

Grandeye Halocam-R Analogue Camera

Architectural and Engineering Specification

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PART 1 - GENERAL

1.01 General Requirements

1. The camera shall be based upon standard components and technology.

1.02 Quality Assurance

1. All camera installation, configuration, setup, program and related work shall be performed by trained technicians.

1.03 Certifications and Standards

A Approvals. The camera shall meet:

1. EMC to CISPR Class A for CE, FCC, ICES-003
2. Safety to UL2044 (UL2043 with conduit kit) (see UL file E313415)

1.04 Warranty

1. The camera shall be supplied with a full manufacturer warranty against defects in material and craftsmanship for 3 years from purchase date.

PART 2 - PRODUCT

2.01 General

1. The camera shall:
 - a. Be designed to provide video (PAL and NTSC), and support resolutions up to 1744x1536 pixels via LVDS to optional Halocorder
 - b. Provide video at up to 20 frames per second
 - c. Provide high speed pan, tilt and zoom functions with no moving parts
 - d. Be operable via industry standard controller protocols
 - e. Be able to be integrated with industry standard digital video recorders (DVR)
 - f. Operate on an embedded Linux platform
 - g. Be manufactured in solid state electronics with no moving parts
 - h. Shall have FTP server capabilities

2.02 Manufacturer

Grandeye Ltd
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2.03 Hardware

1. The camera shall use a 3-Megapixel CMOS digital image sensor.
2. The camera shall use a CS-mounted fisheye lens, providing a horizontal view of 170°.

2.04 Video

A Resolution

1. Analogue video shall be available in the following formats:
 - a. PAL
 - b. NTSC
2. A dedicated high-resolution output shall be provided for recording the 3MP fisheye on proprietary equipment.

B Image Formats

1. The camera shall provide the following image formats:
 - a. Four independent virtual cameras with individual pan, tilt and zoom control, available full-screen or in multi-view screens
 - b. Complete panoramic views, geometrically-corrected
 - c. Full-screen fisheye

C Image Control

1. The camera shall incorporate:
 - a. Automatic white balance control
 - b. Colour temperature control
 - c. Automatic gain control
 - d. Automatic and manual exposure control
 - e. Automatic night mode control
 - f. Flicker filter for 50Hz and 60Hz mains frequencies
 - g. Different mount options including horizontal and vertical with an offset tilt angle

2.05 Functionality

A User Interface

1. The camera shall allow the user to configure the camera and optionally attached Halocorder via on-screen menus which shall be password protected.
2. The on-screen menus shall be navigable by industry standard control protocols.
3. The camera shall store an identification number which when received within a keyboard protocol packet, shall respond accordingly.
4. The camera shall be able to be configured to deny output format changes
5. The on-video menus shall be available in multiple languages including English, French, Italian, Spanish, German, Czech
6. The camera shall allow video freeze during normal operation

B PTZ Functionality

1. The camera shall provide
 - a. Independent PTZ positions for at least 4 different video streams
 - b. At least 78 preset positions
 - c. At least four storable preset tours which shall each allow up to 64 preset positions to be defined
 - d. At least four storable learn tours which shall each allow up to 3 minutes of camera movements to be defined
 - e. Configurable instant 180 flip operation when panning/tilting past the central position
 - f. The speed of pan/tilt proportional to the depth of zoom
 - g. Up to 75 sectors which can be labelled and shall enable the display of the sector title when the PTZ position covers that position

C Picture Control

1. The camera shall provide:
 - a. Brightness, Contrast and Saturation control
 - b. Gamma and Black level control
 - c. Blur suppression and edge enhancement
 - d. Moiré Filter capability
2. The camera shall enable user defined text or date and time information to be added to the video output
3. The camera shall allow thumbnail images to be added to the video output

D Motion Detection

1. The camera shall
 - a. Provide built-in motion detection software that allows full configurability for sensitivity, latency, light sensitivity for both motion tracking and motion detection.
 - b. Provide at least 75 rectangular motion detection regions.
 - c. Allow the display of up to four separate objects in separate respective video streams
 - d. Allow motion detection to be scheduled
 - e. Provide a museum mode for detection of objects being removed from the scene

