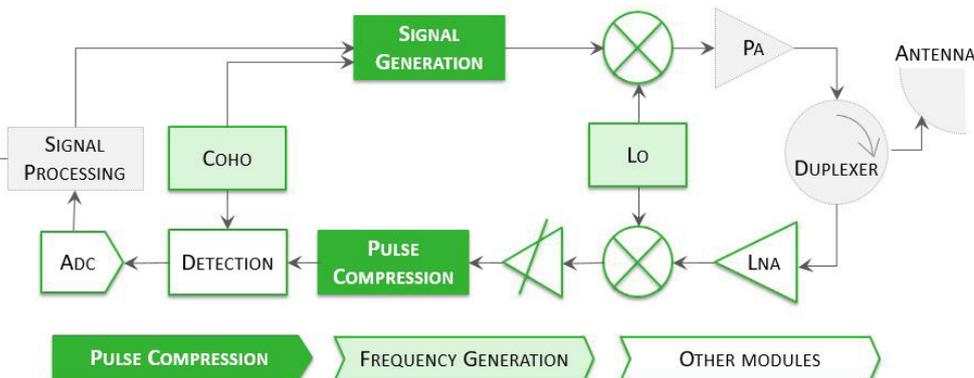




Retrofit Solutions

Rakon's subsystems and modules are the ideal solutions for the retrofit or upgrade of radar, Electronic Warfare (EW) and other systems. Our design team has extensive experience in RF & microwave (frequency band spans from baseband up to 18 GHz), digital module and subsystem design.



Capabilities

Rakon offers digital expanders and compressors, fully digital pulse compression subsystems, frequency synthesizers and complete modules (e.g. Local Oscillators, Coherent Oscillators). The company combines synthesiser and low noise oscillator technology through its strong capabilities in the domains outlined below.



DEFINITION



SIGNAL PROCESSING



ELECTRONIC DESIGN



MECHANICS



TESTING & VALIDATION

Subsystems



Rakon Digital Pulse Compression Subsystems (DPCS) can replace existing analog SAW based subsystems to overcome device obsolescence and enhance performance. The CIF0x product series includes the standard options below, which can be customised to match linear or non-linear chirps to generate compressed pulse. No matching is required for CIF0x products.

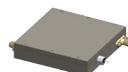
CIF07 (175 x 152 x 27.1 mm)	CIF06 (175 x 152 x 27.1 mm)	CIF05 (175 x 152 x 27.1 mm)
<ul style="list-style-type: none"> Two expander channels High B x T compression gain: B < 7 MHz, T up to 1000 μs BITE function. Internal clock 	<ul style="list-style-type: none"> One expander channel and one compressor channels High B x T compression gain (single channel): B < 3 MHz, T up to 950 μs B < 7 MHz, T up to 170 μs B < 20 MHz, T up to 17 μs 	<ul style="list-style-type: none"> Two independent compressor channels High B x T compression gain (single channel): B < 3 MHz, T up to 950 μs B < 7 MHz, T up to 170 μs B < 20 MHz, T up to 17 μs

Synthesizer



DSH01 (174 x 131 x 54 mm. SFDR 70 dBc typ.)
<ul style="list-style-type: none"> Frequency up to 18 GHz (semi-custom design) Freq. step: 7 μHz; Freq. tuning agility: 10 ns Noise floor: -145 dBc/Hz for 4.0 GHz output freq.

Frequency Multipliers



MOG01 (70 x 70 x 16 mm. SFDR 70 dBc typ.)
<ul style="list-style-type: none"> Input frequencies: 320 to 500 MHz Output frequencies: 3.2 to 5 GHz Output Phase Noise (PN): Input PN + 20 to 24 dB

The DS (Digital Synthesizer) series is a versatile FPGA-based low noise frequency synthesizer which can be combined with our oscillators to generate Local Oscillator (LO) signals for up and down-conversion of RF signals. It can be provided with an internal or external clock reference.

The MO G01 is an ultra-low noise frequency multiplier-by-10 module, designed for lab environments, as well as ground-based and naval systems. The design is optimised to provide the best phase noise performance at the given input frequency, and includes sub-harmonic filtering.

