

Understanding Camera Specifications Part 2

How to read a spec sheet



www.gspamerica.com

Preview



GSP-4D54SD : Surface



GSP-4D54SD : Flush

3-AXIS GIMBAL



MODEL CLASSIFICATION		
Model	GSP-4D54SDR	GSP-4D385DR
Load/Unload (CR)	Filter Charge/Re Charge	Filter Charge/Re Charge
Total Pixel	419K(1212x4096PAL)	270K(1212x2196PAL)
Effective Pixel	(H)304(H)846(V)720	(H)204(H)672(V)528
Resolution	(H)540(H)846(V)720	(H)304(H)672(V)528
Resolution	540TVL	385TVL
Minimum Illumination	0 Lux	0 Lux
Feature		
IRIS Auto/Time Setting	3 Step / 1/10/10 sec	
Gamma	0.45/1.1	
Menu	ON/OFF	
Electrical		
Power Consumption	DC12V 300mA / AC24V 5W	

Model	GSP-4D54SD	GSP-4D385SD
Load/Unload (CR)	Filter Charge/Re Charge	Filter Charge/Re Charge
Total Pixel	419K(1212x4096PAL)	270K(1212x2196PAL)
Effective Pixel	(H)304(H)846(V)720	(H)204(H)672(V)528
Resolution	(H)540(H)846(V)720	(H)304(H)672(V)528
Resolution	540TVL	385TVL
Minimum Illumination	0.05 Lux (FLD)	
Feature		
IRIS Auto/Time Setting	3 Step / 1/10/10 sec	
Gamma	0.45/1.1	
Menu	ON/OFF	
Electrical		
Power Consumption	DC12V 300mA / AC24V 5W	

www.gspamerica.com

Quick Review From Part 1

- Signal System NTSC
- Scan System NTSC
- Image Device Sony 1/3" Super HAD CCD
- DSP Digital Signal Process
- Resolution 540TVL
- Scan Frequency Hz
- Sync System Internal/Line Lock
- S/N Ratio 48dB
- Video Output Signal 1.0Vp-p, 75 Ohm
- Electronic Shutter EE
- Auto Iris AI



www.gspamerica.com

Automatic Gain Control

- AGC is used in many electrical circuits
- Will boost the signal when the light is dim and cap the signal with the light is bright
- Attempts to keep the signal at a constant level to give a consistent picture



www.gspamerica.com

BLC Back Light Compensation

- When on will adjust for bright light behind an object
- Selectable ON/OFF
- Usually doesn't work that well to capture all of the image in a CCD Camera
- If back light is a problem then should go with a WDR



www.gspamerica.com

Flickerless Mode

- When pointing a security camera at lighting with a strong, wide and intense range of color (such as sodium, fluorescent or mercury vapor light), you will notice that the camera will continually try to adjust to the high color range of the lighting, most commonly referred to as 'pulsing'. Most cameras have a difficult time capturing the intense color illumination associated with these types of lighting making it hard for the camera to identify a 'correct' frame of reference, causing the camera to pulse.
- Is an On/Off Setting



www.gspamerica.com

AWB Automatic White Balance

- Our eyes will compensate for lighting conditions with different color temperatures
- AWB will attempt to make adjustments to find white and produce overall correct colors
- ATW – Auto tracing white balance
- Selectable Off/On



www.gspamerica.com

Gamma Correction

- An electronic correction carried out by the camera circuitry to balance the brightness seen by the camera to that of the monitor.
- The typical setting available is .045
- Selectable On/Off for most cameras



www.gspamerica.com

Minimum Illumination

Type of Light	Foot Candle	LUX
Direct Sunlight	10000	100000
Full Daylight	1000	10000
Overcast Day	100	1000
Dusk	10	100
Twilight	1	10
Deep Twilight	-1	1
Full Moon	-0.01	0.1
Quarter Moon	-0.001	0.01
Moonless Night	-0.0001	0.001
Overcast Night	-0.00001	0.0001



www.gspamerica.com

Indoor Lighting

	Foot Candle	Lux
Manufacturing- Rough	20	200
Manufacturing- Fine	100	1000
Retail	50	500
Banks Lobby	20	200
Banks Tellers	50	500
Hospital - Operating Room	1800	18000
Offices - General	30	300



www.gspamerica.com

Minimum Illumination

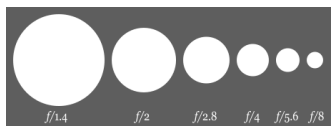
- 0.5 Lux (F1.2)
- Must use black and white mode in very low light conditions
- With Infrared can go down to .0 lux
- F1.2 is the F stop of the aperture (iris)
- Will sometimes have an IRE (International RF Engineers) number
- IRE 40 is amount of useable video in low light situations. IRE 100 would be fully useable video.



www.gspamerica.com

Minimum Illumination

- The smaller the F stop number the larger the opening of the aperture
- The f-number of the human eye varies from about $f/8.3$ in a very brightly lit place to about $f/2.1$ in the dark.



www.gspamerica.com

Infrared

- Auto ICR - Infrared cut off filter removable
- All CCD chips are sensitive to Infrared light and need to have a filter in order to maintain correct colors
- Needs to be removed for night mode or for IR to be used
- ICR Dwell time – length of time to switch off/on IR filter



www.gspamerica.com

Infrared

- Is designated by how many LEDs are on the camera
- The more LEDs the greater the distance that will be seen by the camera
- Ideal for situations where no light will be available



www.gspamerica.com

Power

- DC12V:300mA /AC24V: 5W
- Each camera can have different power consumption
- Is important to know when choosing the power supply needed
- Most of our cameras are dual voltage
- Our IP Cameras are POE or 12V DC



www.gspamerica.com

Mirror

- Setting on the camera that can flip the image similar to how you would see it through a rear view mirror



www.gspamerica.com

Outdoor Ratings

- Various Housings
- Nema Ratings – US ratings for enclosures
- IP (Ingress Protection) Ratings – European rating for enclosures
- Nema 4



www.gspamerica.com

IP Ratings (Ingress Protection)

First Digit	Protection from solid objects	Second Digit	Protection from moisture
0	No Protection	0	No Protection
1	Protection against objects >50mm	1	Protection against vertically dripping water
2	Protection against objects >12.5mm	2	Protection against spraying water ± 15° from vertical
3	Protection against objects >2.5mm	3	Protection against spraying water ± 60° from vertical
4	Protection against objects >1.0mm	4	Protection against spraying water ± 90° from vertical
5	Dust Protected (limited ingress)	5	Protection against low pressure jetting water
6	Dust Tight Protection	6	Protection against high pressure jetting water
7	N/A	7	Protection against temporary immersion (15cm and 1m)
8	N/A	8	Protection against continuous immersion under pressure



www.gspamerica.com

Review

- AGC Automatic Gain Control
- BLC Back Light Compensation
- Flickerless Mode
- AWB Automatic White Balance
- Gamma Correction .045
- Minimum Illumination Lux
- Auto ICR
- IR Infrared
- Power Options
- Mirror
- Outdoor Ratings IP66



www.gspamerica.com

Closing

- Any additional questions please email peter@gspamerica.com



www.gspamerica.com
