HONEST DATA ANALYZING SYSTEM V2

User's Manual

Rev 0.1

Contents

1. Introduction........ 4
2. Inspection........ 4
3. Safety........ 5
    3-1. Set-up location........ 5
4. Precautions for use........ 5
5. Product overview........ 5
6. Configuration........ 7
    Sketch drawing........ 10
7. Specifications........ 10
8. Wiring layout........ 11
9. Static Honestmeter........ 12
    9-1. Points to be checked before use........ 13
    9-2. Setting the applied voltage........ 13
    9-3. How to position a sample........ 14
    9-4. Points to check before turning on the power........ 15
    9-5. Installation........ 15
    9-6. Power on procedure........ 16
10. Emergency shutdown........ 16
11. Basic measurement........ 17
    11-1. Measurement........ 17
    11-2. Wave Window........ 17
    11-3. Temperature and humidity measurement........ 18
    11-4. Explanation of parameters........ 18
    11-5. Graph display........ 19
    11-6. About the display of maximum electrification voltage, half-value time, and half-value voltage........ 20
12. Applied measurement........ 21
13. Measurement mode........ 21
14. Working with files........ 22
    14-1. Saving data........ 22
    14-2. Opening data........ 23
15. Proofreading........ 23
16. Maintenance........ 23
17. Printing........ 24
    17-1. Printer settings........ 24
    17-2. Printing........ 24
18. File format........ 25
19. Uninstall........ 26
20. Upkeep and precautions........ 26
21. List of error messages........ 27
22. Trouble shooting........ 28

Please read this manual before operating the Honest Data Analyzing System V2 to ensure correct and safe use.

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Product failure, repair, and support options

1. The company will provide cost-free repairs within one year of delivery in the event of natural failure or failure clearly attributable to manufacturing problems of the company. However, the company will determine the cause of a failure or defect and whether it is subject to cost-free repair.
2. The company will perform repairs at actual cost in the event of failure caused by lightning or other natural phenomenon or in the event of failure resulting from a short-circuit, excessive voltage, mechanical failure, or other cause attributable to the user.
3. Use packaging recommended by the company when sending the analyzer for repairs to prevent damage during shipment. If proofreading after repair is needed, send the Honestmeter and proofreading tools together with this device to the company. Do not send a PC.
4. Regardless of where you obtained the analyzer, please inquire with and make requests directly to the company's sales department if you have questions about use of the analyzer, troubleshooting, or product repair.

1. Introduction

Thank you for purchasing the Honest Data Analyzing System V2 (called the “analyzer” in this manual). The analyzer is an analytical processor that automatically computes the half-value period of voltage decay from the static decay curve obtained from the Static Honestmeter. It can automatically measure the electrostatic attenuation of materials with a single touch. Please read this manual carefully regarding the handling of the analyzer and wiring layout.

By connecting it to the Static Honestmeter, the analyzer can be used to record and analyze static decay curves. It cannot be used by itself. Please have a computer and printer ready for use with the analyzer.

• Functions of the Static Honestmeter

The Static Honestmeter is an instrument for measuring electrostatic attenuation. It is most suited to investigating the electrostatic diffusivity of materials. It is used to electrify a sample by bombarding it with air ions generated through corona discharge, and to then find the decay curve of the charge on the sample after the bombardment is stopped.

The Static Honestmeter confirms to the JIS L1094-1980 electrostatic propensity testing method for half-value period meters for woven fabric and knitted goods. (Note: When placing an order, please indicate the distance for connections (drivers) and electrodes (receivers). In the JIS standard, 15 mm is the distance for electrode plates.)

The Static Honestmeter bombards the sample with air ions generated through corona discharge in order to electrify the sample. Accordingly, it is possible to electrify the sample with either a positive or negative charge by selecting the polarity and applied voltage for corona discharge. It is also possible to change the voltage.

Since the electrification does not use friction, no damage is caused to the sample, and accurate and repeated measurement is possible. Compared with frictional electrification and the direct application of voltage, the corona discharge method of electrification has excellent reproducibility, making it possible to compare different samples. All samples in sheet form, such as films, boards, threads, cloth, carpet, and glass panes, can be measured with the Static Honestmeter.

• Characteristics of the Honest Data Analyzing System

The analyzer is an analytical processor that automatically computes the half-value period of voltage decay from the static decay curve obtained from the Static Honestmeter. By connecting it to a computer and the Static Honestmeter, the analyzer can automatically measure the electrostatic attenuation of materials with a single touch.

The damping time can be measured automatically. The user can automatically start the Honestmeter with a single touch for a specific damping time (percent specified) and display the value together with the decay curve data on the computer screen. The measurement results can be printed out from a printed attached to the computer and kept as measurement data. The decay curve data together with the environmental conditions (temperature and humidity) will be displayed on the computer screen and can be saved to the hard disk drive (HDD). The XY coordinates can be enlarged or reduced. Changes at the time of initial attenuation can be observed by enlarging the screen, which is effective when analyzing the measurement data.

2. Inspection

After the analyzer arrives, please inspect it before use to check for abnormalities or damage that may have occurred during shipment.

Especially check the switch and terminals. Please contact the company’s sales department should there be any damage or if the analyzer does not behave according to the specifications.

3. Safety

3-1. Set-up location

Do not set up or store the analyzer in a location with high humidity or dust, in direct sunlight, or in a location with a lot of vibration.

Do not use or store the analyzer in a location where chemicals may become vaporized and dispersed in the air or where chemicals may become deposited. Do not use or leave the analyzer near a humidifier, dehumidifier, or air-conditioning equipment. Setting the analyzer near electrical devices that consume large amounts of electric power may affect the measurement results. Measurement results will be affected if a draft hits the Static Honestmeter's turntable. The company recommends using the equipment in an environment with constant temperature and humidity to stabilize the measurement conditions.

