# PixelStrings™

# SUPPLY CHAIN TRANSFORMER

Nuclear fusion for media workflows using the galaxy's most powerful, high-quality conversion system

Skywalker Sound™ Tools | Tachyon™ | Tachyon Wormhole™ | Dark Energy™ | Dark Energy Xenon™

## Features

- **PixelStrings Enterprise Transcoder** – Next-generation transcoding engine
- **Skywalker Sound Tools** – Audio loudness correction, upmixing, downmixing, channel routing, and retiming
- **Tachyon** – Standards/frame rate conversions
- Tachyon **Wormhole** – Retiming of assets to meet a runtime target
- **Dark Energy** – Denoise and image texture management
- Dark Energy **Xenon** – Automated SDR ↔ HDR upconversion (Advanced HDR by Technicolor)
- **Video Legalization**
  - RightHue proprietary algorithm for accurate color
  - DPP compliant
  - EBU R103 Tight and Optimum
  - NTSC 7.5 IRE
  - NTSC 0 IRE
  - PAL
- **CineCert Anini** – IMF packaging
- **CodeMill** – Accurate Player playback
- For on-prem and cloud configurations, with GUI and/or API (JSON RPC)

## Overview

PixelStrings contains the same industry-leading tools that international studios, production companies, and broadcasters trust on their most valuable theatrical, broadcast, and OTT content.

Combining best-of-breed image processing, audio processing, previsualization, and repackaging capabilities makes PixelStrings the ultimate media conversion platform.

PixelStrings is a post-production giant in the cloud, capable of transforming digital video like camera footage, dailies, masters, mezzanines, and archives to fulfill almost any delivery requirement – all at a price that is at least an order of magnitude less than the same quality the large post facilities would charge for.

PixelStrings integrates smoothly into various modern MAM and orchestration systems for optimal operational efficiency and automation.

The PixelStrings™ Media Engine

# MORE THAN YOUR AVERAGE TRANSCODER

The transcoding engine inside the PixelStrings platform is a powerful, extensible engine that provides the utmost in flexibility and functionality. Whether in the cloud or on-prem, PixelStrings transcoding capabilities make it the most robust, automated image processing platform ever created.

## Specifications

- **Six simultaneous conversions per license** (On-prem)
- **Supported input containers:**
  - MXF
  - GXF
  - QT
  - MP4
  - MPEG TS/PS
- **Supported output containers**
  - MP4
  - MPEG Transport Stream
  - MXF OP1a
  - QuickTime MOV
- **Supported input codecs:**
  - ProRes
  - DNx
  - DVC Pro
  - MPEG2
  - H.264
- **Supported output codecs**
  - ProRes
  - DNx
  - XDCAM HD
  - H.264
  - H.265
  - XAVC
  - AVC
  - DVCPRO
  - IMX
  - JPEG 2000
- **Skywalker Sound Tools**
  - Audio group reordering
  - Upmixing
  - Downmixing
  - Channel routing and mapping
  - Loudness correction
  - Retiming & pitch correction
- **Closed caption support:**
  - SAMI, DXFP, SCC, HCC Caption XML
  - CEA-608, CEA-708, CEA-708 translation
  - Video essence captions
  - SMPTE 436M VANC
- **Legalize video** (Gamut legalization)
- **Compute/server requirements**
  - Minimum OS: Windows 10 Professional 64-bit
  - Preferred OS: Windows Server 2012/16 Standard, 64-bit
  - Minimum CPU: 1, Xenon E5-2670 v3
  - Preferred CPU: 2, Xenon Gold 6254
  - Minimum Memory: 32 Gigabytes, DDR4-2133, Dual Rank
  - Preferred Memory: 64 Gigabytes, DDR4-2933, Single Rank
  - Minimum Disk i/o: 300 megabytes of simultaneous read/write throughput
  - Preferred Disk: 1.2 Gigabytes of simultaneous read/write throughput

## Image Processing

Tachyon™ Tachyon Wormhole™ Dark Energy™

Included in every minute of processing is the entire Cinnafilm-created image processing library. Tachyon for standards and frame rate conversion, Dark Energy for noise reduction and superlative resolution change up to 8k, and Wormhole for making your project meet the runtime requirements your distribution channels need.

PixelStrings provides a value proposition unequaled by any other cloud-based media transformation service. In a single render, extremely high-quality image processing toolsets are automatically stacked, in an optimal order, to produce the best possible output. Eliminating multiple steps prevents render degradation and accelerates delivery times for some of the most sought-after image processing functions.

## The Best in Audio

Skywalker Sound™ Tools

Cinnafilm has partnered with the legendary audio minds at Lucasfilm's Skywalker Ranch to provide the audio processing engine in PixelStrings. Skywalker Sound Tools was designed to provide the utmost in audio grouping and channel routing capabilities along with one of the most comprehensive audio loudness processing engines ever created. Loudness presets are included for the majority of large content aggregators, as well as the ability to customize the audio processing to meet any specification.

Wormhole retimings are also in line for the Skywalker Sound upgrade. Pitch corrections and time compression/expansion will be handled by the Skywalker Sound engine with no crosstalk, audio phasing, pops, glitches, or dropouts. It will quickly become one of the strongest audio retiming solutions available on the market.

## Automated SDR-HDR Upconversion Brilliance

Dark Energy Xenon™

Xenon SDR-HDR upconversion is a partnership technology with Technicolor. Advanced HDR by Technicolor is an incredibly accurate, Intelligent Tone Management (ITM) solution that automatically generates HDR-10 and HLG assets up to 2,000 nits. No trim pass is necessary, and no need to book a colorist. Just select a preset, and your HDR asset is a short render away.

## Options That Don't Break the Bank

There are times when features require significant engineering investment because of their complexity and involvement with other technology companies to deliver the best solution. When necessary, Cinnafilm charges a slight premium to ensure the economics are always kept in check for Cinnafilm and our partners.