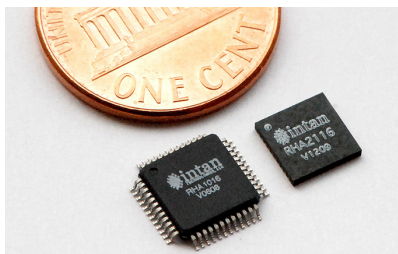




## RHA1016 vs. RHA2000 Series

### Product Comparison



20 August 2010

PARAMETER	RHA1016	RHA2000 Series
Amplifier channels per chip	16	16 (RHA2116, RHA2216) 32 (RHA2132)
Amplifier gain	200 V/V	200 V/V
Input-referred noise	2 $\mu\text{V}_{\text{rms}}$	2 $\mu\text{V}_{\text{rms}}$
Amplifier input range	$\pm 5$ mV	$\pm 5$ mV
Amplifier upper bandwidth	10 Hz – 10 kHz (programmable using 2 off-chip resistors)	10 Hz – 20 kHz (programmable using 2 off-chip resistors)
Amplifier lower bandwidth	< 0.05 Hz fixed	0.02 Hz – 1.0 kHz (programmable using 1 off-chip resistor)
Input impedance at 1 kHz	4 M $\Omega$	13 M $\Omega$
Amplifier input pins	Bipolar	Monopolar (RHA2116, RHA2132) Bipolar (RHA2216)
Multiplexed amplifier output pins	Fully differential (2 pins) off-chip differential-to-single-ended amplifier or bipolar-input ADC required	Single ended (1 pin) baseline output voltage of 1.235V generated by on-chip reference
Supply voltage	5.0V	2.9V – 3.6V
Power dissipation (with 10 kHz bandwidth)	2.6 mW per amplifier channel	0.44 mW per amplifier channel
Maximum multiplexer speed	31.25 kSamples/s/channel	62.5 kSamples/s/channel (16 ch.) 31.25 kSamples/s/channel (32 ch.)
Multiplexer addressing method	4-bit random access	4-bit random access or clocked sequential access using on-chip counter
<i>In situ</i> electrode impedance measurement capability?	No	Yes, using a small number of off-chip components
Package size	7 mm x 7 mm 48-pin QFP (9 mm x 9 mm including pins)	6 mm x 6 mm 40-pin QFN (RHA2116) 8 mm x 8 mm 56-pin QFN (RHA2216 and RHA2132)
Package thickness	1.40 mm	0.85 mm
Circuit board footprint	81 mm <sup>2</sup>	36 mm <sup>2</sup> (RHA2116) 64 mm <sup>2</sup> (RHA2216 and RHA2132)