
Section 00000
SECURITY ACCESS AND SURVEILLANCE

ADEMCO VIDEO'S RAPIDDOME GOLD HIGH-SPEED DOME

PART 1 – GENERAL

The intent of this document is to specify the minimum criteria for the design, supply, installation, and commissioning of the High Speed Dome.

1.01 SUMMARY

- A. The extremely reliable, high resolution, low light, extended zoom high-speed dome shall be the premier choice for any application.

1.02 REFERENCES

- A. Consultative Committee for International Radio (CCIR)
- B. Conformity for Europe (CE)
- C. Electronic Industry Association (EIA)
- D. Federal Communications Commission (FCC)
- E. National Television System Committee (NTSC)
- F. Phase Alternation by Line (PAL)

1.03 DEFINITIONS

- A. No Substitutes: The exact make and model number identified in this specification shall be provided without exception.
- B. Or Equal: Any item may be substituted for the specified item provided that in every technical sense, the substituted item provides the same or better capability and functionality.
- C. Or Approved Equal: A substitute for the specified item may be offered for approval by the Owner. The proposed substitution must, in every technical sense, provide the same or better capability and functionality as the specified item. Such requests for approval shall be submitted in accordance with the provisions of PART 1.05 – SUBMITTALS, and must be obtained within the time frames outlined.

1.04 SYSTEM DESCRIPTION

- 1. The extremely reliable, high resolution, low light, extended zoom high-speed dome shall be the premier choice for any application. The dome shall be designed for the majority of indoor and outdoor

applications to satisfy even the most extreme, complex viewing requirements.

1.05 SUBMITTALS

- A. General: Submittals shall be made in accordance with the Conditions of the Contract and Submittal Procedures Section.
- B. Shop Drawings and Schematics: Shall depict the High-Speed Dome in final proposed “as built” configuration. The following must be provided:
 - 1. Connection diagrams for interfacing equipment.
 - 2. List of connected equipment.
 - 3. Locations for all major equipment components to be installed under this specification.
- C. Product Data: The following shall be provided:
 - 1. Technical data sheets.
 - 2. A complete set of instruction manuals.
- D. Quality Assurance Submittals: The following shall be submitted:
 - 1. Checkout Report: The Contractor shall provide the Owner with a checkout report for each High-Speed Dome. The report shall include:
 - a. A complete list of every device.
 - b. The date it was tested, and by whom.
 - c. If retested, the date it was retested, and by whom.
 - d. The final test report shall indicate that every device was tested successfully.
 - 2. Manufacturer’s Instructions: The Contractor shall deliver **TBD** sets of System Operation and Maintenance Manuals (if available) to the Owner.
 - 3. Notice of Completion: When the final acceptance has been satisfactorily completed, the Owner shall issue a notice of completion to the Contractor.

1.06 QUALITY ASSURANCE

- A. Manufacturer’s Qualifications: The High-Speed Dome manufacturer shall be the world’s largest and most experienced manufacturer of electronic security systems, with over seventy years of experience in the security

industry. The Digital Recording and Transmission System must be assembled in the U.S.A., and the manufacturer shall provide 24/7 technical assistance and support via a toll-free telephone number at no extra charge.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. General: Delivery, storage, and handling of the High-Speed Dome shall be in accordance with the manufacturer's recommendations.
- B. Ordering: The manufacturer's ordering instructions and lead-time requirements must be followed in order to avoid installation delays.
- C. Delivery: The High-Speed Dome shall be delivered in the manufacturer's original, unopened, undamaged container with identification labels intact.
- D. Storage and Protection: The High-Speed Dome shall be stored and protected from exposure to harmful weather conditions and at the environmental conditions recommended by the manufacturer.

1.08 PROJECT CONDITIONS

1.09 SEQUENCING

1.10 SCHEDULING

1.11 WARRANTY

- A. General: The warranty period shall be a minimum of twenty-four (24) months from the manufacture date code under normal use and service.

