



J-600 SERVICE

J-600 was introduced in 1986, to replace the very successful J-500; it was the first fully PC controlled CD spectrometer built by the company. Much of the analog electronics was similar to the J-500, while the CPU board was coming directly from a UV-VIS spectrophotometer (Uvidec-610) very well sold in these days also on OEM basis to IBM Instruments.

While the package was therefore based on well-known technologies, the development was probably too short and early units had several troubles giving negative image between customers and Jasco service engineers.

As a fact a few units were field replaced and retrofits were applied to early production models.

Now many years have gone and most of the units are still in use: after initial troubles the design proved to be better than originally experienced and the good features built in are now more appreciated.

Also software-wise most of the units have been fitted, after the original and the second version of the DOS soft, with a proper 16bit Windows™ package, same as later J-700.

So let's now discuss (as we did in T.R. 39 for J-500) the most common troubles you may face in the field:

Mirrors and optics

All parts are still available from Jasco, while expensive.

M0 spherical (1002-0082), M1 elliptical (1003-0040), Mp plane (1001-0133), M2-M5 spherical (1002-0124).

Lamp mirrors mount, while more advanced than the simple J-500 design may be tricky during lamp alignment.

Lamp, its housing and its power supply

Lamp is same as J-500 (Osram XBO-450W/4)

Lamp housing is much improved versus the J-500 and lasting forever.

Lamp power supply too is more advanced and very robust, with aging you may expect to replace the power rectifier. Occasional (very rare) troubles with the starter (placed correctly close to lamp itself).

Electromechanical parts

Well-known problems in the slit drive system: at the start-up occasionally leadscrew reaches minimum slit value and locks there. It can be easily corrected by manual unlocking from the bottom of the unit. The comparator electrical circuit and its wiring are probably the cause, but accessibility is very poor, a few users drilled an hole on the bench for easy manual unlocking!

Electronics

Usually reliable, but working too hot.

-Preamplifier

Same as J-500 one, but here better protected (since lamp starter is close to lamp and no more in the power supply)

-PC-2 board

Possible troubles (overheating) in the TL-084 ICs controlling the driver voltage of the PEM modulator (mainly when LD or ORD accessories are installed)

-MAIN & DC amplifier boards

Difficulty in keeping scale calibration and offset at different sensitivities.

PEM related problems

While driving circuit is different from J-500, the PEM mount is same, with similar aging problems (problem was solved only from J-700 with its superior design).

J-600 lasted only 4 years, replaced with J-710/720 in 1990, it was a typical example of unit developed in the early stages of PC controlled instruments, with all the limitations behind. However if properly kept it's still able to provide very good performances.