



DY2300 Series Potentiostat/Bipotentiostat



- **Portable**
- **High-performance**
- **Low-cost**
- **Easy to use**
- **RDE (RRDE) control**

DY2322 & Netbook Computer

Hardware

- Max. Current Range: $\pm 100\text{mA}^*$ ($\pm 10\text{nA}$ to $\pm 100\text{mA}$ in 8 steps) [* Total output current]
- Current Resolution: 0.002% of full scale, with highest resolution of 0.3pA
- Potential Range: $\pm 4.000\text{ V}$
- Bias Potential Range: $\pm 4.000\text{ V}$ (for WE2)
- Compliance Voltage: $> \pm 10\text{ V}$
- Input Impedance of electrometer: $> 10^{12}\ \Omega$
- Potential Bandwidth: $> 30\text{ kHz}$
- I/E Low Pass Filter: 6 ranges (Auto or Manual), depending on sensitivity setting
- Input Bias Current: $< 20\text{ pA}$ @ $25\text{ }^\circ\text{C}$
- ADC Sampling Rate: 10kHz-0.1Hz, 0.002% resolution, 15000 data / CH
- Cell Control: Purge, Stir
- RDE Rotation Control: 0-10 V
- Electrode Configurations: 060120CE, RE, WE (1 CH), or CE, RE, WE1, WE2 (2 CH)
- Dimensions & Weight: 14.5 x 24 x 4.5 cm, 1 kg
- Power Requirements: 90-240 VAC, 10W

Software

- **Easy-to-use** user interface for experimental setup, graphic display, data analysis and output file management
- Data Processing (Filter, Smoothing, Remove DC Offset, Math, Plot Segments, FFT, Auto Peak Shape Definition, Peak Par. vs. Scan Rate Plot, Levich Plot, etc.)
- USB connection, requires a user-provided PC running Windows.

Experimental Techniques

- (1) Amperometric i-t curve (**iT**): $\text{Sampling Time (sec)} = [0.0001\text{ to }100]$
- (2) Cyclic Voltammetry (**CV**): $\text{Scan Rate (V/sec)} = [1e-5\text{ to }10]$
- (3) Linear Sweep Voltammetry (**LSV**): $\text{Scan Rate (V/sec)} = [1e-5\text{ to }10]$
- (4) Open circuit potential vs. time (**OCP**): $\text{Sampling Time (sec)} = [0.0001\text{ to }100]$
- (5) Differential Pulse Voltammetry (**DPV**): $\text{Step E (V)} = [0.001\text{ to }0.1]$, $\text{Amplitude (V)} = [0.001\text{ to }0.5]$,
 $\text{Pulse Period (sec)} = [0.02\text{ to }100]$
- (6) Normal Pulse Voltammetry (**NPV**): $\text{Step E (V)} = [0.001\text{ to }0.5]$, $\text{Pulse Period (sec)} = [0.02\text{ to }100]$
- (7) Multi-Step Potential (**MSP**): $\text{Step E (V)} = [-4.0, +4.0]$, $\text{Step Width (sec)} = [0.005\text{ to }200]$
- (8) Square Wave Voltammetry (**SWV**): $\text{Step E (V)} = [0.001\text{ to }0.1]$, $\text{Frequency (Hz)} = [0.01\text{ to }50]$
- (9) Chronoamperometry (**CA**): $\text{Pulse Width (sec)} = [0.001\text{ to }1000]$,
 $\text{Sampling Time (sec)} = [0.00001\text{ to }10]$
- (10) Anodic (Cathodic) Stripping Voltammetry
- (11) Tafel Plot
- (12) Run style: *Single, Auto Repeat or Auto Sequence*