1.12 MAINTENANCE

- A. Preventative Maintenance Agreement During Warranty: As a separate price item, the Contractor shall provide preventative maintenance during the warranty period. Maintenance shall include, but not be limited to:
 - 1. Labor and materials, at no additional cost, to repair the High-Speed Dome.
 - 2. Labor and materials, at no additional cost, to provide test and adjustments to the High-Speed Dome.
 - 3. Regular inspections.
- B. Preventative Maintenance Agreement: As a separate price item, the Contractor shall provide a complete Maintenance Agreement for a period of

TBD months after the conclusion of the warranty period. The Maintenance Agreement shall include, but not be limited to:

1. Labor and materials, at no additional cost, to repair the High-Speed Dome.
2. Labor and materials, at no additional cost, to provide test and adjustments to the High-Speed Dome.
3. Regular inspections.

1.13 TRAINING

- A. Operator training shall be conducted for a minimum of **TBD** sessions, with a session length of **TBD** hours at the customer’s site.
- B. Training shall include, but not be limited to the High-Speed Dome operation and diagnostics.

PART 2 – PRODUCTS

2.01 MANUFACTURED UNITS

A. Model Number/Descriptions Table

AD5GCFC18	RapidDome Gold, Indoor, Color, 18X, UTC/TP, False Ceiling, NTSC
AD5GCFC18X	RapidDome Gold, Indoor, Color, 18X, UTC/TP, False Ceiling, PAL
AD5GCMFC18	RapidDome Gold, Indoor, Color/Mono, 18X, UTC/TP, False Ceiling, NTSC
AD5GCMFC18X	RapidDome Gold, Indoor, Color/Mono, 18X, UTC/TP, False Ceiling, PAL
AD5GCFC22	RapidDome Gold, Indoor, Color, 22X, UTC/TP, False Ceiling, NTSC
AD5GCFC22X	RapidDome Gold, Indoor, Color, 22X, UTC/TP, False Ceiling, PAL
AD5GCPP18	RapidDome Gold, Indoor, Color, 18X, UTC/TP, Plug & Play, NTSC
AD5GCPP18X	RapidDome Gold, Indoor, Color, 18X, UTC/TP, Plug & Play, PAL
AD5GCMPP18	RapidDome Gold, Indoor, Color/Mono, 18X, UTC/TP, Plug & Play, NTSC
AD5GCMPP18X	RapidDome Gold, Indoor, Color/Mono, 18X, UTC/TP, Plug & Play, PAL
AD5GCPP22	RapidDome Gold, Indoor, Color, 22X, UTC/TP, Plug & Play, NTSC
AD5GCPP22X	RapidDome Gold, Indoor, Color, 22X, UTC/TP, Plug & Play, PAL
AD8GC18W	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Wall Mount, NTSC
AD8GC18WX	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Wall Mount, PAL
AD8GCM18W	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Wall Mount, NTSC
AD8GCM18WX	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Wall Mount, PAL
AD8GC22W	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Wall Mount, NTSC
AD8GC22WX	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Wall Mount, PAL
AD8GC18P	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Pole/Flat Roof Mount, NTSC
AD8GC18PX	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Pole/Flat Roof Mount, PAL
AD8GCM18P	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Pole/Flat Roof Mount, NTSC
AD8GCM18PX	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Pole/Flat Roof Mount, PAL
AD8GC22P	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Pole/Flat Roof Mount, NTSC
AD8GC22PX	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Pole/Flat Roof Mount, PAL
AD8GC18S	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Soffit Mount, NTSC
AD8GC18SX	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Soffit Mount, PAL
AD8GCM18S	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Soffit Mount, NTSC
AD8GCM18SX	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Soffit Mount, PAL
AD8GC22S	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Soffit Mount, NTSC
AD8GC22SX	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Soffit Mount, PAL
AD8GC18NPT	RapidDome Gold, Environmental, Color, 18X, UTC/TP, NPT Mount, NTSC

AD8GC18NPTX	RapidDome Gold, Environmental, Color, 18X, UTC/TP, NPT Mount, PAL
AD8GCM18NPT	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, NPT Mount, NTSC
AD8GCM18NPTX	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, NPT Mount, PAL
AD8GC22NPT	RapidDome Gold, Environmental, Color, 22X, UTC/TP, NPT Mount, NTSC
AD8GC22NPTX	RapidDome Gold, Environmental, Color, 22X, UTC/TP, NPT Mount, PAL
AD8GC18ARCW	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Architectural Wall Mount, NTSC
AD8GCM18ARCW	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Architectural Wall Mount, NTSC
AD8GC22ARCW	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Architectural Wall Mount, NTSC
AD8GC18ARCP	RapidDome Gold, Environmental, Color, 18X, UTC/TP, Architectural Pole Mount, NTSC
AD8GCM18ARCP	RapidDome Gold, Environmental, Color/Mono, 18X, UTC/TP, Architectural Pole Mount, NTSC
AD8GC22ARCP	RapidDome Gold, Environmental, Color, 22X, UTC/TP, Architectural Pole Mount, NTSC