WARNING! ◇!	**This device is not explosion proof. Do not set it up in a location where combustible gas or solvents are handled, as there is a risk of ignition and explosion.**

CAUTION! ⚠	**This device is a high-voltage generator. Do not set it up in a location where it could be splashed with water or oil or in a location with high temperature or humidity. Be especially careful to absolutely avoid locations with high humidity and condensation, as there is a risk of damage due to electrical failure.**

DANGER: HIGH VOLTAGE! ⚠	**This device is the control unit for the Honestmeter. It is capable of controlling high-voltage DC of ± 10,000 V and the Honestmeter's turntable. Sufficient caution is needed when handling this device and connecting wires, as there is a danger of electric shock.**

4. Precautions for use

- Do not touch the Static Honestmeter's high-voltage applicator or turntable with your hands during measurement.
- Do not turn off the power to the analyzer or computer, and do not disconnect the connection cables during measurement.
- Make sure to connect the ground wires to the Static Honestmeter and analyzer.
- When manipulating the mode selector switch, make sure to first turn the HV ADJ knob completely to the left.

*Note: The Static Honestmeter's measurement results will be affected by the power supply frequency (AC100V 50Hz/60Hz). Please indicate 50/60Hz when performing proofreading.

5. Product overview

The analyzer can automatically measure the static decay curve obtained using the Static Honestmeter and save the CSV data. The measurement results can be printed out using a printer connected to a computer. (The customer must separately prepare a computer and printer.)

The following functions can be obtained by connecting the analyzer to a computer:

5-1. Adjustable damping time (normally 50% for the half-value period setting): The damping time can be set from 2–99% and can be changed after measurement.

5-2. Saving measurement data: Measurement data can be saved on a computer's HDD as a CSV file.

5-3. Temperature and humidity data: These data are automatically saved.

5-4. Display: The voltage axis and time axis can both be an enlarged or reduced. At these can also be changed freely after measurement.

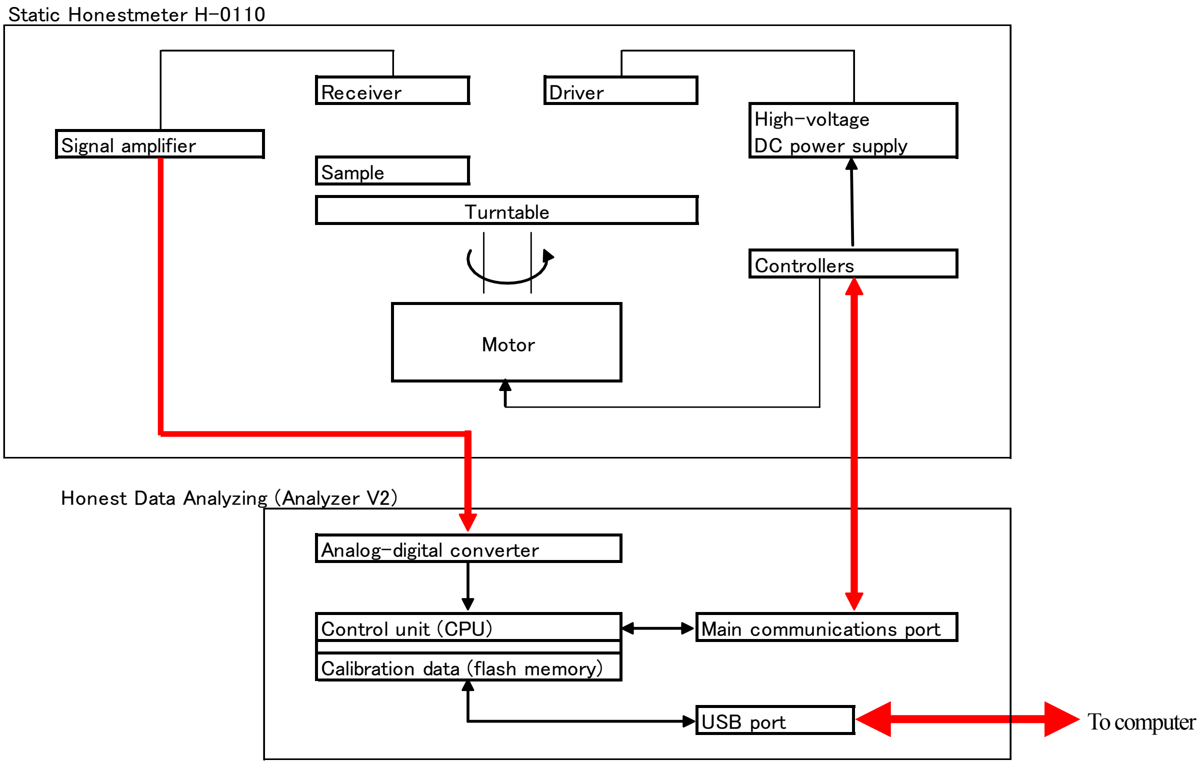
5-5. Real-time display: The characteristics of the sample can be discerned immediately after starting the measurement.

5-6. Data storage location: Proofreading data can be saved in the analyzer's flash memory and measurement data can be saved on a computer's HDD. With no unstable factors such as battery backups, the system can be used with peace of mind.

5-7. Internal block organization

The Static Honestmeter is made up of a driver for electrifying the sample ate user's discretion, a high-voltage DC power supply for generating the corona, a turntable and motor for spinning the sample, a receiver and amplifier for picking up the electric potential of the sample, and controllers for controlling these components.

The Honest Data Analyzing System V2 (analyzer) is made up of a control unit containing a CPU, a communications port for communicating with a computer, an analog-digital converter for converting the electrical potential of the sample into digital data, and a main communications port for controlling the Static Honestmeter.


Static Honestmeter H-0110
Receiver
Driver
Signal amplifier
High-voltage DC power supply
Sample
Turntable
Controllers
Motor
Honest Data Analyzing (Analyzer V2)
Analog-digital converter
Control unit (CPU)
Main communications port
Calibration data (flash memory)
USB port
To computer

6. Configuration

By connecting it to a computer (USB connection) and the Static Honestmeter, the analyzer can control the Static Honestmeter with control signals sent from the computer. The automatically measure data can be saved on the HDD and can be easily retrieved and printed out.

