SpeedDome® Ultra 8
Programmable Dome Camera

Features that make a difference:

- Two powerful series (22x and 35x optical zoom) let you choose the dome that's right for your application

- Powerful 35x optical zoom (ADSDU835) features 540 TVL and other advanced features for superior images

- Store presets and patterns within the base to eliminate reprogramming

- No fans ensure quiet operation and superior reliability

- Integrated Unshielded Twisted Pair (UTP) simplifies wiring and installation

- Covert design eliminates the need for an external bubble

- Innovative I/O base design simplifies installation

- Continuous autofocus provides the clearest images during full range of motion

- Dome usage statistics provide important information on how a dome is utilized

- Up to 8 privacy zones give you the flexibility to protect confidential areas or respect personnel privacy

- Advanced on-screen display with titles provides the detail you need to know exactly what you're looking at

- Supports SensorNet, RS-422, AD-UTC, Manchester and select manufacturers protocols[1]

- Supports NTCIP protocol, designed specifically for the transportation market

- 35x series offers Day/Night, Digital Slow Shutter (DSS) and Wide Dynamic Range (WDR) functionality to provide the flexibility to monitor any type of environment

- 35x series offers Electronic Image Stabilization (EIS) to reduce image blurriness when the mounted camera experiences movement

SpeedDome Ultra 8 (35x series)

The 35x series offers the highest performance with 540TVL, 35x optical zoom, WDR, day/night, DSS and EIS. The day/night and DSS features allow you to clearly see images in scenes as dim as 0.00041 lux. EIS reduces the vibration so the image can be viewed properly. 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. These features combine to make the SpeedDome Ultra 8 series an ideal solution for outdoor applications requiring high resolution images whether up close, far away or for indoor applications requiring the best picture possible, such as in casinos or retail establishments.

SpeedDome Ultra 8 (22x series)

The 22x series delivers excellent color images in scenes as dim as .02 lux. Zoom ability consists of 22x optical and 11x digital zoom for 242x total zoom. Like the 35x series, the 22x offers advanced programmable features including DSS, automatic home position, dome usage statistics, privacy zones, advanced on-screen text, and freeze frame on presets to conserve digital recorder hard drive space. This series is well-suited for indoor applications requiring clarity, color and detail in well lit or low light conditions.

features

Superior Video Images

SpeedDome Ultra 8 features powerful zoom capabilities with either 420x total zoom (35x optical zoom with 12x digital magnifier) or 242x total zoom (22x optical zoom with 11x digital magnifier).

The 35x series includes some of the industry's most powerful features including the innovative WDR capability which compensates for very bright and dark conditions within the same scene without losing image clarity. For low light applications, a removable infrared (IR) cut filter provides effective viewing in lighting conditions as low as .00041 lux in black and white mode.

The 35x series also includes the innovative EIS feature which reduces the effect vibration has so an image can be viewed properly. 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.

Both the 22x and 35x series allow you to further compensate for low lighting conditions using DSS technology that allows the CCD imager to accumulate more light. Additional image adjustments include automatic gain control (AGC) and white balance.

Advanced Control and Positioning

SpeedDome Ultra 8 supports up to 96 preset positions[2] with user-defined titles and 16 preset sequences with a 10 minute dwell time for the ultimate in viewing flexibility. Sixteen patterns are supported and a preprogrammed default spiral pan pattern ("apple peel") covers the entire viewing area. Each pattern, which can be up to 10 minutes long, can store up to 99 PTZ commands. Using the Freeze Frame feature before moving to a preset minimizes hard drive usage when video is digitally recorded.

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.

To ensure key areas of a facility are continually monitored, an inactive or unattended dome can be configured to return to "home position" after it performs a pre-defined preset, sequence or pattern. When the dome tilts to its lower limits, an innovative automatic proportional flip feature automatically turns the dome 180°. Alternatively, you can manually flip the dome from the keyboard.

To protect sensitive areas, you can program up to 8 privacy zones of different sizes. These privacy zones automatically change size proportionally when zooming in or out.

