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TECHNOLOGY GROUP

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Model 600A Series

Electrochemical Analyzer/Workstation

The Model 600A series is designed for general purpose electrochemical measurements. Each instrument contains a fast digital function generator, a high speed data acquisition system, filters for the potential and the current signals, a secondary gain stage, iR compensation circuitry, a potentiostat and a galvanoststst (Model 660A only). The potential control range is ą 10V and the current range is ą 250mA. This series is capable of measuring current down to tens of picoamperes. The steady state current of a 10m m disk electrode can be readily measured without external adapters. With the CHI200 Picoamp Booster and Faraday Cage, which is fully automatic and compatible with the CHI600 series, currents down to 1 pA can be measured. With the CHI680 Amp Booster, the current can be measured up to 2A. These instruments are very fast. The function generator can update at a 5M Hz rate, and the maximum sampling rate is 500 KHz. The time scales of most experiments can be one or two orders of magnitude shorter than those you can find in other commercial instruments. For instance, the scan rate in cyclic voltammetry can be up to 500V/s with a 0.1mV potential increment or 5000V/s with a 1mV potential increment. The instruments in the 600A series will also automatically re-zero both potential and current to compensate for hardware drift due to temperature and time. Therefore, periodic recalibration of the instrument can be avoided.

The Model 600A series is an upgrade from our very popular Model 600 series. We redesigned the hardware. The improvements include higher sensitivity, four electrode configuration (with the 4th electrode as sensing electrode to overcome the contact resistance and it is very important for high current measurements), an auxiliary signal input channel for simultaneously signal recording (such as spectroscopy signals), a faster data sampling circuitry (12-bit @ 500 KHz), an auxiliary high resolution data acquisition system (20-bit @ 1000Hz and 24-bit @ 10Hz) for slow experiments, and improved impedance measurements for low impedance cell. The data length is increased from 8000 points to 16000 points or 32000 points (in most of the cases). The software is 32-bit version and has a multi-document interface. Several new techniques that are not listed in the 1996 brochure were added, including differential Pulse Normal Pulse Voltammetry (DNPV), Differential Pulse Amperometry (DPA), Double Differential Pulse Amperometry (DDPA), Triple Pulse Amperometry (TPA), Impedance - Time (IMPT), Impedance - Potential (IMPE), Chronopotentiometry with Current Ramp (CPCR), Open Circuit Potential - Time (OCPT), and Sweep-Step Functions (SSF). he SSF allows 6 segments of potential sweep and 6 segments of potential step function to be mixed. The potential range, scan rate and step time for each segment can be controlled independently.

We provide several different models in the 600A series. The following table compares the different models. Other than what is listed, the specifications and features of these models are identical. Models 600A and 610A are basic units for mechanistic study and electrochemical analysis, respectively. They are also great for teaching purposes. Models 602A and 604A are for corrosion studies. Models 620A and 630A are comprehensive electrochemical analyzers. Models 650A and 660A are advanced electrochemical workstations.

Differences of 600 Series Models

Functions	***600A***	***602A***	***604A***	***610A***	***620A***	***630A***	***650A***	***660A***
Cyclic Voltammetry	●	●	●	●	●	●	●	●
Linear Sweep Voltammetry [&]	●	●	●	●	●	●	●	●
Staircase Voltammetry [#,&]						●	●	●
Tafel Plot		●	●			●	●	●
Chronoamperometry	●	●	●		●	●	●	●
Chronocoulometry	●	●	●		●	●	●	●
Differential Pulse Voltammetry [#,&]				●	●	●	●	●
Normal Pulse Voltammetry [#,&]				●	●	●	●	●
Differential Normal Pulse Voltammetry [#,&]								●
Square Wave Voltammetry [&]					●	●	●	●
AC Voltammetry [#,&,$]						●	●	●
2nd Harmonic AC Voltammetry [#,&,$]						●	●	●
Amperometric i-t Curve						●	●	●
Differential Pulse Amperometry								●
Double Differential Pulse Amperometry								●
Triple Pulse Amperometry								●
Bulk Electrolysis with Coulometry	●	●	●		●	●	●	●
Sweep-Step Functions							●	●
Hydrodynamic Modulation Voltammetry							●	●
AC Impedance			●				●	●
Impedance - Time			●				●	●
Impedance - Potential			●				●	●
Chronopotentiometry								●

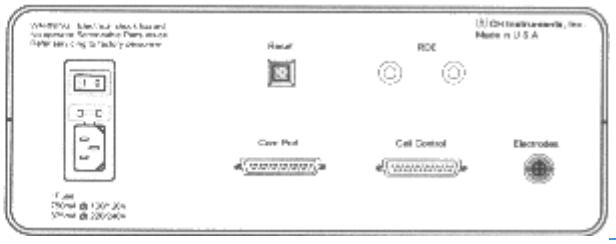
Chronopotentiometry with Current Ramp								●
Potentiometric Stripping Analysis								●
Open Circuit Potential - Time	●	●	●	●	●	●	●	●
Galvanostat								●
RDE control (0-10V output)						●	●	●
Auxiliary Signal Measurement Channel	●	●	●	●	●	●	●	●
Full version of CV simulator						●	●	●
Limited version of CV simulator	●	●	●	●	●			

#: Corresponding polarographic mode can be performed.

&: Corresponding stripping mode can be performed.

$: Phase selective data are available.

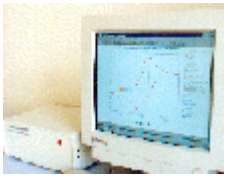




Pictures

Front View

Rear View



click on the picture for clearer picture

(Hardware Specifications)

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