2.02 SYSTEM PERFORMANCE

- A. The High-Speed Dome shall include, as a minimum, the following features/functions/specifications:
1. The High-Speed Dome must be protected by the most extensive support services in the industry, including Customer Service, Pre-Sales Applications Assistance, After-Sales Technical Assistance, access to Technical Online Support, and Online Training using web conferencing.
 2. The High-Speed Dome and its components shall be thoroughly tested before shipping from the manufacturer's facility.
 3. The High-Speed Dome shall be available with a high-resolution color or color/monochrome advanced digital signal processing (DSP) camera and either an 18X optical (4.1mm to 73.8mm) with 8X digital (144X), or a 22X optical (4.0mm to 88.0mm) with 8X digital (176X). The cameras shall have a signal-to-noise ratio of greater than fifty dB (>50dB).
 4. The High-Speed Dome 18X camera shall utilize a ¼-inch CCD, using Exview HAD™ technology with a minimum horizontal resolution of 470 TVL (NTSC) or 460 TVL (PAL). The 18X color camera must provide sharp, detailed images down to 1.0 lux color and 0.4 lux color integration. The 18X color/monochrome camera shall provide sharp, detailed images down to 1.0 lux color, 0.4 lux color integrating, 0.1 lux monochrome, and 0.01 lux monochrome integrating. When switching to monochrome mode, the camera must automatically remove the IR cut filter when necessary, which will increase the infrared sensitivity. When enough ambient light is available to produce an acceptable color image, the camera must automatically enable the IR cut filter.
 5. The High-Speed Dome 22X camera shall utilize a ¼" CCD with a minimum horizontal resolution of 460 TVL (NTSC) or 460 TVL (PAL). The camera must provide sharp, detailed images down to 1.0 lux color, 0.1 lux color integrating.

6. The High-Speed Dome shall provide for continuous, full-time auto focus. No matter what the zoom position, the dome's images shall remain in sharp focus. When the scene requires extra-fine control, the dome must allow the operator to override the auto focus settings. Auto iris with manual override must also be standard. The dome must return to automatic focus/iris mode when the operator moves the pan/tilt assembly more than ten degrees (10°).
7. The High-Speed Dome shall provide line-lock with an automatic vertical sync adjustment. Using compatible matrix/controller systems, the video signal can be synchronized with other system inputs with the touch of a button. This synchronization must be performed from the compatible matrix/controller without the need for additional equipment or tools.
8. The High-Speed Dome shall incorporate a sealed, precision gold slip ring to provide three hundred sixty degrees (360°) of continuous rotation. The dome must automatically adjust pan and tilt speed in proportion to the zoom position for greater control. The same amount of picture shall appear to move across the monitor regardless of the zoom factor. Manual pan speeds must range from 0.1° to 100° per second, and manual tilt speeds must range from 0.1° to 100° per second. Preset and alarm recall pan speed must be no less than 400° per second, preset and alarm recall tilt speed shall be no less than 200° per second.
9. The High-Speed Dome shall support a minimum of one hundred twenty eight (128) programmable preset positions. Each preset position must include pan, tilt, zoom, iris, and focus.
10. The High-Speed Dome shall include four (4) mimic tours. The operator shall perform a series of pan, tilt, zoom, and focus movements that the dome must "learn", when the mimic tour is recalled, the dome automatically repeats the movements. The duration of each mimic tour can be up to three (3) minutes each.
11. The High-Speed Dome must support up to four (4) programmable preset tours, each with up to one hundred twenty eight (128) steps. Each position can include a preset position, the speed, in degrees, in which the dome will go to the preshot position, and the dwell time, or how much time the dome waits before going to the next preset position. The tour shall run continuously until halted by the operator.
12. In order to block private views from the monitor, the High-Speed Dome shall include up to twenty eight (28) programmable privacy

zones. The privacy zones shall be scaleable, providing the ability to adjust its size automatically as the lens zooms in or out. If more than three (3) privacy zones are on the screen at any given time, the dome must group them together automatically to ensure that the area under the privacy zones will never be displayed.

