World' First Transparent Ceramic Lens

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CASIO, Inc., in conjunction with its parent company, CASIO COMPUTER CO., LTD., Tokyo, Japan today announced that using its proprietary optical technology, CASIO COMPUTER CO., LTD., has developed the world's first lens using transparent ceramics. This breakthrough will make it possible to create zoom lenses for cameras with greatly reduced profiles.

Ever since CASIO's EXILIM thin card-size digital camera went on sale, the entire digital camera market has undergone a huge change. Compact digital cameras offering mobility in a small package have become mainstream, while there has been a major push in technological development to find better methods of creating smaller, thinner cameras.

"CASIO has become known around the world for its innovation and leadership in the digital camera arena, and today's breakthrough announcement reaffirms that position," said John Clough, president of Casio, Inc. "CASIO created the market for truly pocketable and stylish

digital cameras with its award-winning EXILIM line, and we can now look forward to even smaller cameras that pack an every greater array of features."

CASIO is continuing to take the lead in this field by creating the world's first transparent ceramic lens using LUMICERA, a transparent ceramic developed by Murata Manufacturing Co., Ltd.

LUMICERA has the same light transmitting qualities as optical glass commonly used in today's conventional camera lenses, however it has two very important properties that caught CASIO's attention. Not only is LUMICERA's refractive index (nd = 2.08) much greater than that of optical glass (nd = 1.5 – 1.85 *2), it also offers superior strength. CASIO has been able to create a ceramic lens with extremely high levels of precision thanks to several factors. Under recommendations from CASIO the material itself has been refined for use in digital camera optical lenses by endowing it with improved transmission of short wavelength light and eliminating pores (air bubbles) that reduce transparency. CASIO has also established a complete process involving the perfect combination of polishing material, time and pressure, and by treating the lens with a special coating compatible with a high refractive index.

By incorporating this lens into the construction of the zoom lenses developed by CASIO, a reduction in profile of approximately 20% has been made possible.

Source: Casio

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