

- Image Based High Accurate Mobile Mapping System (MMS)



- Easy Operation & Simple Calibration without IMU or Laser
- Captured and process Images quickly and efficiently .
- Relative accuracy less than 1 cm within a distance of 6 meter from the camera .
Achieve Centimeter level Absolute Accuracy including urban & covered areas.
Accuracy appreciated by Japanese Mapping Authority.

[IL Shooter3]: Control Cameras and Sensors

ILShooter3 :
Data Acquisition software



Upper Camera Image

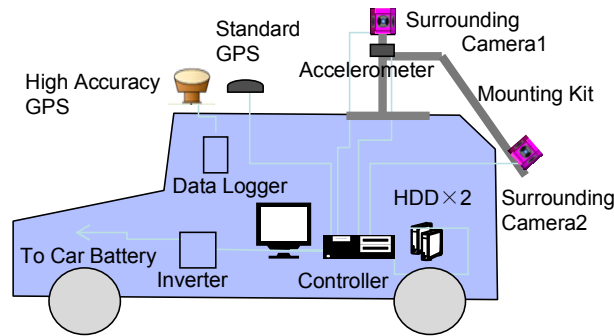


Down Camera Image

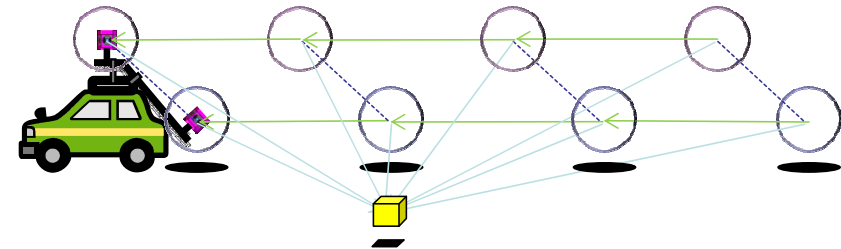


Simple Composition & Robust Configuration

- > Ladybug 3 (camera)
- > × 2 set
- > Accelerometer
- > Standard GPS
- > Desktop PC (Controller) /HDD
- > High Accurate GPS
- > Mounting Kit
- > Other GPS/RTK /IMU can integrated with IMS3



[IL CV Maker3] Quick Dual CV Analysis



- 1) Extract Feature Points Automatically in both the camera Imageries.
- 2) Feature Point Tracking from both Cameras and in between the Two Cameras
- 3) Integrating Tracking Data with Sensor Data
- 4) Calculating 3D Position and Posture of the two Cameras.

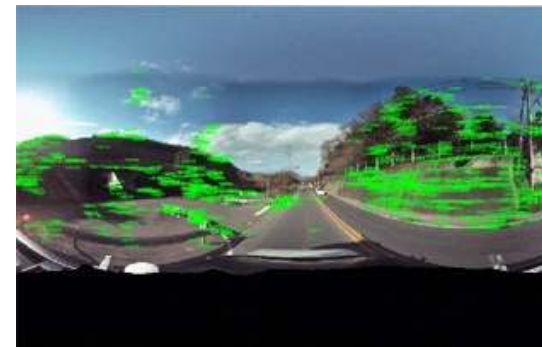
Surrounding Camera	
Pixel	CCD 1/1.8" × 6
Resolution	2.0 MPIX : 1600(H) × 1200(V) PIXEL × 6 Max 5400 × 2700 PIXEL as 360 degree Imagery
A/D Converter	12-bit ADC
Frame Rate	Max 16 FPS (in case of JPEG Compress)
Temperature	0°C ~ 45°C
Size	134(D) × 141(H)mm
Weight	2,416g

Accelerometer	
Axis	3 axis
Range	± 1.7 G
Sensitivity	1200 mV/G
0 Point Drift	± 0.03 G (0~70°C)
Temperature	-40 ~ +85°C
Size	44.5(W) × 27(D) × 20(H)mm
Weight	23g + Cable 23g, Total 46g

GPS	
Receiver	12 Satellite Parallel Receive
Accuracy(WAAS)	3m (RMS 95% typ)
1PPS Accuracy	1Hz Pals, +/- 1 μ Sec
Temperature	-30 ~ +80°C (Antenna)
Size	61(D) × 19.5(H)mm