13. The High-Speed Dome shall include auto-pivot tracking circuitry to allow the dome to automatically turn 180-degrees when reaching its lower limit. This allows the operator to automatically track an individual moving directly below the camera. The operator must have the ability to enable or disable this feature using an on-screen menu.
14. To ensure that the camera can be viewing an important area even when left unattended, the High-Speed Dome must support a “home” position that automatically returns the dome to a programmed preset or preset tour after a specified period of inactivity, programmable from one (1) to one hundred twenty seven (127) minutes.
15. The High-Speed Dome shall include eight (8) on-board alarm inputs (normally open) and two (2) relay outputs. When an alarm becomes active, the dome must move to its corresponding preset, and relay output one (1) must close. When the ten (10) second alarm time-out expires, the dome shall return to its pre-alarm state and the relay must open. The second relay output must be available for manual control from a matrix/controller.
16. The High-Speed Dome shall contain a built-in intelligent receiver for up-the-coax (UTC) or RS485 twisted pair (TP) operation. Up-the-coax operation of up to 1,640 feet (500 meters) must be possible using appropriate cable. RS485 twisted pair operation must allow for up to thirty two (32) domes to be daisy-chained at a maximum of 5,000 feet (1,500 meters) using a single 22 AWG unshielded twisted pair (UTP), a single 22 AWG shielded twisted pair (STP), or category five (CAT 5) type cable. The receiver/driver must provide all voltages for camera controls, pan and tilt functions, and all motorized lens functions.
17. The High-Speed Dome shall contain a built-in code translator to provide compatibility with existing Pelco “P” and “D” based systems, allowing for the dome to be integrated into the system without replacing the control equipment.
18. The High-Speed Dome mounts shall include built-in UTP transceivers for transmitting the video over category five (CAT 5) type cables to a compatible twisted pair receiver, with wire runs of over a mile possible with an active receiver. The UTP shall also offer interference immunity in high noise environments, such as elevator traveling

cables, or near fluorescent lights, radio transmitters, motors, or generators. The manufacturer of the dome shall also offer compatible twisted pair video receivers.

19. The High-Speed Dome assembly shall be capable of operating to full specification with an applied voltage of 24 VAC at a frequency of 50 or 60 Hertz and meet Class 2 standards. The power consumption can not exceed 24 watts (indoor versions) or 64 watts (environmental versions) with all functions operating. The dome assembly shall incorporate protection diodes with optical isolation to protect the RS485 circuitry.
20. All High-Speed Dome assemblies shall include diagnostic LED's to indicate power and matrix/controller communications.
21. The indoor version of the High-Speed Dome must be available in two (2) standard dome assemblies; a false ceiling version and a "plug & play" pendant version. The false ceiling version must provide quick and easy installation into any drop or false ceiling, without the need for additional mounts or accessories. The pendant version must feature an innovative "plug & play" design, which will allow the installer to choose the correct mounting accessory for any installation. This "plug & play" design shall also make installation and servicing quick and convenient.
22. The environmental version of the High-Speed Dome must be extremely lightweight, and available in a wide variety of versatile mounting configurations. Configurations must include Wall, Pole/Flat Roof, and Soffit mounts. A unique architectural mount must also be a standard stocked item at the manufacturer. A parapet mount adapter, a pole mount adapter, and a corner mount adapter shall be available for the wall mount dome. A pole mount adapter and corner mount adapter must be available for the architectural dome, and a pole mount adapter must be available for the pole/flat roof dome.
23. An environmental 1-1/2 inch NPT pendant High-Speed Dome must be available to facilitate custom mounts using standard 1-1/2 inch NPT threaded pipe.
24. All environmental High-Speed Domes shall be IP65 rated to withstand the rigors of virtually any environmental condition, and must include an inner liner with clear outer bubble, resulting in on light loss.
25. All environmental High-Speed Domes shall incorporate a heater/blower assembly with thermostat, at a maximum current draw of 40VA at 24VAC. The heater shall allow the dome to operate to full

published specifications down to -40° F (-40° C). The fan must operate continuously, separate of the thermostat, to circulate the warm air when the heater is operating in cold weather, or alleviate any hot spots during hot weather.

