

What is Ph.C?

Ph.C is the most sophisticated motion compensated video processing technology in the world. It was developed by Snell for use in its flagship Alchemist standards converters and has a proven track-record of precision and reliability.

Archangel™ Ph.C™

Offers You A Completely New Business Opportunity: Real Time Video Restoration



Why your customers need Archangel Ph.C processing

Broadcasters and content owners re-mastering for DVD

Many of the films, features and episodic series being remastered for sale on DVD need comprehensive restoration in order to meet the quality expectations of DVD buyers and exposure on modern large screen TVs and displays.

Broadcasters re-mastering material for transmission

Much of the material being transmitted, especially on satellite and cable, consists of repeats and "classics" from the archives. Anything originated more than ten years ago will probably need restoration. As well as benefiting the viewer, Archangel Ph.C can also reduce the cost of transmission. The bit-rate needed for digital transmission can be reduced without affecting picture quality by eliminating unwanted motion, dirt and other artifacts.

Independent producers using archive footage

Documentaries, Historical Series, Natural History, Travel, Biography, Classic Music - all of these commonly incorporate archive footage. Restoration with Archangel Ph.C allows such material to be used without the sudden quality drop-off that could mar production values. In many cases it will enable otherwise unusable material to be shown.

Archangel Ph.C includes the following processes:

Image Stabilization

Unsteadiness can be caused by telecine, camera or print weave, hand-held camera work, long-lenses or moving vehicle shots.

Flicker Removal

Luminance flicker can be caused by poor film printing, unsuitable storage or shooting under fluorescent light.

Noise Reduction

Including electronic noise and film grain, spatial noise, video-based dropouts, satellite salt-and-pepper noise, dirt and dust, two-inch Quadraplex VTR tape damage, picture enhancements and scratches of various shapes and sizes.

How you can benefit from Archangel Ph.C

Extra business

Archangel Ph.C will bring new customers to your business and existing customers will bring you additional work.

Extra revenue

The hourly revenue stream from Archangel Ph.C will be approximately three times that of top-quality standards conversion. The rate-card multiple will be greater than this. Our calculation takes account of ancillary operating costs.

Impressive ROI

In average use, Archangel Ph.C will pay for itself within the first year of operation. After that the return on investment will go straight to your bottom line.

What is Archangel Ph.C?

Archangel cleans up, fixes and stabilizes, in real time, any video material that has deteriorated or been damaged, either by age or other factors.

Costing far less than frame-by-frame restoration, it means that virtually anything can now be treated not just high value-footage.

Most material can be restored within two or three times its running length and the end result is often better than when it was first shot.

Archangel Ph.C solves an expensive problem at an affordable price

Until now this level of restoration quality could only be achieved by laborious and time-consuming frame-by-frame processing. This can be very expensive. When Disney restored Snow White for example, it cost upwards of \$3million.

Consequently, there is a lot of material that remains un-restored because, although potentially useful, it is not valuable enough to warrant such expenditure.

Archangel Ph.C works in a unique way

Archangel Ph.C provides a unique combination of unsteadiness stabilization and noise reduction processes, with Ph.C (phase correlation motion compensation) used throughout to guarantee the highest quality results.

The time required to complete a restoration depends on the nature of the material and the problems to be solved. Most cases will typically require no more than two to three times program length.

The right combination of processes, settings and filters is decided by the operator using the sophisticated artifact detection and measurement systems built into Archangel Ph.C.



Before grain reduction



After grain reduction



Before scratch repair



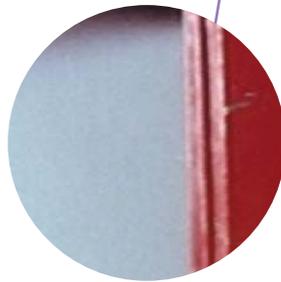
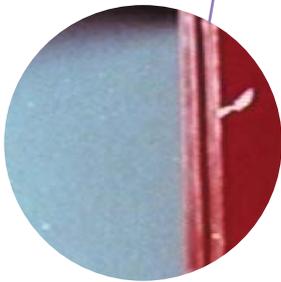
After scratch repair



Before dirt filter



After dirt filter



Before drop out filter



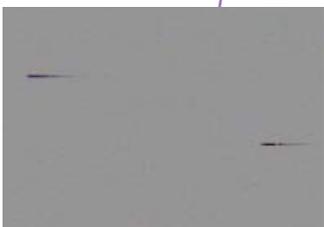
After drop out filter



Before two inch scratch repair



After two inch scratch repair



View of two inch scratches

As with all Snell "smart" infrastructure products, Archangel Ph.C is "self aware" and ready for centralized set up and monitoring through the RollCall network management system.



Archangel Motion Compensated Restoration System

Signal Processing Features

Unsteadiness
Luminance Flicker
Dirt
Tramline Scratch
Noise and Grain
Video Dropout
2 inch Scratch
Linear Filter
Multiband Spatial Filter
Non-Linear Enhancer

Inputs

2 x Serial Digital, 525/625 line inputs (Archangel 1)

Outputs

2 x Serial Digital outputs (Archangel 2)

Archangel 1

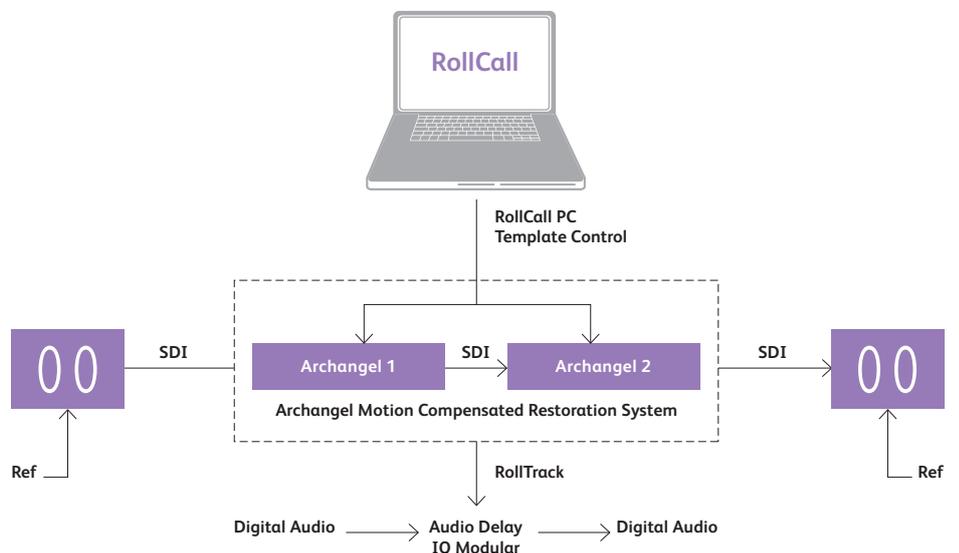
Case Type 6 RU rack mounting
Cooling 2 x axial fan, front to rear airflow
Power 300 W (110/240 V rms, 50/60 Hz)

Archangel 2

Case Type 6 RU rack mounting
Cooling 2 x axial fan, front to rear airflow
Power 360 W (110/240 V rms, 50/60 Hz)

Audio Delay and Reference

Case Type 1 RU rack mounting
Cooling Side ventilated cooling fan
Power 90 W (110/240 V rms, 50/60 Hz)



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