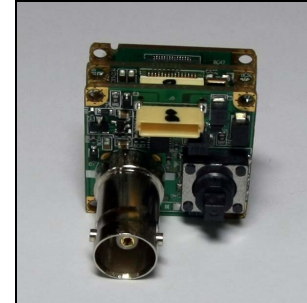


# GNAT 1080p 60™ – Miniature 1080p 60 fps or 59.94 fps HD-SDI Camera

## Features

- 2.1 Megapixels
- Powerful DSP chip based
- 1/3" Progressive Scan CMOS Sensor
- Output: 3G-SDI/HD-SDI (NTSC, PAL) with 292M
- 42.1 x 29 x 29 millimeters – just over 1.65 inches long
- Maximum 1,920 x 1,080 resolution
- Maximum 60 fps @ 1,920 x 1,080
- Broadcast standard version available with 29.97/59.94 fps
- C/CS mount
- Cased version ships with tripod adapter, universal power supply, and control cable
- Can control remotely via PC with RS-485 cable connection – up to 4,000 feet (1,219 meters)
- AGC, AWB, AE, D-WDR, Sens-Up
- 2D/3D Noise Reduction, Digital Zoom
- Defog
- 1080/720@30p/60p/60i selectable
- Broadcast standard version: 1080/720@29.97p/30p/59.94p/59.94i/60p/ 60i selectable
- WDR (Wide Dynamic Range): Allows a camera to filter the intense back light surrounding a subject and thus enhances the ability to distinguish features and shapes on the subject.
- DNR (Digital Noise Reduction, 2D/3D-NR): Provides outstanding clear images by reducing noise. DNR technology has excellent disk-saving effect.
- AGC (Automatic Gain Control): Automatically adjusts the incoming signal to proper level for display or recording and the sensitivity of pick-up object to render the most pleasing images. Improves performance in low light conditions.
- Dynamic Motion Detection (8 zones, up to 1980 blocks)
- Privacy Zone Masking (8 zones)
- Built-in OSD (On Screen Displays) Joystick
- DC12V ~ 24V
- Ships with Universal PS, Tripod Adapter, and Control Cable
- Board mount version available with Board Mount Lens (DC Iris, TDN Support)



Available in Cased or Board Versions

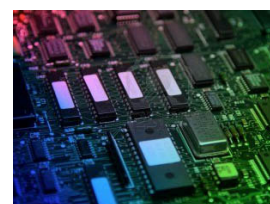
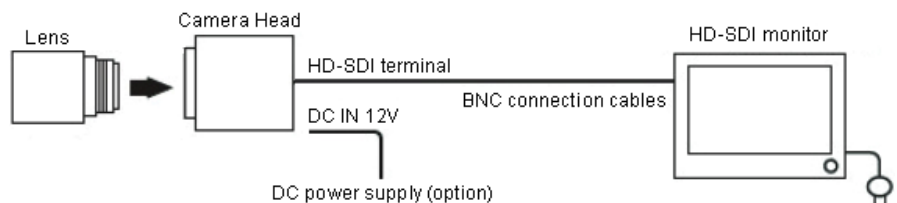
**2.1 Megapixel, 1080p, 42.1 Millimeters/1.66 Inches CMOS Color HD Camera with Maximum 60 fps@ 1920 x 1080. 2D/3D Noise Reduction, Digital Zoom. Built-in OSD Joystick. For Machine Vision, Parts Inspection, Robotics, Military, and Medical/Science Applications.**

## Overview

The GNAT 1080p 60™ is a miniature 1080p camera – 42.1 millimeters long – just over 1.65 inches. It features a 1/3" Progressive Scan CMOS Sensor, 60 fps@1920 x 1080, AGC (Automatic Gain Control), WDR (Wide Dynamic Range), digital zoom, and defog. The GNAT 1080p 60 also supports brilliant DNR (Digital Noise Reduction) technologies like DNR, 3D-NR and 2D+3D.

## Applications

- Rugged Military Camera
- Machine Vision (Semiconductor, Automotive)
- Medical (Microscopy, Dental Medicine)
- Sport Science (Motion Analysis, Physical) POV
- Situational Awareness for Subs, Airplanes, and Ships