26. The High-Speed Dome shall be an ADEMCO Video RapidDome Gold Series or equivalent.

2.03 MECHANICAL SPECIFICATIONS

A. The High-Speed Dome must have the following mechanical specifications:

1. Indoor False Ceiling

- a. Unit Dimensions (HxD)..... 8.46" x 5.71" (215mm x 145mm)
- b. Unit Weight..... 2.0 lbs. (0.91 kg.)
- c. Shipping Weight 4.0 lbs. (1.81 kg.)

2. Indoor Plug & Play Pendant

- a. Unit Dimensions (HxD)..... 8.46" x 5.71" (215mm x 145mm)
- b. Unit Weight..... 2.0 lbs. (0.91 kg.)
- c. Shipping Weight 4.0 lbs. (1.81 kg.)

3. Environmental Wall

- a. Unit Dimensions (HxD)..... 13.43" x 16.59" (341mm x 421mm)
- b. Unit Weight..... 4.0 lbs. (1.81 kg.)
- c. Shipping Weight 6.0 lbs. (2.72 kg.)

4. Environmental Pole/Flat Roof

- a. Unit Dimensions (HxD)..... 24.84" x 16.59" (631mm x 421mm)
- b. Unit Weight..... 4.0 lbs. (1.81 kg.)
- c. Shipping Weight 6.0 lbs. (2.72 kg.)

5. Environmental Soffit

- a. Unit Dimensions (HxD)..... 18.11" x 9.25" (460mm x 235mm)
- b. Unit Weight..... 4.0 lbs. (1.81 kg.)
- c. Shipping Weight 6.0 lbs. (2.72 kg.)

6. Environmental NPT

- a. Unit Dimensions (HxD)..... 10.20" x 9.25" (259mm x 235mm)
- b. Unit Weight..... 4.0 lbs. (1.81 kg.)

c. Shipping Weight 6.0 lbs. (2.72 kg.)

2.04 ELECTRICAL POWER REQUIREMENTS

A. The High-Speed Dome must have the following electrical specifications:

1. Indoor

a. Input Voltage..... 24VAC, 50/60 Hz

b. Power Consumption..... 24 watts

2. Environmental

a. Input Voltage..... 24VAC, 50/60 Hz

b. Power Consumption..... 64 watts (including heater/blower)

2.05 ENVIRONMENTAL CONDITIONS

A. The High-Speed dome shall be designed to meet the following environmental conditions:

1. Indoor

a. Operating Temperature 14° to 122° F (-10° to 50° C)

2. Environmental

a. Operating Temperature -40° to 122° F (-40° to 50°)

3. Emissions FCC: Part 15, Class A

CE: EN55022 Class B

4. Immunity..... CE: EN50082-1

PART 3 – EXECUTION

3.01 EXAMINATION

A. Submission of a proposal confirms that the contract documents and site conditions are accepted without qualifications unless exceptions are specifically noted.

B. The site shall be visited on a regular basis to appraise ongoing progress of other trades and contractors, make allowances for all ongoing work, and coordinate the requirements of this contract in a timely manner.

- C. The High-Speed Dome must be inspected before installation, and shall be free of any cosmetic defects or damage.

3.02 PREPARATION

- A. Prior to installation, the High-Speed Dome shall be configured and tested in accordance with the manufacturer's instructions.

3.03 INSTALLATION

- A. The High-Speed Dome must be installed, programmed, and tested in accordance with the manufacturer's instructions.
 - 1. In order to ensure a complete, functional High-Speed Dome, for bidding purposes, where information is not available from the Owner upon request, the worst-case condition shall be assumed.
 - 2. Interfaces shall be coordinated with the Owner's representative, where appropriate.
 - 3. All necessary backboxes, racks, connectors, supports, conduit, cable, and wire must be furnished and installed to provide a complete and reliable High-Speed Dome installation. Exact location of all boxes, conduit, and wiring runs shall be presented to the Owner for approval in advance of any installation.
 - 4. All conduit, cable, and wire shall be installed parallel and square with building lines, including raised floor areas. Conduit fill shall not exceed forty percent (40%). All wires shall be gathered and tied up to create an orderly installation.

