MODEL ACS2000
Calibration System

DESCRIPTION

Pacific Instruments Model ACS2000, Automated Calibration System will align, calibrate and certify programmable transducer signal conditioners and instrumentation amplifiers to factory or user performance specifications. Product specific cable sets and software enable a single calibration system to be used with any supported Pacific Instrument's products.

The ACS2000 is a fully automated test station with the flexibility to run a single performance test or complete calibration and certification procedures. It provides uniform performance testing regardless of operator ability level. Automated calibration and certification increases productivity by reducing the time to calibrate a unit by as much as 80%, providing a quick payback of the initial investment. It also eliminates human errors that may occur when setting up instrument parameters and measuring and recording test results.

The system operates with a Windows-based PC computer, running test and calibration programs in a graphical user interface. Standard calibration and certification procedures are controlled by ASCII text files which are easily modified to change test parameters and limits using a word processing program or text editor. Measured performance data is archived by unit serial number in HTML format. A print utility generates hard copy test reports.

The automated test system consist of Pacific's isolated and shielded input-output test fixture, signal switching matrix, AC/DC voltmeter, precision DC voltage standard, function generator, oscilloscope and computer all mounted in a cabinet with large casters Software and cable set are included for one product. Software and cables for other product types may be purchased seperately.

FEATURES

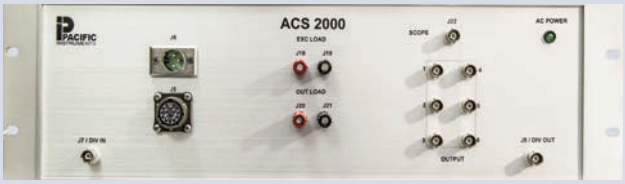
- Automated NIST traceable calibration of amplifiers and signal conditioning
- Performance measurement and certification
- Archived and printed test reports
- Increased measurement accuracy by periodic recalibration
- Minimize human errors
- Cable sets and software available for Series 5800, 6000, 6100, 6700, 7000 and 9000 Pacific product lines

CERTIFICATION PROCEDURES

- Balance
- Bandwidth
- Common Mode Rejection
- Excitation Current and Limit
- Excitation Noise
- Excitation Regulation
- Excitation Voltage and Limit
- Filter Response, Low and High Pass
- Front Panel Test Jacks
- Gain
- Input Impedance
- Linearity
- Multiple Outputs Gain and Zero
- Noise
- Resistance Shunt Calibration
- Resistance Substitution Calibration
- Source Current
- Voltage Calibration Accuracy
- Zero

CALIBRATION PROCEDURES

- ADC Gain and Zero
- Voltage Excitation Levels
- Current Excitation Levels
- Gains
- Monitor Accuracy and Zero
- Modify Calibration Date and Information



ORDERING INFORMATION

ACS2000.....Calibration System

2023-12-01

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PACIFIC INSTRUMENTS
A VPG Brand

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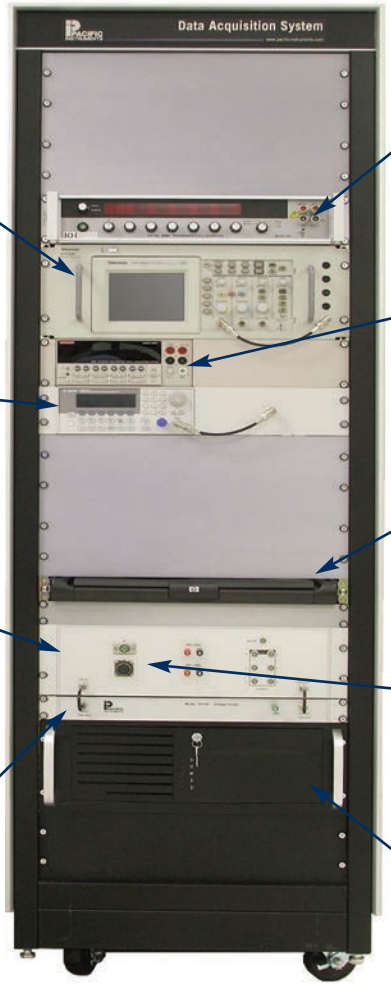

Tektronix Digital Oscilloscope displays amplifier and filter analog outputs. Verifies signal and noise characteristics.

Agilent Function Generator provides waveforms for dynamic tests such as amplifier and filter frequency response.

Pacific's Calibration Fixture configures inputs for vaious calibration and test proceedures. Triple isolation prevents signal contamination by computer generated noise.

Precision voltage divider increases measurement accuracy for highest gain steps.

Khron Hite programmable Voltage Calibrator provides accurate, NIST traceable voltages for gain and linearity calibration.

Keithley DVM with programmable matrix-switch module that configures output measurement circuits.

Drawer style keyboard, mouse with flip-up 17" flat panel display. Removable for bench-top use.

Supplied cables configure the fixture for specific signal conditioning modules.

Pentium processor with Windows operating system and calibration and certification software.

SYSTEM DESCRIPTION

The calibration and certification system is operated by a PC computer with Windows operating system. The test equipment control and data interfaces are IEEE-488 and Ethernet. The interface to the device under test (DUT) may be either IEEE-488, Ethernet or USB, and are all supplied with the system. It is necessary that the DUT be installed in a master enclosure of the type normally used by the DUT which includes the interface to the DUT.

Calibration and certification are performed on individual channels installed in the enclosure. The system provides automatic configuration of the input and output test circuits as well as set-up of test equipment and test articles to accomplish each measurement or calibration. All test equipment is certified to NIST traceable standards and is easily removed from the system for perodic recertification.

The ACS2000 uses a specially designed and shielded test fixture with three levels of computer isolation to achieve low noise, high accuracy measurements. Low-noise, low-thermal EMF relays are used exclusively for input switching.

Calibration and certification software uses Standard Test Proceedures that are specific to each model and call universal parameter test and calibration routines. The provided test procedures are in ASCII, text-based files that may be easily customized by the user without programming experience. Users may change the tests employed, the order of tests, test limits and pass-fail criteria. They can also change the DUT operating parameters for the test.

All test data is saved in .htm compatible files by serial number. Two separate files are maintained, one for calibration and alignment and the second for verification and certification. The certification report lists each test procedure, showing the measured performance values, the allowable tolerance and indicates pass or fail for each proceedure. A summary file is provided, listing procedures run and pass/fail for each.

OPERATION

The operator is guided through the calibration and certification procedure. At start-up, the date, operator name and serial number of the unit under test are required. Each step is explained on the screen. If operator action is required, testing is suspended until the operator confirms it has been done. Results of the calibration or measurement are shown with pass/fail criteria. At the end of a calibration or certification procedure, pass or fail is indicated and the operator has the option of generating a printed report.

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