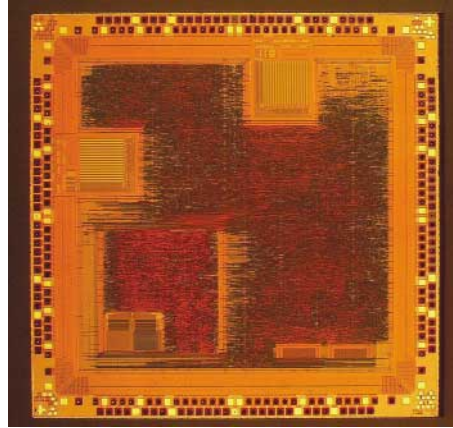


# Development of the Evolvable Hardware LSI Chip

- A Myoelectric Hand Controller with Proven Industrial Potential -

This paper describes an innovative LSI chip, called an evolvable hardware (EHW) LSI chip, and its application to a myoelectric hand controller. In contrast to conventional hardware, where the structure is irreversibly fixed in the design process, EHW is designed to adapt to changes in task requirements or changes in the environment through its ability to reconfigure its own hardware structure dynamically and autonomously. This capacity for adaptation, achieved by employing efficient search algorithms known as genetic algorithms (GAs), has great potential for the development of innovative industrial applications.

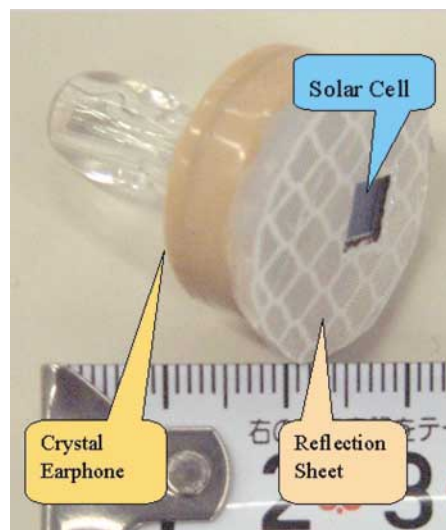


The EHW chip micrograph

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# A Compact Battery-less Information Terminal (CoBIT) for Location-based Support Systems

The ubiquitous computing environment should assist people to enjoy useful information services on a situation-dependent basis. We proposed a location-based information support system with a Compact Battery-less Information Terminal (CoBIT). A CoBIT is an earphone connected with a solar cell. Therefore people wearing it hear sound only when it receives intensity-modulated light. Cameras with LEDs can easily detect some simple signs of the user and position of the CoBIT because it has sheet type corner reflectors. Thus a CoBIT, without an internal energy supply, assists people wearing it to communicate with the environmental infrastructure.



A CoBIT sample

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