - Supports enhanced Pipeline Web Service API
  - For use with Pipeline for Mac OS X v2.1 and Pipeline Control for Windows v2.0
- **Pipeline HD Update** patch 6.1.46371
  - Improved support for HD codecs

### Pipeline release consists of:

- **Pipeline Control for Windows** installer – v2.0.0.49059

- **Pipeline for Mac OS X** installer – v2.1.1.2
- **Pipeline HD Dual** firmware – v2.2.49401
- **Pipeline SC/Quad** firmware – v2.2.49376
- **Multi-Pipeline Controller** application v2.1
- **Pipeline HD Update** patch 6.1.46371

## Known Issues:

### General

- **Pipeline HD Dual** systems do not currently support
  - Confidence monitoring
  - Playout
- Some motherboard's built in network adapters do not perform adequately to support HD and multiple stream SD workflows
  - Particularly the Broadcom NetXtreme 57XX on Dell OptiPlex and Precision workstations
    - Use a discrete PCI-e Gigabit network adapter in place of the motherboard NIC
- **TIFOConverter** utility no longer supported or available
- Some NAS shared storage network client software can cause decreased network stack performance
- To prevent inadvertent Pipeline communication interruptions, set *Screen Saver* to "Never"

### Pipeline Control for Windows (v2.0.0.49059)

- Requires XP Pro SP2 (or later) or Vista Ultimate
- Requires Pipeline device firmware rev 2.0 or later
- Log and Capture support is not available in this release
- No playout support is available in this release
- Requires Pipeline device firmware rev 2.0 or later
- Disk Buffering is required when writing to NAS, Shared Storage or network shared volumes
- Using >50% of a network device's bandwidth can cause capture failures
  - No more than two HD captures per GigE network device
- Requires QuickTime 7.5.5 or later
- QuickTime's "DirectDraw acceleration" advanced video preference needs to be enabled
- Windows XP Pro 64-bit and Vista Ultimate 64-bit operating systems require 64-bit version of Bonjour for Windows
  - [http://download.info.apple.com/Mac\\_OS\\_X/061-5788.20081215.5t9Uk/Bonjour64Setup.exe](http://download.info.apple.com/Mac_OS_X/061-5788.20081215.5t9Uk/Bonjour64Setup.exe)
- Support for Avid DNxHD requires Avid LE codec installation. Download codec from:
  - <http://www.telestream.net/application-content/pipeline/avid-codec>
- Previewing Video during capture can consume excess CPU cycles that can cause frame loss or capture failures. It is recommended that in most situations Preview Video be turned off during capture.

### Pipeline Control for Mac OS X application (v2.1.1.2)

- Requires Mac OS X 10.5.5 or later
- Requires Pipeline device firmware rev 2.0 or later
- Disk Buffering is required when writing to NAS, Shared Storage or network shared volumes
- Using >50% of a network device's bandwidth can cause capture failures
  - No more than two HD captures per GigE network device
- Requires QuickTime 7.5.5 or later
- Requires a Video card supporting Quartz Extreme and OpenGL accelerated surfaces
- Support for Avid DNxHD requires Avid LE codec installation. Download codec from:
  - <http://www.telestream.net/application-content/pipeline/avid-codec/>

- Previewing Video during capture can consume excess CPU cycles that can cause frame loss or capture failures. It is recommended that in most situations Preview Video be turned off during capture.

#### **Pipeline plug-in log/capture tool for Mac OS X (v2.1.1.2)**

- Plug-in for Final Cut Pro **Export** does not currently support **HD codecs**
- Compatible with Mac OS X 10.5 (Leopard) only
- Requires QuickTime 7.5.5 or later
- Intel Core Duo or greater is required
- Does not support editable open QuickTime files

#### **Multi-Pipeline Controller application V2.1**

- Not compatible with Pipeline Control for Mac OS X v2.0

#### **Pipeline HD Dual firmware (v2.2.49401)**

- No playout support
- HD to SD down conversions are not production quality
- Codecs NOT supported in this release
  - Uncompressed SD 10 bit
  - DVCPro 50

#### **Pipeline SC/Quad SD firmware (v2.2.49376)**

- None

#### **FlipFactory support**

- FlipFactory Pipeline Control applet does not support **Pipeline HD Dual**
- No direct **Pipeline HD Dual** stream source support
- No **Pipeline HD Dual** EDL support

## **Installation and Update instructions**

**Note:** Pipeline v2.0 or later software requires that your Pipeline device's firmware be upgraded to v2.0 or later. See instructions below.

