SECTION I
GENERAL DESCRIPTION

1-1. INTRODUCTION. The Airborne Illumination System 1A (hereinafter referred to as the illuminator system), designed and manufactured by Electro-Optical Systems, Inc., Pasadena, California. It is imperative that all personnel become aware of the thermal radiation (Such as infrared, visual, and ultrariolet) characteristics emitted by the illuminator system. Therefore, strict attention must be given to warning notices and safety procedures.

1-2. PURPOSE AND USE. The illuminator system is a precision device that produces high-intensity illumination in either the visual or infrared (IR) spectrum. This sytem was developed as a night observation device for illuminating objects on the ground from a standard operational aircraft. While operating at full power (20 KW), the system's light beam with a rhodium collector is rated at approximately 425,000 lumens and has a beam spread that is adjustable from 20 to 40°. The illuminator system may also be used in conjunction with night viewing devices such as the Gimbaled Airborne Night Observation Sight AN/AUG-3, also manufactured by Electro-Optical Systems.

1-3. LEADING PARTICULARS. The total shipping weight of the illuminator system is approximately 1440 lbs. This system is shipped mounted on a wooden pallet and crated to form overall dimensions of 96 inches long, 49 inches wide, and 72 inches high. With the wooden pallet and shipping craft removed, (the illuminator system weights approximately 822 lbs including coolant.)

1-4. The illuminator system operates from a three-phase ac power source of 200 volts line-to-line (115 volts line-to-neutral) and from a 28-volt de source. The lamphouse assembly of the system is capable of directing the light beam through a roll angle of +10 to -60° and through a yaw motion of ±15°. During the 20 kW operation, the system's ac power supply consumes 30 to 35 kW of power, and 1.5 kW of power is required for the de power supply when the coolant system is in operation.

1-5. Indicators and controls on the illuminator system are located on the power distribution box and aft control panel. When the portable remote control panel is used, lamphouse operating controls and indicators on this panel are an exact duplicate of the ones used on the aft control panel. However, system status and interlock indicators, main power ON switch, and the intensity lamp control selection is available only on the aft control panel. The roll and yaw modes, after the lamphouse assembly has been deployed from the aircraft, function at a rate of approximately 10°/second. Lamp intensity control is designed to operate at 8, 12, 16 or 20 kW, and switching time between the infrared and visual light modes requires no more than 7 seconds.

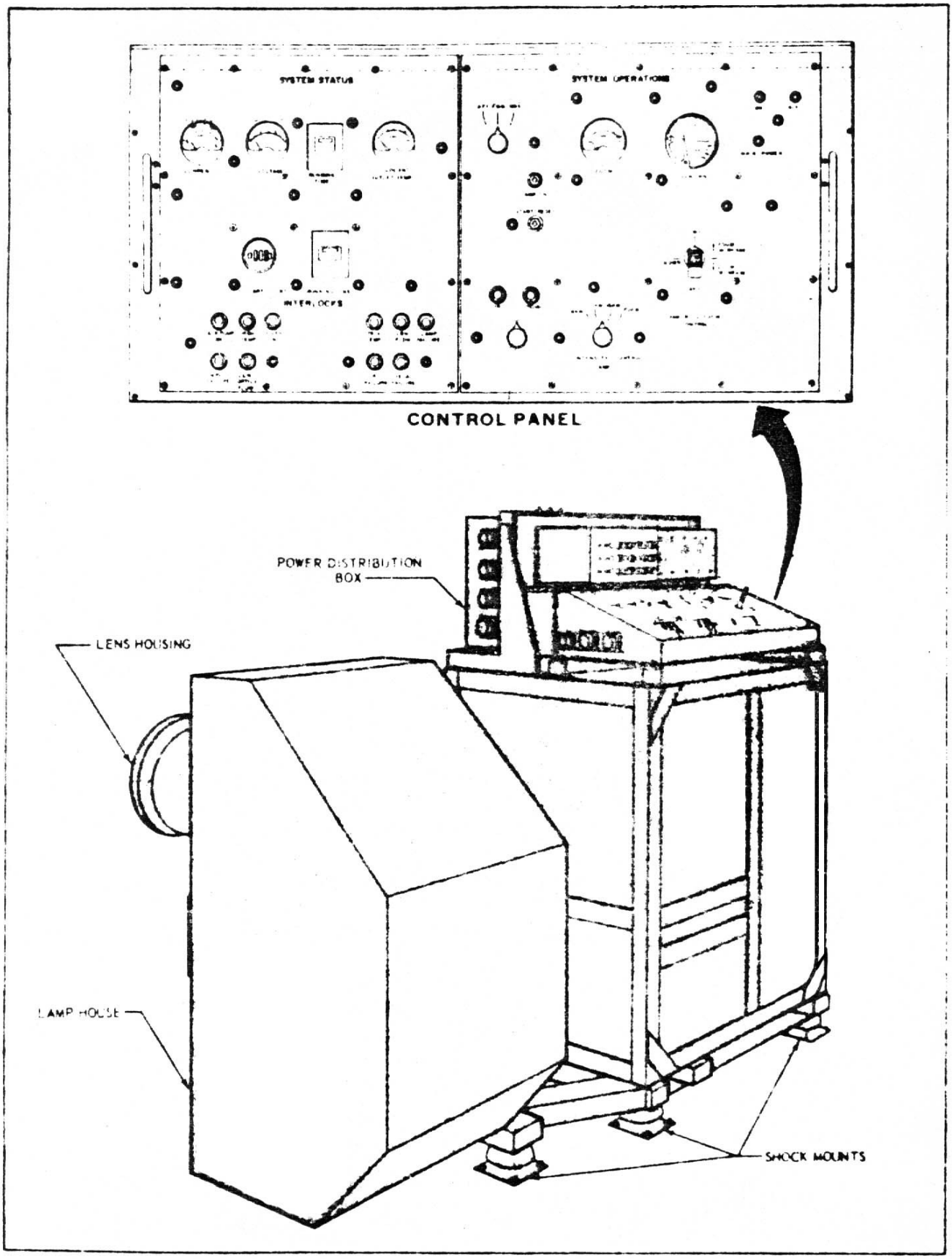

Figure 3-36. Illuminator