Gyro-Stabilized Camera Mount
Leica PAV30

High Quality Aerial Photography

The Leica PAV30 gyro-stabilized mount has been developed by Leica Geosystems’ aerial camera engineers for compensation of angular aircraft movements to improve the quality of aerial photography and survey flight efficiency.

The PAV30 replaces existing mounts and is fully integrated into the Leica Geosystems camera concept. No aircraft modification is required.

The PAV30 continues Leica Geosystems’ tradition of solutions for precise information from imagery by people who make a difference. Leica Geosystems is committed to excellence in design, combining high performance with long-term reliability.

User Benefits

- Perfectly integrated system
- Superior image quality
- Automatic vertical photography
- Less stress on the flight crew
- More efficient survey flights
- Extended flying hours
- Direct interchange with existing mounts
- Standard output interface for recording attitude angles
Features

Superior Image Quality
The PAV30 automatically corrects for angular motions, even in turbulent flight conditions. The outcome is a far better image quality.

Automatic Vertical Photography
With the PAV30 gyro-stabilized mount, the aspirations of camera operators and photogrammetrists have become reality.
- Perfect vertical photography, even in turbulent conditions
- Automatically stored verticality means reduced operator stress
- Simplified aerotriangulation

Extended Flying Hours
Combining an FMC aerial camera with the PAV30 gyro-stabilized mount permits the use of longer exposure times, as required under low light conditions or when using high resolution films.

Efficient Flights
Relieves the camera operator of tedious tasks such as:
- Initialization
- Leveling along flight lines
- Continuous drift adjustment

Optional Interface to Aircraft Navigation Systems
The PAV30 is unique in its ability to accept drift correction angles from an aircraft navigation system. Drift corrections are received via Leica ASCOT accepting ARINC 429 signals. ASCOT is sold separately — please visit www.gis.leica-geosystems.com for more information.

Direct Interchange with Existing Mounts
With the PAV30 mount, no costly aircraft modification is required. The PAV30 fits directly in the camera hole designed for PAV11, PAV11-A and PAV20 camera mounts.

Smearing in the image plane due to pitch or roll movements for exposure time 1/200sec.

<table>
<thead>
<tr>
<th>Lens Cone</th>
<th>Turbulent ( \sim 10^\circ / s )</th>
<th>Stabilized ( \sim 0.3^\circ / s )</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAG ( f = 88mm )</td>
<td>( 77 \mu ) ( 222 \mu )</td>
<td>( 2 \mu ) ( 7 \mu )</td>
</tr>
<tr>
<td>UAG ( f = 153mm )</td>
<td>( 134 \mu ) ( 209 \mu )</td>
<td>( 4 \mu ) ( 6 \mu )</td>
</tr>
<tr>
<td>NAT ( f = 303mm )</td>
<td>( 264 \mu ) ( 299 \mu )</td>
<td>( 8 \mu ) ( 9 \mu )</td>
</tr>
</tbody>
</table>

Angular Motion Compensation
WITH
WITHOUT
Leica PAV30 PosOp

Making Your Flights More Efficient
A new option enables the PAV30 to accept data from an Applanix POS (Position and Orientation System). This provides real-time input for PAV30 attitude control, in order to benefit from the better data available through the higher accuracy attitude sensors of POS.

Features
- Nadir accuracy alignment to POS reference
- Drift alignment according to POS reference
- Improvement of residual angular velocity
- Gimbal data for post-processing

Connections
1 – Mid Exposure Pulse (MEP)
  – POS AV interface PosOp
  – Analog drift reference
  – External panel box
  – Slave PAV20 (option)
2 – Navigation Sight (PAS 12)
  – Interface to ASCOT
3 – Power (23.5-29.5 VDC)
  – Options include:
    external drift
    ARINC via ASCOT

Technological Data

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilization range in pitch and roll</td>
<td>±5°</td>
</tr>
<tr>
<td>Stabilization range in drift</td>
<td>±30°</td>
</tr>
<tr>
<td>Typical residual angular motion*</td>
<td>&lt;0.3°/s</td>
</tr>
<tr>
<td>Typical residual deviation from vertical direction (nadir)*</td>
<td>+0.5°</td>
</tr>
<tr>
<td>Operating voltage</td>
<td>23.5 to 29.5 VDC</td>
</tr>
<tr>
<td>Power consumption (average)</td>
<td>200W</td>
</tr>
<tr>
<td>Weight</td>
<td>36 kg</td>
</tr>
<tr>
<td>Dimensions</td>
<td>665 mm x 535 mm x 150 mm</td>
</tr>
</tbody>
</table>

*For photoflight situations, i.e.,
  - Aircraft angular motions <10°/s
  - Typical aircraft photoflight frequency spectrum

Note: Under conditions of lateral accelerations lasting longer than a few seconds, the PAV30 may exceed the specification for residual deviation from vertical direction (nadir)