eyenix
www.eyenix.com

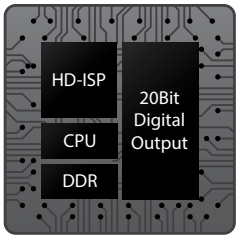
The great eyes of the world.

EN777 chip

The world's most advanced HD-ISP

EN777. It's even more than what meets the eye.
Colors are more vibrant. Image is rich with detail. Wide dynamic range. Adaptive noise reduction in low light. Auto white balance and motion detection. Regardless of the environment, the EN777 will bring high quality images of amazing brilliance.

The ultimate all-in-one. One powerful ISP.
Embedded CPU, DDR memory, ADC, DAC and HD-ISP make EN777 the world's most powerful all-in-one yet.



Variable sensors. Variable connections.
Parallel / sub-LVDS / HiSPi interface is built in, so you can use plenty of sensors such as SONY, Panasonic, OmniVision, and Aptina. EN777 offers up to 2 mega pixel CMOS sensor.

C-1004, 16, Deogyeong-daero 1556beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16690 Rep. of KOREA
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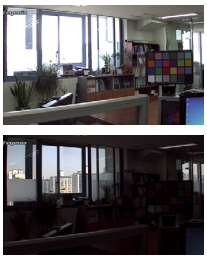
WDR (Wide Dynamic Range)

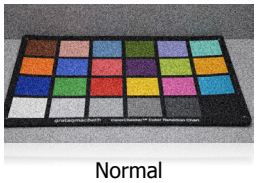
WDR function extends dynamic range of image by composing each differently exposed image. It repeatedly applies long exposure and short exposure for every frame. It applies adaptive tone mapping algorithm to establish linearity among these two images. Maximum dynamic range is 93dB.


Normal


WDR

3D-DNR (Digital Noise Reduction)

3D-DNR reduces noise by amplifying gain in low light. The DNR function has pattern adaptive 2D noise filter to reduce spatial noise and temporal noise, and 3D noise filter to reduce random noise. 2D and 3D noise filter operates adaptively according to environment, to reduce ghost effect in moving objects.


Normal


DNR on

Live Defect Correction

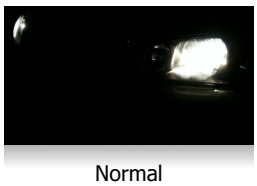
This function corrects defects in low light. The live defect correction function also corrects directional effect. It detects defects in image patterns and corrects them accordingly. Defect correction function is powerful as it uses edge direction.


Normal


Defect correction on

High Light Compensation

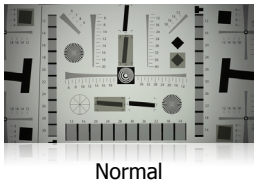
High light compensation keeps suitable brightness levels in background image. It does not respond to high-light objects once the brightness level is pre-set. High light areas can be masked by pre-set levels and colors. It makes the image in the high-light region to become dark. User can set brightness limit of high-light in 3 simple steps.

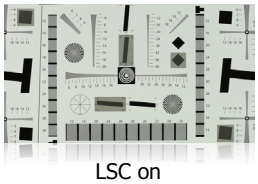

Normal


HLC on

Lens Shading Compensation

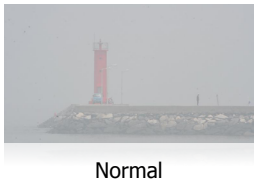
It compensates for the dark area created by the outline of the lens. Compensation uses 2D gain table. Users can control 0 ~ 100% compensation rate according to shading weight.


Normal


LSC on

De-fog

De-fog compensates for foggy image. It automatically controls contrast ratio by spatially analyzing the histogram characteristics. Thus, the De-fog function automatically operates in foggy environments.