3.04 TESTING AND CERTIFICATION

- A. The Contractor shall demonstrate the functionality of the High-Speed Dome upon completion of installation, documenting the result of all tests and providing these results to the Owner. The High-Speed Dome shall be tested in accordance with the following:
 - 1. The Contractor shall conduct a complete inspection and test of all installed High-Speed Dome equipment. This includes testing and verifying operation with connected equipment.
 - 2. The Contractor shall provide staff to test all devices and all operational features of the system for witness by the Owner's representative and the Authority Having jurisdiction. All testing must be witnessed by the Owner's representative, prior to acceptance.

3. The testing and certification shall take place as follows:
 - a. The High-Speed Dome shall be tested in conjunction with the manufacturer's representative.
 - b. All deficiencies noted in the above test shall be corrected.
 - c. Test results shall be submitted to the consultant or Owner's representative.
 - d. The test and correction of any deficiencies shall be witnessed by the owner's representative, and note.
 - e. The Owner's representative shall accept the system.
 - f. The system test shall be witnessed by the Authority Having Jurisdiction. Any deficiencies noted during the testing must be corrected.

4. A letter of certification shall be provided to indicate that the tests have been performed, and all devices are operational.

END OF SECTION

Brief Specification

The High-Speed Dome shall be available with a high-resolution color or color/monochrome advanced digital signal processing (DSP) camera and either an 18X optical (4.1mm to 73.8mm) with 8X digital (144X), or a 22X optical (4.0mm to 88.0mm) with 8X digital (176X). The cameras shall have a signal-to-noise ratio of greater than fifty dB (>50dB). The High-Speed Dome 18X camera shall utilize a ¼-inch CCD, using Exview HAD™ technology with a minimum horizontal resolution of 470 TVL (NTSC) or 460 TVL (PAL). The 18X color camera must provide sharp, detailed images down to 1.0 lux color and 0.4 lux color integration. The 18X color/monochrome camera shall provide sharp, detailed images down to 1.0 lux color, 0.4 lux color integrating, 0.1 lux monochrome, and 0.01 lux monochrome integrating. When switching to monochrome mode, the camera must automatically remove the IR cut filter when necessary, which will increase the infrared sensitivity. When enough ambient light is available to produce an acceptable color image, the camera must automatically enable the IR cut filter. The High-Speed Dome 22X camera shall utilize a ¼" CCD with a minimum horizontal resolution of 460 TVL (NTSC) or 460 TVL (PAL). The camera must provide sharp, detailed images down to 1.0 lux color, 0.1 lux color integrating. The High-Speed Dome shall provide for continuous, full-time auto focus. No matter what the zoom position, the dome's images shall remain in sharp focus. When the scene requires extra-fine control, the dome must allow the operator to override the auto focus settings. Auto iris with manual override must also be standard. The dome must return to automatic focus/iris mode when the operator moves the pan/tilt assembly more than ten degrees (10°). The High-Speed Dome shall provide line-lock with an automatic vertical sync adjustment. Using compatible matrix/controller systems, the video signal can be synchronized with other system inputs with the touch of a button. This synchronization must be performed from the compatible matrix/controller without the need for additional equipment or tools. The High-Speed Dome shall incorporate a sealed, precision gold slip ring to provide three hundred sixty degrees (360°) of continuous rotation. The dome must automatically adjust pan and tilt speed in proportion to the zoom position for greater control. The same amount of picture shall appear to move across the monitor regardless of the zoom factor. Manual pan speeds must range from 0.1° to 100° per second, and manual tilt speeds must range from 0.1° to 100° per second. Preset and alarm recall pan speed must be no less than 400° per second, preset and alarm recall tilt speed shall be no less than 200° per second. The High-Speed Dome shall support a minimum of one hundred twenty eight (128) programmable preset positions. Each preset position must include pan, tilt, zoom, iris, and focus. The High-Speed Dome shall include four (4) mimic tours. The operator shall perform a series of pan, tilt, zoom, and focus movements that the dome must "learn", when the mimic tour is recalled, the dome automatically repeats the movements. The duration of each mimic tour can be up to three (3) minutes each. The High-Speed Dome must support up to four (4) programmable preset tours, each with up to one hundred twenty eight (128) steps. Each position can include a preset position, the speed, in degrees, in which the dome will go to the preshot position, and the dwell time, or how much time the dome waits before going to the next preset position. The tour shall run continuously until halted by the operator. In order to block private views from the monitor, the High-Speed Dome shall include up to twenty eight (28) programmable