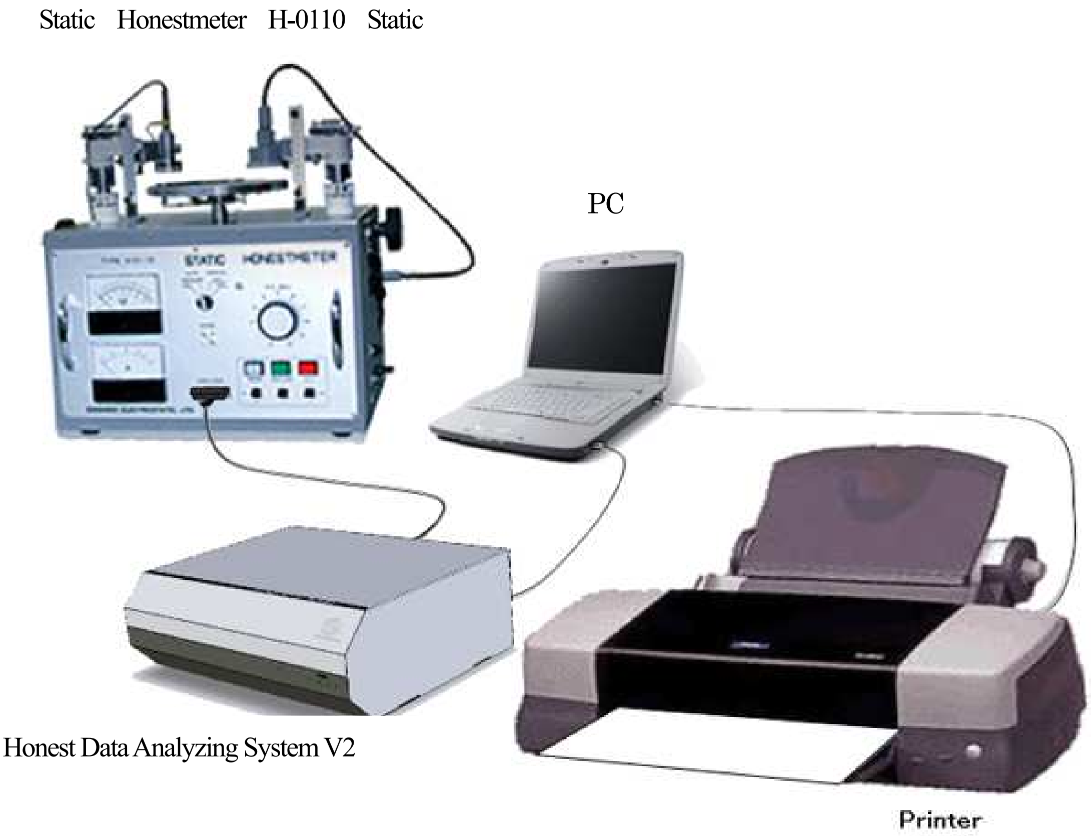
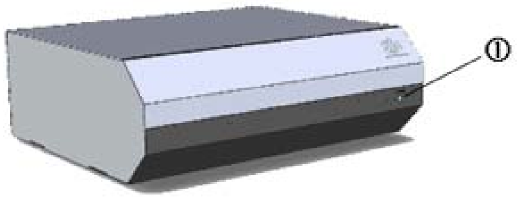
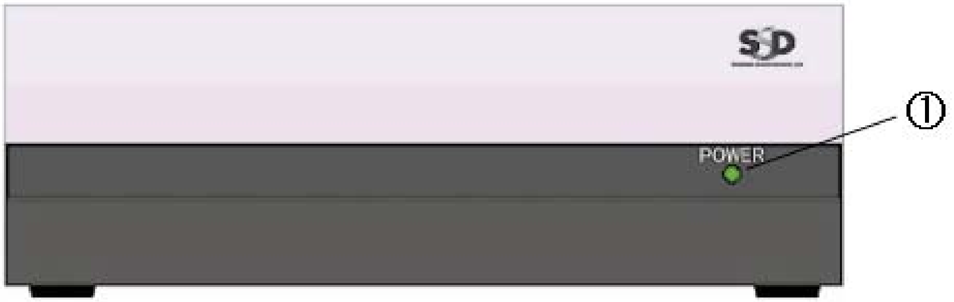

Static Honestmeter H-0110 Static
PC
Honest Data Analyzing System V2
Printer

Figure 1 Configuration of the Honest Data Analyzing System V2

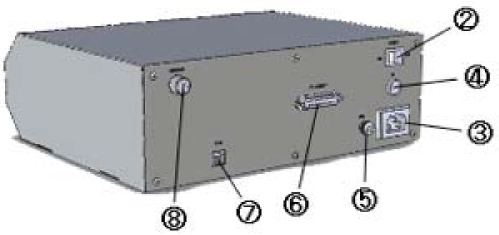
(1) Power indicator lamp (green), (2) Power switch, (3) AC inlet, (4) Fuse, (5) Ground terminal, (6) Static Honestmeter port, (7) USB port, (8) Temperature and humidity sensor connection port

Front panel

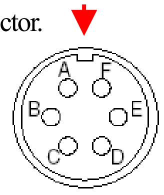




Back panel



Make sure the alignment notch is at the top when plugging in the connector.



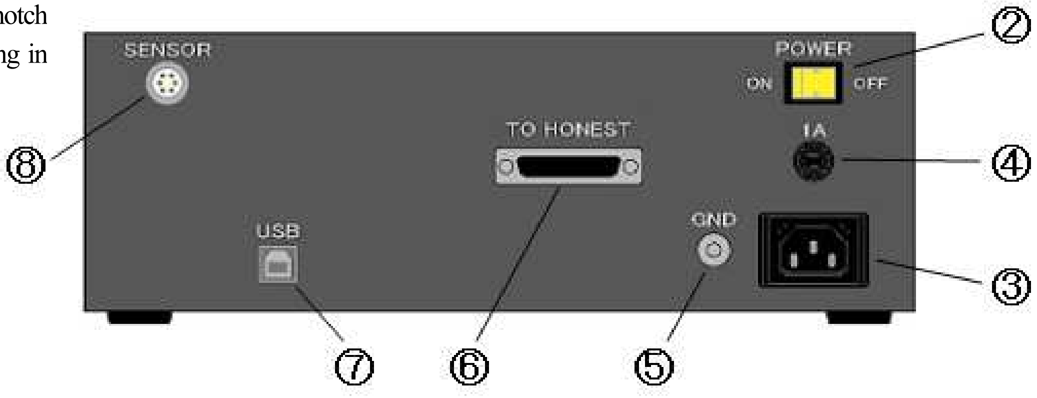

SENSOR
⑧
POWER
ON
OFF
②
TO HONEST
1A
④
USB
GND
③
⑦
⑥
⑤

Figure 2 Parts of the Honest Data Analyzing System V2

The analyzer is a connection-based control system that works through a computer. The customer must supply the computer.