Zoom adjusted programming (ZAP) automatically adjusts pan and tilt speeds in proportion to zoom position, even at maximum magnification.

In addition to SensorNet, Manchester, AD-UTC, NTCIP, SensorNet, and RS-422 protocols, the dome can be controlled via other select manufacturers' protocols[3] such as Pelco® P and Coaxitron, Panasonic® UTC and Vicon® RS-422, making it a perfect choice for customers wanting to replace older PTZs.

Powerful On-Screen Display

SpeedDome Ultra 8 generates helpful on-screen text including dome, preset, pattern, alarm and area names as well as direction indicators. These indicators show the direction the dome is currently pointing and the direction in which it is moving. For example, you can assign up to sixteen areas of various sizes to identify boundaries within different areas. In addition, the direction indicators display the dome's azimuth (degree of tilt).

On-screen text also indicates zoom, focus and iris status. All information is user-definable and can be turned on or off. When on, you can set the text to appear solid or translucent white, and with or without black outline which makes it easy to ensure the text is always visible, but doesn't block important parts of the image.

On-screen text supports six languages: English, French, Italian, Spanish, German and Portuguese.

Powerful Configuration and Maintenance

A convenient DirectSet feature provides fast access to all of your most frequently used dome features when used with a suitably equipped controller[4]. To ensure the integrity of your security settings, password protection prevents unauthorized use of the on-screen menus.

The following daisy chain configurations of control wiring are supported:

- RS-422: 10 domes over a maximum distance of 1 km (3000 ft) on two 22 AWG shielded twisted pairs (STP)
- For SensorNet: 32 devices over a maximum distance of 1 km (3000 ft) on one 22 AWG UTP
- For Manchester: 3 domes over a maximum distance of 1500 m (5000 ft) on one 18 AWG STP
- For AD-UTC: Maximum distance per dome is 700 m (2300 ft) on 20 AWG RG59U cable. (Note-This distance is for AD-UTC data only. See cable manufacturer's specifications for video capabilities).

Sensing of 50/60 Hz lines is automatic and does not require manual adjustment. The fully isolated power supply helps eliminate ground loops. Surge protection is provided for video, code, alarms and power connections.

(2) Controller dependent, see Preset Table for details.
(3) Compatibility with other manufacturers is based upon known current protocols and controllers at time of test. However, compatibility may be affected if other manufacturers make changes to their products.
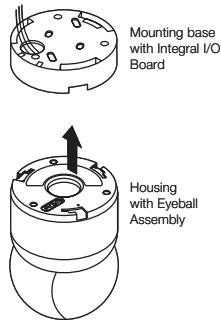(4) A Matrix keyboard or a controller from which users can call DirectSet commands.

To ensure you have ample time to schedule maintenance, 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.

In the event that a camera needs to be changed, the new SpeedDome Ultra 8 I/O base now retains preset and pattern information so a user does not have to spend time reprogramming.

Ease of Installation

The dome incorporates an innovative twist lock release from the mounting base for easy installation and servicing. Power, communication and video cables (or composite cable) are connected at 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 (indoor only) as well as power and communication LEDs.

Mounting base with Integral I/O Board

Housing with Eyeball Assembly

Model Numbers

Housing /Eyeball Assembly without Mounting Base

ADSDU835N . . . . 35x NTSC (black camera body)
ADSDU835WN . . . . . . 35x NTSC (white camera body)
ADSDU835P . . . . 35x PAL (black camera body)
ADSDU835WP . . . . . . 35x PAL (white camera body)
ADSDU822N . . . . 22x NTSC (black camera body)
ADSDU822WN . . . . . . 22x NTSC (white camera body)
ADSDU822P . . . . 22x PAL (black camera body)
ADSDU822WP . . . . . . 22x PAL (white camera body)

Mounting Base without Housing/Eyeball Assembly

ADSDUIOB . . . . I/O Board Base (black base)
ADSDUIOBW . . . . I/O Board Base (white base)

