



## INSTRUCTIONS FOR USE OF THE DSH-35 DRIVER AND SH-35 SHUTTER/CHOPPER

16-101150

1. Carefully remove shutter/chopper from plastic box.
2. Mount shutter/chopper onto a solid mount. Use #2-56 screws.
3. Connect shutter/chopper to the DSH-35 "OUTPUT" connector.
4. Connect the DSH-35 to line power.
5. Use the "EXT. INT." selector switch to select the mode of operation.
  - In the "INT." mode, the shutter/chopper operates as a low frequency chopper. The chopping frequency is set by an internal oscillator.
  - In the "EXT." mode the shutter/chopper is controlled by an external TTL signal to open and close the device.
6. "INT." mode:
  - Set the selector switch to the "INT" position.
  - Turn on power. The shutter/chopper will operate as a variable frequency chopper. The chopping frequency is set by an internal oscillator and is controlled by the "FREQ" trim pot.
7. "EXT." mode:
  - Set the selector switch to the "EXT." position.
  - Turn on power. The position of the blade in this mode is controlled by a TTL input signal to the EXT input connector.
  - With a "HIGH" TTL input or with no TTL input: the shutter is open.
  - With a "LOW" TTL input or a short to GND: the shutter is closed.
  - The response time of the shutter is approximately 8 msec.
8. The "MONITOR" output
  - Output is a TTL output signal that can be used with a lock-in amplifier.
    - White wire: TTL monitor output
    - Black wire: ground