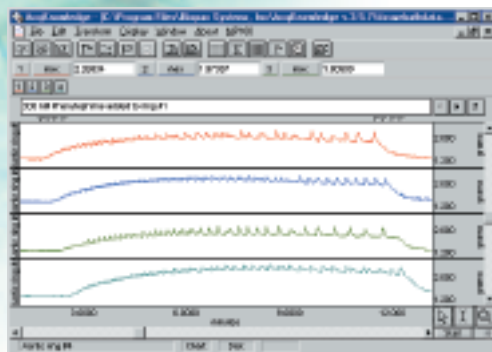




Record data from tissue bath, isolated organ, Ussing chamber and field stimulation experiments. Use advanced algorithms to analyze Langendorff, working heart and isolated perfused lung data, on-line. Visually compare and measure tissue bath dose responses on-line. Control valve opening and closing times to automate wash and fill cycles. Keep an on-line log of experimental results.

FEATURES

- TISSUE BATH MONITORING
- ON-LINE ANALYSIS
- PULSATILE TISSUE STUDIES
- CARDIOVASCULAR ANALYSIS
- LANGENDORFF HEART PREPARATIONS
- WORKING HEART PREPARATIONS
- ISOLATED LUNG STUDIES
- FIELD POTENTIAL MEASUREMENTS
- AUTOMATIC DATA REDUCTION
- CONTROL PUMPS & VALVES
- INTERFACE WITH EXISTING EQUIPMENT



- *Simple two-point calibration*
- *Multi channel calibration*
- *Textual event marking*
- *Remote channel marking*
- *On-line analysis*
- *Overlap and compare responses*

ON-LINE ANALYSIS

Use AcqKnowledge to automatically analyze the peak response to a drug and enter measurement results into the Journal for further analysis. Record the absolute peak response or the mean peak response over a user-defined time period. The mean peak response function prevents sudden spikes from swamping the measurements.

TISSUE BATH MONITORING **Q32**

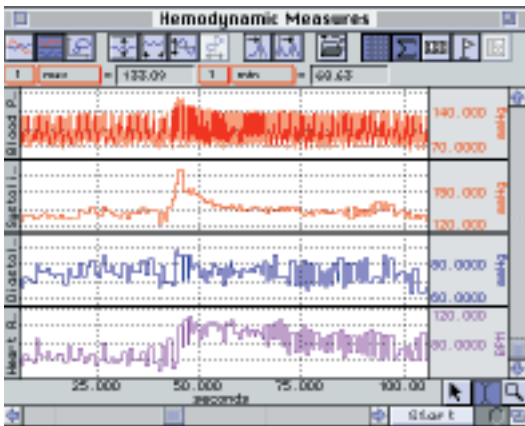
Record and analyze tissue bath preparations. The TSD105A and TSD125 Series force transducers work down to the milligram range and will record responses from small aortic rings to much larger preparations. Interface with a wide variety of tissue bath stations and force transducers. Use the keyboard/mouse event marking system, or utilize one or two of the 8-channel digital marker boxes to precisely identify drug additions and wash cycles. Use the software to compare responses and analyze the data on-line for fast and efficient protocol management. The system will even allow users to trigger valves to control wash cycles and other devices during recording.

PULSATILE TISSUE STUDIES **Q33**

Automatically analyze pulsatile tissue data with the on-line calculation channels. The calculations will provide real-time values for maximum, minimum, peak-to-peak and the area under the curve for each response. To assist in identifying trends within the data, the measured values are displayed on the screen as new data channels. The Peak detection function will allow users to perform the same analysis off-line. The software will automatically measure the maximum, minimum, peak to peak and area for each

- *Maximum*
- *Minimum*
- *Peak-to-peak*
- *Area under the curve*

response and paste the values into the Journal file. The data is easily exported to third-party statistical packages for further analysis.



