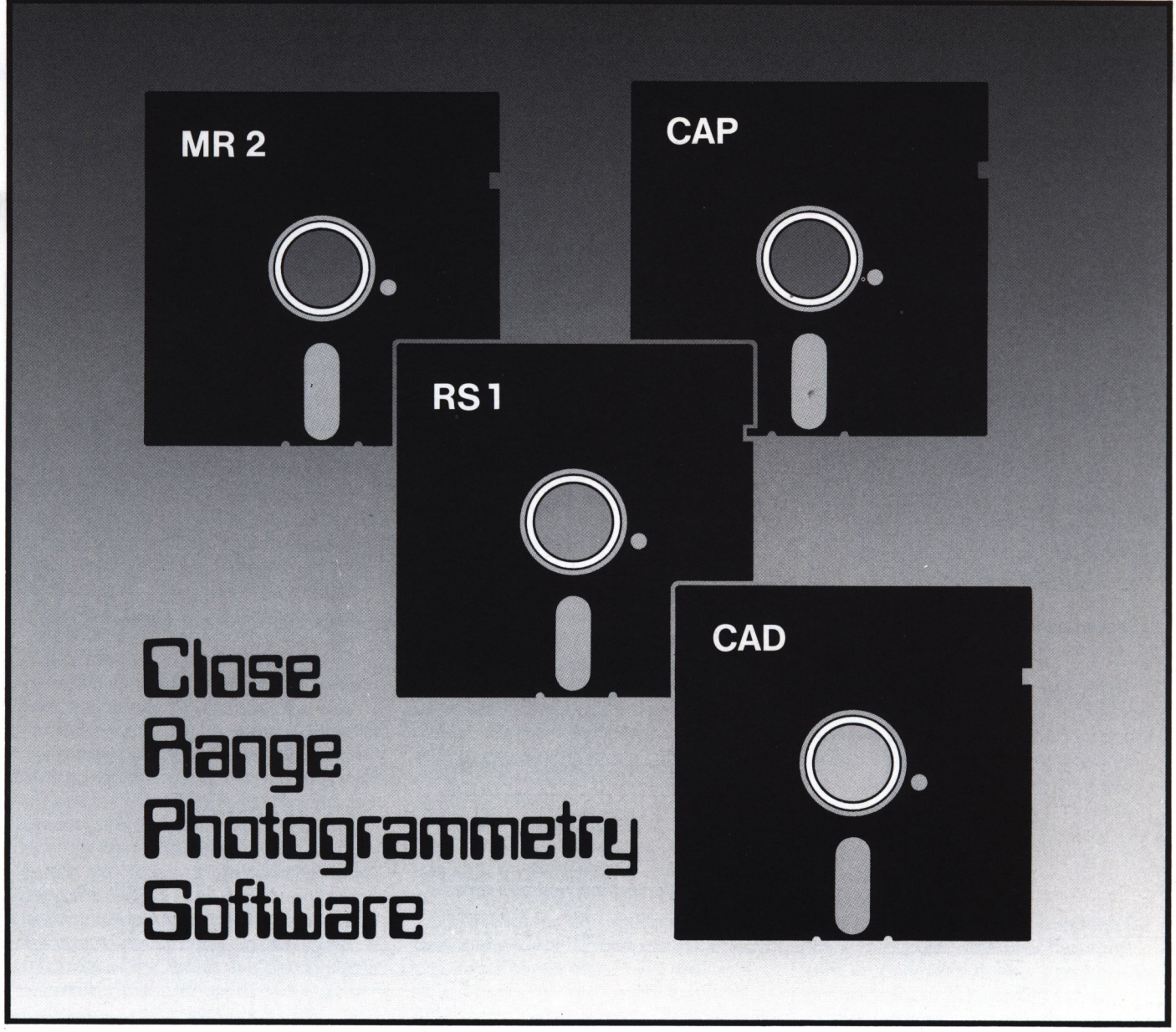

Rolleimetric

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