AMERICAN DYNAMICS™

DATA SHEET

SpeedDome® Ultra VII Day/Night

Programmable Dome Camera with Electronic Image Stabilization

Features that make a difference:

- Advanced DSP CCD camera
- 23x optical zoom with 10x digital magnifier (230x total zoom)
- Supports NTCIP protocol–designed specifically for the transportation market
- Electronic Image Stabilization reduces image shake when the mounted camera is in motion
- Freeze frame on presets (user-selectable on/off)
- Open shutter to capture images in very low light
- Infrared mode
- Continuous autofocus
- Zoom adjusted programming
- Dome usage statistics
- Supports SensorNet, RS-422, AD UTC and Manchester protocols, as well as protocols from Pelco®, Panasonic®, and Vicon®

The state-of-the-art SpeedDome Ultra VII Day/Night with Electronic Image Stabilization (EIS) provides 230x total zoom, 23x optical and 10x digital. Digital signal processing (DSP 6) provides enhanced clarity, color and detail regardless of lighting conditions.

EIS reduces the vibration of the image without causing loss of resolution. This feature is especially useful when the dome is installed in places that subject it to shaking or moving, such as a pole next to a highway.

Conserve hard drive space when recording digitally by freezing an image when moving to a preset. Define privacy zones to prevent users from viewing sensitive areas. Display indicators on the monitor to denote the direction in which the dome is pointing, the direction in which the dome is moving and the dome's azimuth (degree of tilt).

Establish a default "home position" preset, sequence or pattern when the dome is not under active control. Statistics on pan, tilt and zoom usage indicate how little or how often the dome is controlled.

Process alarms internally with the dome, externally with the controller or with both the dome and the controller. Communicate with a host of systems–including those from other vendors–via the internal multiprotocol receiver.

Other features include infrared mode, password protection, dome-generated programmable on-screen text and user-definable settings for features such as line-lock, maximum zoom, direction indicators, proportional flip, AGC and white balance.

The dome also provides two twist lock mounting base options: an I/O board base with unsurpassed ease of installation, service and maintenance, and a standard base as a value priced alternative.

For outdoor use, the SpeedDome Ultra Outdoor Housing with an optional vandal resistant kit is available. Protection from even more harsh environments is provided by the SpeedDome Ultra Pressurized Housing.

