

Shaper **P5**

Integrated Plug-and-Fly UAV Payload
delivering unmatched accuracy,
sharpest resolution and exceptional performance

Shaper P5 is an integrated solution based on Phase One P5 128MP medium format camera and SV Geo GNSS / INS technology.

While Phase One P5 provides outstanding image quality, the SV Geo technology allows to determine the position and attitude (roll, pitch and azimuth) of images with the highest accuracy, enabling to generate orthophotos with sub-pixel accuracy without the use of GCPs in post-processing.

Key features:

- camera trigger by an external signal
- camera trigger at a specified distance or time interval
- registration triggering moments
- registration of position and orientation angles of the device
- real-time output on camera position and attitude (roll, pitch and azimuth)

Main advantages:

- Plug-and-Fly
- lightweight
- compact size
- fully autonomous (does not require external control)
- data recording into internal storage
- easy-to-use software for setting up communication via wired and wireless interfaces



128 MP sensor
Distortion **less than 1 px**
Frame rate up to **4 fps**
GSD down to **2.5 mm**
Planar accuracy from **2 mm**
Angular accuracy from **0,005°**

GNSS Performance

Frequency (Tracking & Position):

555 hardware channels for simultaneous tracking of

- GPS: L1 C/A, L1C, L2C, L2P, L5
- GLONASS: L1 C/A, L2 C/A, L2P, L3, L5
- Galileo: E1, E5 AltBOC, E5a, E5b, E6
- BeiDou: B1I, B1C, B2I, B2a, B2b, B3I
- QZSS: L1 C/A, L1C, L1S, L2C, L5, L6
- NavIC (IRNSS): L5
- SBAS: L1, L5
- L-Band: up to 5 channels

GNSS Accuracy (RMS)

Single point position:

- Single point 1.2 m
- SBAS 60 cm
- DGPS 40 cm
- TerraStar-C PRO 2 cm

PPK combined

with INS measurements:

- Horizontal 0.2 cm + 0.5 ppm
- Vertical 0.3 cm + 1 ppm

Attitude Accuracy (RMS)

Real Time

- Roll / Pitch 0.013°
- Heading 0.070°

Post-Processing

- Roll / Pitch 0.005°
- Heading 0.010°

Maximum data rate

- GNSS measurements up to 20 Hz
- GNSS position up to 20 Hz
- INS solution up to 200 Hz
- IMU raw data rate 200 Hz

IMU performance

Gyroscope performance:

- Technology MEMS
- Dynamic range 450 °/s
- Bias instability 0.08 °/hr
- Angular random walk 0.06 °/√hr

Accelerometer performance :

- Technology MEMS
- Dynamic range 10 g
- Bias instability 0.012 mg
- Velocity random walk 0.025 m/s/√hr

Image sensor & camera

- Sensor resolution (MP) 128 RGB
- Sensor type CMOS
- Shutter type Electronic global shutter
- Frame size, pixel 13,468x9,564
- Pixel size (μ) 3.45
- Dynamic range (dB) 80
- Light sensitivity (ISO) 200 - 6,400
- Max. shutter speed (sec) 1/16,000
- Max. frame rate (fps) 4
- Lens focal length 35 mm or 80 mm
- Angle of view in long side (°) 66 or 32
- Minimum focusing range 60 m

