



L - Series Operating Instructions

This unit is a high performance liquid-nitrogen cooled IR detector / amplifier assembly. Please read these instructions carefully prior to operation.

CAUTION!

Carefully fill the metal dewar with liquid nitrogen using the included fill funnel. Filling too quickly causes the coolant to spurt out the fill port as a geyser. This results in significant cooling of the dewar body from the LN₂ vapor. Instead, fill the dewar slowly over a several minute interval to reduce the geyser effect.

DO NOT APPLY POWER WITHOUT THE DETECTOR AT 77K.

The connection to the amplifier's signal output is through a BNC cable. Power is connected through a shielded cable terminated in a 9-pin Dsub connector which plugs directly into the Model PS-1 low noise power supply. For use without this power supply the coding on the cable is:

- Pin 6 +V (RED)
- Pin 7 -V (BLACK)
- Pin 8 GND (WHITE)
- Pin 9 SHIELD

The detector is sensitive to room lights and must be shielded anytime the power is on. The photodiode series (silicon, germanium, InGaAs, InAs and InSb) are DC coupled and output saturation can cause overheating and damage to the amplifier. The photoconductor series (PbS, PbSe and HgCdTe) are AC coupled, requiring a chopped beam for operation.

- **Do not loosen the retaining ring holding the window in place, as this may disturb the vacuum in the dewar. Use caution in installing or removing the black protective cap on the window.**
- **Do not remove the vacuum valve plug. Only repump with the proper valve operator, Model VO-1, after the unit has demonstrated loss of vacuum. The initial factory vacuum bakeout procedure should result in >12 months of operation before the repump is needed. Thereafter the repump schedule will depend on the system set-up by the user. Consult the factory for details and suggestions.**
- **Do not remove the backplate on the back of the dewar. Delicate wiring is inside.**

NO USER SERVICEABLE PARTS ARE LOCATED INSIDE THE DEWAR.

OPENING THESE SPACES WILL VOID THE WARRANTY.