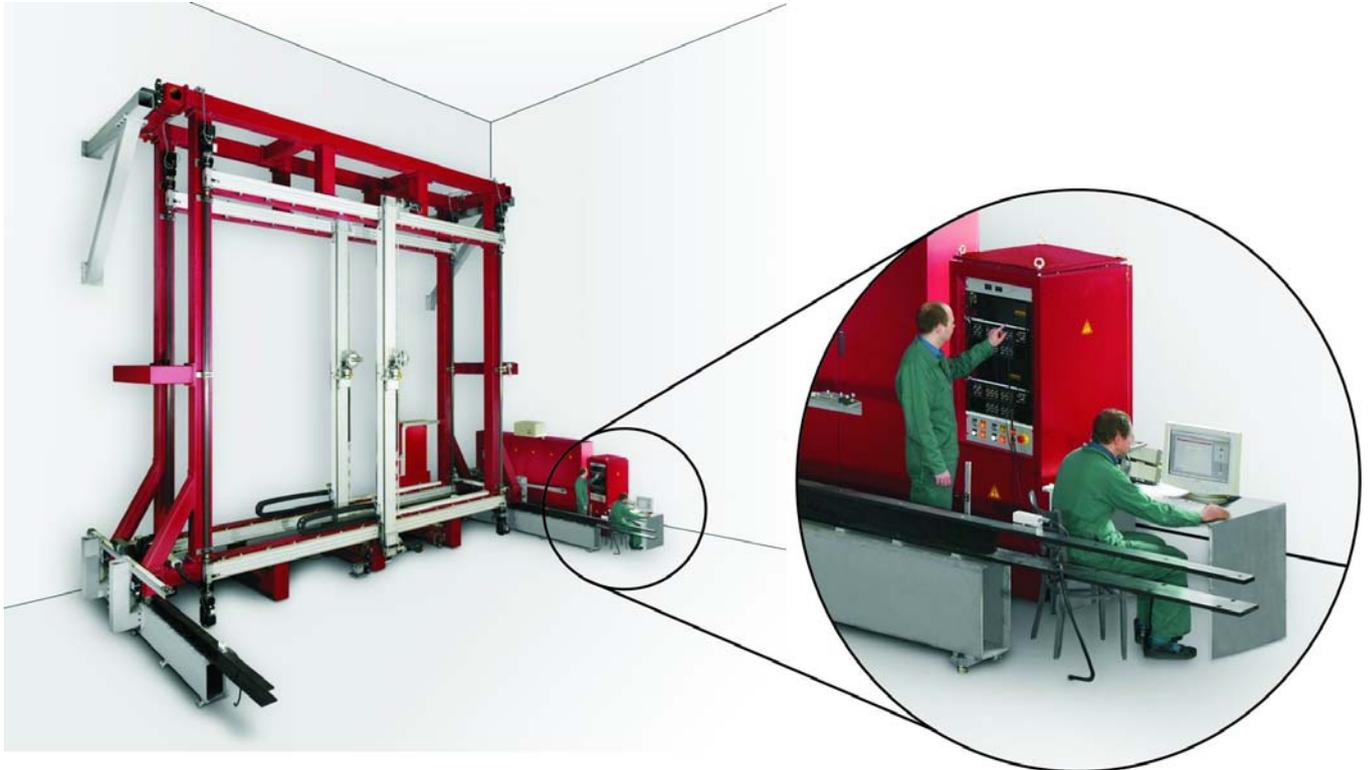


Target System

## DUAL TARGET MOTION SYSTEM



### Description

The DTMS has two target platforms which move linearly in both X-direction (horizontal) and Y-direction (vertical). Synchronous to the linear movement the Target Platform has to rotate the target horns to keep them pointing back to the axis intersection of a three-axis FMS. These coordinated movements are accurate at low as well as high dynamic movements.

In order to accomplish these movements the DTMS has a total of six motors for the linear and two motors for the rotational movement of each target. The x and y movement use four motors which are linked together either by a torsion beam (top-bottom) or a belt (left-right) on which the vertical slide is mounted. In the vertical direction, two motors (top-bottom) drive the belt on which the target platform is sliding. The rotation in azimuth and elevation direction of the target platform is done by two motor/gearbox units.

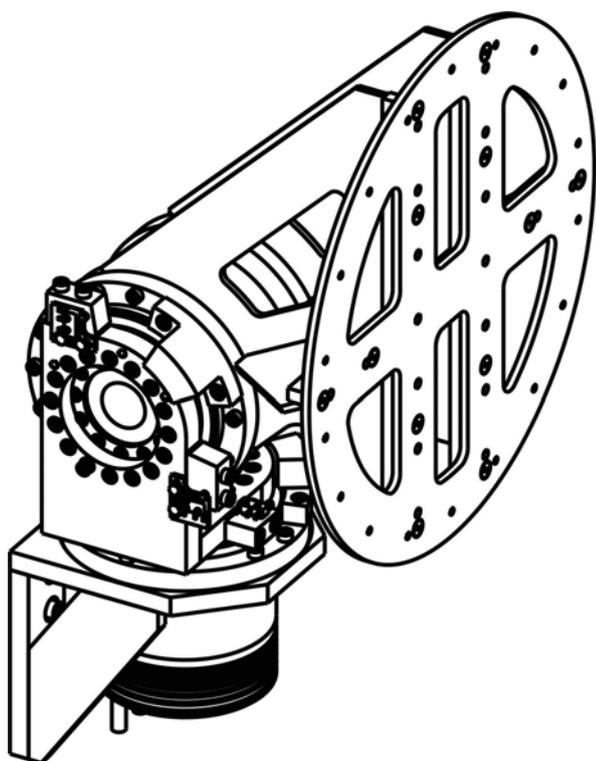
ACUTROL® controllers are used to control the four axes of each Target Frame making a total of eight axes of control.

### Pointing

As the customer commands the Target Platform in X and Y, a real-time transformation into linear and rotational motion is done in a real-time computer running LabVIEW RealTime. The commanding can be done either via VMIC real-time interface in Track Mode using position, rate and acceleration or with an analog signal, representing Position and Rate demand. Both the VMIC data as well as the analog demands are inputted to a real-time computer, where a full state vector is generated then converted in to linear and rotational vectors and finally sent to each ACUTROL via the VMIC link. A Graphical User Interface computer provides the operator the ability to initialize the system, control, start and stop simulations and shut the system down.

## Performance Parameters

Payload mass (each platform):	8 kg
Payload size:	400mm x 400mm x 400mm
Center of gravity:	Center of cube
Travel, usable:	Horizontal, X-direction +/- 6m Vertical, Y-direction +/- 5m
Rotation of platform:	+/- 60 deg in azimuth and elevation
Translation:	Horizontal, Z-direction, range 0 to 12m, electrical drive for positioning, frame clamped to rails during testing
Position accuracy:	+/- 10 mm
Position repeatability:	+/- 5 mm
Pointing accuracy:	0.2 deg in azimuth and elevation
Velocity, maximum:	5 m/s for x and y direction
Velocity, minimal:	0.05 m/s in x and y direction
Acceleration, peak:	5 m/s <sup>2</sup>



2-Axis Target Platform

### Options

- Custom payload configurations
- Custom X-Y dimensions
- Custom Z Axis range
- Custom rates
- Custom accelerations
- Curved tracks
- SCRAMNet real-time interface

**For further information, contact:**

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