tyco / Fire & Security

features

- Unshielded twisted pair (UTP) wiring video transmission enabled as standard
- Supports NTCIP protocol–designed specifically for the transportation market
- Dome-generated on-screen text including direction indicators
- Up to eight privacy zones
- Two mounting base options
- Programmable presets, patterns and area names
- DirectSet feature provides fast access to the most frequently used dome features
- 96 presets store camera parameters (controller dependent)
- 16 patterns including expanded commands and duration
- 16 preset sequences
- Alarm inputs and outputs
- Password protection
- Automatic home position
- Automatic proportional flip and automatic gain control (AGC), line-lock and white balance (user-selectable on/off) are provided.
- The camera's 23x optical zoom is combined with a 10x digital magnifier, providing the power of a 230x total zoom.
- The SpeedDome Ultra VII Day/Night with EIS can clearly distinguish scenes and colors in lighting conditions as low as 0.5 lux and 0.009 lux in black and white mode.
- In addition to SensorNet, Manchester, AD-UTC and SEC RS-422 codes, the dome can be controlled via other select manufacturers' protocols such as Pelco®, Panasonic® and Vicon®, making it a perfect choice for installers wanting to replace older PTZs.
- Up to eight different - sized privacy zones can be programmed to prevent users from viewing sensitive areas. The zones automatically change size proportionally.
- The dome maintains statistics on how long it has been on, duration of pan/tilt/zoom movements, number of presets selected and other usage information.
- Users can adjust the white balance manually or have the camera set it automatically. White balance is normally compensated for by the auto tracking white balance. However, in some lighting conditions it may be necessary to manually adjust the red and blue settings for optimal viewing.
- Users can set the automatic gain control (AGC) on/off, and when it is turned off, users can manually set the gain. AGC helps compensate for low lighting conditions.
- Focus Preference provides continuous autofocus with manual override.
- Users can set automatic dome flip on/off. With this feature turned on, the dome will automatically turn 180° when the camera tilts to its lower limits and stays in that position for a brief speed-proportional delay. Turned off, users can still manually flip the dome.
- The dome supports up to 16 patterns. Preprogrammed default spiral pan pattern ("apple peel") covers the entire viewing area. Each pattern can store up to 99 commands each and be 10 minutes long.
- The dome supports up to 16 preset sequences. Each sequence can store up to 16 presets and have a 10 minute dwell time per sequence.
- DirectSet™ feature provides fast access to the most frequently used dome features, when used with a suitably equipped controller.
- The dome supports up to 96 presets when used with suitably equipped controllers. Presets now store camera parameters such as EIS and IR mode settings and AGC level.
- Using the Freeze Frame feature before moving to a preset minimizes hard drive usage when video is digitally recorded.
- Zoom adjusted programming (ZAP) automatically adjusts pan and tilt speeds in proportion to zoom position, even at maximum magnification.
- Instant digital zoom immediately activates your digital zoom settings (once the focus reaches the end of the optical zoom range) every time you call a preset.
- Alarms can be processed internally by the dome, externally by the controller or by both the dome and the controller. Each of the dome's alarm inputs can automatically call a preset or run a pattern when the alarm is activated.
- The dome supports up to 16 areas of various sizes. Users can assign names (up to 19 characters long) and boundaries to these areas.
- Home position is the position that a dome returns to after it remains inactive for a specific period of time. This ensures that even when the dome is unattended, it will always be pointing to a key area of the facility. The user can define that preset, sequence or pattern and also how long (from 1 to 60 minutes) before a dome returns to its home position.
- The dome generates on-screen text including dome, area, preset, pattern and alarm names as well as direction indicators. These indicators show users the direction the dome is currently pointing, as well as the direction in which it is moving. In addition, the direction indicators display the dome's azimuth (degree of tilt).
- On-screen text also indicates zoom, focus and iris status. All name information is user-definable and can be turned on or off. When on, it can be set for solid or translucent white, with or without black outline.

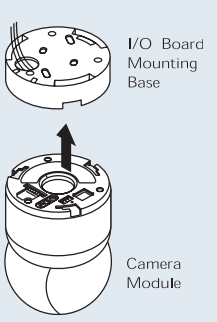
take a closer look

- On-screen text supports six languages: English, French, Italian, Spanish, German and Portuguese.
- Password protection prevents unauthorized use of the configuration utility.
- The dome incorporates an innovative twist lock release from the mounting base for easy installation and servicing.
- The fully isolated power supply helps eliminate ground loops.
- Users can set line-lock on or off. Line-lock is enabled to help prevent vertical rolling in multi-camera applications.
- Vertical sync phase adjustment is provided to help compensate for different phases of power when line-lock is enabled, making it ideal for single and multi-phase power installations.
- Sensing of 50/60 Hz lines is automatic and does not require manual adjustment.
- Surge protection is provided for video, code, alarms and power connections.
- Daisy chain configuration of control wiring is enabled:
  - For RS-422: 10 domes at a maximum distance of 1 km (3000 ft) on two 22 AWG shielded twisted pairs (STP)
  - For SensorNet: 32 devices at a maximum distance of 1 km (3000 ft) on one 22 AWG unshielded twisted pair (UTP)
  - For Manchester: 3 domes at a maximum distance of 1500 m (5000 ft) on one 18 AWG shielded twisted pair (STP)
  - For AD-UTC[1]: Maximum distance per dome is 700 m (2300 ft) on 20 AWG RG59U cable
- The features of the SpeedDome Ultra VII with EIS can be extended to outdoor environments via the SpeedDome Ultra Outdoor Housing. The outdoor housing, designed especially for the SpeedDome Ultra's small, unobtrusive size, makes it the perfect protection for the dome. The housing now features a reinforced outdoor housing as standard and a heavy duty vandal resistant housing kit option.