Housing/Eyeball Assembly with Mounting Base

ADSDU835ION . . . . . . 35x NTSC (black assembly and base)
ADSDU835WION . . . . 35x NTSC (white assembly and base)
ADSDU835IOP . . . . . . 35x PAL (black assembly and base)
ADSDU835WIOP . . . . 35x PAL (white assembly and base)
ADSDU822ION . . . . . . 22x NTSC (black assembly and base)
ADSDU822WION . . . . 22x NTSC (white assembly and base)
ADSDU822IOP . . . . . . 22x PAL (black assembly and base)
ADSDU822WIOP . . . . 22x PAL (white assembly and base)

Options

Optional Bubbles for RHIUTH Top Hat Mount

RUCLR . . . . Clear Bubble (f0)
RUSLV . . . . Silver Bubble (f2.0)
RUSMK . . . . Smoked Bubble
RUGLD . . . . Gold Bubble (f2.0)

Bubble Specifications

Bubble diameter . . . . . 176 mm (6.93 in)
Bubble depth . . . . 86.5 mm (3.4 in)
Bubble weight. . . . . . . 0.13 kg (4.4 oz) with trim ring

Dome Kit Model Numbers and What's Included

SpeedDome Ultra 8 domes can be ordered as pre-configured kits. A kit includes a camera module, base, mount and housing. Bubbles may be included as noted. Refer to the following chart for a description of the models included with each Dome Kit.

Mount or Housing Type		Kit Includes	35x Series Kits		22x Series Kits	
			NTSC	PAL	NTSC	PAL
	Indoor hard ceiling w/ no bubble	SpeedDome Ultra 8, RHIUTH and RHIUHC	ADSDU835IHN	ADSDU835IHP	ADSDU822IHN	ADSDU822IHP
	w/ smoked bubble	includes above and RUSMK	ADSDU835IHSN	ADSDU835IHSP	ADSDU822IHSN	ADSDU822IHSP
	Indoor 2' x 2' drop ceiling w/ no bubble	SpeedDome Ultra 8 and RHIU2X2M	ADSDU835I2X2N	ADSDU835I2X2P	ADSDU822I2X2N	ADSDU822I2X2P
	w/ smoked bubble	includes above and RUSMK	ADSDU835I2X2SN	ADSDU835I2X2SP	ADSDU822I2X2SN	ADSDU822I2X2SP
	Outdoor housing	SpeedDome Ultra 8 and ADSDUHOC	ADSDU835OPCN	ADSDU835OPCP	ADSDU822OPCN	ADSDU822OPCP
	Outdoor housing w/ long wall mount and end cap assembly	includes above and RHOLW	ADSDU835OPCWN	ADSDU835OPCWP	ADSDU822OPCWN	ADSDU822OPCWP

Number of Presets

Controller or Matrix Switcher	Protocol	Number of Presets
ADTT16E	SensorNet / RS-422*	96 /4
MegaPower LT	AD-UTC / SensorNet	96 /96
MegaPower 48 Plus	SensorNet / Manchester / RS-422	96 /64 /96
MegaPower 3200	Manchester** / RS-422***	64 /60
Intellex Digital Video Management Systems	SensorNet***** / RS-422****	96 /96
EDVR	RS-422 (Simplex)	10
Third Party interfaces	RS-485/RS-422	96

*Using SensorNet to RS-422 converter (model number RCSN422)

