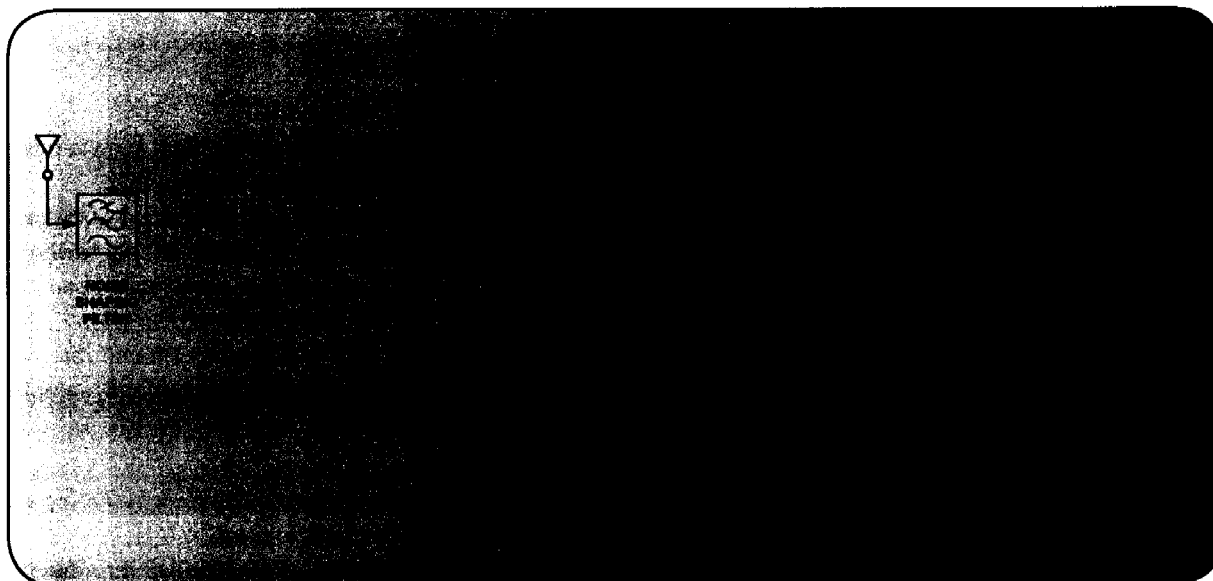


Digital Wideband Receiver

Introduction

Roke Manor's Digital Wideband Receiver digitises a 30 MHz band of spectrum and down-converts 4 programmable narrowband channels to complex base-band. The receiver simultaneously transfers both snap-shots of the wideband signal and 4 narrowband signal streams over a industry-standard USB2 interface to a PC for further signal processing.

Applications of the receiver include standard HF receivers, N-channel receivers, frequency hopping systems and wideband spectrum monitoring systems.



Features

- 4 analogue RF inputs (providing incremental analogue signal processing):
 - direct input to the 14 bit, 80MHz A/D converter (for general purpose applications, e.g. VHF / UHF reception via under-sampling or with an external RF down-converter),
 - input via digitally controlled gain block (-25 to +34dB),
 - input via 30MHz anti-alias filter,
 - input via noise-shaping filter for improved dynamic range (antenna dependent).
- 256K sample buffer to capture snapshots of the wideband signal.
- 4 channel digital down-conversion to complex base-band
 - Programmable centre frequency, bandwidth and sample rate,
 - Programmable decimation filters to match signal bandwidth and shape,
 - Capable of extracting WCDMA / DECT / GSM etc bandwidths.
- Wideband and narrowband signals are multiplexed together and transferred over an industry-standard USB2 interface to a PC for further processing (demodulation / decoding)
 - Programmable frame format to select narrowband channels and wideband signal transfer rate.
 - Modular interface permits alternative interfaces (eg to DSPs) to be developed.
- Scalable FPGA capable of DSP functions eg FFTs for spectrum monitoring applications.
- Receiver control via PC / embedded processor through USB2 or general purpose interface
 - Configures analogue gain, digital down-converters and output frame format.
- Auxiliary connector for mezzanine card to implement additional custom functions.

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See Resilient Networks, Miniature Radar Altimeters, 'Spinner' – and our other new technologies on stand 975



Owned by Siemens, our client base includes Siemens, other companies and Government departments. Projects range from feasibility studies to designs for high volume manufacture. In addition, low volume manufacture can be undertaken in-house.

We bring a competitive edge to our clients by applying world-class talent to create innovative and timely solutions that meet their development needs.

Roke Manor Research is a unique company with a rich heritage and exceptional people. It is a business which prides itself on pioneering innovation and producing first-class technical solutions to demanding customer problems across commercial and defence arenas.

This comes from a foundation of world-class science and engineering expertise and an enviable breadth of knowledge and skill. In addition to technological excellence, the company embraces an entrepreneurial culture that balances engineering excellence, customer focus, business acumen and first-class project management skills.

Managing Director, Paul Stein appointed in 1996, has overseen the growth of business from £19m to over £40m. Paul is a member of the Ministry of Defence Scientific Advisory Council and sits on the South-East Science and Technology Advisory Council.

ENDS

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