privacy zones. The privacy zones shall be scaleable, providing the ability to adjust its size automatically as the lens zooms in or out. If more than three (3) privacy zones are on the screen at any given time, the dome must group them together automatically to ensure that the area under the privacy zones will never be displayed. The High-Speed Dome shall include auto-pivot tracking circuitry to allow the dome to automatically turn 180-degrees when reaching its lower limit. This allows the operator to automatically track an individual moving directly below the camera. The operator must have the ability to enable or disable this feature using an on-screen menu. To ensure that the camera can be viewing an important area even when left unattended, the High-Speed Dome must support a "home" position that automatically returns the dome to a programmed preset or preset tour after a specified period of inactivity, programmable from one (1) to one hundred twenty seven (127) minutes. The High-Speed Dome shall include eight (8) on-board alarm inputs (normally open) and two (2) relay outputs. When an alarm becomes active, the dome must move to its corresponding preset, and relay output one (1) must close. When the ten (10) second alarm time-out expires, the dome shall return to its pre-alarm state and the relay must open. The second relay output must be available for manual control from a matrix/controller. The High-Speed Dome shall contain a built-in intelligent receiver for up-the-coax (UTC) or RS485 twisted pair (TP) operation. Up-the-coax operation of up to 1,640 feet (500 meters) must be possible using appropriate cable. RS485 twisted pair operation must allow for up to thirty two (32) domes to be daisy-chained at a maximum of 5,000 feet (1,500 meters) using a single 22 AWG unshielded twisted pair (UTP), a single 22 AWG shielded twisted pair (STP), or category five (CAT 5) type cable. The receiver/driver must provide all voltages for camera controls, pan and tilt functions, and all motorized lens functions. The High-Speed Dome shall contain a built-in code translator to provide compatibility with existing Pelco "P" and "D" based systems, allowing for the dome to be integrated into the system without replacing the control equipment. The High-Speed Dome mounts shall include built-in UTP transceivers for transmitting the video over category five (CAT 5) type cables to a compatible twisted pair receiver, with wire runs of over a mile possible with an active receiver. The UTP shall also offer interference immunity in high noise environments, such as elevator traveling cables, or near fluorescent lights, radio transmitters, motors, or generators. The manufacturer of the dome shall also offer compatible twisted pair video receivers. The High-Speed Dome assembly shall be capable of operating to full specification with an applied voltage of 24 VAC at a frequency of 50 or 60 Hertz and meet Class 2 standards. The power consumption can not exceed 24 watts (indoor versions) or 64 watts (environmental versions) with all functions operating. The dome assembly shall incorporate protection diodes with optical isolation to protect the RS485 circuitry. All High-Speed Dome assemblies shall include diagnostic LED's to indicate power and matrix/controller communications. The indoor version of the High-Speed Dome must be available in two (2) standard dome assemblies; a false ceiling version and a "plug & play" pendant version. The false ceiling version must provide quick and easy installation into any drop or false ceiling, without the need for additional mounts or accessories. The pendant version must feature an innovative "plug & play" design, which will allow the installer to choose the correct mounting accessory for any installation. This "plug & play" design shall also make installation and servicing quick and convenient. The environmental version of the High-Speed Dome must be extremely

lightweight, and available in a wide variety of versatile mounting configurations. Configurations must include Wall, Pole/Flat Roof, and Soffit mounts. A unique architectural mount must also be a standard stocked item at the manufacturer. A parapet mount adapter, a pole mount adapter, and a corner mount adapter shall be available for the wall mount dome. A pole mount adapter and corner mount adapter must be available for the architectural dome, and a pole mount adapter must be available for the pole/flat roof dome. An environmental 1-1/2 inch NPT pendant High-Speed Dome must be available to facilitate custom mounts using standard 1-1/2 inch NPT threaded pipe. All environmental High-Speed Domes shall be IP65 rated to withstand the rigors of virtually any environmental condition, and must include an inner liner with clear outer bubble, resulting in no light loss. All environmental High-Speed Domes shall incorporate a heater/blower assembly with thermostat, at a maximum current draw of 40VA at 24VAC. The heater shall allow the dome to operate to full published specifications down to -40° F (-40° C). The fan must operate continuously, separate of the thermostat, to circulate the warm air when the heater is operating in cold weather, or alleviate any hot spots during hot weather. The High-Speed Dome shall be an ADEMCO Video RapidDome Gold Series or equivalent.