

HIAS1214

Computer Control & Measuring System

HIAS1214 Computer Control & Measuring System is specifically designed for the needs of HV impulse testing. It is used WHVD-100 digital high voltage transient recorder of the third generation, its system reliability, set level, speed and functionality on the prototype has significant increased. With high-speed, large capacity transient signal acquisition module HS-120, program-controlled amplifiers and control circuit as the core components, in order to build Intel P4 2.4GHz processor to control an integrated core workstation platform, and through integrated Implementation of the workstation on a system-wide automated control and rapid signal analysis. Over various parts of industrial technology standards in accordance with the design and manufacture, they constitute a mutual organically excellent all-digital precision measurement, high-speed (120 MS / s), large capacity (maximum of 512M) test record of the impulse high voltage system.

HIAS1214 unique circuit design, anti-electromagnetic interference and signal structure of the integration process is specific to high-voltage equipment testing and measuring impulse of design and development, and technical performance meet IEC61083 and IEEE1122, GB/T16896.1-1997 / 200X, and other standard requirements, the system records high-voltage direct signal, avoid isolation device to convert the measurement error and stability of many problems, its high anti-jamming circuit structure and the entire system excellent anti-electromagnetic interference ability meet the IEC61000 electromagnetic compatibility standards.

HIAS1214 has integrated control, measurement, storage, analysis, the output function; impulse voltage, impulse current measurement, evaluation and analysis functions. Configured for 2 channels, it has universal standard interface, convenient use for various impulse voltage divider or shunt, and other equipment without making any mechanical or electrical change, but also through the network (LAN) and other communications equipment.

The system software written with VC, the number of input and output is part of the entire Chinese friendly user interface, see Figure 1. Users can achieve range settings, signal sampling, on-line operation, data storage and transmission, waveform output, data analysis, waveform editing, wave, the output of test reports, such as automatic control and data processing functions. In addition, the system software is also equipped with practical online help files to which users can promptly get access.



