SPECIFICATIONS

Standard Lens

MODEL NO. DOS-Z300-500/3500

Optical:

1.0 - Lens Design - Maksutov Cassegrain
1.1 - Clear Aperture - 12 inches (305 m.m.)
1.2 - Focal Length - Zoom Module- 500 m.m. (20 inches) to 3500 m.m. (138 inches)
1.3 - Geometrical f ratio - f/1.6 thru f/11.7
1.4 - Resolution -   .38 arc seconds (diffraction limited)
1.5 - Material -   Primary Mirror - Pyrex
                        Corrector Lens - BK-7, Focusing Lens – Acromat Doublet
1.6 - Coatings -   All reflective surfaces - Enhanced Aluminum
                        All air-glass surfaces - AR - with MgF2.
1.7 - Spectral Response - 450 n.m. thru 650 n.m.

Mechanical:

2.0 - Mechanical Construction - Aluminum
2.1 - Ruggedized to withstand minimum of 10 G's shockload
2.2 - Common Mounting Plate provided to support both the optical system and the camera.
2.3 - Camera Platform provided to establish proper alignment between camera and the optical axis.
2.4 - Finish - All exterior surfaces to be painted with Chromate, Epoxy primer and Flat Satin Black Epoxy Paint.

Remotely Controlled Focus:

3.0 - Provide focusing range of 1000 ft. to infinity.
3.1 - Actuation by microprocessor controlled servo motor.
3.2 - Limit Stops - Servo axis is under redundant software and hardware limit switch control to prevent over-travel.
3.3 - Focus setting and focus direction (near or far) controlled by switch closure.
3.4 - Serial communications port for control and data readout.

N.D. Filtering:

4.0 - Matched set of counter rotating neutral density filter wheels provide even attenuation across video format.

4.1 - Continuously variable density range of N.D. 0.0 (clear) to N.D. 4.0 (0.01% transmission).

4.2 - Limit Stops - Mechanism stops via limit switch signal at full clear and maximum density to prevent over-travel.

4.3 - Manual control by switch closure. Drive requirements of mechanism are compatible with most auto-iris modules that read p-p video level.

4.4 - Auto Iris (Pelco)Serial communications port level control with auto/manual mode select.

Zoom System:

5.0 - Provides continuously variable zoom range from 500 m.m. focal length to 3500 m.m. focal length with concomitant f ratio change from f/1.6 to f/11.7 (+/- 10%)

5.1 - Zoom function has dual servo axis under microprocessor control to provide full focal length range with no focus shift.

5.2 - Boresight is accurately maintained throughout the full focal length range, and any drift is repeatable and can be modeled.

5.3 - Limit Stops - Servo axis are under redundant software and hard wired limit switch control to prevent over-travel.

5.4 - Manual actuation of zoom function is enabled by switch closure signals and mechanism can be sequenced incrementally or continuously.

5.5 - Serial communications port for control and data readout.

Purge System:

6.0 - System is sealed against dust and moisture.

6.1 - Purge ports are provided in the event moisture forms on any of the internal optical surfaces.

6.2 - System pressurized with Nitrogen, or if a dry air source can be provided by customer, a pressure regulator is included to determine proper operating range.

6.3 - Pressure gauge included.

6.4 - Safety relief valve also included.

6.5 - Dessicant Cartridges installed for added protection.

<u>Serial Communication Port Level Protocol/Command Set:</u>

7.0   All communications to the Davro zoom lens are accomplished by a four wire RS422 serial port. The port is configured for single host, single slave operation, and does not have multi-drop capability. Serial data format is 19,200 Baud, 1 start bit, 8 data bits, 1 stop bit, and no parity. Messages to the lens are in the form of writes to or reads from a series of internal registers. All characters are ASCII with hex notation used for data fields. All alpha characters are upper case. Any properly formatted message received by the lens will elicit a response message. The response message will be either the requested data or the system status message.

7.1   Customer supplies RS422 to RS232 converter.

<u>Lens Power Requirements:</u>

8.0   -   Lens requires 24V., D.C. (+/- 2v) at minimum 5 A, to allow multiple functions to sequence simultaneously.

8.1   -   Supply to lens powers microprocessor, and should be free of voltage spikes or dropouts to the extent practical. This should be a regulated linear power supply and should output 24V., D.C. @ 5 Amp continuous. Power supply by customer.