E Event Functionality

1. The camera shall be equipped with an integrated event functionality, which can be triggered by:
 - a. 4 external hardware inputs
 - b. Video motion detection
 - c. Scheduling
 - d. Timeout after non-user by operator
 - e. Camera power up
2. Response to triggers shall include:
 - a. Activating up to 4 external hardware output
 - b. PTZ to a specified preset position
 - c. Begin preset tour (museum mode)
 - d. Begin learn tour

F Security

1. The on-video configuration menus shall be password protected
2. The camera shall provide up to 75 privacy zones which shall hide rectangular regions on all video output.

G Maintenance

1. Windows-based configuration software shall be available which allows the backup of camera configurations and firmware upgrades.
2. All customer-specific settings shall be stored in non-volatile memory and shall not be lost during power cuts or soft reset.

2.06 Camera Diagnostics

1. The camera shall be monitored by a Watchdog functionality, which shall automatically reset the camera chips and software if a malfunction disables the camera's normal operation
2. The camera shall be equipped with a power indicator LED
3. Diagnostics feature for trained engineers

2.07 Interfaces

1. The camera shall have a 100baseTX Fast Ethernet connection using a standard RJ-45 socket for upgrade purposes
2. The RJ-45 socket shall also enable high-speed proprietary-format digital video connection to the Halocorder.
3. The camera shall be equipped with four external hardware input and one hardware output, configurable to be normally open (NO) or normally closed (NC).
4. The camera shall allow for keyboard control via RS485 terminals.
5. The camera shall have two analogue output sockets for video output.

2.08 Physical Specifications

A Enclosure

1. The enclosure shall be manufactured from die-cast aluminium alloy.
2. The rear panel of the camera's enclosure shall be fluted, to allow for heat dissipation.

B Finish

1. The camera shall be finished with metallic grey paint, with matt finish. The front of the camera shall be beige in colour.

C Dimensions

1. The dimensions of the camera shall be 185mm x 170mm; 7.28" x 7.00"

D Weight

1. The weight of the camera shall be approximately 1.5 kg.

2.09 Electrical Specifications

A Input Voltage and Power Consumption

1. The camera shall use an external, isolated switched-mode power supply with an output voltage range of 12VDC +/-5% and a current rating =>2A, which plugs into rear of the unit via a 2 way terminal block plug.
2. Power consumption of the camera shall not exceed 20W.

2.10 Environmental Specifications

A Environmental

1. The camera shall be for indoor use only.
2. The camera shall operate in the temperature range of 0°C and +40°C (32°F and 104°F)
3. The camera shall have a storage temperature range of -10°C and +60°C (14°F and 140°F)

2.11 Mechanical Specifications

A Cable Entry

1. The camera shall receive external power via a 2 way Phoenix Connector 5.08mm terminal block socket at the rear of the camera.
2. The alarm inputs shall each be 2 way terminal blocks.

3. The alarm output shall be a 3 way terminal block, to allow for normally open or normally closed external circuits.
4. The camera shall have a standard RJ45 socket for 100baseTX Fast Ethernet connection, used for diagnostics and upgrading of software, as well as proprietary-format transmission of digital video to/from a connected Halocorder.
5. The camera shall be equipped with two analogue 75 Ohm BNC coaxial sockets for video output.
6. The camera shall use a 3-way terminal block for RS485 keyboard control.

B Lens and Lens Mount Specifications

1. The camera shall use a 3 mega-pixel rated fisheye lens with focal length of 1.8mm.
2. The lens shall use a CS type mount.

C Enclosure Fixings

1. All PCB's shall be mounted to the enclosures using M3x6 dome head screws.
2. The camera enclosure shall be held together with M3x6 dome head screws with and M3 shake-proof washers.

PART 3- EXECUTION

3.01 Installation

1. The installer shall carefully follow instructions provided in the User Manual to ensure all steps have been taken to provide a safely installed system
2. All equipment shall be tested and configured in accordance with instructions provided by the manufacturer prior to installation
3. The camera shall be configured with a default on-screen menu password