



Fraunhofer  
Institut  
Nachrichtentechnik  
Heinrich-Hertz-Institut

# CineCard

## High Level Multi-Projection PCI-Card

Fraunhofer HHI



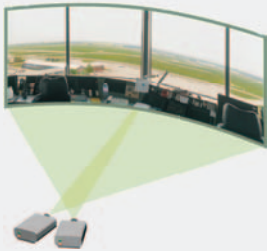
132° Panorama Projection by five SXGA+ projectors with 5000 x 1400 pixels at the HHI

## Product

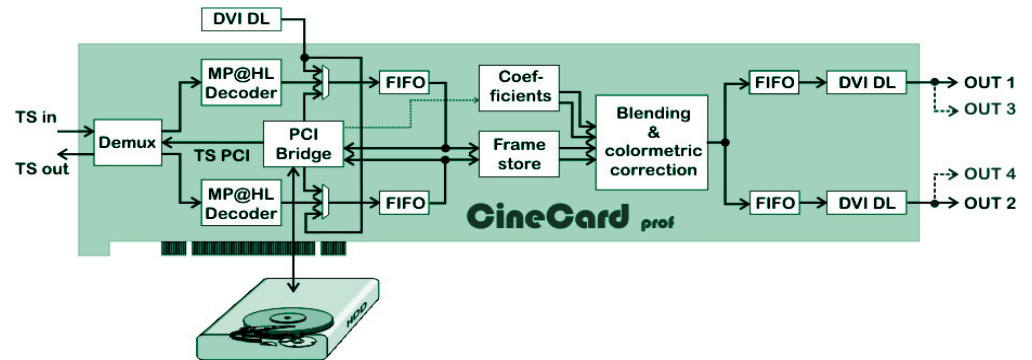
The Fraunhofer Heinrich-Hertz-Institute offers digital immersive projection techniques (panorama projection) that puts realistic (immersive) impression into effect. This technique permits to project electronic movie pictures in uncomparable size and resolution. The typical large screen projection with overlapping of multiple single projections has been dramatically improved. Any given number of sections can be synchronized absolutely field adjusted. The horizontally and vertically arranged projectors are blended free of transitions and stripes. The system is based on HHI's CineCard. CineCard is a digital High-Level MPEG-2 video recorder/server/player and image processing card.



*High-Resolution double  
projection using two  
synchronised beamers*



72° section of a cylindrical Multi-Projection using two synchronised beamers



## Features

- Two MPEG-2 Main Profile @ High Level decoders
- Image Processing Unit for colormetric adaptation and blending
- Integrated image combine- and split functionality
- Play mode from disk storage features original data-rate recovery using PCRs (no request mode!)
- Seamless overblending by realtime processing
- Download e.g. of new advertisement sequences during current play loop
- User defined horizontally and vertically cascable
- Absolute precise synchronisation capability (patented)
- DVI Dual Link (DL) interfaces for uncompressed video
- PCI Interface for data storage and server functionalities
- LVDS SPI Interfaces (input and output) for encoded realtime streams
- Real-time warping and automatic calibration tool under development

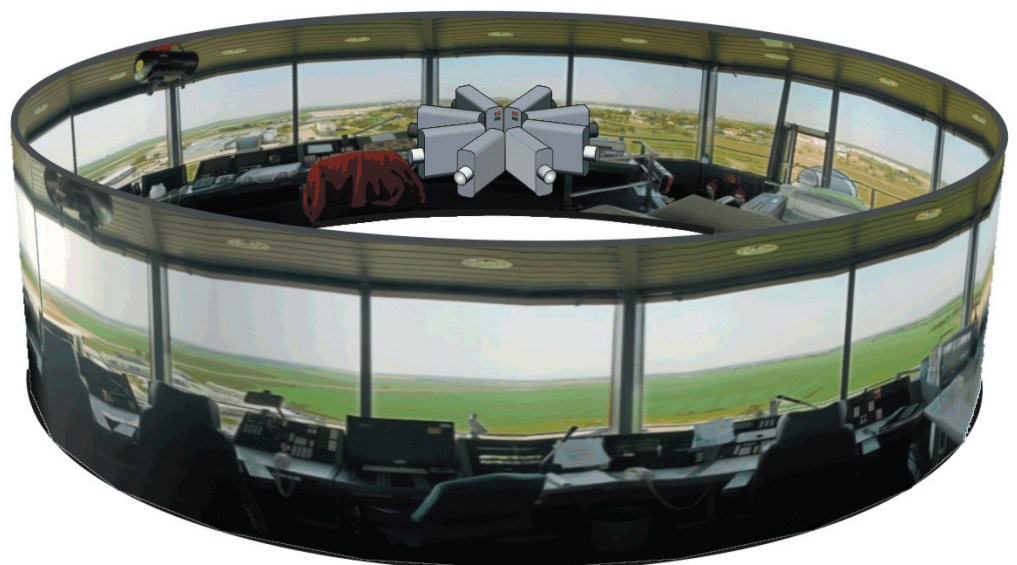
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360° Panorama of the Airport Tower Berlin (SXF)