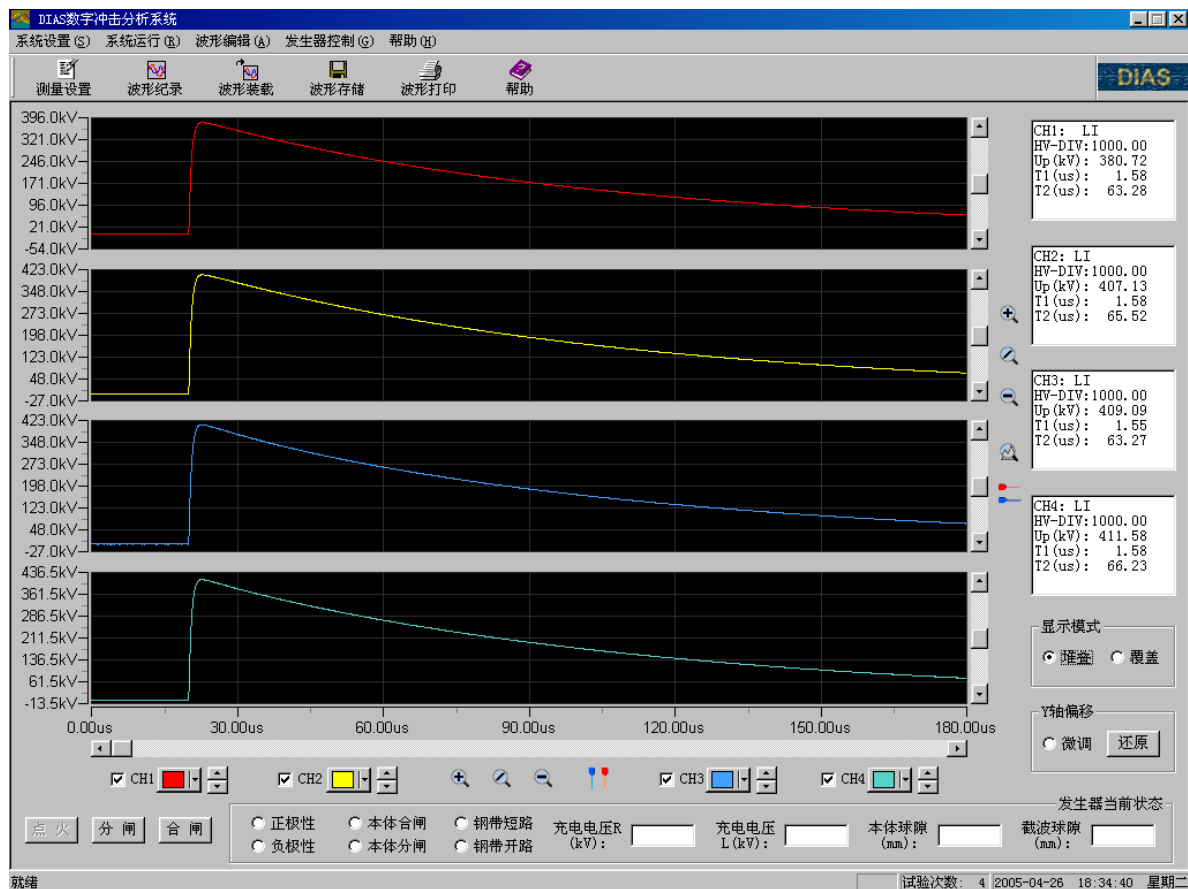


Figure 1: HIAS1214 (Channel2) monitoring and control interface integration waveform records

◆ Main Application

- Suitable for transformers and other electrical equipment damage waveform measurement display, high voltage impulse test, and high voltage and pulse measurement transient over-voltage applications such as Signal Test

◆ Main characteristic

- Entire observation and control integration;
- The high accuracy (8Bit), the high speed data sampling (100MS/s), recording length 2.5k, substitutes completely the peak value table;
- System modulation design;
- During the testing immediate display of the waveform data and profile characteristic, and storage and transmission data;
- Automatic waveform analysis and display, including the peak, the front wave, terminal wave (cut), waveform analysis and comparison;
- Based on the Windows 2000 software applications, waveform analysis software through CD-ROM IEC1083-2 detection test;
- The CF card data double backup system, to insure data security and integrity;
- Integration of industrial design with high stability, high reliability and excellent electromagnetic compatibility, do not need any additional shielding devices;

- The test report and graph can be generated automatically by the report output system according to the user needs;
- Voltage and current impulse waveform can be display, easy contrast accuracy;
- Integrated entire automatic impulse / operation wave verification system insure the system precision;
- (LAN) realizes remote control and the data transmission function through the network, testing data can be shared immediately;
- According to user need, tests default parameters can be saved and re-calls, avoiding duplication work;
- With the standardization of the waveform editing system, waveform measuring can be completed by dragging the mouse, use the mouse lets also easy zoom in and out all or partial waveform;
- Common feature set shortcuts;

◆ **Control System Main Function**

- Charging voltage installation way: set each level of charging voltage value, the total charging voltage value, the testing voltage value.
- The charging voltage supposes the definite value and the actual value demonstration.
- The charge speed choice, the user may according to test need, chooses from 30s charge time
- The synchronized gap sphere basis installation charging voltage, automatically adjusts gap sphere distance, and display actual distance value. When gap sphere limit switch move, sends out the acousto-optic instruction.
- The automatic transformation charging voltage polarity, and display on the screen.
- When the charging voltage is higher than setting voltage 10%, overvoltage protection device 100% operate.
- When the charging current surpasses the hypothesis magnitude of current, over current protection device 100% operate.
- When there is power fail suddenly during the test, automatically earthing protection device 100% operate and it is a reliable earthing.
- Automatic control earthing switch
- Automatic detection trigger pulse, generator determine whether there is misoperation.
- Specified the time to trigger ignition, 3 seconds before the ignition sends out the ignition prompt signal.
- Between two adjacent ignition time-gap and its display.
- The automatic acousto-optics reports to warning and the display of warning content.
- Over current and overvoltage protection.
- Display of the number of impulse and flashover (breakdown).

System description

◆ **Data Acquisition**

- Amplifier can be programmed through the measurement signal and adjust to A / D converter optimal measurement within the scope;
- The A/D switch has 8Bit precision.

◆ **Data Processing**

- Uses Intel P4 the 2.4GHz processor, has special filter and shield design, has strong electromagnetism compatible level, can in the high-voltage laboratory and under the testing environment work;
- The processor electric circuit part has anti disturbance ability, exceed IEC61083, IEEE1122 as well as the IEC61000 standard requirement.

◆ **Data Input**

- The Chinese Windows operating system interface, the user can easily input through keyboard

◆ **Data Output**

- Screen display, 15" LCD high resolution display;
- Printout: can use any model of printer.

◆ **Data Storage**

- Hard disk: Uses to store the application system as well as the test data, can store to 80G or even larger capacity data;
- CF card: Uses to backup test data
- Compact disc: the user can burn is necessary the hard disk data records to the compact disc;
- Other removable storage devices: Through USB2.0 connection.