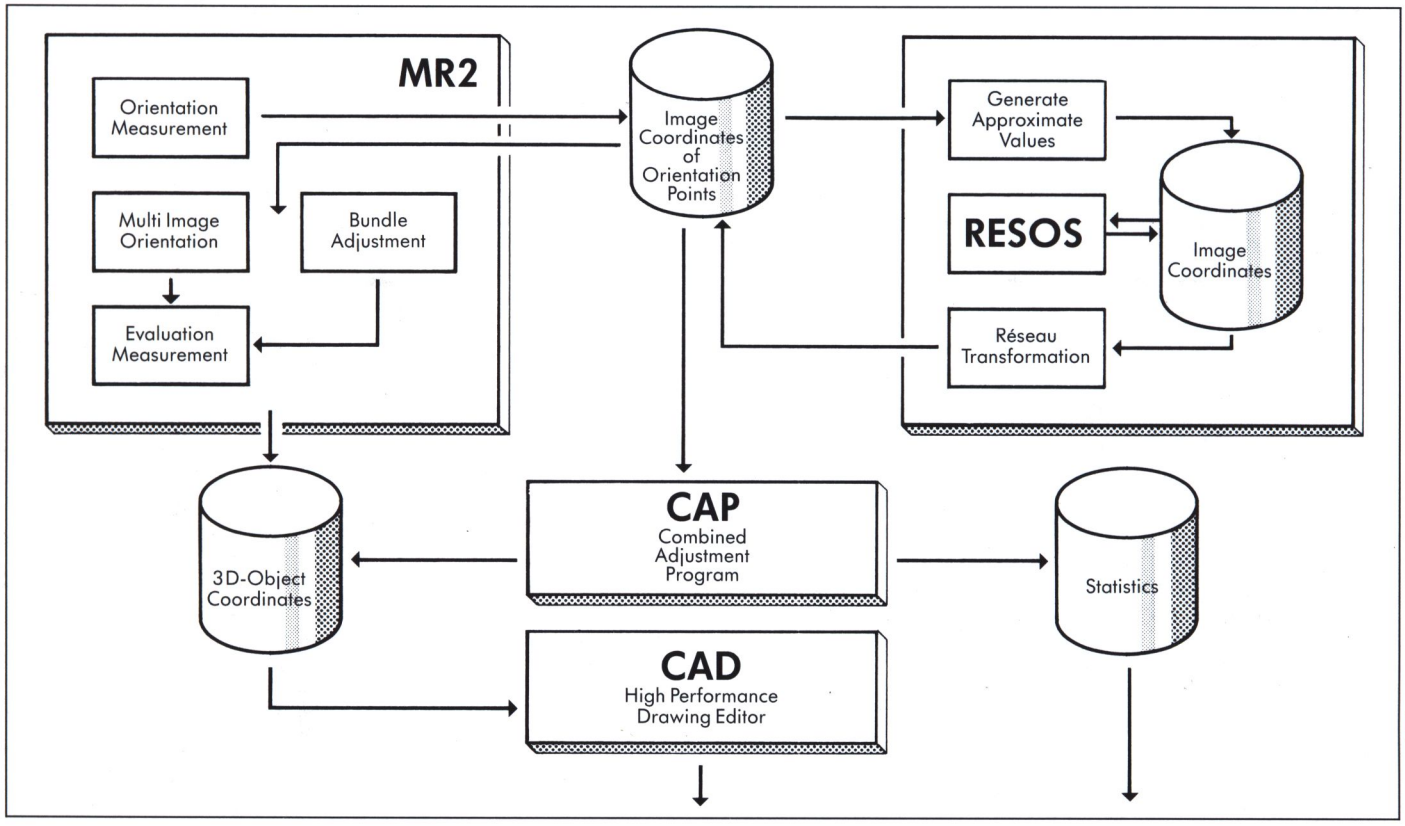
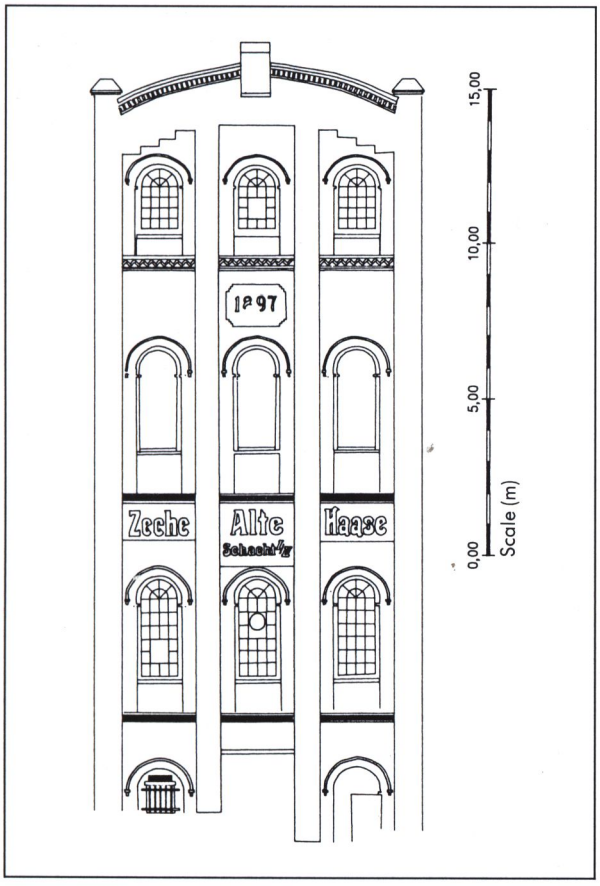
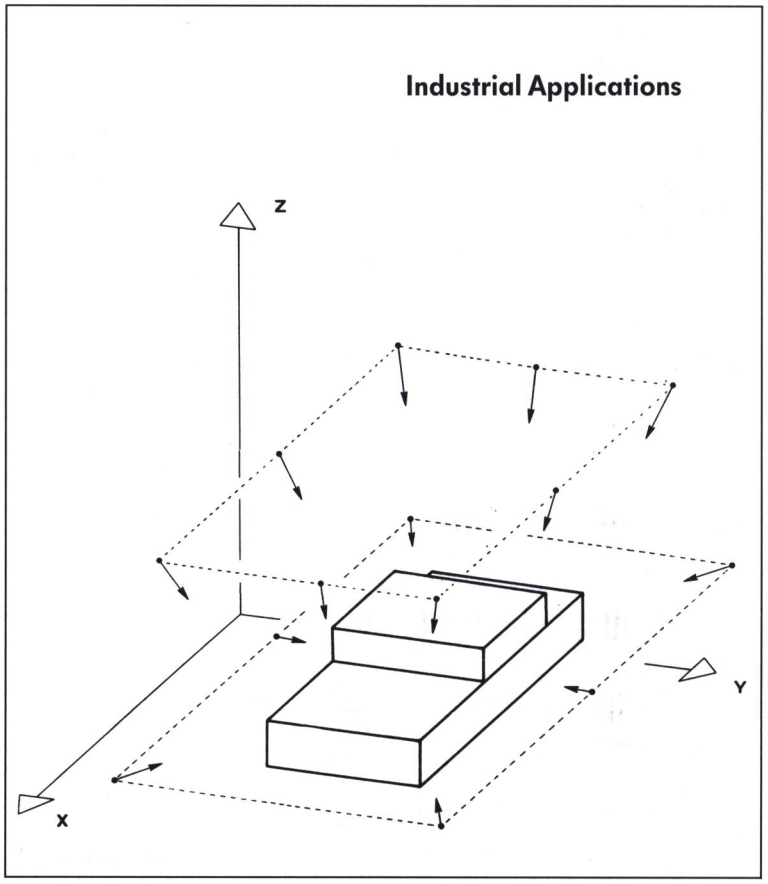






