

# Der Weg vom analogen zum digitalen Film

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# Bibliography

- Paul Read: **A Short History of Cinema Film Post-Production**, in Joachim Polzer (ed.): "Zur Geschichte des Kopierwerks" (= Weltwunder der Kinematographie, n. 8), 2006, p. 41–132

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# History

- special effects (SFX / FX)
- digital intermediate (DI)
- film restoration

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# Special Effects

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# Digital Intermediate

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## Analogue Workflow (Image)

- shooting on film
- making the rushes
- editing
- negative cutting (conforming)
- print projection

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## Digital Intermediate Workflow

- shooting on film
- digitise camera negative
- digital post-production
- re-record onto film negative
- print projection

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## Digital Post-Production

- cutting
- special effects
- add titles
- synchronisation with soundtrack
- grading
- add subtitles

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# Grading

analogue:

- $50 \times 50 \times 50 = 125\ 000$

digital (8 bit):

- $256 \times 256 \times 256 = 16\ 777\ 216$

digital (10 bit):

- $1024 \times 1024 \times 1024 = 1\ 073\ 741\ 824$

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# Zingo

by Christjan Wegner, Sweden 1998

- Digital Film Lab, København
- Kris Kolodziejski (1957–2012)

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# Restoration

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