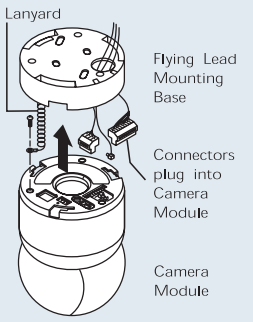
Two Mounting Base Options

The housing/eyeball assembly twist locks into both mounting bases. The I/O board base connects the housing/eyeball assembly in one step. Power, communication and video cables (or composite cable) are connected one time to an I/O PC board in the mounting base, so the assembly is simply twist locked onto the base. Service and maintenance are easy and can be accomplished without a ladder or lift via the installation/removal tool. The I/O board mounting base supports four alarm inputs and four alarm outputs as well as power and communication LEDs. The standard base connects the housing/eyeball assembly in two steps. First, power, communication and video cables (or composite cable) are inserted through the base and attached to the assembly. Then the assembly is connected to the base. The standard mounting base supports one alarm input and one alarm output. The installation/removal tool cannot be used to install this configuration.

1 This distance is for the AD-UTC data only. See cable manufacturers specifications for video capabilities.



with I/O Board Mounting Base



with Flying Lead Mounting Base (Pigtail)

NUMBER OF PRESETS		
Controller or Matrix Switcher	Protocol	Number of Presets
ADTT16E	SensorNet	96
	RS-422[2]	4
MegaPower LT	AD-UTC	96
	SensorNet	96
AD2150	Manchester	64
	RS-422[3]	16
MegaPower 48 and MegaPower 48 Plus	SensorNet	96
	Manchester	64
	RS-422	96
VM96	SensorNet	Unlimited
	RS-422	Unlimited
MegaPower 168	SensorNet	64
	Manchester	64
	RS-422	64
	RS-422[3]	16
MegaPower 1024	Manchester[4]	64
	RS-422[3]	16
Third party interfaces	RS-485	96

2 Using SensorNet-to-RS-422 Converter (model number RCSN422)

3 Using RS-422 Code Distributor (model number AD2083-02B)

4 Using Manchester Code Distributor (model number AD2091)

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SPECIFICATIONS

Operational

Manual Pan/Tilt Speed . . . . . .0.25°-100° per second (based on zoom position)
Preset Pan/Tilt Speed . . . . . .220° per second, maximum
Pan Travel . . . . . .360° continuous
Tilt Travel . . . . . .110°
Pan/Tilt Accuracy . . . . . .± 0.5°
Zoom/Focus Accuracy . . . . . .± 0.5%
Total Zoom 230x
Optical Zoom 23x
Digital Zoom 10x
Zoom Pause . . . . . .23x or 35x
Zoom Stop . . . . . .Selectable: 23x, 35x (zoom pause default), 46x, 69x, 92x (zoom stop default), 115x, 138x, 161x, 184x, 207x, and 230x
Programmable Patterns 16
Programmable Sequences 16
Programmable Areas 16
Programmable Privacy Zones . . .8
Direction Indicators . . . . . .Yes
Auto Synchronization
  Line-Locked . . . . . .Remote V-phase adjustment
  Internal . . . . . .Built-in sync generator
Address Range
  RS-422/RS-485 . . . . . .1 - 99
  Manchester . . . . . .1 - 64
  SensorNet . . . . . .1 - 255
  AD-UTC . . . . . .Based on number of inputs on controller
Alarm Inputs
  With I/O Board . . . . . .4 dry contacts/3.5 mA sink
  Without I/O Board . . . . . .1 dry contact/3.5 mA sink
Alarm Outputs
  With I/O Board . . . . . .4 open collector drivers at 12 VDC, 40mA
  Without I/O Board . . . . . .1 open collector driver at 12 VDC, 40mA
Menu Languages . . . . . .English, French, German, Italian, Spanish, Portuguese