The computer must have a USB port. The analyzer will not work with connection devices that convert RS-232C and other serial communication to USB. A USB driver must be installed. If changing the USB port used, the driver must be reinstalled.

Communication system

Data communication using a dedicated USB driver (one-to-one connection only)
Communication protocol: Proprietary (The COM port number is automatically recognized.)
Communication commands: Proprietary (Closed.)

- If the connection point for the USB cable is changed while the application software is running, the application software must be restarted.
  The system will not work properly if multiple analyzers are connected to one PC.

Operating environment

♦ Supported model

DOS/V computer with a USB interface
Intel Pentium 500 MHz or faster (or equivalent)
At least 128 MB of memory recommended, depending on the capacity required by the OS

- Hard disk drive (HDD): At least 2 GB of available space

- Screen resolution: 1024 × 768 or greater recommended

♦ Operating systems (OS):

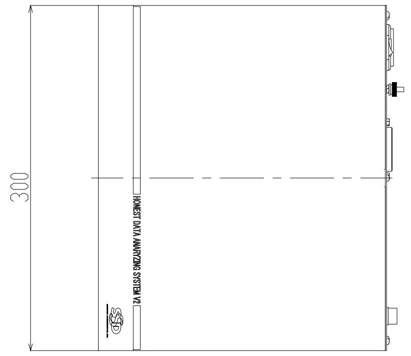
Windows Vista (32 bit), XP (SP2 or later, 32 bit)

- Windows XP Professional Edition

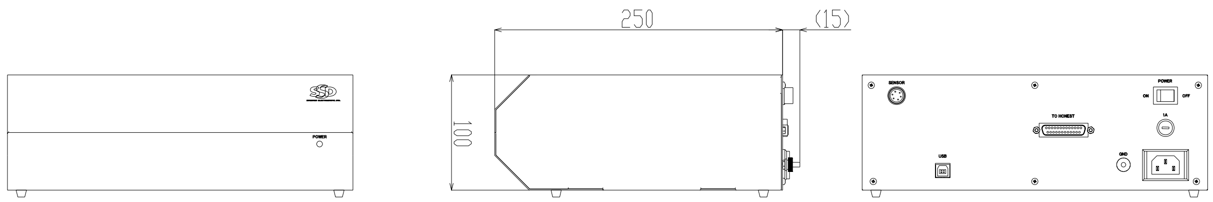
- Windows XP Home Edition

****Notes****

- The analyzer will not work with a USB hub, wireless connection device, or similar devices. Not only will the analyzer not work properly, such a connection could lead to an accident, since the analyzer may not be able to stop the Static Honestmeter in an emergency.
- Data will not be saved correctly if there is insufficient hard disk space.


300
HONEST DATA ANALYZING SYSTEM V2

Top view


250
(15)
100
POWER
SENSOR
TO HONEST
USB
GND
ON
OFF

Front view Side view Back view

Figure 3 Sketch drawing of the Honest Data Analyzing System V2

7. Specifications

Input voltage: AC 100 ±10% (50/60Hz) | Power consumption: 0.5 W

Dimensions (mm): 300 (W) × 250 (D) × 100 (H) | Weight: Approx. 1 kg

Power cord: Approximately 2 m cord with three-prong plug and 2-prong conversion plug (100 V)

Standard attachments

Analyzer V2 (this device) Static Honestmeter

- Main connection cable (1)
- Power cord
- USB cable
- Temperature/humidity sensor
- CD-ROM
- Stand

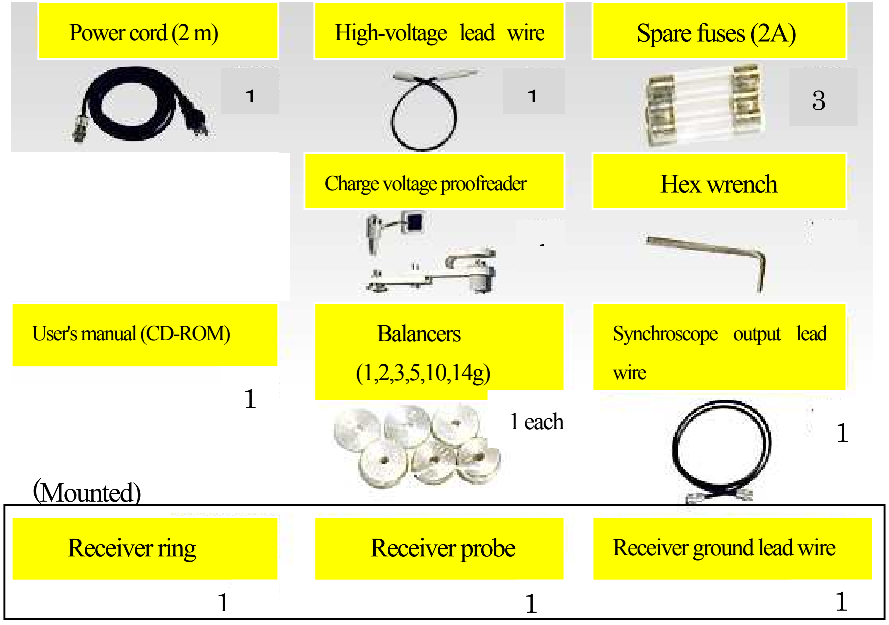

Power cord (2 m)
1
High-voltage lead wire
1
Spare fuses (2A)
3
Charge voltage proofreader
1
Hex wrench
User's manual (CD-ROM)
1
Balancers (1,2,3,5,10,14g)
1 each
Synchroscope output lead wire
1
(Mounted)
Receiver ring
1
Receiver probe
1
Receiver ground lead wire
1

Figure 4 Accessories

8. Wiring layout

(a) Wiring layout of connection cables

- Firmly secure the connection cable to the Static Honestmeter and the cable for the temperature/humidity sensor by tightening the cable screws. Firmly press the power cord all the way into the socket. Do not use devices with the cables bundled or damaged.
- Connect the USB cable directly to a computer. Do not use a USB hub or wireless connection device.
- Do not bend any cables at a sharp angle. A radius of curvature of R60 is recommended.
- Do not pull the on the cables or put a load on the cables.
- Handle the connectors at both ends of the USB cable carefully. Strong impacts can cause damage. Do not strike the temperature/humidity sensor. (Damage or improper connection will result in incorrect measurement of temperature and humidity.)

