



Plextek

Medical and Healthcare Product Development Services

Efficiently developing your innovative and technically challenging electronic products for medical and healthcare applications.



Plextek's breadth of knowledge and many accumulated years of experience make it an ideal development partner for companies wishing to out-source some or all of their product development.

Established in 1989, with strong year on year growth, Plextek, based near Cambridge, England is a privately owned, dynamic and reliable electronics design and consultancy business.

One of Plextek's strengths is the emphasis placed on total product design, with the experience to take a design from initial concept, through development, to the final manufactured product.

Plextek's medical group are up to date with the current standards for medical and diagnostic devices so can ensure that all products conform to the necessary requirements.

Choosing Plextek:

- immediate access to a large pool of specialist knowledge
- end-to-end product development services from concept through to final product
- innovative industrial design
- structured software development for medical devices
- high quality analogue, digital and high frequency hardware design
- design for manufacture
- experience of latest medical safety and quality standards
- consistent design for excellence; higher quality and reliability; lower risk

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Electronics Design and Consultancy

Experience

An obvious requirement in the choice of any design partner is the knowledge that they have the competency for the field that you are working in.

Plextek's team of professional engineers has a very wide skills base which spans development of medical devices and *in vitro* diagnostic devices, telemedicine and telecare systems, as well as opto-electronics, ultrasound, microwave and radio systems.

Our clients are equally diverse, from small venture capital funded start-ups to tier one medical equipment suppliers, as well as SME businesses, government institutions and large multi-national companies.

Specialist skills

Plextek's business portfolio spans not only medical and healthcare, but also the communications and defence sectors. This means that we can apply the skills that we have developed in other areas to applications within medical and healthcare product designs.

Telemedicine and Telecare

Plextek was originally established as a centre of expertise in the field of radio communications. The experience gained since then makes us one of the leading developers of radio components and systems in Europe. Plextek's many designs for radio systems allow us to construct the system best suited

to your needs, whether standards based, such as GPRS and Bluetooth, or custom based, eg. an ambulatory telecare system.

Digital signal processing

High performance digital signal processing software is one of the outstanding strengths of Plextek's software group. Plextek has algorithms for:

- adaptive beam forming
- signal recovery from noise
- real time pattern recognition

Component Miniaturisation

Plextek's RF integration group has extensive experience in component miniaturisation for RF and microwave circuits, ideally suited for medium/high volume miniaturisation of components and transducers:

- application specific integrated circuits; Si & GaAs
- high density interconnect PCBs
- low temperature co-fired ceramics (LTCC)
- multi-chip modules (MCM)

Opto-electronics

Plextek's opto-electronics group specialises in both low and high power laser drivers and detectors and has an interest in developing opto-electronic hand-held IVD devices:

- opto sensors interfacing
- semiconductor laser drivers
- industrial laser drivers
- photometric measurements and signal processing

Quality and Reliability:

Plextek operates a comprehensive and flexible quality system which can be tailored to suit the size and complexity of the project undertaken. The quality system is certificated to ISO9001:2000



Development of medical devices and *in vitro* diagnostic devices is explicitly covered by procedures within this system. These procedures ensure compliance with the following international standards specific to medical devices:

ISO 13485 Quality Mgmt
ISO 14971 Risk Mgmt
IEC 60601-1-4 Software

In addition, Plextek is familiar with the design requirements for the following international standards:

IEC 60601-1 Medical Safety
IEC 60601-1-2 Medical EMC
IEC 61010-1 Lab Equip Safety
IEC 61326 Lab Equip EMC
IEC 61010-2-101 IVD Safety

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