



remove the secondary cataract. It does so by passing through the artificial lens of the eye without damaging it.

The system, which employs a JK Lasers ND:YAG laser for the actual surgery, along with a small, low-power visible aiming laser, has made secondary cataract-removal an out-patient procedure, requiring no anesthetic.

Lumonics Inc., the third largest manufacturer of commercial lasers in the world, was an early leader in the field of pulsed gas laser technology for scientific applications. It specializes in the development and manufacture of pulsed gas lasers such as carbon dioxide and excimer lasers for scientific, medical and industrial marking applications.

Diagnosis

Just as an eye test is essential for prescribing the correct lenses for a person needing glasses, detailed studies of the inside of the eye are necessary to produce artificial lenses needed to replace natural ones. The eye specialist must determine precisely a whole range of measures such as axial length, anterior eye chamber depth and lens thickness.

Radionics Medical Inc., of Scarborough, Ontario, has designed and manufactured several ultrasonic devices capable of obtaining this important information. The technique involves transmitting low power pulsed ultrasound into the eye through direct contact on the cornea.

Each pulse produces echoes back from the surface of tissue which are, in turn, received by a transducer and then interpreted by a microprocessor. If this micro-process is satisfied that the readings are valid, the data and measurements are automatically frozen on a screen.

The machine, in addition to its capacity for obtaining biometry functions, is equipped with a "diagnostic mode" used to assess disorder within the eye including detached retina, vitreous hemorrhages or locating foreign bodies.

The firm also manufactures a device capable of mapping the various thicknesses of the cornea.

Yet another of its product lines is a non-invasive ultrasonic device for diagnosis and treatment of paranasal sinusitis, the presence of fluid in the maxillary and frontal sinuses of the head. The device transmits sound into the suspect sinus cavity where, if all is normal and it is air-filled, no echo will return from the back wall of the sinus. However, if it is water-filled, a strong response is obtained, which confirms sinusitis.



The two photos show an occulometer device for taking internal eye measurements; and a corneomap for mapping cornea of the eye. Both are manufactured by Radionics Medical Inc. of Scarborough, Ontario.