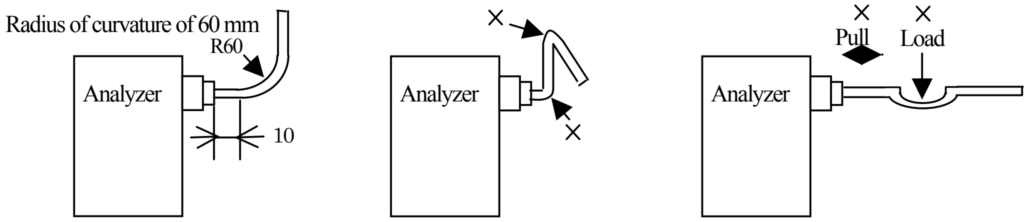
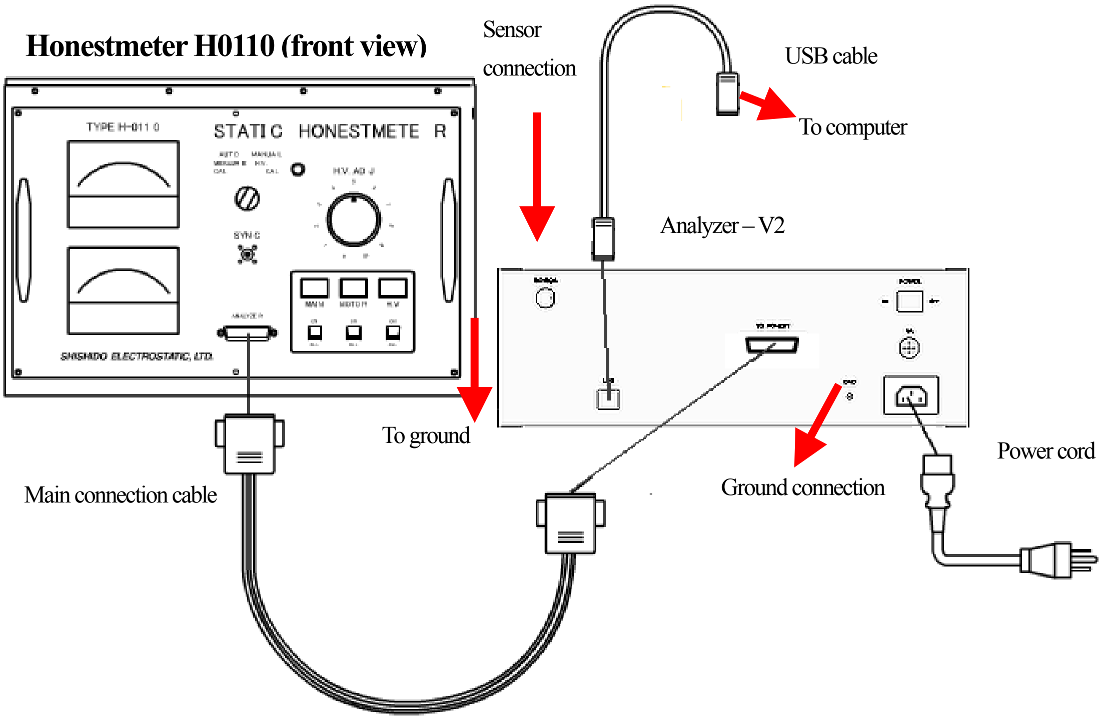

Radius of curvature of 60 mm
R60
Analyzer
10
×
Analyzer
×
×
Pull
×
Load
Analyzer

Figure 4 Important points regarding wiring of cables

(b) Ground wire

- Use at least 0.5 mm^2 of copper wire to ground the analyzer at the ground terminal (9) on the back panel.

CAUTION!	
⚠	• **Use class D grounding (old class 3 grounding; ground resistance of no more than 100 Ω.** • **Inadequate grounding could result in electric shock when touching the Static Honestmeter or the analyzer case and may result in incorrect measurement.** • **The input voltage is 100 V. Inputting a different voltage may damage the devices.**


Honestmeter H0110 (front view)
TYPE H-0110
STATIC HONESTMETER
SHISHIDO ELECTROSTATIC, LTD.
Sensor connection
USB cable
To computer
Analyzer – V2
To ground
Main connection cable
Ground connection
Power cord

