Development of Green Products through Product Assessment

We conduct product assessment to help develop environmentally conscious products, and certify those meeting our standards as "Casio Green Products."

Environmentally Conscious Products Manufacturing

Under its Casio Voluntary Plan for the Environment (CPVE), the Casio Group has been conducting assessments of new products since 1993. In 2001, we created the Casio Guidelines for Green Product Development to clarify the standards for developing eco-products. Based on these guidelines and the documented procedures for product-related environmental audits, we prepare product environmental audit sheets, which are used to conduct product assessment at every stage from product planning. Based on assessment results, we certify products that meet the standards set forth in the guidelines as Casio Green Products.



In-house Standards for Green Products

Product Assessment Composition for the Electronics Equipment Division

Product assessment is accomplished on environmental design (on the degree of adoption of basic eco-designs) and environmental products (on the degree of adoption of advanced eco-designs). With regard to environmental designs, we evaluate the degree of adoption of designs for the ease of reduction, recycling, and reuse (3 Rs), and use of parts containing less hazardous substances. We evaluate environmental product in their effective

use of resources, including the use of recycled materials, energy conservation, and energy saving and assess the elimination of specified hazardous substances. Products that satisfy both the standards in the product assessment or those acquiring Type I environmental label certification such as Eco Mark or Blue Angel (P19) are certified as Casio Green Products.

Product Assessment Process for the Electronics Equipment Division

We conduct product assessment at three stages: first at the product planning stage, second when determining the design, and third when making a decision on the launch of mass production.

The Ouality & Environment Center then audits and confirms the assessment results

Product Assessment Results

Product type	FY 2000 results	FY 2001 results	FY 2002 results
Electronics Equipment Division products	60	121	92
Electronic Component Division products	61	45	80
Total	121	166	172



Product Assessment Composition for the Electronic Component Division

We assess the products of the Electronic Component Division regarding 3Rpromoting designs and the reduced use of hazardous substances according to our in-house standards or the standards required by our customers. The assessment results are then checked and examined by our production sites.

	1	Increased use of recycled resources	
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- 2 Easier processing for recycling
- 3 Easier disassembly for recycling
- n-house standards 4 Smaller, thinner, lighter products
 - Discontinuance of the use of materials containing
 - 5 hazardous substances, reduced use of lead
- 6 Reduced power consumption
- Downsizing of packaging materials, reduced use of materials 7
- Compliance with regulations on packaging 8
- materials Labeling of packaging material for compliance
- 9 with regulations on packages Discontinuance of the use of CFC substitutes,
- 10 chlorinated solvents, and greenhouse gases

Examples of Green Products

Credit-card-sized LCD Digital Camera

For the EX-S2 digital camera, Casio's unique high-density packaging technology (multi-chip module or MCM) reduced the circuit packaging area by approximately 70% compared with the previous model. For the EXILIM ZOOM (EX-Z3), the area was further reduced by 40% compared with the EX-S2 as a result of three-dimensional LSI packaging achieved through Stack MCM technology. This new model also achieves a 13% reduction in power consumption. Also, for better views, the liquid crystal display is expanded from the 1.6 Type to 2.0 Type without increasing power consumption. Furthermore the individual package box is downsized by 37%, thereby achieving resource saving.

Radio-Controlled and Solarpowered Watch

For ease of assembly and disassembly to promote recyclability, we have devised a structure that enables the attachment of the parts shown at the right without using screws. As a result, the total number of screws used for a unit is reduced by ten screws.

Radio-controlled and solarpowered watches keep accurate time using the standard time signal and do not need battery replacements because of the use of solar cells. Also, through the development of more power-saving LSIs, power consumption has been reduced by 50%. For "The G" model, we have prolonged the duration of life by making it more resistant to shocks.

Eco-Friendly Calculators

For 80% of our calculators, we use solar cells to promote energy conservation. Their cases are made of 100% recycled plastics. Also for these calculators, we do not use hazardous substances by promoting such measures as the use of lead-free solder.

* Last year, we used 30 tons of recycled plastics in ecofriendly calculators and will further increase the use.



* The SUS bezel, urethane bezel and band pieces are attached to the case without using screws.





C.G.P. 50 Activity (Boosting the Sales of Casio Green Products to 50% of Total Sales)

We achieved the C.G.P. 30 target set in fiscal 2001 one year earlier than planned, and have set a new C.G.P. 50 target, aiming to boost the sales of Green Products to 50% of our total sales by fiscal 2005.

Item FY	2001	2002	Total
Consumer product	1	61	62
System product	0	5	5
Total	1	66	67



Products Using Lead-Free Solder

As part of our efforts to reduce hazardous substances that are harmful to human health and the environment, we started to use lead-free solder for eco-friendly calculators in fiscal 1999. In fiscal 2003, we will expand the use of lead-free solder to all electronic calculators, electronic stationery, electronic musical instruments, timepieces, etc. to completely discontinue the use of solder containing lead by fiscal 2004.



Glossary

Lead-Free Solder

The solder used for printed circuit boards is an alloy of tin and lead. Lead leaching out of discarded printed circuit boards causes environmental pollution problems. Lead-free solder does not contain lead which is a hazardous heavy metal, and is composed of tin, silver, copper, or other metals.