LANGENDORFF & WORKING HEART PREPARATIONS **Q34**

Interface with flow meters, fluid-filled balloon-tipped catheters and pressure-tipped catheters to monitor flow rates and left ventricular pressure. Perform a variety of LVP measurements, both on- and off-line. Use the built-in stimulator to pace the heart. Powerful automatic data reduction tools reduce large data files into manageable sizes and can extract a variety of values over user-defined time periods. Record continuously for short- and long-term studies (24+ hours), or pre-program to record for specific time periods and dosing events.

- Heart rate
- Systolic
- Diastolic
- Mean blood pressure
- dP/dt (max / min)
- Pulse height
- Max
- Min
- Mean
- Time of max
- Time of min
- LVEDP
- X/Y plots
- Flow
- Flow max
- Flow min
- Flow mean
- Temperature
- Pressure

ISOLATED LUNG STUDIES **Q35**

Calculate tidal volume, airway resistance and dynamic compliance, and monitor temperature, pressure, pH, and pO₂. Automatically control a ventilator to start and stop during an experiment. Record and analyze flow and pressure signals on-line. The real-time Integration function has a unique feature that will provide accurate volume measurements even if the flow transducer's baseline is drifting. Use the on-line calculation channels for advanced measurements and monitor a variety of pulmonary values such as compliance and resistance.

FIELD POTENTIAL MEASUREMENTS

To perform field potential measurements, position

electrodes around the isolated tissue or organ and use the MCE100C to record the potential. Each MCE100C can record a single differential potential. Multiple MCE100C amplifiers can be configured for unipolar (common reference) or bipolar (multiple reference) recordings. Up to 16 channels of field potential data can be collected simultaneously. Measurements can be performed synchronously with external voltage or current stimulators.

Also see Field Potential in Micro-electrode Recording, page 37.

AUTOMATIC DATA REDUCTION

Use the powerful data reduction function to reduce large, 24-hour files to a manageable size, ready for further statistical analysis. Select the appropriate measurements and enter the desired time period, and the software will automatically analyze the data and enter the values into a Journal file and display them as new data channels. Analyze both primary signals (such as arterial blood pressure) and derived data (such as systolic BP).

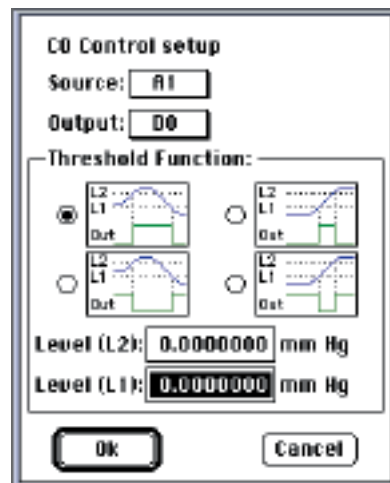
- Max
- Min
- Mean
- Std dev
- Delta
- P-P
- Time of max
- Time of min

CONTROL PUMPS AND VALVES

Control up to 16 digital I/O lines to interface with valves and pumps. Trigger devices manually from the keyboard, or automatically as pre-defined events occur. Turn pumps on and off or set an audible alarm to sound when a signal falls within or outside a user-defined range.

INTERFACE WITH EXISTING EQUIPMENT

The Transducer Connector Interfaces (TCIs) interface the DA100C with transducers from other manufacturers such as Grass, Gould, Beckman, Viggo-Spectramed, etc. The MP System also provides direct connection to any equipment with an analog output, using the appropriate connection cable to the UIM100C. *See the Amplifiers & Interfaces application on page 48.*



DA100C	54
General-purpose Transducer Amplifier	
TSD105A	69
Variable Range Force Transducer	
TSD125 SERIES	75
Precision Fixed Range Force Transducers	
HDW100A	75
Force Transducer Tension Adjuster	
TSD104A	69
Precision Pressure Transducer	
ECG100C	56
Electrocardiogram Amplifier	
STM100C	64
Stimulator Module	
STMISO SERIES	64
Electrical Stimulus Isolation Accessories	
HLT100C	53
High Level Transducer Module	
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Micro-electrode Amplifier	
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