9. Static Honestmeter

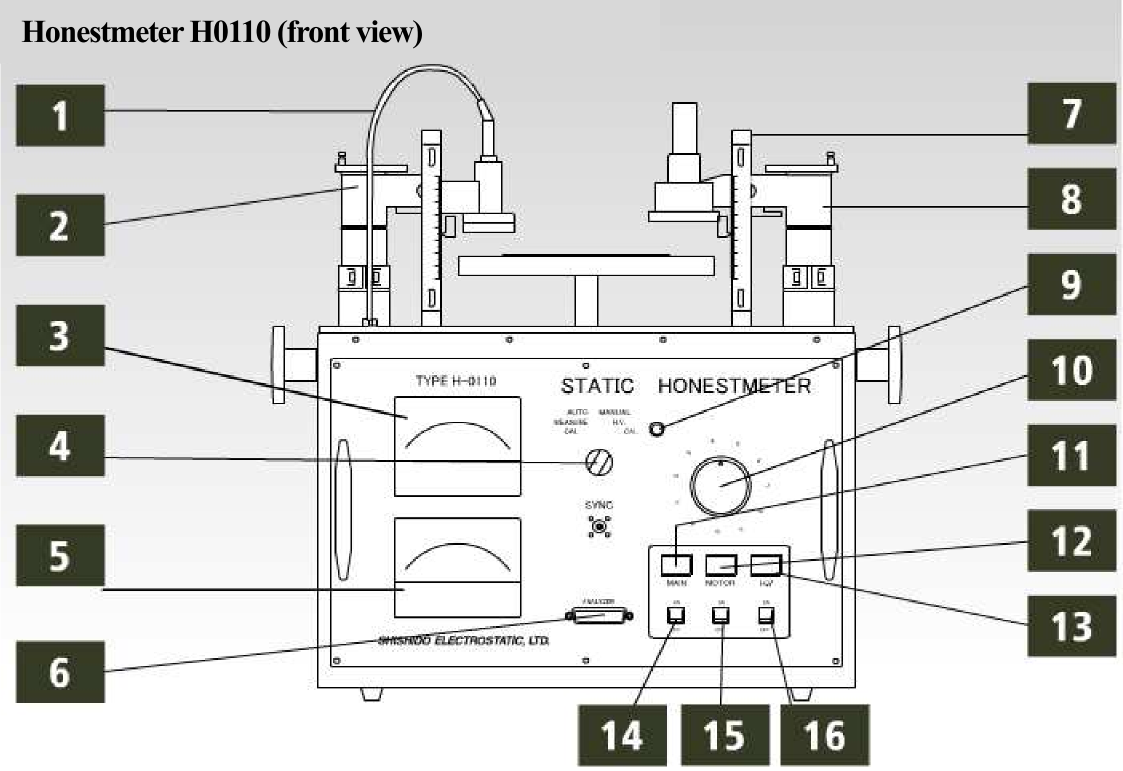

Honestmeter H0110 (front view)
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
TYPE H-0110
STATIC HONESTMETER
AUTO MEASURE CAL
MANUAL H.V. CAL
SYNC
MAIN
MOTOR
H.V.
ANALYZER
SHISHIDO ELECTROSTATIC, LTD.

Figure 6 Parts of the Static Honestmeter

1. Probe
2. Receiver arm
3. High voltage meter

   The double level meter shows the applied voltage.

   The user switches between the two levels, using the upper level for manual H.V. and the lower level for Auto Cal.
4. Mode selector switch

   1) Auto Measure

      Use this setting when taking a measurement.

   2) Manual H.V.

      Use this setting when setting the H.V. applied voltage.

   3) Manual Cal

      Use this setting when taking proofreading data.

   4) Auto Cal

      Not currently used.
5. Current meter
6. Analyzer connection port (Used to connect the Static Honestmeter to the analyzer.)
7. Scale
8. Driver arm
9. Cal lamp

   Lights up when the mode selector switch is set to Cal.
10. H.V. Adj. knob

    Knob for adjusting the H.V. applied voltage.

11. Main lamp: Lights up (white) when the power is on.
12. Motor lamp: Lights up (green) when the motor is on.
13. H.V. lamp: Lights up (red) when the H.V. is on.
14. Main switch: Power switch.
15. Motor switch: Switch for spinning the turntable. (Usable in manual mode.)
16. H.V. switch: H.V. application switch. (Usable in manual mode.)

9-1. Points to be checked before use

The positions of the Static Honestmeter's driver and receiver are adjusted for height and angle at two locations. Lowering the driver and receiver from the angle where they are facing each other to the angle where they are parallel with the turn tables puts them in position for taking a measurement. Press the driver and receiver down as far as they will go to make sure they are in the measurement position. (The driver and receiver are in the lowest position when shipped from the factory. Before use, set them to the same height as during proofreading.)

The driver and receiver can be placed in safe position when changing samples and when cleaning the turntable. They can also be set with their necks at a 90 degree angle during maintenance. The driver has a discharge needle for the corona discharges.

****Notes****

Be careful not to touch the discharge needle with your hand, as the tip is sharp. Periodically clean the discharge needle with alcohol.

Adjust to the driver and receiver distances each time the sample dimensions change. (Make the distance the same as that during proofreading.) Measure the distance from the top of the sample.

Put the driver and receiver in the lowest position and attach the special cover is when sending is a Static Honestmeter to the company's factory for periodic proofreading.

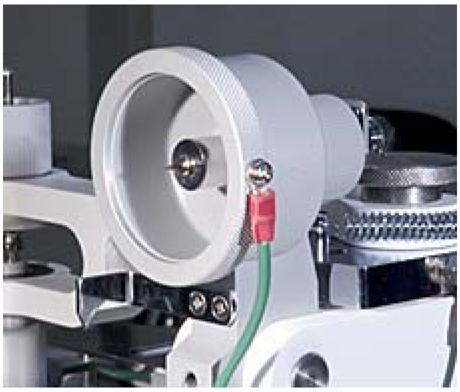


Figure 7 Driver in the safe position

9-2. Setting the applied voltage

The high voltage to be applied to the sample must be set prior to starting the measurement.

Make sure the Static Honestmeter's H.V. Adj. knob is turned although way to the left, and then set mode selector switch to Manual H.V. (Do not set the switch to Manual H.V. when doing proofreading work.) Turn on the power to the Static Honestmeter and flip the H.V. switch on. The H.V. lamp will come on, indicating that the voltage can be set with the H.V. Adj. knob. Turn the knob slowly to the right while watching the high voltage meter to set the desired voltage.

After setting the voltage, termed the mode selector switch to Auto Measure and take care to not touch the H.V. Adj. knob. Check the high voltage meter each time a measurement is taken.

9-3. How to position a sample

Fix the sample on the turntable using the sample clamp adjustment knob.

Make samples that are 40 mm x 40 mm, no more than 10 mm high, and weigh no more than 29 g. If the sample has a good amount of weight, add the included balancers to the opposite side of the turntable as a counter balance (see figure below). Turn the knob in the middle of the turntable to “open,” and position the sample. Position the sample so that the four fixing pins will press down on the sample evenly. Make sure that the sample does not stick out beyond the sample clamp or create a gap at the measurement opening, allowing the turntable to be seen beneath.

For samples that are like films, make sure the sample lies flat and does not float. Be careful to keep the surface of the sample clean, since dirt or oil from touching the surface of the sample with your hand will change the attenuation characteristic.

After positioning the sample, turn the knob in the middle of the turntable to “close.”

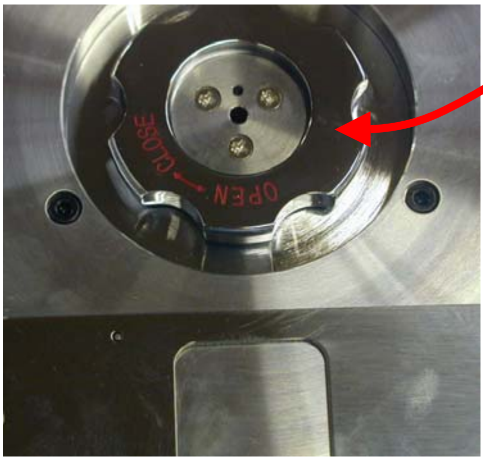
(It is safer to position the sample while the Static Honestmeter’s power is off.)