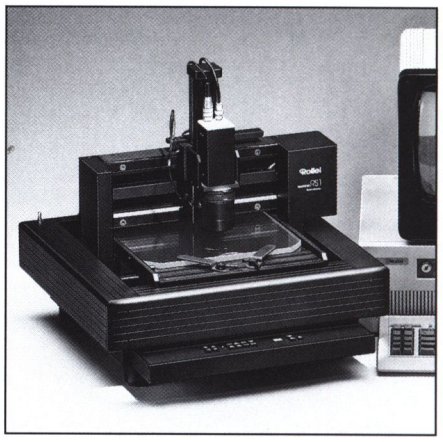
Close Range Photogrammetry Software

MR2
Multi Image Restitution

Rolleimetric MR2 is a software package used to solve problems for close range photogrammetric evaluations. It is conceived as a computer assisted point by point evaluation of objects captured in photos taken with a Rolleiflex semi metric camera. The shooting position of the camera can be selected at will.
The measurement of the picture coordinates is carried out with a dialog orientated measurement program, using enlarged prints of the object on a digitizing board. The first step involves a reconstruction of the exposure arrangement of the series of photos of the object using intersecting rays from corresponding points. The data for the exterior orientation can be entered directly using very approximate values. The interior orientation is determined through a camera calibration. Following the reconstruction of the bundle of exposure rays it is then possible to obtain an accurate orientation of the object pictures using the MR2 bundle adjustment program. Internal statistical checks permit the user to monitor the accuracy and reliability of the results. It is also possible in certain circumstances to carry out simultaneous calibration on the job.
MR2 has a comprehensive measuring program package for applications in architectural photogrammetry, traffic accident surveying, criminal evidence documentation, in archeology and historic monument preservation, medical and engineering measurements. The program can be used to determine exact coordinates by computing intersecting rays from a series of pictures. It is also possible to define additional graphic line connections or relationships between predertermined points.
MR2 data can be further processed using the Rolleimetric CAD graphic editor or by linking to external programs using the defined data interface.

RESOS
Reseau Scanning Operation Software

Higher accuracy in engineering surveying requires a picture coordinate measurement accuracy within the micron range. Rollei Fototechnic has opened new frontiers in photogrammetric measurement techniques by developing a reseau scanner RS1. Photogrammetric images are digitaly stored gridwise using a CCD-Sensor. The measurement of the picture coordinates is carried out in the image memory of the computer using picture processing algorithms. The reseau principle allows a very high accuracy to be realized. RESOS is a dialog program for driving the scanning device. As a stand alone system RESOS can evaluate the measuring results based on the picture coordinate system. RESOS can be integrated with the Rolleimetric MR2 System to automatically identify predefined shapes. The approximate values of the picture coordinates can be defined by MR2. A utility can generate picture coordinates of the relevant reseau crosses. After the automatic measurement process the picture coordinates of the object points and the



reseau crosses can be transformed onto the calibrated reseau field of the camera. These picture coordinates are stored on the MR2 files and can then be further processed using the MR2-System.

CAP
Combined Adjustment Program

CAP is a more advanced program for the spatial point determination. CAP uses an optimized memory and calculation technique. Singularities are excluded through a special parameterization of the rotation values. CAP is a very fast and robust bundle adjustment program which also permits additional deformation analysis.

Hardware Requirements

Rolleimetric close range photogrammetry software is designed for use on professional PC hardware. A 80286 CPU with a 80287 arithmetical processor is essential for use. Maximum memory extension is required for DOS. In addition to two serial and two parallel ports a Hercules or EGA graphic card is necessary for CAD applications.

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