

Press Release

electronica'00

PPC takes off into the photonic era

To an ever greater degree, internal signal transmission is the factor which determines the efficiency of information and communication systems. With conventional electrical signal transmission, the bandwidths that can be attained are restricted by signal attenuation in the conductor and the dielectric. Crosstalk between adjacent strip conductors also limits the reliability of the electrical connections. Conventional electrical transmission technology will very soon have become a "bottleneck" within electronic systems.

Optical transmission technology has a far greater potential, enabling it to overcome the limits known at present. The reason: thanks to the availability of coherent light, the limit of the frequency range which has been usable until now can suddenly be extended by several orders of magnitude. The dynamism of this development is determined by the market. Now that Wavelength Division Multiplexing (WDM) has been introduced into global network architecture, another dimension is being used - the wavelength. With the help of WDM, commercial installations can attain transmission capacities in excess of 100 Gbit/s via one single glass fibre. Work is already underway on systems in the tera-bit range. However, WDM networks would be impossible without special components, particularly in the optoelectronic sector. In this respect, it is clear that optical structural and connection technology will also play a direct part in the components themselves. In the future, the optical circuit board (Optoboard®) is set to connect hardware components in computers via a light bridge instead of conventional electrical contacts. PPC Electronic AG is working on this project, entitled "PCB's with integrated optical layers based on thin glass". The fundamentals of this technology have been patented by PPC, and it should be ready to launch on the market within the next three years.

Since its inception, PPC-Electronic AG has specialised in the manufacture of highly complex multilayer boards. In recent years, the company has been able to establish an excellent position as a technological leader by consistently implementing its strategy, and it has acquired a worldwide reputation in the relevant industrial sectors. From 1999 onwards, one of the world's largest backplanes has been produced in series, with a length of 1.3 m. Our objective is to continuously improve this image of a high-tech manufacturer, with expertise and reliability as the keynotes. Vast resources are being made available to ensure that we can also meet the increasingly complex



challenges which the future will bring. Logically, PPC's obligations include playing a part in shaping tomorrow's technologies.

The vision of OPTOBOARD® technology is PPC Electronic AG's response to the revolution which is unfolding in transmission technology on pcb's. "Fast" connections are implemented by means of optical signals in structured waveguides within one backplane. This means a quantum leap in the historical development of pcb's. PPC is already tackling this demanding challenge and the firm sees itself as paving the way into the photonic era.

Founded in 1970, the company now employs a staff of 470 and in the current year it will achieve sales of 115 million CHF.

Thanks in no small measure to intensive cooperation between the company's own interdisciplinary engineering teams and the leading OEM's in the telecoms sector, it has been possible to launch new developments on the market in areas such as High Speed Technology, thermal management, HDI circuit boards, power electronics, high frequency applications and BC / BR technologies (internal passive components).

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