IMS3 Controller PC for Capturing	
OS	Windows®7 (32bit)
CPU	Intel® Core i7 or more
RAM	4GB
Graphics	OpenGL1.2 or more NVIDIA® GeForce GTS250 or more VRAM 256MB or more
Board	IEEE1394b × 2 (Camera connection) e-SATA(USB3.0) × 2 (HDD connection) USB2.0 × 3 (Sensor, GPS, USB key)

IMS2 Single Cam is also available for GIS Mapping



PC Specification for CV Calculation by ILCVMaker3	
OS	Windows®7 (64bit)
CPU	Intel® Core i7 or more
RAM	8GB or more
Graphics	OpenGL1.2 or more NVIDIA® GeForce GTS250 or more VRAM 256MB or more
HDD	100GB or more (including work space)
Board	USB × 1 (for USB Key)



Iwane Laboratories, Ltd. (Japan, Thailand)

Space Recognition (Robot Eye) and Establish Parallel World
by Image Based Advanced Technology -

Software & Tools for DualCam

Unique Application and Solution - IMS3: Dual Cam

Map on 3D for Generating 2D/3D Detailed Maps

- ◆ Extract white Lines and road edges automatically
- ◆ Unique interface to draw & edit on Imagery
- ◆ Output basic maps before detailed Maps

Completing Basic Maps by AutoCAD™ to the Final Output

Automatically extracted white lines are indicated on the image as 3D polygons

Guard rails, fences, and other objects can be drawn by manual.

Available to add, transform, and delete by manual

Output as Compatible FBX Format

Producing High Accurate 2D Detail Maps in short period

- **Creating 3D Objects on the Road**
Available to make other objects easily by drawing and editing 3D polygons generated on the road or buildings.

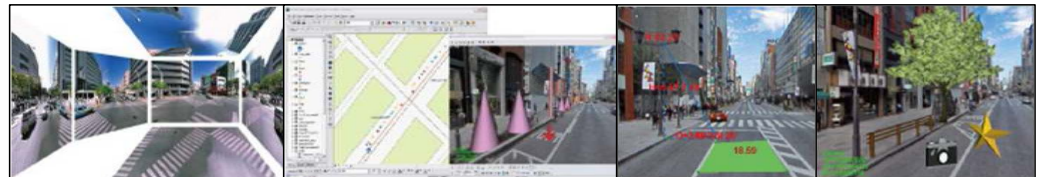
Layers

Manage each object in the form of Layers like road and construction assets. Layers can be added to perform effective and detail asset management.

Active Link Vision (Real world on to your PC !)

- Creating 3D Space & Link GIS Data-

- 360 degree Seamless Surrounding Image without Dead Hole
- Indicating GIS Data on the Image as 3D Object
- 3D Measurement can be performed within the frame and across
- Simulation is available putting 3D Models onto CV Image
- Development or Customization is possible by using SDK

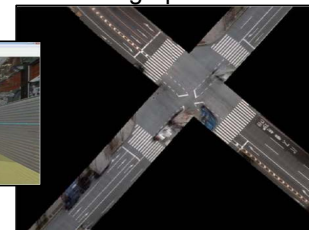


Digital Street Scanner / Ortho Tool & 3DPCCI

- Producing High Accurate Image Based Ortho Maps Automatically -

DSS

Available to analyze road slope and angle of building surface automatically in CV image to produce continuous high resolution Ortho maps of road surface and side buildings after Ortho graphic projection.



3DPCCI (3D Model)

Extract Polygons & Paste Texture using CV imagery



Application Lineup

ALV for ArcGIS™	GIS Application (ESRI® ArcGIS™ Ad on)
ALV Library SDK	Software Development Kit for GIS Developers
WebALPF/MobileALP	Web GIS Link with Any Maps (Flash based)
iiCosmo Viewer	Web GIS available for Ultra Super Wide Image and 360 degree Image (based on Flash)
3D PCCI	Useful Tool to Produce 3D Model by CV Image