

Proposal for Car Roof-top Camera

360° all around view

Compact Design

Easy Operation

HD high quality image

Model: **NM33D-M-PLV**



* Overview of the Car Roof-top Camera

- Install the omnidirectional camera on the roof-top to **take the 360 degree all around view of the vehicle.**
- Implementing a specially designed fish-eye lens with the depression angle of 17 degree, the camera can **take a view below the roof level.**
- Connecting to a PC in the vehicle via USB cable, record HD images.
- The camera is small and inconspicuous.

IP66 Water-proof Dome Housing

Camera control
Video recording

Connect to a PC in the vehicle via USB cable (5m).



Placing by Magnet or Double Adhesive Tape



Fit on the elevation light



Police Car

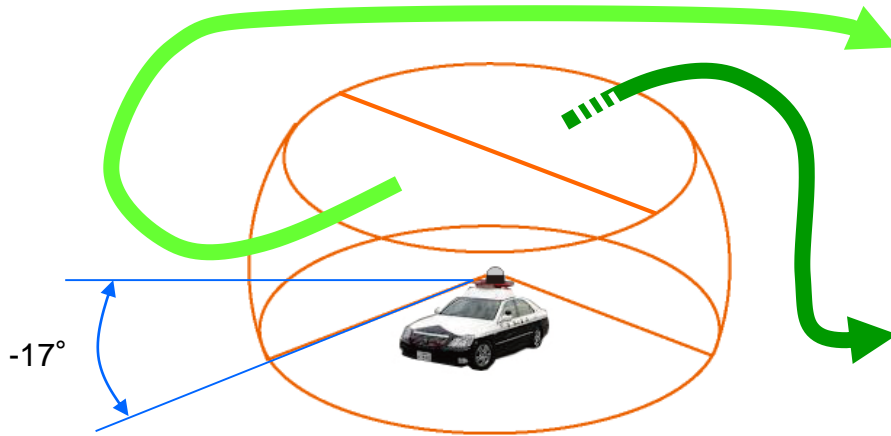


Fire Engine

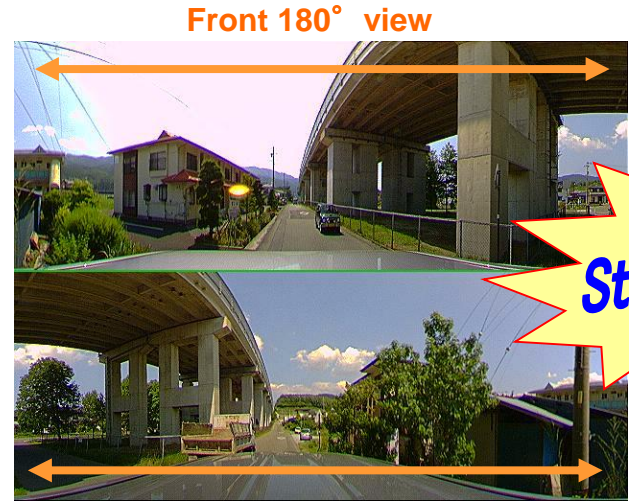


OPT Corporation

Video Image taken by the camera



With the depression angle of 17 degree, possible to see the road surface.



Front 180° view

Street View

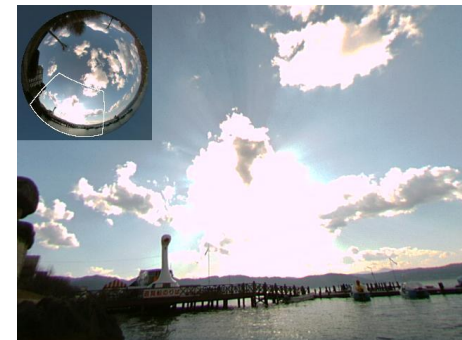
One camera takes Front and Rear image at once and show separately.



All around view through a fish-eye lens



Zoom after dewarped In the camera



Introduction of GPS Mapping software

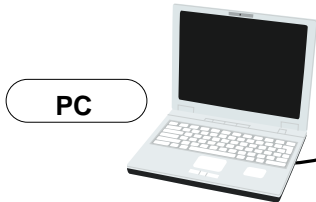
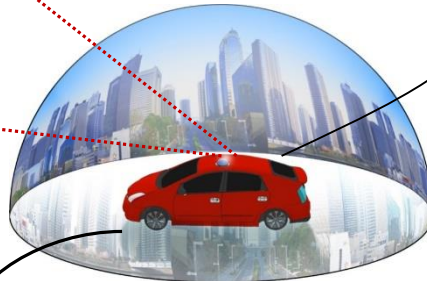
360°View on Map
Recording System

Obtaining coordinates from the GPS device, plot shot images on the map from GPS log.

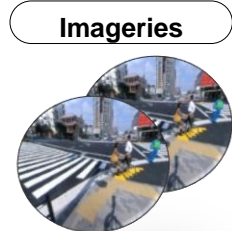


Shoot 360 degree while driving.

Viewing angle 214°
Shoot angle 360°
(Horizontally)



Video is taken into in-house PC via USB cable.



Compressed image files (JPG/ AVI)

- Plot the shot images on the map from GPS logs.
- Click the tracking line or point to display panorama images on the map.
- Scroll and zoom in/zoom out with a mouse.

* Examples of Application

Pictures supplied from Google View are too old.

- ◎ Police Car: to take the latest town images or live image of crime scene
 - Built on the patrol-lamp
 - Always record the 360 degree surround images with the GPS position information during the patrol.
 - Record images into the PC under the seat.
 - Send images to the head quarter for analysis and conducting.
- ◎ Fire Engine
- ◎ Security Company Car
- ◎ Road management company Car
- ◎ Tax, Track etc... as a Driver Recorder like

Possible to dewarp the image on a real time basis.

The cost is 1/10 of Google View camera system.

* Specification

| CAMERA | |
|--------------------------|--|
| Model Name | Car Roof Top Camera |
| Model No. | NM33D-M-PLV |
| Imaging Sensor | 3 Mega pixels 1/2 inch color CMOS sensor |
| Effective Pixels (H x V) | 2048 X 1536, approx. 3.15 Mega pixels |
| Usable Pixels | approx. 1.70 Mega pixels |
| Viewing Angle | 214° (W/Depression angle of 17°), 360° |
| Object Distance | 10 mm~infinity (from the lens surface) |
| Minimum Light Required | 5 lux (Colorfull view base) |
| White Balance | automatic |
| Exposure | automatic |
| Frame Rate | 15 fps (max.) |
| INTERFACE | |
| USB | USB1.1 (fullspeed) A type, Cable L=5m |

| AV Output (Digital) | |
|-----------------------|---|
| Output Signal System | USB1.1 |
| Image Format | AVI (movie): approx. 700 KB/s JPEG (still): approx. 600 KB/s |
| Image Size | 1536 x 1536 pixel |
| Number of colors | 32 bit |
| POWER | |
| Input Voltage | DC 5.0 V \pm 5 % (USB bus power) |
| Current Consumption | 500 mA (max.) |
| Others | |
| Operation Temperature | -20 °C~+60 °C |
| Dimensions | D130 × 75 (H) mm |
| Weight | approx. 700 g (excluding Cable) |
| Environmental Casing | D130 mm Polycarbonate, |
| | Unti-vibration: JIS D1601 |
| | Dust/Water-proof IP66 |
| Installation | Magnet or Double Adhesive Tape |