Normal


De-fog on

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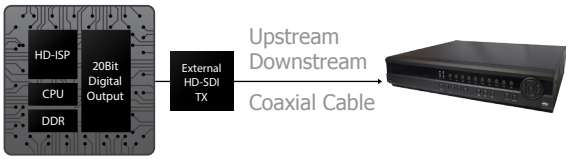
Digital Output

EN777 has an 20bit digital output. It is compatible with BT1120/SMPTE274M. Also, user can tansmit Up/Down stream through coaxial cable.



EN777 HD-SDI DVR

Down Scaler

The Down Scaler function scales down final output image. Especially, it can scale down 1080p to 720p. This function reduces edge distortion when down scaled.

1920 X 1080 1280 X 720

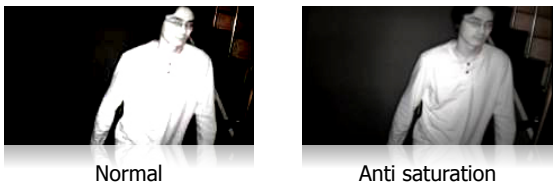
Motion Detection & Alarm

This function detects and displays the object in motion. It stores background image in frame buffer, and it detects foreground area by the difference between background and input image. The minimal pixel size for detection is 32x32. Users can apply intelligence through ID management.

Multiple object detection

Anti Saturation

This function automatically controls the brightness for saturated near object from IR light.
It prevents saturation and expands dynamic range.
Also saturation level can be controlled.



Normal Anti saturation

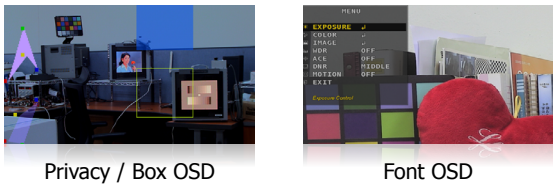
DIS (Digital Image Stabilizer)

The built-in DIS of the EN777 removes image jitter that is caused by vibrations in the building.
This stabilization function greatly reduces the amount of hard disk space required to store images on a DVR.

Normal DIS on

Privacy / Box / Font OSD

EN777 has an 8 polygon masking area for privacy zone. Additionally, also it can be used to variable purpose boxes OSD. Font size is 16x24 pixels. Users can easily develop multi-language support.



Privacy / Box OSD Font OSD

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ISP function

Advanced RGB interpolator for high resolution
WDR (Wide Dynamic Range)
2D / 3D ADNR (Adaptive Digital Noise Reducer)
ACE (Adaptive Constrast Enhancer)
Histogram equalizer for De-fog
LSC (Lens Shading Compensation)
Digital zoom
Digital down scaler (1080p to 720p)
Live defect detection & correction
Manual defect detection & correction (Max. 1024ea)
3A (AE, AF, AWB)
Box OSD (32ea, solid effect, auto zoom)
Font OSD (scalable 24x16 font, styling, half)
Image output mode
- NTSC, PAL, CVBS(960H mode) Only 60P
- BT.1120, SMPTE274M, 720p60/30, 1080p60/p50/i60/i50
- 1.3M ~ 2M digital interface for network (master / slave)

Audio detector
Built in HDcctv

Sensor interface

1.3 ~ 2 mega pixel CMOS sensor
Parallel / sub-LVDS / HiSPI interface
Master / slave mode
Frame rate
- 1.3M : Max. 60fps
- 2M : Max. 60fps

System feature

On-chip encoder for CVBS(1ch DAC)
On-chip ADC (4ch)
On-chip MCU (EISC)
- 32bit processor (Max. 74.25MHz)
- Embedded program SRAM
- Timer, UART, SPI, PWM, watchdog timer, GPIO(32ea), IIC

Power management

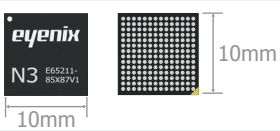
1.8 ~ 3.3V I/O
1.2V internal core power

Operating temperature

0 ~ 70℃

Package

196 FBGA



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