**Using Manchester code distributor (model number AD2091)

***Using RS-422 code distributor (model number AD2083-02C)

****Requires USB to RS-422 adaptor

*****Using USB CCTV Control Module (Model number ADACSNET)

	35x Series	22x Series
Camera		
Horizontal Resolution	540 lines	470 lines
Imager	Interline transfer 1/4-inch CCD array	Interline transfer 1/4-inch CCD array
Scanning System	2:1 interface	2:1 interface
Wide Dynamic Range, EIS, Day/Night	Yes	No
Video Output	1.0 Vp-p, 75 composite	1.0 Vp-p, 75 composite
tS/N Ratio	>50 dB (tyical)	>50 dB (tyical)
Minimum Illumination (20IRE, AGC)	0.24 lux (Color); 0.028 lux (Color with 1/4 sec open shutter) 0.021 lux (B/W IR Mode); 0.00041 lux (B/W IR Mode with 1/2 sec open shutter	0.3 lux (Color) 0.02 lux (Color with 1/4 sec open shutter)
White Balance	Through the Lens (TTL) Automatic Tracing White Balance (ATW)	Through the Lens (TTL) Automatic Tracing White Balance (ATW)
NTSC (PAL)		
Effective Pixels (H x V)	768 x 494 (752 x 582)	768 x 494 (752 x 582)
Scanning (lines/fields/frames)	525 /60 /30 (625 /50 /25)	525 /60 /30 (625 /50 /25)
Horizontal (kHz)	15.734 (15.625)	15.734 (15.625)
Vertical (Hz)	59.9 (50)	59.9 (50)
Shutter Speed (Auto/Manual)	1/2 - 1/30,000 (1/1.5 - 1/30,000)	1/2 - 1/30,000 (1/1.5 - 1/30,000)
Lens		
Aperture (Aspherical Design)	f1.4	f1.6
Focal Length	3.4 to 119 mm	4 to 88 mm
Wide Angle (field of view)	3.4 mm/55.8 (H) x 41.8 (V)	4 mm/47.0 (H) x 35.2 (V)
Telephoto (field of view)	119 mm/1.7 (H) x 1.3 (V)	88 mm/4.0 (H) x 3.0 (V)
Total/Optical/Digital Zoom	420x/35x/12x	242x/22x/11x

Common Specifications for SpeedDome Ultra 8

Operational

Manual Pan/Tilt	0.25°-100° per second (based on zoom position)
Preset Pan/Tilt Speed	360° per second, maximum (Pan) and 220° per second, maximum (Tilt)
Pan Travel	360° continuous
Tilt Travel	110°
Pan/Tilt Accuracy	± 0.5°
Zoom/Focus Accuracy	± 0.5%
Programmable Patters/ Sequences/Areas/Privacy Zones	16/16/16/8
Direction Indicators	Yes
Auto Synchronizations	Line-Locked with Remote V-phase adjustment or Internal with Built-in sync generator
Address Range RS-422/RS-485 Manchester SensorNet AD-UTC	1–99 1–64 1–255 Based on number of inputs
Alarm Inputs with I/O Board (indoor only)	4 dry contacts/3.5 mA sink
Alarm Outputs with I/O Board (indoor only)	3 open collector drivers at 12 VDC, 40mA
Menu Languages	English, French, German, Italian, Spanish, Portuguese

Electrical

Input Voltage	18 to 30 VAC, 50/60 Hz Class 2 LPS
Design Tolerance	16 to 36 VAC, 50/60 Hz
Power	11 watts
Power On In-Rush Current	1.5 amps
Allowable Drop-Out	100 µsec
Surge Protection Video SensorNet/Manchester RS-422/RS-485 Alarm Input/Aux Outputs Power Line	Low-capacitance Zener suppressor of 6.5 V, 1500 watts Isolation transformer coupled, 2000 Vrms; PTC resettable fuse protects transformer; 9.8V/1A, 500 watts, 8/20 µsec impulse; 10kA impulse rated gas tube TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse TVS rated at 9.8V/1A, 500 watts, 8/20 µsec impulse TVS rated at 60 V, 250 A, 1.5 joules, 8/20 µsec impulse

Mechanical

Height (includes base)	205 mm (8.0 in)
Diameter	120 mm (4.7 in)
Housing & Eyeball Weight	1.09 kg (2.40 lbs)
Base (with I/O Board) Weight	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 VP SDU

Emissions	FCC: 47 CFR Part 15 Subpart B Class A CE: EN55022 Class B CE: EN61000-3-2; 3-3 AS/NZS 3548, Class A CISPR22 ICES-003
Immunity	CE: EN50130-4
Safety	UL 1950 CSA 22.2 No. 950 EN60950-1 IEC60950-1

RoHS 2002/95/EC

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