



## J-700 SERVICE

The J-700 series was introduced in 1990 and lasted up to 1999 when J-810 was presented.

Several variants were produced:

- 1990-1995 J-710 export only (air cooled 150W lamp)  
J-720 (water cooled 450W lamp)
- 1995-1999 J-715 export only (150W lamp standard, 450W option)  
J-725 for domestic only (450W lamp)

Both J-710 and 715 were featuring a small/quick to purge sample compartment. These versions were the more popular in Europe and quite an impressive number has been sold.

It's generally felt that the J-700 has been the most successful and reliable design in the JASCO story, two were the main improvements versus previous models:

- low volume/efficient Nitrogen purging of the optical system
- innovative support of the PEM crystal

This was the first JASCO CD model using air-cooled Xe sources, the related practical advantages were so strong that, after some initial reluctance, most of the users also in US selected these versions.

Service troubles have been very few:

- 1 -failures of fuses in the PEM drive (corrected with slow-blow fuses), symptom is no CD signal (and failure in the Amp check during diagnostic)
- 2 -occasional troubles with the PM tube high voltage power supply board, symptom high voltage not reaching full scale when light is interrupted in sample compartment. This failure is often not recognized by the user and may limit the linearity range when sample is strongly absorbing or at the wavelength limits. HT board replacement fixes the problem.
- 3 -for 450W lamp versions we had occasional troubles created by corrosion in the lamp cooling system, and this is a rather expensive trouble to fix.
- 4 -on J-710 and in lesser extend on J-715 (i.e. units equipped with small sample compartment) occasional thermostating or cooling water leakage in the sample cell holder may generate serious problems, since water may pollute the nitrogen purging lines and in worst cases may reach the PEM housing (which is at lower level). Another weak point of J-710 only was the fact that no elapsed time meter was fitted in the lamp power supply, this forces to keep manual record of the lamp use; this deficiency was corrected with J-715.

Optically systems called (and call) for obvious routine maintenance, well-arranged lamp mirrors supports are fitted for easy user lamp alignment. Lamp holders are easy to maintain and inspect, after many hours of operation it pays to renew them since the anode spring may become weak ..... this is simple and cheap.

But globally units have been very reliable and many of them had not a single service visit (apart from expendable replacement) in many years.

A very important plus of the line is possibility to upgrade in the field (at a modest cost) the early J-710 and 720 into J-715. With this updating the powerful J-810 32 bit Spectra Manager software can be used. This retrofit is highly recommended since in this way all current and continuous software updating can be applied.

Since a well maintained J-700 is practically hardly inferior to the current J-810 for most of the application (at least when two acquisition channels are enough), it pays to keep it in good shape.

This easily explains why J-700s have still a very high value on the second hand market and are very rare to sort out.