How to position balancers

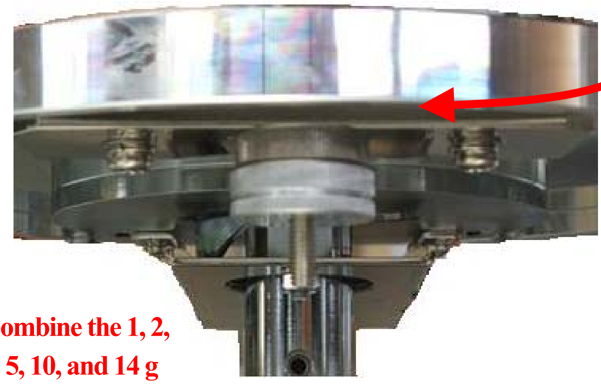
Attach balancers underneath the turntable according to the weight of the sample.

(When positioning a heavy sample, it is safer to verify that the balance is good by turning the motor switch on while in Manual H.V. mode. Firmly tighten the balancers so they do not become loose.)

Turn the sample clamp knob to “open,” position the sample, and then turn the knob back to “close.”



Attach balancers up to the weight of the sample.
Screw the balancers in place firmly.



Combine the 1, 2, 3, 5, 10, and 14 g balancers to make a weight close to that of the sample.

9-4. Points to check before turning on the power

Check to make sure all the cables are connected as shown in figure 9.

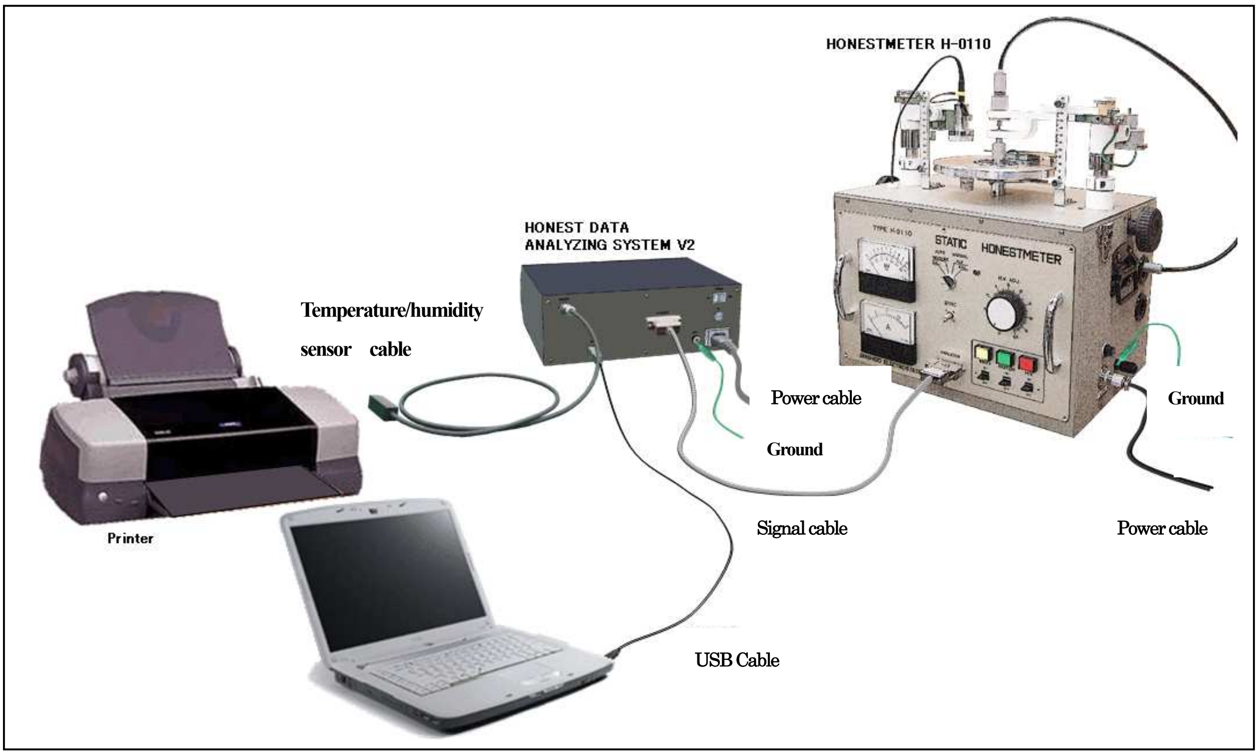

HONESTMETER H-0110
HONEST DATA ANALYZING SYSTEM V2
Temperature/humidity sensor cable
Printer
Power cable
Ground
Ground
Signal cable
Power cable
USB Cable

Figure 9　Check connections (This is just an example of connections. Check the user's manuals for information about connecting your computer and printer.)

Check to make sure there are no obstructions near the turntable and that the sample is fixed firmly in place.

9.5 Installation

- Driver installation

  There are different drivers for Windows XP and Windows Vista. Install the driver by following the separate installation procedure sheet.

- Application software installation

  Install the application software by following the separate installation procedure sheet.

****Notes****

The turntable and a high voltage power will be operable after turning on the power to the Static Honestmeter.

Pay attention to the area around the Static Honestmeter.

An error will not occur immediately if the execute measurement button is pressed when the mode selector switch is set to Manual.

If the mode selector switch is turned to Auto at this point, the turntable will start rotating. If you want to take a measurement with the Analyzer V2 connected to the Static Honestmeter, turn the power on only after making sure that the mode selector switch is set to Auto.

* Error detection is performed in the Static Honestmeter after clicking the execute measurement button and immediately after H.V. application. Errors cannot be detected after these points, even if the Static Honestmeter's settings are changed. Be especially careful not to operate the mode selector switch or high-voltage lead.

9-6. Power on procedure

• Before turning on the power, check to make sure that the Static Honestmeter's mode selector switch is set to Auto.

• Check the distances of the Static Honestmeter's driver and receiver. (They should be made the same as the distance during proofreading.)

Power on procedure	Power off procedure	**During driver installation**
Turn on computer	**Turn off Static Honestmeter**	**Turn on computer**
↓	↓	↓
Turn on Analyzer	**Turn off Analyzer**	**Turn on Analyzer**
↓	↓	✗
Turn on Static Honestmeter	**Turn off computer**	**Do not turn on Static Honestmeter**

* Refer to the user's manuals of the computer and printer regarding how to turn on the power to these devices.