#### **Pipeline Control for Windows software:**

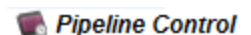
- Run **Pipeline Installer MSI** and follow the on screen instructions
  - The installer will check for .NET Framework and Avid LE Codecs
    - These are required to be installed prior to Pipeline Control
- To run the Pipeline Control application select **Pipeline Control** from the **Start->Programs->Telestream**

#### **Pipeline for OS X software:**

- Run **Pipeline Control.pkg** and follow the on screen instructions
  - The installer will place the **Pipeline Control** application into the user's application folder and install the **Pipeline plug-in for Final Cut Pro** log and capture tool
- To run the Pipeline Control application select **Pipeline Control** from the applications folder
- The **Pipeline plug-in for Final Cut Pro** can be opened directly from Final Cut Pro or Episode v5.0 or later



Pipeline Control.pkg



#### **Pipeline firmware update:**

Follow the installation instructions contained in the **Pipeline User Guide** located on the Pipeline support web site at: <http://www.telestream.net/telestream-support/pipeline/support.htm>

**Pipeline software application reference:**

| <i>Pipeline software feature matrix</i>                          | <i>Pipeline Control for Windows application V2.0</i> | <i>Pipeline Control for OS X application V2.1</i> | <i>Pipeline Plug-in (Log/Capture) V2.1</i> |
|--|--|---|--|
| Supports Pipeline HD Dual  | X  | X   | X  |
| Supports Pipeline SC and Quad                                    | X  | X   | X  |
| 24 hour recurring scheduled record                               | X  | X   |  |
| 24 hour recurring scheduled playout                              |  | X   |  |
| Log/Capture document with deck control                           |  | X   | X  |
| Record & Automate document                                       | X  | X   |  |
| Web Service API  | X  | X   |  |
| Open directly from Final Cut Pro                                 |  |   | X  |
| Open directly from Episode Desktop                               |  |   | X  |
| Edit while capture   | X  | X   |  |
| Transcode while capture (FlipFactory/Episode Engine)             | X  | X   |  |
| Import Pipeline EDL files  |  | X   | X  |
| Import/Export Final Cut Interchange XML files                    |  | X   | X  |
| Create QuickTime 'Open' mov directly                             | X  | X   |  |
| Create QuickTime 'Closed' mov directly                           | X  | X   | X  |
| Creates TIFO files directly                                      | X  | X   |  |
| Create Avid AAF/MXF OPAtom files directly                        | X  |   |  |
| Create Generic MXF OP1a files with DV\DVCProHD\IMX video essence | X  |   |  |
| Standard Definition/High Definition Codecs                       | X  | X   | X  |

**Fig. 1.0 - Pipeline software application software feature matrix**

**General System Requirements (also see hardware configurations below)**

- Intel Core 2 Duo, Intel Quad Core CPU or greater
- 2GB RAM
- GigE or faster Ethernet adapter
- Video card supporting Quartz Extreme and OpenGL accelerated surfaces (Mac OS X)

System Software:

- Mac OS X Version 10.5 (Leopard) or later (Tiger – Mac OS X 10.4 or earlier is *not* supported)
  - QuickTime Version 7.5.5 or later

- Final Cut Pro Version 5.0.1 or later is required when using Pipeline plug-in
- Windows XP Pro SP2 (or later) or Windows Vista Ultimate
  - .NET Framework v3.5 SP1
  - QuickTime Version 7.5.5 or newer
  - Bonjour for Windows (Bonjour 64-bit required for 64-bit versions of OS)

**System requirements for Pipeline/FlipFactory**

- FlipFactory v6.0 with Update Packs 1-5 or FlipFactory v6.1
  - Pipeline HD file support requires FlipFactory v6.1 with Update Pack 2 (or later) and Pipeline HD Update 6.1.46371 patch.
  - Concurrent Pipeline ingest streams may vary depending on CPU and disk speeds
  - Recommended server spec:
    - Dual 2.3Ghz (or higher) Intel Quad Core CPU
    - Dedicated RAID-0 media storage
    - 4GB RAM
- Bonjour for Windows

