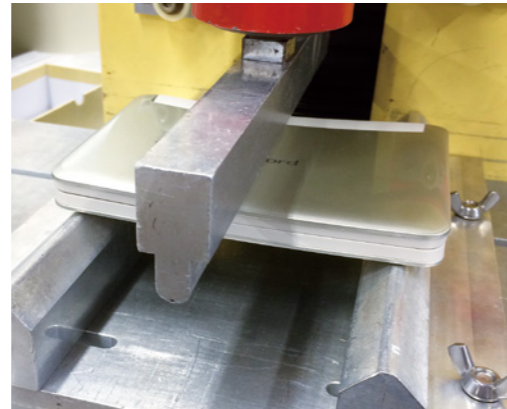


Engineering

Testing to withstand a range of conditions

Casio believes that rigorous performance testing is necessary right from the design stage to ensure product reliability. As part of this effort, it performs repeated testing of product prototypes.

To further improve reliability, Casio engineers perform a variety of testing to ensure products can withstand the diverse circumstances. They not only test performance under normal operational conditions, but also in high and low temperatures, and dry and humid environments. Products are tested by measuring resistance to vibration, light, drops, saltwater and dust. The effects of static electricity or power failure are also checked. As handheld terminals are often used high above the workplace floor, they are tested using Casio's own drop-test equipment, to ensure that they can withstand falls from a height of three meters. During pressure testing of electronic dictionaries, weight is placed on top of the device to verify structural strength as pictured.

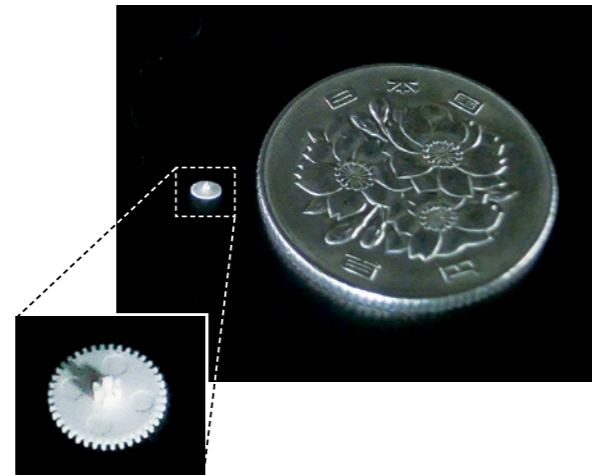


Precision part processing

High-precision processing for better durability

Product quality cannot be increased without improving the precision with which each component is processed.

At Casio, plastic components are molded with high accuracy down to one thousandth of a millimeter. The tiny hard-resin gears used in the movements of Casio analog watches are produced this way. The smallest of these gears measures only about 2 millimeters in diameter, and the diameter of the shaft protrusion measures a mere 0.6 millimeters. The outer edges have a series of fine teeth enabling the gears to turn smoothly. To enhance the durability of these components, special material such as potassium titanate fiber for high rigidity is mixed into the resin, which has strong lubricating properties regardless of temperature changes. This results in tiny gears that are wear resistant. The technology to process these minute parts precisely forms the foundation of high product quality.



Manufacturing

High-quality and stable production system

Yamagata Casio has developed some of Casio's most advanced production technology. This unique technology has been applied to a premium production line that makes only OCEANUS watches and high-end, flagship models in the G-SHOCK and PRO TREK watch brands.

Even on the automatic assembly line for analog watch movements, the goal is nothing short of zero defects. The company uses special machines that accurately incorporate the tiny components, followed by inspections using image recognition. Then, only top certified personnel with specialized skills perform tasks such as the delicate positioning of the watch hands.

Casio has transferred the same spirit of craftsmanship and manufacturing expertise to its production sites in other countries, where they maintain the same high level of product quality. In a 140,000 m² facility at Casio Thailand, there is a production line that integrates processes from plastic molding to assembly in a clean room environment. This ensures stable production of watches with high quality. In 2014, to promote a stable supply of calculators and electronic dictionaries, a third plant was constructed at the same site, adding even more flexibility to Casio's global production system.

Premium production line in Yamagata, Japan



Plastic component molding line in Thailand



Quality Policy

Casio's primary objective is to make products that work reliably in any environment, and can always be used with safety. From the initial engineering phase to the release of the final product, Casio takes great pains to ensure there are no compromises on manufacturing quality.

Employee Voice

Thorough inspections give quality top priority

Naomi Doi, Yamagata Casio Co., Ltd.

The latest Casio watches have as many as seven or eight hands. Since there is a three-dimensional structure for the dial and separation plate, the number of inspection points has increased. To ensure that no defects are missed, we update aspects of the testing process standards such as the order and method of inspections for every new model.

