

FPV-CVBS-HDR

Mini Low-Latency FPV HDR Camera

User Manual



rev: 260319
Made in Taiwan

INTRODUCTION

FPV-CVBS-HDR is a mini low-latency FPV camera built for drones and other fast-moving unmanned platforms, where the pilot must react instantly to changing light conditions. Based on the Sony STARVIS IMX462 sensor with HDR capability, it adapts quickly in high-contrast scenes (backlight, shadows, sudden sunlight) to keep details visible for confident control. It outputs standard analog CVBS video (NTSC/PAL) and supports 4:3 or 16:9 switching for typical FPV systems.

FEATURES

FPV Camera

- Active Image: 1920x1080@120fps
- Sensor Type: CMOS 1/3"
- Scale: 4:3/16:9 Switchable
- Video Out: NTSC/PAL
- FOV: FOV-D(99°), FOV-H(82°), FOV-V(67°)
- White Balance: Auto
- Day / Night: EXT/ Auto/ Color/ B&W
- Power Requirement: DC 3.5V~16V(Typical:3.5V~3.6V)
- Consumption: TBD
- Weight: TBD
- Dimensions(mm): TBD

CMOS Sensor: IMX462LQR-C

- High-Sensitivity CMOS Image Sensor (STARVIS Technology)
 - Sony STARVIS back-illuminated CMOS sensor for excellent low-light performance
 - Approx. 2.07 megapixels, 1920 (H) × 1080 (V) active pixels
- Flexible Image Readout Modes
 - Full-pixel scan (Full HD)
 - 720p HD readout mode
 - Window cropping mode
 - Horizontal and vertical image inversion
- High-Speed Image Capture
 - Maximum frame rate: 120 fps at 1080p Full HD
 - Supports 74.25 MHz / 37.125 MHz input clock frequencies
- High Dynamic Range (HDR) Capability
 - Multiple-exposure HDR
 - Digital Overlap (DOL) HDR
 - Ideal for high-contrast or backlit environments
- Advanced Exposure and Gain Control
 - Variable-speed electronic shutter (resolution: 1H units)
 - 10-bit / 12-bit A/D conversion
 - Dual conversion gain: High Conversion Gain (HCG) / Low Conversion Gain (LCG)
 - Low-noise CDS / PGA circuitry
 - Wide gain range:
 - 0 to 29.4 dB analog gain (0.3 dB steps)
 - 29.7 to 71.4 dB combined analog + digital gain (0.3 dB steps)

- Multiple Output Interfaces
 - CMOS logic parallel SDR output
 - Low-voltage LVDS serial DDR output (configurable 2-channel / 4-channel / 8-channel)
 - MIPI CSI-2 output (2-lane / 4-lane, RAW10 / RAW12)
- High Optical Compatibility
 - Recommended exit pupil distance: -30 mm to -∞
 - Compatible with a wide range of lenses including wide-angle, telecentric, and high-CRA optical designs
- Integrated System Control
 - Built-in timing control circuits
 - Integrated H/V drivers
 - Built-in serial communication interface
 - Reduces system design complexity for end users