

# HD Supremacy

Mega Pixel Block Camera MM-202



## FEATURES

- 1/3" Panasonic CMOS sensor  
2,227,080pixels(Total) / 2,122,848pixels(Active)
- x20 Optical Zoom  
Built-in x20 optical zoom lens is highly reliable. It features auto focus, auto iris, auto D&N, zoom function.
- Full HD Resolution  
1920x1080p / 30fps  
1280x720p / 60fps
- Day & Night (ICR)  
The ICR will automatically engage depending on the ambient light, allowing the camera to be effective in day&night environment.
- WDR (Wide Dynamic Range)  
WDR, more effectively than previous models, by applying an optimum fusion ratio when combining the high speed shutter used in bright areas and the low speed shutter used in dark areas.
- DNR (Digital Noise Reduction, 2D+3D)  
The DNR technology eliminates noise thus generating a distinct and clear image. This camera DNR function utilizes both an adaptive 2D filter reducing noise in the brightness of the image and an adaptive 3D filter reducing noise caused by movement.
- Privacy mask Function  
The privacy zone function makes it possible to make specific areas of the scene from view.
- On Screen Display  
This camera supports the OSD function. And so, the camera can be controlled by selecting text displayed on the monitor screen.
- Intelligent motion detection  
You can transmits an alert signal when it detects motion of an object on the screen. This feature is useful when you have to monitor several screens simultaneously.
- Defog  
Defogging foggy video image.
- HLC(High Light Compensation Function)
- Output  
Digital output : MM-202(Module) - LVDS  
Analog output : NTSC, PAL Composite (without WDR)
- Protocol  
This camera supports the multi-protocol (VISCA, Pelco-D, Pelco-P)

## Precise details and wide area surveillance

For the highest video quality and performance, MM-202 is the choice. Designed for the most demanding applications, the camera provides Full HD (1080p) coverage of large areas, great details when zooming in, and powerful motorized autofocus system. It is suitable for airports and seaports, as well as the border and traffic surveillance.

## Supreme video quality

The HDTV 1080p complies with the SMPTE 292M standard regarding a 1920x1080 pixel resolution (twice the resolution of HDTV 720p), full frame rate at 25/30 frames per second, HDTV color fidelity and a 16:9 format.

## Refined distinction

Due to the HDTV 1080p resolution, the camera's 20x optical zoom with autofocus provides extremely detailed zoomed-in views that are comparable to a 410k resolution camera with more than quadrupled the optical zoom. MM-202 supports day/night functionality for clear video even in low light conditions, and wide dynamic range for better visibility of objects in dark and light areas of a scene.

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## SPECIFICATIONS

MM-202		
Image sensor	Sensor type	1/3" Panasonic CMOS
	Total pixels	2010(H) x 1108(V) = 2,227,080
	Active pixels	1944(H) x 1092(V) = 2,122,648
Resolution		1920 x 1080 (1080p/30fps)
		1280 x 720 (720p/60fps) (Analog : 700TVL)
Scanning system		Progressive
Min.Illumination		Color : 1.0 lux , BW : 0.5 lux Color DSS : 0.002 lux , BW DSS : 0.001 lux
Video output		HDMI (Box type only)
		HD-SDI (Box type only)
		LVDS (Module type only)
		CVBS (Module / Box)
S/N Ratio		More than 50dB(AGC off)
Lens	Lens type	x20, 1/3" Day & Night Zoom Lens
	Zoom Ratio	Optical x20 , Digital x32
	Focal length	f = 4.7 mm ~ 94 mm
	Aperture Ratio	F1.6 (wide) ~ F3.5 (tele)
Function	Focus distance	0.1 / 1.0 / 2.0 / 3.7 / 11.0 m
	E.zoom	Off / x2 ~ x4
	Exposure	Auto / Manual
	Gain control	Off / On (Auto max.30dB)
	Shutter speed	1/30(1/25) ~ 1/30,000
	Digital Shutter Speed	Off / x2 ~ x512
	Brightness	1 ~ 15 steps
	Output format	1080p / 720p
	Frequency	60Hz / 50Hz
	WDR	Off / On
	BLC	Off / On
	HLC	Off / On
	Day & Night	Auto / Day / Night / Ext.
	White Balance	ATW / Preset / Indoor / Outdoor / Manual
	DNR	Off / Auto / Low / Middle / High
	Privacy Mask	Off / 32 positions
Motion Detection	Off / 4 positions	
Defog	Off / On	
Mirror	Off / H / V / H+V	
Sharpness	Off / On	
Shading	Off / On	
Smart IR	Off / On	
Defect compensation	Off / On	
Pattern Generation	Off / On	
CVBS output	Off / On	
Communication	Protocol	Pelco -D / Pelco-P / VISCA
	Baud Rate	2400 / 4800 / 9600 / 19200 / 38400 / 57600
OSD	Text	0 ~ 9 , A ~ Z , a ~ z
	Language	English
	Power source	DC 12V ± 10%
Electrical	Power consumption	500mA
	Power Input	TBD
	Video output	TBD
	Operating Temperature	-10 °C ~ 50 °C
	Storage Temperature	-20 °C ~ 60 °C
	External Dimension	TBD
	Weight	TBD

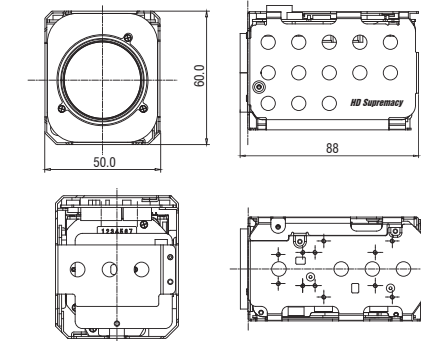
## Pin Assignmnet

J301		J204	
1	TXout3+	1	GND
2	TXout3-	2	TxD
3	TXCLKout+	3	RxD
4	TXCLKout-	4	xRST
5	TXout2+	5	NC
6	TXout2-	6	GND
7	TXout1+	7	ADKey
8	TXout1-	8	IR-on
9	TXout0+	9	D/N-in
10	TXout0-	10	NC
11	GND	11	MD-out
12	TxD	12	485-DIR
13	RxD	13	F/W_sel
14	12V	14	5V
15	12V	15	GND
16	12V	16	VBS-out
17	12V	17	GND
18	12V	18	12V
19	GND	19	12V
20	GND	20	12V
21	GND	21~24	NC
22	GND		
23	GND		
24	GND		
25	NC		
26	xRST		
27	VBS-out		
28	NC		
29	NC		
30	NC		

J202	
1	JMODE
2	JTCK
3	JTDI
4	JTDO
5	JTMS
6	GND

## Dimensions



Unit : mm