◆ **Remote Control**

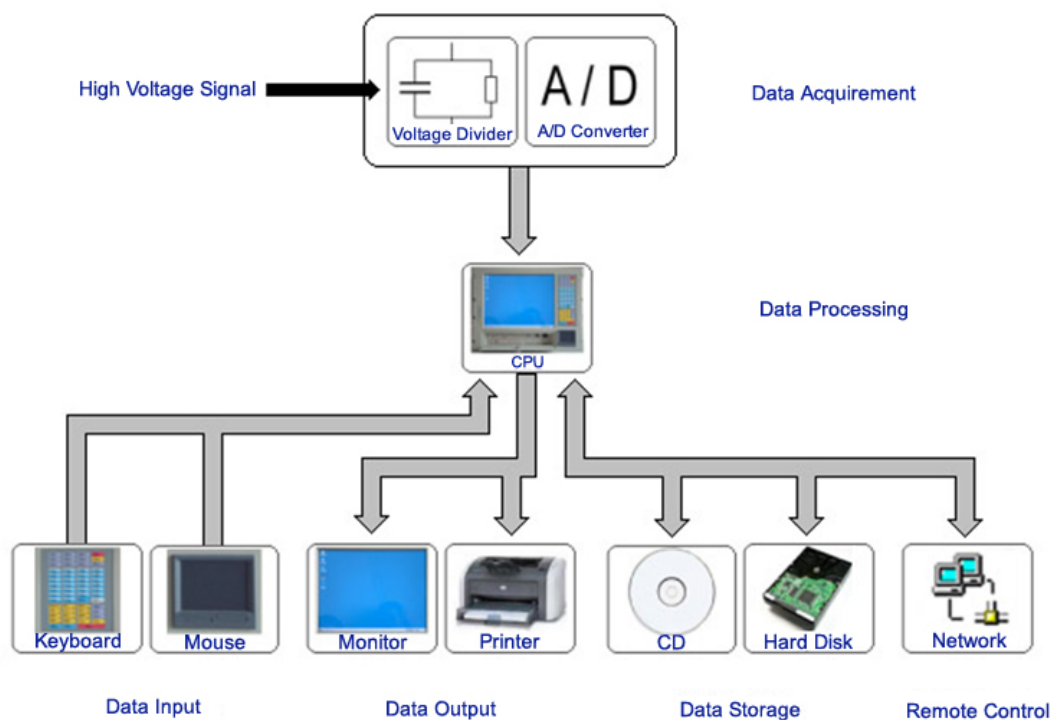
- HiAS1214 can connect to other computer network (LAN) to control the operation of remote test site.

◆ **Unique Feature**

15" colored TFT LCD display monitor and 1024×756 high resolution, the brightness is: 200cd/m², the back light MTBF: 25,000 hour, LCD MTBF: 50,000 hour, analog VGA input.

- The front panel has screen-conditioning button (OSD), waterproof dust Touch screen
- 59 keys keyboard and mouse
- Front board has 1 USB2.0 connection, 1 PS/2 connection and power switch.
- Driver space: 1 3.5" floppy drives, 1 3.5" hard disk and 1 5.25" CD-RW
- The ATX power source, Ace-832ap 300W brings the PFC function
- Anti-vibration: 5-17Hz, 0.1" split-blip displacement; 17-640Hz, 1.5G peak - peak acceleration
- Anti-impact: The 10G peak - peak acceleration, in X, Y, the Z axis direction continuously 11ms

System Structure



Technical Parameter

Measuring Range	80V、125V、170V、240V、270V、300V、450V、700V、940V、1200V、1400V、1600V(We can also set according to customer's requirement)
Max Input Voltage	1950
Bandwidth	30MHz
Input impedance	>1MΩ & <30p
Number of measuring channel	2channel / 4 channel
Sampling rate	100MS/s
Amplitude resolution	9Bits, 1/16384=0.006%
Amplitude error	<1%
Display screen	15" LCD, 1024×768
Upper level processor	Intel P4 2.4GHz processor as the core integration platform for workstations
Lower level processor control unit	based on 51 cores MCU master control unit as processor
Chopped wave ignition control impulse delay	0 to 6553.6us tunable, regulation accuracy 0.1us.
Withstand voltage intensity of Insulation unit	>2500V/RMS, 1min
Linear	2LSB (0.2%)
Dimension	265mm (L) ×483mm (D) ×354mm (h)

For further information please contact:

Samgor Technology

Add: 9F, Founder Tower No.1122 Xin Jin Qiao Rd.
Pudong, Shanghai, 201206, China

Tel: 86-21-58999552 58999556

Fax: 86-21-68482953 50323350

E-mail: info@samgor.com

Http:// www.samgor.com