Electrical

Input Voltage . . . . . .16 to 30 VAC, 50/60 Hz Class 2 LPS
Design Tolerance . . . . . .20 to 36 VAC, 50/60 Hz
Power . . . . . .16 watts
Power On In-Rush Current . . . . .1.5 amps
Allowable Drop-Out . . . . . .100 µsec
Surge Protection
  Video . . . . . .Low-capacitance Zener suppressor of 6.5 V, 1500 watts
  SensorNet/Manchester . . . . . .Isolation transformer coupled, 2000 Vrms; PTC resettable fuse protects transformer; 9.8V/1A, 500 watts, 8/20 µsec impulse; 10kA impulse rated gas tube
  RS-422/RS-485 . . . . . .TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse
  Alarm Input/Aux Outputs . . . . . .TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse
  Power Line . . . . . .TVS rated at 60 V, 250 A, 1.5 joules, 8/20 µsec impulse

Cameras

NTSC
  Effective Pixels . . . . . .962 (H) x 654 (V) pixels
  Scanning . . . . . .525 lines, 60 fields, 30 frames
  Horizontal . . . . . .15.734 kHz
  Vertical . . . . . .59.9 Hz
  Shutter Speed . . . . . .Auto/Manual (1/2 - 1/30,000)
  White Balance . . . . . .Through the Lens (TTL) Automatic Tracing White Balance (ATW)
  Horizontal Resolution . . . . . .470 lines
  Imager . . . . . .Interline transfer 1/4-inch CCD array
  Scanning System . . . . . .2:1 interface
  Video Output . . . . . .1.0 Vp-p, 75 Ω composite
  S/N Ratio . . . . . .>50 dB (typical)
  Minimum Illumination . . . . . .Better than 0.5 lux (20 IRE, AGC) on 0.03 lux with 1/4 sec open shutter
  0.01 lux in black and white IR mode
  0.009 lux in black and white mode with 1/4 sec open shutter

Lens
Design . . . . . .Aspherical
Aperture f1.6
  3.6 mm . . . . . .41.5° (H) x 31.1° (V)
  82.8 mm . . . . . .1.9° (H) x 1.4° (V)
Focal Length . . . . . .3.6 to 82.8 mm

Mechanical

Height . . . . . .205 mm (8.0 in)
Diameter . . . . . .120 mm (4.7 in)
Weight
  Housing and Eyeball . . . . . .1.18 kg (2.6 lbs)
  Base (standard) . . . . . .0.09 kg (0.20 lbs)
  Base (with I/O board) . . . . . .0.16 kg (0.35 lbs)

Environmental

Operating Temperature . . . . . .-10° to 50° C (14° to 122° F)
Humidity . . . . . .0 to 95% RH (noncondensing)
Storage Temperature . . . . . .-20° to 65° C (-4° to 149° F)

Regulatory

Emissions . . . . . .FCC: 47 CFR Part 15 Subpart B Class A; CE: EN55022 Class B; CE: EN6100-3-2; CE: EN6100-3-3, AS/NZS 3548, Class A; CISPR22; ICES-003
Immunity . . . . . .CE: EN50130-4
Safety . . . . . .UL: UL1950; CUL: CSA 22.2 No. 950; CE: EN60950; IEC950

Model Numbers

Housing/Eyeball Assembly without Mounting Base
  RAS918LS . . . . . .Color Day/Night NTSC (black camera body)
Mounting Base without Housing/Eyeball Assembly
  RUPTB . . . . . .Standard Base (black base)
  RUIOB . . . . . .I/O Board Base (black base)
Housing/Eyeball Assembly with Mounting Base
 Dome with Standard Base
  RAS918LSP . . . . . .Color Day/Night EIS NTSC (black assembly and base)
 Dome with I/O Board Base
  RAS918LSI . . . . . .Color Day/Night EIS NTSC (black assembly and base)

Options

Optional Bubbles for RHIUTH Top Hat Mount
  RUCLR . . . . . .Clear Bubble (f0)
  RUSLV . . . . . .Silver Bubble (f2.0)
  RUSMK . . . . . .Smoked Bubble (f1.0)
  RUGLD . . . . . .Gold Bubble (f2.0)
  Note: Bubble diameter=176 mm (6.93 in); bubble depth=86.5 mm (3.4 in); bubble weight=.13 kg (4.4 oz) with trim ring
Installation and Removable Accessory
  RHIRT . . . . . .Installation and Removal Tool

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