



# Nano-Band™ Explorer Benchtop System for Trace Metals Analysis

Now, metals testing on-site, in your hands, and under your control!

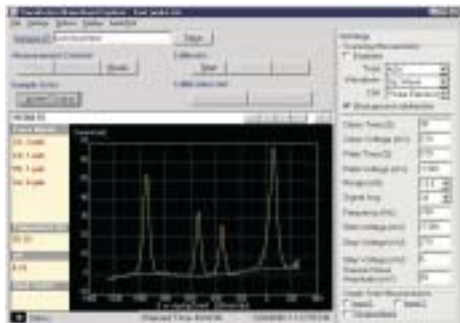
The Nano-Band™ Explorer Benchtop measures trace metals in aqueous solutions, at superior detection levels. Routinely make ppm measurements instantly, ppb measurements in seconds, and ppt measurements in minutes. The system integrates our patented Nano-Band™ electrodes, Windows™-based software and a multi-parameter instrument for bench-top use: bring trace metals analysis into your lab & under your control with the Nano-Band™ Explorer! Each Explorer Benchtop system includes:

- Nano-Band™ Explorer Benchtop instrument
- Explorer Software to operate your instrument
- 1 Nano-Band™ Electrode: choice of Gold or Iridium. Select Gold Electrodes for Arsenic measurements, and Iridium for all other metals.
- Auxiliary electrode
- Reference electrode
- Electrode cleaning kit
- Temperature sensor

The measurement techniques supported include: stripping voltammetry, cyclic voltammetry, amperometric measurements, pH, ORP, ISE and temperature measurements.

Metals testing is in your hands and under your control with user-friendly, analytical Explorer software

- Sophisticated trace metals analysis via ASV and other techniques
- Automated peak finding and identification: baseline, peak height, & peak area
- User configurable in all measurement modes
- Calibration routines, including method of standard addition
- System diagnostics



Example of the powerful analytical software.



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# Nano-Band™ Explorer Benchtop

## Instrument and Performance Specifications

Power source	108 – 132 VAC 60 Hz to wall transformer. Transformer has NEMA 5-15 plug and supplies +5V, ±12V. Combined regulation ± 5%. Typical power consumption: ~ 1 W	
Controller	PC/Laptop (note: computer is not included with system, but is optional)	
Host-instrument interface	Serial port, max baud rate: ~120 kbaud Supported baud rates are: 2.4 kbaud, 4.8 kbaud, 9.6 kbaud, 19.2 kbaud, 38.4 kbaud, 57.6 kbaud, and 115.2 kbaud.	
Analysis capabilities	Anodic Stripping Voltammetry (ASV) Cathodic Stripping Voltammetry (CSV) Cyclic Voltammetry (CV) Square Wave Voltammetry (SqWV) Potentiometric Stripping Analysis (PSA)	Amperometry Chronocoulometry Transient Response Temperature Voltage (for pH, ORP and ISE electrodes)
Measurement capabilities	Reference electrode voltage: -2.047 V to +2.048 V (12 bits), 25 µsec settling time Auxiliary electrode V-range: ± 7.5 V Current-Source ranges: - 20.47 µA to +20.48 µA and - 204.7 nA to +204.8 nA (12 bits) Measured voltages: ± 2.5 V (16 bits), 5 µsec acquisition time Measured current ranges: ± 125 µA, ± 12.5 µA, ± 1.25 µA, ± 125 nA (all 16 bit) High scan rates: 0.05V/100 µsec Minimum current resolution: 3.8 pA Temperature: 0 to 100°C, with accuracy of ±1°C at 25°C, ±2°C full temperature range Max. data rate: 25 kHz (ASV, PSA, Amperometric, CV)	
Optional capabilities	2 high-Z analog channels $R_{in} > 10^{11} \Omega$ 2 high-speed analog channels $R_{in} > 10^9 \Omega$ , 25 kHz max data rate External current measurement capability External outputs to drive oscilloscope ( $V_{Ref}$ , $V_{Meas}$ and $V_{Trig}$ )	
Dimensions	8.1" x 10.0" x 2.7"	
Weight	Instrument weight: 3.5 lbs.	
Operating ranges	Intended temperature range of operation: 0°C to 40°C Intended humidity range of operation: 20% to 90% relative humidity	
Operating system requirements	Windows 95/98/2000, Windows XP	
Data file format	Export to Excel, Matlab	

