



VALIDATE IT!

with *Validator*TM

Chromatography Data System Validation Instrument



VALIDATOR quickly generates high-resolution

pre-programmed chromatograms and square

wave voltage signals for testing and calibration

of data system analog-to-digital converters for

accuracy and reproducibility. **VALIDATOR** verifies

and certifies data system software and your

systems integration algorithms for consistent

and reproducible area and height measurements.

- Four standard built-in patterns
- Precision, DC accurate pattern file (0.0 to 500,000 μV back to baseline, then baseline to 1,000,000 μV (1V))
- Second output provides 2 full volt full scale
- Six gaussian peaks, in an increasing height pattern
- Busy real-world chromatogram with many peaks and patterns
- 100-peak file of increasing height square waves near baseline to full scale
- Square wave file ideal for checking system linearity has 100 square wave peaks, each increasing in height, from near baseline to full scale. Boundary testing from 0 to 1000 mV in 10 mV steps. Use 2 volt range for steps of 20 mV from 0 to 2000 mV.
- Simple to operate

Each Validator is calibrated and certified to an NIST traceable standard.

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CHROMATOGRAPHY

Validator™ Chromatography Data System Validation Instrument

Validator enables routine performance checks of your data system (or integrator). The unit comes equipped with four independent program modules for testing, validating and calibrating a data system's analog to digital converter for both accuracy and reproducibility. Additionally, a data system's software integration algorithms may be checked for consistent area and height results.

Advanced electronic circuitry, crystal-controlled time base and self-correcting, ultra-low noise amplifiers result in the unit's high accuracy and reproducibility.

Four Standard Signal Pattern Sets

The **Validator** EPROM program files contain the four standard built-in signal pattern sets shown to the right:

1. A chromatogram file containing six **gaussian** peaks of increasing height. Each peak is approximately double the height of the previous one.

2. A file containing two **square wave** peaks. The first goes from zero to half scale (500,000 μ v) and the second goes from zero to full scale (1,000,000 μ v). Note: These are used for calibrating the full scale of the **Validator** or calibrating the system's analog to digital converter.

3. A chromatogram file containing examples of co-eluting peaks with heights from under 1000 microvolts to approximately 613,410 microvolts; areas from 7,000 to 33,000.

4. A file containing 100 **square wave** peaks. Each peak has increasing height from the previous one and the widths of all peaks are the same. This file can be used to check the linearity and accuracy of a data system.

Any file may be played **once** or **continuously**. By placing **Validator** in **Repeat** or **Continuous Play** mode, an extended test may be produced that contains a repeating pattern of peaks or square waves for checking the long-term reproducibility of the data system.



Each unit is **CALIBRATED** and **CERTIFIED** to an NIST traceable standard — CE Tested & Approved

All units ship with a Certificate of Validation and a Declaration of Conformity.

Controls

- Power Switch:** Turns ON/OFF +5 Volts DC supply
Program File: Selects Signal Set File 1, 2, 3 or 4
Play Speed: 0.5 PPS, 1, 2, 4, 8, 16, 32, 64 points per second
Run/Stop Button: RUN/STOP button toggles from STOP to RUN, LCD display shows program choices; PPS Play Speed, REPS for 1 or continuous play mode
- Single/Continuous Mode Switch:** Select the single position for a single play of the selected file. Select continuous position for constant playing of the selected file

Display/Indicators

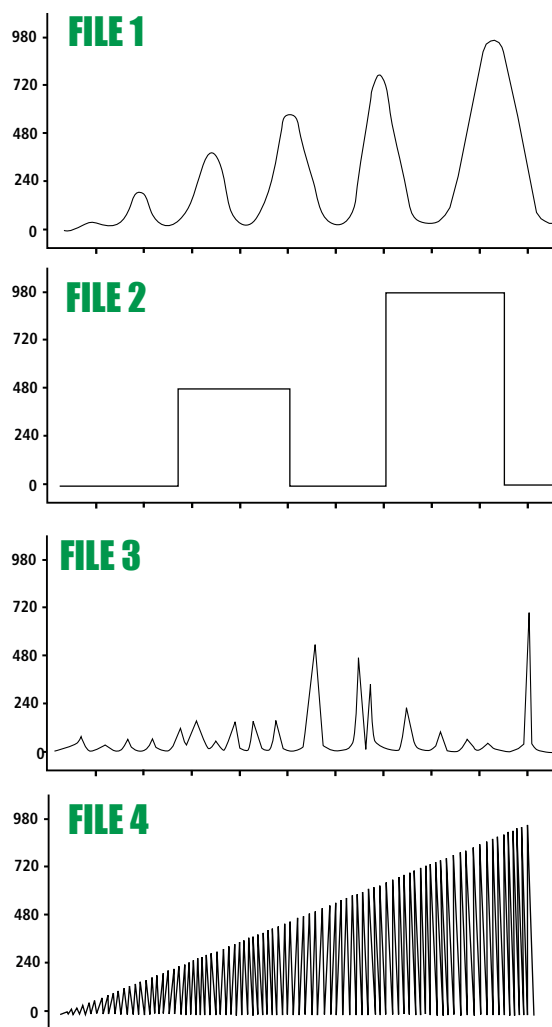
- Voltage:** Signal field displays voltage in microvolts
Run Mode: Signal field blinks while unit is in run mode

Signal Outputs/Inputs

- Outputs:** 0-1 Volts DC, 0-2 Volts DC; Start Contact Closure Relay (NO, NC, COM) indicates program start
Inputs: Remote Start input starts file running

Operating Requirements

- Power:** Mains adapter supplied to convert 85 to 240 VAC 50/60 Hz to 5 Volts DC, positive tip
Environment: 60°F to 90°F, 10% relative humidity (non-condensing)



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