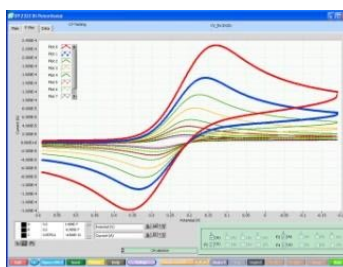
DY2300 Series Models

Function \ Model Number	DY2311	DY2321	DY2312	DY2322
Input Channel No.	1	2	1	2
Electrode Configurations	CE, RE, WE	CE, RE, WE1, WE2	CE, RE, WE	CE, RE, WE1, WE2
Amperometric i-t (iT)	✓	✓	✓	✓
Cyclic Voltammetry (CV)	✓	✓	✓	✓
Linear Sweep Voltammetry (LSV)	✓	✓	✓	✓
Open Circuit Potential vs. Tim (OCP)	✓	✓	✓	✓
Differential Pulse Voltammetry (DPV)			✓	✓
Normal Pulse Voltammetry (NPV)			✓	✓
Multi-Step Potential (MSP)			✓	✓
Square Wave Voltammetry (SWV)			✓	✓
Chronoamperometry (CA)	✓	✓	✓	✓
Tafel Plot	✓	✓	✓	✓
RDE Control Output (0-10V)	Optional	Yes	Optional	Yes

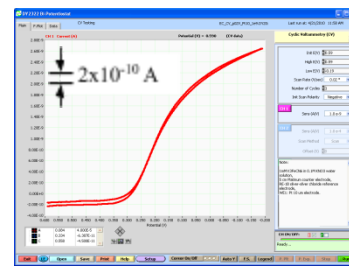
Sample Data



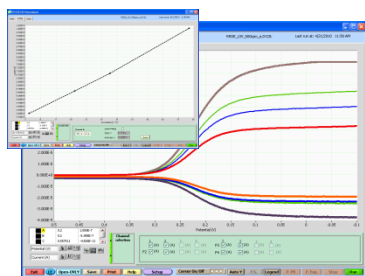
(1) Dual channel, multi-cycle CV scans



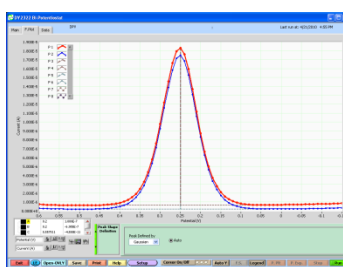
(2) Overlay plot (32-trace max.)



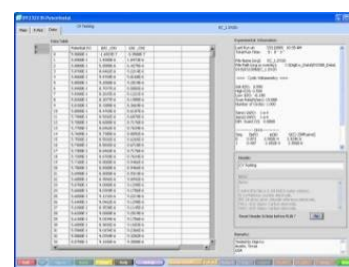
(3) CV scan, Pt 10 μm electrode



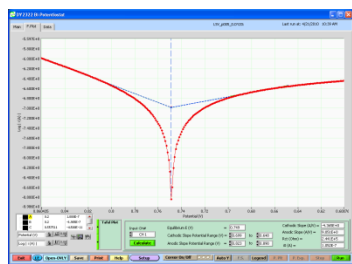
(4) RRDE (500, 1000, 1500, 3000 rpm). Built-in Levich Plot



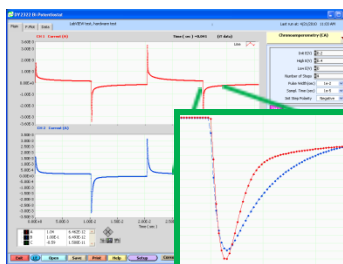
(5) Dual channel DPV, auto Peak (Diffusive, Gaussian, and Sigmoidal) calculations



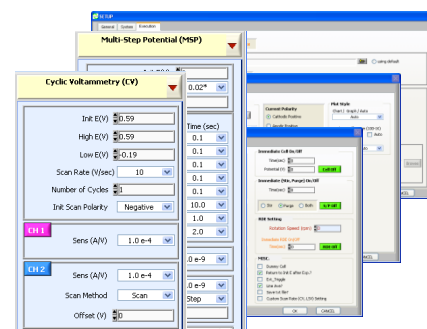
(6) Raw data and calculated parameters display



(7) Tafel Plot, Cathodic Slope, Anodic Slope, Ret, and i0 calculations



(8) Chronoamperometry (CA) data, Fsamp = 100 kHz.



(9) Very easy to use, with many flexible configurations