



Advanced value to embedded systems using **IP Cores**

Adding value to embedded systems using IP Cores.

Patented Intellectual Property (IP) in digital signal processing algorithms can be embedded in electronics using FPGA firmware or DSP software – the “IP Core”.

IRL (Industrial Research Limited) has significant research and development capability in digital signal processing (DSP) algorithm creation and implementation on FPGA and DSP platforms. This allows us to produce patentable digital signal processing algorithms to order and to deliver these on the platform of your choice. We also partner with local electronics contract developer Paragon Electronic Design to offer complete embedded electronics design solutions.

Stand-out benefits

- ▶ Access world-leading DSP algorithm development researchers
- ▶ Develop new or access existing IP to embed in your product
- ▶ Flexible choice of implementation platform – FGPA or DSP
- ▶ Access our large VHDL library to reduce development risk and time-to-market
- ▶ Complete embedded electronics design solutions available
- ▶ Leverage our relationships with leading patent attorneys to carefully target your IP coverage and limit patenting costs.

IRL has been creating and implementing novel digital signal processing algorithms for 20 years. Our patents in wireless communications, audio systems, bandpass sampling, sonar systems and other DSP applications have been granted in a number of territories including the United States, Europe, Japan and New Zealand. **Paragon Electronic Design** has been developing electronics solutions for New Zealand companies for nearly 20 years.

Key expertise

- ▶ World leading DSP researchers
- ▶ Experienced FPGA and DSP implementors using state-of-the-art development and validation tools
- ▶ Development capability for a variety of platforms, including MATLAB, C/C++, FGPA/VHDL and DSP
- ▶ Strong links to university researchers in New Zealand and overseas
- ▶ Ability to bring a multidisciplinary approach to providing solutions.

Patent portfolio

Audio: Microphone and loudspeaker array processing, audio effects
Wireless: Broadband wireless baseband processing, interference mitigation
Sonar: Novel transducer arrays, multiplexed bandpass sampling receiver
DSP: Various.

For all enquiries please contact the Industry Engagement team on 0508 CALL IRL (0508 225 5475). If calling from overseas phone +64 4 931 3000 or visit the *Contact Us* page on our website.

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