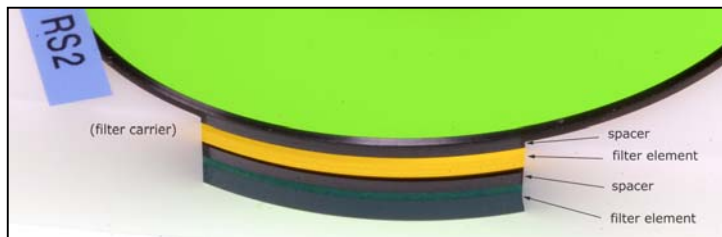


## IDAS Reflection Suppression Filter Installation

### Introduction

The IDAS Reflection Suppression (RS) filter set consists of four filters – Luminance (L), Red (R), Green (G), and Blue (B). These are supplied in special carriers as the filters are supplied in unmounted form for astronomical CCD camera use.

Two of the filters (G and B) actually consist of two separate optical pieces, separated by a spacer. A second spacer is supplied on top of all of the packed filters to keep the optics from contacting the plastic case of the filter holder. Two small pieces of blue tape secure the top spacer to prevent movement when the top cover is removed or replaced.



The single-layer filters (L and R) are also supplied with two spacers, one above and one below the filter glass. Note that all spacers are symmetrical and identical so they can be interchanged or flipped over with no problem. They are, however, thin and delicate, so they should be handled with care to avoid bending them out of shape.

Shipped stacking order of filters:

- G: (top) – spacer – yellow – spacer – blue – (bottom)
- B: (top) – spacer – medium blue – spacer – light blue – (bottom)
- R: (top) – spacer – red – spacer – (bottom)
- L: (top) – spacer – luminance – spacer – (bottom)

### Preparation

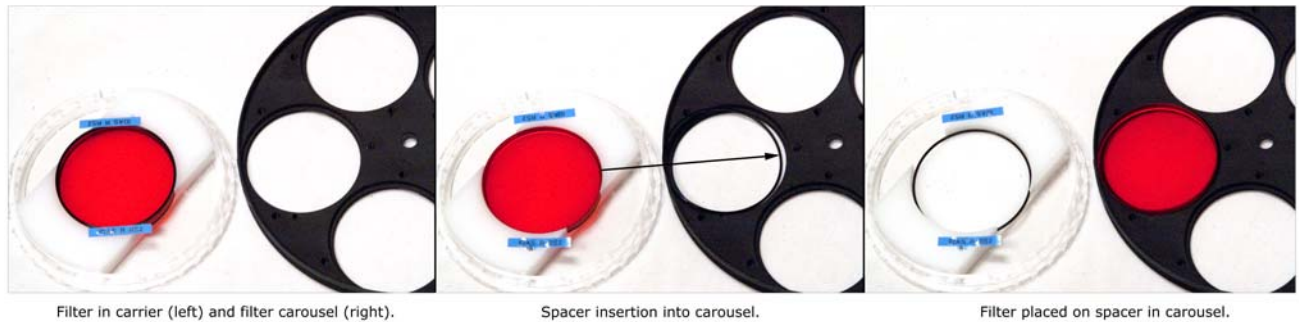
As with all precision optical elements, the RS filters should be handled very carefully to avoid getting fingerprints or dust on them. Ideally, gloves and a clean-room environment should be used to insure a clean installation. Should dust somehow end up on a filter surface, it is advisable to use a squeeze-bulb blower to gently remove the dust, and not your breath or canned air product.

#### Step 1. Clean filter Carousel Assembly

The first step which should be done is to remove the filter hold-down screws and washers if they were previously installed in the filter positions to be used for the RS filters, then thoroughly clean the filter carousel assembly to insure that dust cannot be transferred to the filter surfaces.

## Step 2. Install Single-layer Filters

Next, the single-layer filters (L and R) can be installed. After opening the filter carrier, carefully remove the spacer on top of the filter glass and place it into the filter carousel in the desired position. Then remove the filter glass and place it on top of the spacer in the carousel. Use the screws and washers provided with the filter carousel to secure the filter in place, taking care to **very gently tighten** down to the point where the filter glass is firmly held in place without sliding, but not to the point of stressing the filter glass.



When removing a single-layer filter, be sure to store it in its original shipping container with both spacers in place to keep the filter element from moving around inside its carrier.

## Step 3. Install the Double-layer Filters.

For double-layer filters, the order of installation of the two filter components must be observed for best performance. In the procedure that follows, the top filter element is placed into the bottom of the carousel position, followed by a spacer, and then the second element from the filter carrier.

To install the double-layer filters, open the filter carrier, carefully remove the spacer on top, and set it aside (do not place it in the filter carrier). Remove the top filter element (e.g. yellow component for the G filter), and place it into the carousel's filter position. Next, remove the spacer from on top of the second filter component and place it on top of the first filter element already in the carousel. Finally, place the second filter element into the carousel on top of the spacer and secure the assembly using the carousel's screws and washers provided by the camera manufacturer. **Use only enough pressure to barely secure the glass elements.** Because the contact area between the washers and filter is so small, excess tightening can damage the filter.



When removing a two-component filter, reverse the installation procedure so the filter elements are stored in the original order as shipped.