

## Key Features

## Built-in Dewarping Software

- ◆ 3M pixel high resolution color CMOS sensor implemented
- ◆ Fish-eye Image Dewarping Software built-in ~ output the dewarped image
- ◆ Digital Auto Pan
- ◆ Digital PTZ : Quick response and high durability with no moving mechanism.
- ◆ Simultaneous output of Digital/Analog Image signals
- ◆ Possible to supply in Small Module configuration  
Various housing design capability. Possible to install in a narrow space.
- ◆ The widest view angle of 214°

# 360° Mega Pixel Camera

Because of 360° Camera

- ◎ Reduce number of cameras
- ◎ High Durability
- ◎ No focus adjustment
- ◎ Reduce Installation Cost
- ◎ Reduce Running Cost

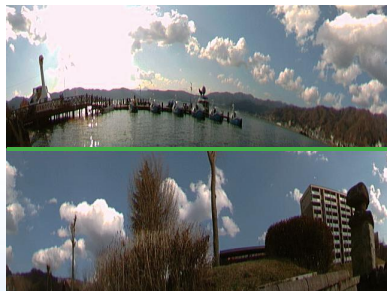
With the small size module configuration, our camera is applied for a down light housing and the eyes for a human type robot.



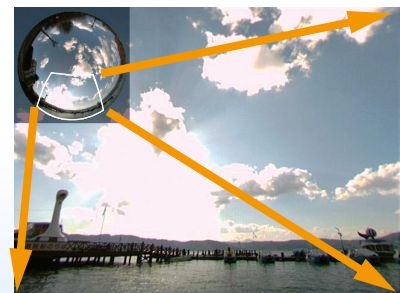
Easy to dewarp the image before output.



All Around Image

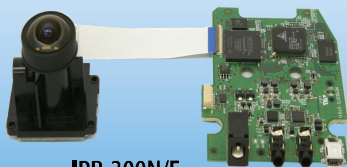


2x 180° Panorama



Partial Enlargement

w/Depression  
214°



IPB-300N/F  
Board Camera Type



NM33-N/F  
Cubic Type  
30x39x27mm Small body  
easy handling



NM33-M  
Cubic Type  
Ultra Wide Angle of 214°  
Get image under the lens base



NM33D-F  
Dome Type  
φ 120cm  
IP model is also available

## Example of Application



JPN Company Y  
TV Conference Camera



USA Company R  
Disaster Site Research Robot



Tokyo University  
Life Support Robot  
Mr. Safe



Inside of Back door of ATM machine



China Shanghai  
Sub-way Car

## 16 Patents Application



Roof-top of Police Car



JPN Company G  
Entrance Face Recognition System



Illegal dumping Surveillance



Inside of Bus



JAXA Compton Camera



JPN Company F  
Portable Surveillance Camera System



JPN Company T  
Amphibious Self running Robot



Marine Camera



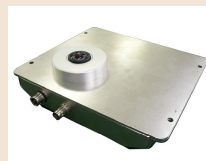
JPN Company F, Heavy Working Machine, Around View Watcher



JPN Company H, Working Robot Arm

## Example of Housing Design

Since its size is small, easy to install various type of housing



### ◀ Flat type

9,800 units are applied for the China sub-way car camera.

### ▶ Water proof Dome for Car Roof-top

φ 12cm、IP66 ~



### ◀ Under Ceiling type

built-in the down light housing

### ▶ UFO type

Cost down design



## 【 Other various applications 】

Store, Parking, School, Office, Factory, Convenience Store, Bank etc...

Item	Specification
Power	
Power voltage	5.0 V ± 0.5 V
Current Consumption (Max.)	500 mA
Rated maximum voltage	-0.3 ~ 6.0V
Lens	φ 25mm (N,F) φ 38mm (M)
Object Distance	10mm ~ infinity (from Lens Surface)
View Angle	180° (N, F)、214° (M)、
Image Sensor	1/2 single plate color CMOS
Effective Pixels	H:2048xV:1536、approx. 3.15 Mega pixel
Usable Pixels	approx. 1.7 Mega pixel

Item	Specification
Min. Light Required	5 lux (colorful sight base)
Image type	JPEG
Movie Image Size	640 x 480 VGA
	320 x 240 QVGA
	1536 x 1536 LARGE mode (cubic type)
Signal System	USB 1.1
Size Dimension	39(W) x 30(D) x 27(H) mm (cubic type)
Weight	approx. 65 g (NM33-F)

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