4D View Solutions
multi-camera 4d video capture systems

4D View Solutions, or '4D Views' for short is a French company specialized in producing synchronized multi-camera video capture systems for research projects. Operating since 2007 the company provides robust and reliable video capture systems based upon technology developed at the INRIA Rhône-Alpes laboratory. All of our systems are easy to operate, fully documented and are fully supported.

4D Views provides several video capture technologies designed to cover a wide variety of research work. 2DX Multi-Camera provides synchronized multi-camera 2D video capture systems running up to 80 cameras at a time. 4DV Capture extends the 2DX Multi-Camera base enabling it to perform robust offline 4D Reconstruction of photorealistic textured mesh sequences. 4DV Interactive provides real-time 4D Reconstruction capabilities for interactive applications requiring streaming textured 3D mesh sequence data.

2DX Multi-Camera

Ready-to-use synchronized multi-camera 2D video capture systems.

"Let us engineer your capture system"

WIDE RANGE of CAMERAS
EASY-TO-USE & WELL DOCUMENTED
FULLY SUPPORTED

4DV Calibration

4DV Calibration Plug-In provides easy and automatic camera calibration in less than 5 minutes.

Quickly export and import calibration information via the Capture API for benchmarking and comparative analysis.
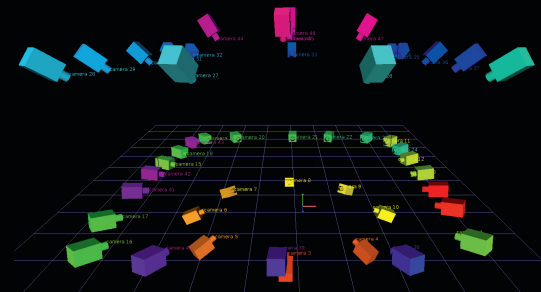
4DV Capture

Offline 4D Reconstruction system that produces textured mesh sequences.

MODULAR PRODUCTION WORKFLOW
STANDARD FORMAT OBJECT OUTPUT
MULTIPLE TEXTURING APPROACHES

4D Views' calibration viewer of a 48-camera system

4DV Interactive

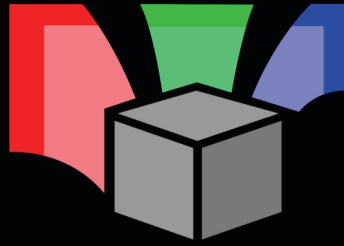Real-time 4D capture and streaming for interactive applications.

STREAMS FULLY TEXTURED MESHES
OBJECT MODELING IN UNDER 150ms
SDK CLIENT SERVER CONNECTIVITY

SOME ACADEMIC CLIENTS:
- Brown University
- Gwangju Institute of Science & Technology
- INRIAs Grenoble & Bordeaux
- Max Planck Intitute für Informatik
- Max Planck Intitute für Intelligente Systeme
- Stanford University
- Technische Universität München
- Technische Universität Berlin

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EX-Z & DX-Z Cameras

4D View Solutions provides robust video capture systems using a wide range of synchronized color and depth video cameras.

Our flexible **EX-Z** & **DX-Z** camera models provide a variety of capture image sizes of up to 2048x2048 and can shoot at a variety of speeds. These cameras provide a single capture system solution that can respond to changing research requirements across multiple projects for a number of years.

The **DX camera series** includes compact color cameras such as the DX-20 for Full HD capturing at 30 fps. The DX-50 offers extra High Resolution at 5 Mpixels and the DX-03 provides up to 200 fps of high speed capture allowing fast action capture. The **DP depth camera series** delivers synchronized depth image capture as a complement to color image information sets. Our **EX camera series** offers the best in image quality for color capture in the 2 - 4 MPixel range at Higher Frame Rates of 32 to 66 fps.

Camera Model Specifications

4DV Camera	EX-40	EX-20W	EX-20	EX-Z	DX-Z	DX-50	DX-20	DX-03	DP-01
Camera Model	Color & B/W	Color & B/W	Color & B/W	Color & B/W	Color & B/W	Color	Color	Color	Time of Flight
Camera Type	Reduced Noise	HD 1080p	Standard	Flexible	Flexible	High Resolution	Standard	High Frame Rate	-
Resolution	4 Mpix	2 Mpix	2 Mpix	*From 0.6 to 4 Mpix*	*From 0.5 to 4 Mpix*	5 Mpix	2 Mpix	0.3 Mpix	-
Frame Rate	32 fps	63 fps	66 fps	*From 200 to 30 fps*	*From 120 to 15 fps*	10 fps	30 fps	120-200 fps	50 fps
Image Size	2336 x 1752	1920 x 1080	1600 x 1200	2048 x 2048 max.	2048 x 2048 max.	2448 x 2048	1624 x 1224	640 x 480	176 x 144
Sensor Size	1"	2/3"	2/3"	2/3"	2/3"	2/3"	1/1.8"	1/3"	-
Field of View	-	-	-	-	-	-	-	-	43° x 34°
2DX Multi-Camera	✔	✔	✔	✔	✔	✔	✔	✔	✔
4DV Capture	✔	✔	✔	✔	✔	✔	✔	✔	*not available*
4DV Interactive	*not available*	✔*	✔*	✔*	✔*	*not available*	✔	*not available*	*not available*
Cameras / Server	2	4	4	2	4	2	2 - 4	2	4

*: upon request. Frame rate and resolution may be limited, please contact us for more information and project building

Capture Solutions Components

NUMBER OF CAMERAS

4	8	16
32	48	CUSTOM

FRAME RATE

10 fps	30 fps	60 fps
120 fps	200 fps	CUSTOM

RESOLUTION

< 1 Mpix	1 Mpix	2 Mpix HD
4 Mpix	5 Mpix	

SOFTWARE

2DX MULTI-CAMERA
Multi-camera **2D video capture** systems
- Manage up to **80 synchronized cameras**
- Use different camera types in a flexible architecture
- Monitor real-time video feed
- Calibrate with **4DV Calibration** plug-in

4DV CAPTURE
Offline 4D video capture systems
- Capture dynamic scenes photorealistically
- **Calibrate in minutes**
- Reuse camera setup & calibration information
- **Fine-tune** 3D mesh production while shooting

4DV INTERACTIVE
Real-Time 4D video capture for interactive systems
- Generate real-time **photorealistic** 4D video streams
- Output **HD quality** images with dynamic color
- Use direct visualization or downstream integration
- Connect to the 4DV **Streaming SDK** multi-platform architecture

OUTPUT

Standard 3D formats (OBJ, OFF,...)

Single Texture format

Multi-Texture (DCA format)

4DV Capture API

4DV Streaming Server

Autodesk® Maya®

Autodesk® 3DS Max®

Mental Ray® Shader

3Delight® Shader

RenderMan® Shader