**Network and Hard Disk Performance Requirements (per stream)**

| CODEC   | Disk read/write (MB/s) | Network throughput (Mb/s) | Storage required with 8 channels of audio |
|---|------------------------|---------------------------|---|
| <b><i>SD Codecs</i></b>                                     |                        |                           |   |
| Photo Motion JPEG   | 0.75                   | 8                         | 5GB/hr                                    |
| DV/DVCPPro  | 4.4                    | 35                        | 15GB/hr                                   |
| IMX30   | 5.3                    | 43                        | 16GB/hr                                   |
| IMX40   | 7                      | 56                        | 20GB/hr                                   |
| IMX50   | 8.3                    | 67                        | 25GB/hr                                   |
| ProRes 422  | 7.3                    | 58                        | 21GB/hr                                   |
| Uncompressed 8bit 422                                       | 22                     | 175                       | 80GB/hr                                   |
| <b><i>HD Codecs (range based on codec and bit rate)</i></b> |                        |                           |   |
| DVCPPro HD  | 16.5                   | 135                       | 73GB/hr                                   |
| ProRes 422 HQ   | 10-36                  | 62-240                    | 50-100GB/hr                               |
| DNxHD   | 10-36                  | 62-240                    | 50-100GB/hr                               |

**Recommended Hardware Systems\***

**Standard Definition\*\* (ingest only)**

**Single channel system**

Intel Dual Core 2.0Ghz CPU, 2GB RAM, SATA 1.5GBs 7200 RPM media storage drive (separate from OS drive)

**Two channel system**

Intel Dual Core 2.0Ghz CPU, 2GB RAM, minimum 2 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

**Four channel system**

Intel Quad Core (4 cores) 2.33 GHz CPU, 4GB RAM, minimum 3 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

**Eight channel system**

Intel Dual Quad Core (8 cores) 2.33 GHz CPU, 6GB RAM, minimum 4 drive RAID-0 SATA 3GBs 7200 RPM media storage partition (separate from OS drive)

### **High Definition\*\* – DVCPro HD (ingest only)**

#### **Single channel system\*\*\***

Intel Dual Core 2.53GHz CPU, 2GB RAM, minimum 2 drive RAID-0 SATA 7200 RPM media storage drive (separate from OS drive)

#### **Two channel system\*\*\***

Intel Quad Core 2.8 GHz CPU, 6GB RAM, minimum 4 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

#### **Three/Four channel system\*\*\***

Dual Intel Quad Core 2.8 GHz CPU, 6GB RAM, minimum 6 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

#### **Five channel system\*\*\***

Dual Intel Quad Core (8 cores) 3.0 GHz CPU, 8GB RAM, minimum 8 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

### **High Definition\*\* - DNxHD 220/Pro Res 422 HQ (ingest only)**

#### **Single channel system\*\*\***

Intel Dual Core 2.53GHz CPU, 2GB RAM, minimum 4 drive RAID-0 SATA 7200 RPM media storage drive (separate from OS drive)

#### **Two channel system\*\*\***

Dual Intel Quad Core (8 cores) 2.8 GHz CPU, 6GB RAM, minimum 6 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

#### **Three channel system\*\*\***

Dual Intel Quad Core (8 cores) 3.0 GHz CPU, 8GB RAM, minimum 8 drive RAID-0 SATA 1.5GBs 7200 RPM media storage partition (separate from OS drive)

**\*All systems assume media storage local (internal or direct attached) to the host system with adequate storage to support 24 hours of content at the chosen format, and drive array is less than 80% full without serious fragmentation.**

**\*\*Edit while ingest and transcode while ingest workflows require increased disk I/O performance to support the additional read processes, and may require disk buffer cache drive system (see Pipeline User Guide disk buffering details).**

**\*\*\*Viewing HD preview stream(s) can consumes high levels of CPU which may cause dropped frames. It is recommended that preview be turned off during capture.**

**\*\*\*\* To insure quality of service when writing to a NAS, share storage location or network share your Pipeline system must support disk buffering and have it enabled.**

## **Pipeline Support**

For Pipeline technical support, visit the Pipeline support web site at <http://www.telestream.net/telestream-support/pipeline/support.htm>.