



# HES2000 Raman Spectrometer

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## Technical Specifications

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## HES2000 Raman Spectrometer

The HES2000 spectrometer is a static Fourier transform spatial heterodyne spectrometer providing high étendue measurements. Étendue refers to the optical throughput of a spectrometer and is a measure of the ability of a spectrometer to capture and utilise photons from a target area or field of view. A more complete description of this can be found on our website – [It's all about throughput.](#)

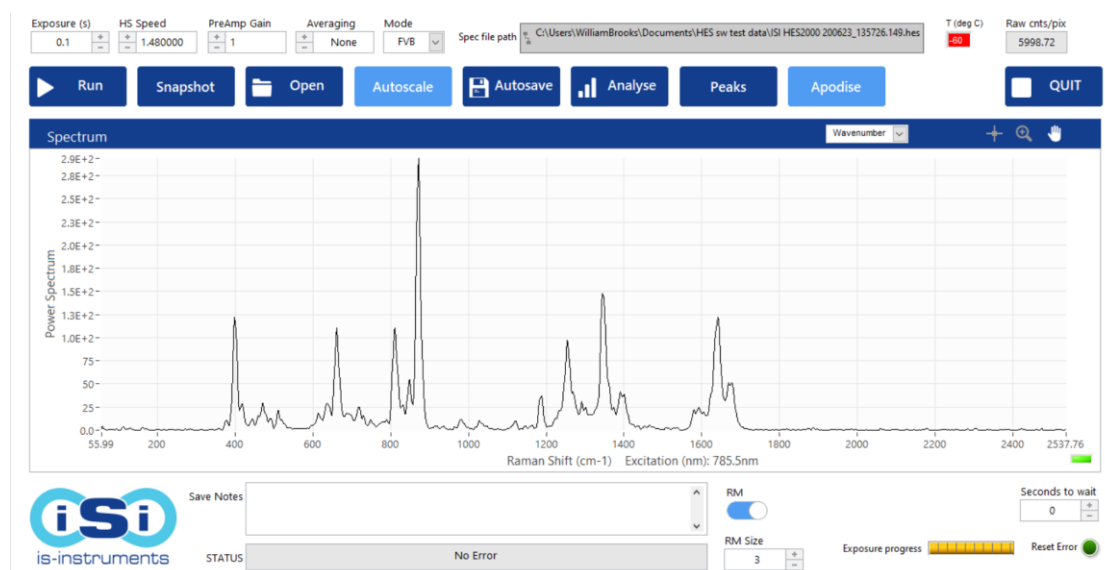


The specifications given below are for the standard HES2000, but the unit is highly customizable. Please contact us at [info@is-instruments.com](mailto:info@is-instruments.com) for further details.

	Specification
<b>Raman excitation <math>\lambda</math></b>	785 nm
<b>Operating range</b>	< 200 – 2300 $\text{cm}^{-1}$
<b>Resolution*</b>	~ 3 $\text{cm}^{-1}$ over whole range per Fourier bins (To resolve two lines 3 bins are required)
<b>Fibre coupling</b>	SMA or FC/PC
<b>Fibre aperture</b>	$\geq 1$ mm as standard
<b>Fibre NA</b>	0.22
<b>Detector</b>	Andor iVac 316

\*HES spectrometers are linear in wavenumber space, therefore resolution is maintained across the spectral range. No slit is required therefore blurring, typically found in dispersive spectrometers is not observed.

## ISI SHS 5.1 GUI: Front Panel

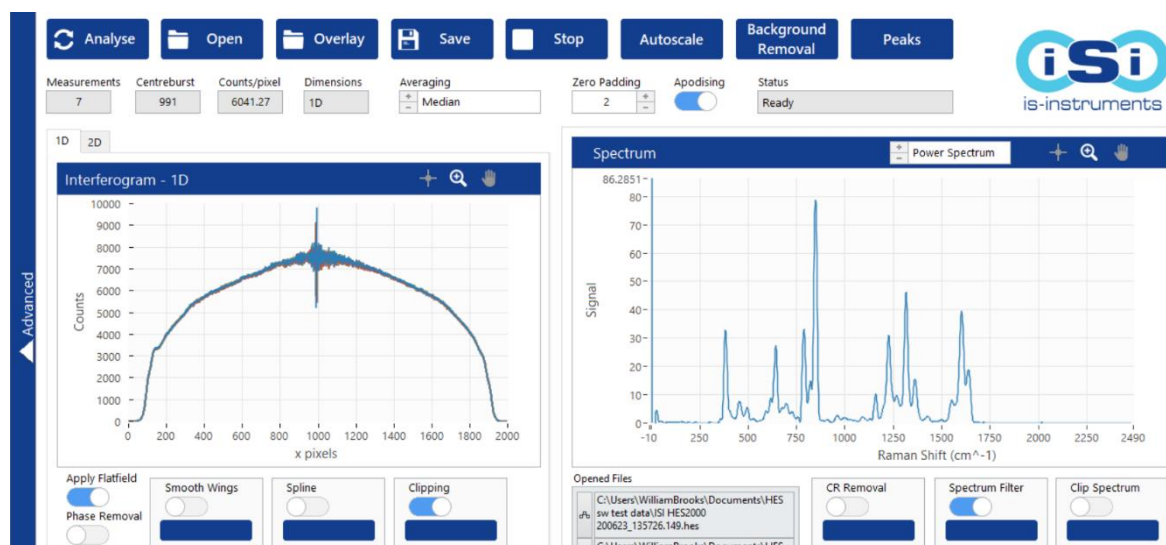


### Front Panel Features:

- Continuous frame and single frame capture options
- FVB/2D modes
- Image, FFT and spectrum display options
- Frame averaging
- Peak Labelling
- Dark image subtraction
- Spectra overlay function

The spectra shown was captured in 0.1s using a HES2000 Raman spectrometer coupled to an RP50 Raman probe via a 0.22NA 910  $\mu\text{m}$  optical fibre. A 105  $\mu\text{m}$  fibre coupled PDL 500mW 785nm laser was used to excite the target paracetamol tablet sample

## ISI SHS 5.1 GUI: Spectral Analysis Suite



### Analysis Suite Features:

- Multi-frame averaging
- Interferogram clipping
- Spline interpolation
- Flat field correction
- Phase removal
- Cosmic ray removal
- Spectral filtering
- Zero Padding
- 'rolling ball' baseline removal
- Advanced Fourier transform analysis