# Specifications

## General Specifications

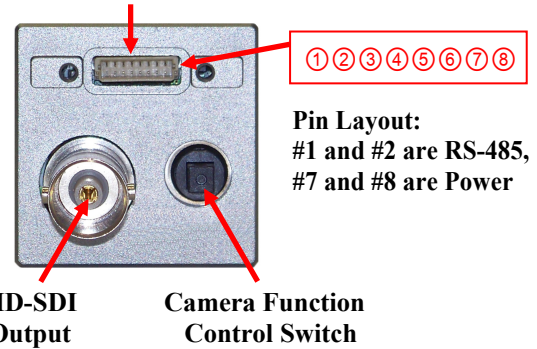
<b>Image Sensor</b>	1/3" Type, 2.1 megapixel progressive scan CMOS Sensor
<b>Scanning System</b>	Progressive, Interlace
<b>Effective Pixels Number</b>	1,920 (H) x 1,080 (V), 2.07M Pixels (Full HD)
<b>Total Number of Pixels</b>	1,952 (H) x 1,116 (V), 2.18M Pixels (Full HD)
<b>Lens Mount</b>	C/CS Mount
<b>S/N Ratio</b>	More than 50 db (AGC Off)
<b>Video Output Modes</b>	HD-SDI: 1920x1080p (30 fps), 1920x1080i (60 fps), 1280x720p (60 fps) 3G-SDI: 1920x1080p (60 fps)
<b>Video Output Modes, Broadcast Standard Option</b>	HD-SDI: 1920x1080p (29.97 fps), 1920x1080p (30 fps), 1920x1080i (59.94 fps), 1920x1080i (60 fps), 1280x720p (59.94 fps), 1280x720p (60 fps) 3G-SDI: 1920x1080p (59.94 fps), 1920x1080p (60 fps)
<b>Video Output Level</b>	HD-SDI, 3G-HDI / 1.0 Vp-p (75Ω, Composite) NTSC/PAL (Selectable) Supports BT. 601, BT.656, BT.709, BT.1120, YC 16-bits At 1080p 60, outputs as BT.1120
<b>HD-SDI Output Connector</b>	BNC Connector
<b>Min. Illumination</b>	Color: 0.2 Lux @ F1.2 / B/W: 0.01@F1.2
<b>OSD</b>	Built-in
<b>Electronic Shutter Speed</b>	Auto / Manual (1/30 ~ 1/50,000)
<b>White Balance</b>	ATW / AWC / Indoor / Outdoor / Manual
<b>Back Light Compensation</b>	Off / WDR / BLC / HSBLIC
<b>D-WDR/ACCE</b>	Low / Middle / High / Off, 0~15 steps
<b>AGC</b>	0~15 steps
<b>Adjust</b>	SHARPNESS / MONITOR / OSD / LSC / VIDEO OUT (NTSC/PAL)
<b>Languages</b>	ENG, JPN, CHN, KOR, GER, FRA, ITA, SPA, POL, RUS, POR, NED, TUB, HER, ARB (Directional Switches)
<b>Day &amp; Night</b>	Auto / B.W / Color / EXT (Selectable)
<b>2D/3D-NR</b>	2DNR / 3DNR / SMART NR
<b>Digital Zoom/PIP</b>	On / Off (x2 ~ x64)
<b>Privacy Masking</b>	On / Off (8 Zone Selectable)
<b>Motion Detection</b>	On / Off (4 Zone Selectable)
<b>Defect</b>	LIVE DPC / STATIC DPC / BLACK DPC
<b>Defog</b>	Low / Middle / High / Off (Position/Size-User Setting)
<b>Sens - up</b>	Auto (Selectable limit ~ x30) / Off
<b>D - EFFECT</b>	Freeze / Mirror / D-Zoom / NEG. IMAGE
<b>Protocol</b>	Pelco-D / Pelco-P
<b>RS-485 Communication</b>	CAM ID: 0 ~ 255 ID Display: On / Off Baudrate: 2400 / 4800 / 9600 / 19200 / 38400

## Physical and Power

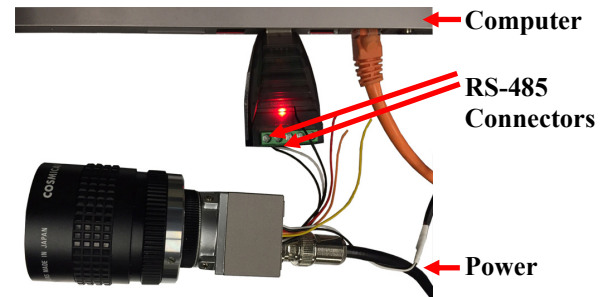
<b>Power</b>	DC12V ~ 24V ±10%
<b>Max. Power Consumption</b>	2.3W (1080p/30 fps), 3.3W (1080p/60 fps)
<b>Operating Temperature</b>	5°C ~ +50°C (0% ~ 80% Relative Humidity)
<b>Storage Temperature</b>	-20°C ~ +60°C (0% ~ 90% Relative Humidity)
<b>Dimensions</b>	42.1 x 29 x 29 millimeters 1.66 x 1.14 x 1.14 inches (Connector, C/CS mount excluded)
<b>Weight</b>	Approximately 40 grams (1.41 ounces)

# Rear Connectors

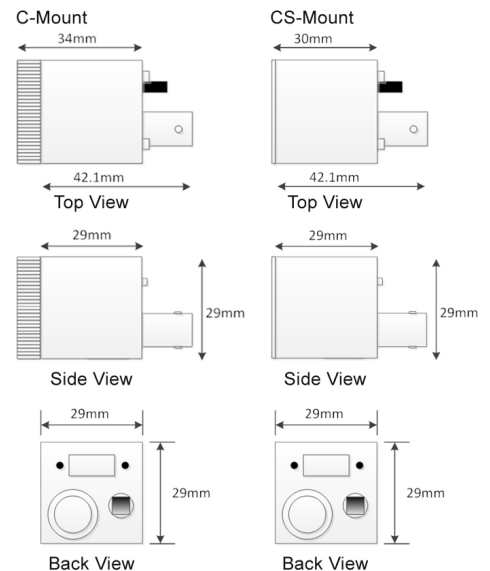
## Power and I/O Port



# Remote Control via PC & RS-485



# Camera Drawings



# Ordering Information

- GNAT 1080p 60:** 2 Megapixel HD Camera  
Ships with tripod adapter, universal power supply, and control cable
- GNAT 1080p 60 Board:** 2 Megapixel HD Camera – Board Version
- GNAT 1080p 59.94:** 2 Megapixel HD Camera – Broadcast Standard