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Author	Delmotte, Fabien(Inakage, Masahiko) 稲蔭, 正彦
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Abstract	Based on the threshold of an historic transformation in digital cinema , the author joined in an innovative project at the Graduate School of Keio Media Design which aims at evaluating 4K, a future standard of digital cinema. The author and his team were involved in the creation of a 4K workflow in order to create a 4K artwork portraying two short movies. The action research focuses on explaining the process of using 4K technology in a systematic manner, from the definition of 4K digital cinema to the analysis of 4K production, 4K post-production and 4K playback. Throughout the series of actions to achieve the final-cut in 4K resolution—4096 x 2160 pixels—, we encountered several issues that will be exposed in this research. Yet, even though 4K enjoys widespread recognition as a desirable standard, some may suggest that 2K digital cinema projection—2048 x 1080 pixels—is sufficient.
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# MASTER'S THESIS

## **4K Digital Cinema: How to Fully Integrate a Professional Technology into an Innovative Artwork in order to Present a Future Standard of Digital Cinema**



KEIO MEDIA DESIGN®

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Graduate School of Media Design - Keio University

by Fabien Delmotte



# THESIS COMMITTEE

Master's Thesis submitted in partial fulfillment of the requirements for the degree of MASTER of Media Design at the Graduate School of Media Design, Keio University.

Fabien Delmotte

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Dean Masa Inakage - Supervisor

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Professor Naohisa Ohta - Co-supervisor

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Professor Adrian David Cheok - Member

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# 4K DIGITAL CINEMA: HOW TO FULLY INTEGRATE A PROFESSIONAL TECHNOLOGY INTO AN INNOVATIVE ARTWORK IN ORDER TO PRESENT A FUTURE STANDARD OF DIGITAL CINEMA

## ABSTRACT

Based on the threshold of an historic transformation in digital cinema , the author joined in an innovative project at the Graduate School of Keio Media Design which aims at evaluating 4K, a future standard of digital cinema. The author and his team were involved in the creation of a 4K workflow in order to create a 4K artwork portraying two short movies. The action research focuses on explaining the process of using 4K technology in a systematic manner, from the definition of 4K digital cinema to the analysis of 4K production, 4K post-production and 4K playback. Throughout the series of actions to achieve the final-cut in 4K resolution—4096 x 2160 pixels—, we encountered several issues that will be exposed in this research. Yet, even though 4K enjoys widespread recognition as a desirable standard, some may suggest that 2K digital cinema projection—2048 x 1080 pixels—is sufficient.

**KEYWORDS:** 4K, Technology, Digital Cinema, High resolution, Workflow, Production, Post-production, Playback, Narrative.

GRADUATE SCHOOL OF MEDIA DESIGN, KEIO UNIVERSITY

FABIEN DELMOTTE