

Advanced Wireless Solutions for Niche Markets

Data transfer by means of a wireless interface is becoming increasingly popular, especially in industrial applications, as cables are expensive and inconvenient. Short-range low-power wireless technology is the preferred method for wireless data transmission, and **Circuit Design, Inc.** from Hotaka, Japan, is a pioneer in this field. The company's European headquarters, **Circuit Design GmbH**, is located in Munich, Germany.

CIRCUIT DESIGN GmbH

Circuit Design, Inc. was founded in 1974 by electronics engineer Kazuo Maruyama, who had previously worked in the development of hybrid circuits and in the electronics-engineering department of a private railway company in Japan. Kazuo Maruyama founded his own business mainly because of his strong interest in wireless audio transmission – he has been a radio enthusiast for most of his life. The first commercial product that was developed by Circuit Design was a self-designed wireless audio transmission system. This was followed by the development of wireless transmission circuits made to customers' specifications. "During the 1980s, Circuit Design developed computer-controlled wireless systems, although those were a far cry from what we consider microproces-

sor-based wireless systems today", recalls Division Manager Kentaro Toki. Mr. Maruyama takes up the story: "The company gradually evolved, and when the law for low-power radio was revised in Japan in 1989, there was suddenly a very wide field of applications opening up for us, as license-exempt low-power devices were legally authorized. From this point on-



Mr. Kazuo Maruyama,
President and founder of Circuit Design, Inc.

wards, Circuit Design began to develop and market a host of different products." Today, Circuit Design employs fifty members of staff and exhibits a current annual turnover of 17 million Dollars. It is ISO 9001 certified and has a sales subsidiary in Germany, which was founded in January 2000.

The Circuit Design corporate philosophy is aimed at serving markets off the mainstream, as Mr. Maruyama reports: "It is my philosophy to be active

in an industrial sector which is considered a niche market. Our field of choice is 'low-power radio'. We want to enhance the customers' reliability and competitiveness in their radio link applications by providing high-quality narrow-band low-power radio products."

Among Circuit Design's offerings is a range of remote engine starters, which are only marketed in Japan. These account for 40% of the company's turnover. The radio module range,



Circuit Design's headquarters is located in Hotaka, Nagano, Japan

responsible for about 30% of Circuit Design's turnover, is made up of the CDP/CDT series of FM transmitters and receivers, the STD FM transceivers, the WA audio transmitters and receivers, radio modems and various ancillaries. Circuit Design's low-power embedded industrial radio modules are suited for serious telemetry, control and data transfer applications.

OEM products make up the remaining 30% of Circuit Design's turnover. These can be divided into two segments, namely professional wireless microphone systems and other

short-range radio products as requested by customers. The company's wireless microphone systems are utilized by technology companies such as US-based Samson Technologies Corporation. Other OEM product applications include medical telemetry, health care equipment, industrial telemetry and paging.

Circuit Design markets and sells its products through appointed distributors around the globe. The German sales office in Munich is responsible for Germany, Austria, Eastern Europe and the major part of Southern Europe. Export

destinations are predominantly located in Europe due to radio frequency compliance issues. Marketing activities include print advertising, an Internet presence at www.circuitdesign.de and participation at the Electronica trade show in Munich, Germany.

As regards the future, Mr. Maruyama concludes: *"The field of applications for our technology is virtually unlimited. A wide array of applications are appearing all the time, security is just one of those. We can see a continuously growing market for us."*

CIRCUIT DESIGN GmbH

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