10. Emergency shutdown

If you need to stop the Static Honestmeter in an emergency, turn off the power by pushing the Main switch (14 in figure 10) down.

This will stop the device much quicker than doing so through the computer.

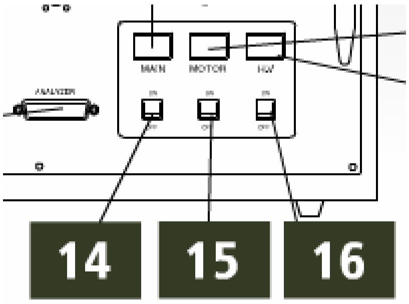
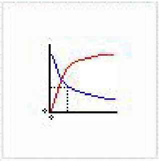


Figure 10

11. Basic measurement

Start the application software by double-clicking on the Honest Data Analyzing System V2 icon (figure at right) on the computer desktop.



HONESTMETER

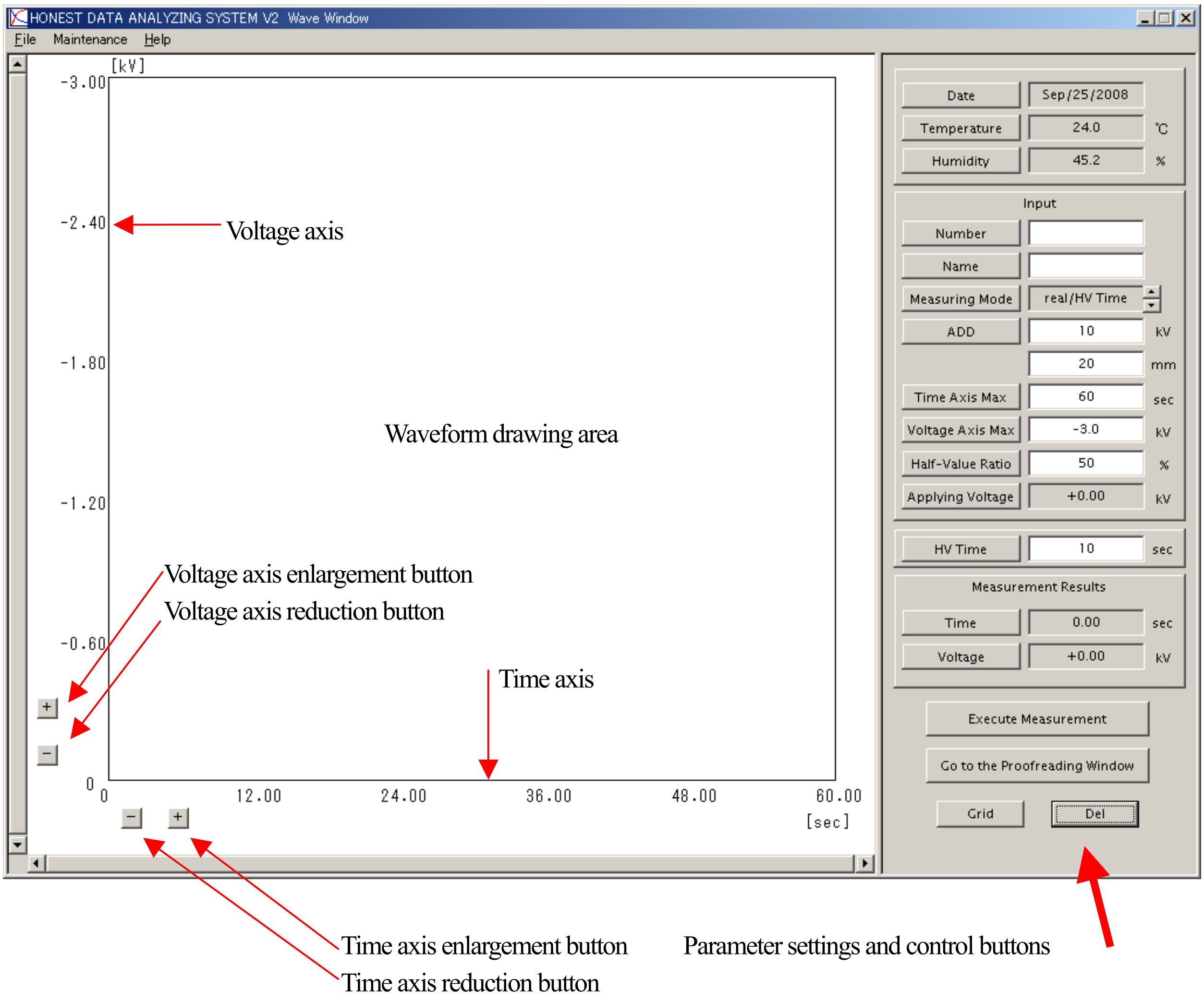
11-1. Measurement

A measurement can be started at this point by clicking the execute measurement button

Measurements are taken by sending signals to control high-voltage application, the motor, and other features of the Static Honestmeter via the transmission and receiving of signals through the analyzer.

11-2. Wave window

The window shown below appears after a splash screen when the system is started.



HONEST DATA ANALYZING SYSTEM V2 Wave Window
File
Maintenance
Help
[kV]
-3.00
-2.40
-1.80
-1.20
-0.60
0
0
12.00
24.00
36.00
48.00
60.00
[sec]
+
−
Voltage axis
Waveform drawing area
Voltage axis enlargement button
Voltage axis reduction button
Time axis
Input
Number
Name
Measurement Results
Execute Measurement
Go to the Proofreading Window
Grid
Del
Time axis enlargement button
Time axis reduction button
Parameter settings and control buttons

Date	Sep/25/2008	
Temperature	24.0	℃
Humidity	45.2	%
Measuring Mode	real/HV Time	
ADD	10	kV
	20	mm
Time Axis Max	60	sec
Voltage Axis Max	-3.0	kV
Half-Value Ratio	50	%
Applying Voltage	+0.00	kV
HV Time	10	sec
Time	0.00	sec
Voltage	+0.00	kV

Enlarged or reduced views of the voltage axis and time axis will be reset when the execute measurement button is clicked.

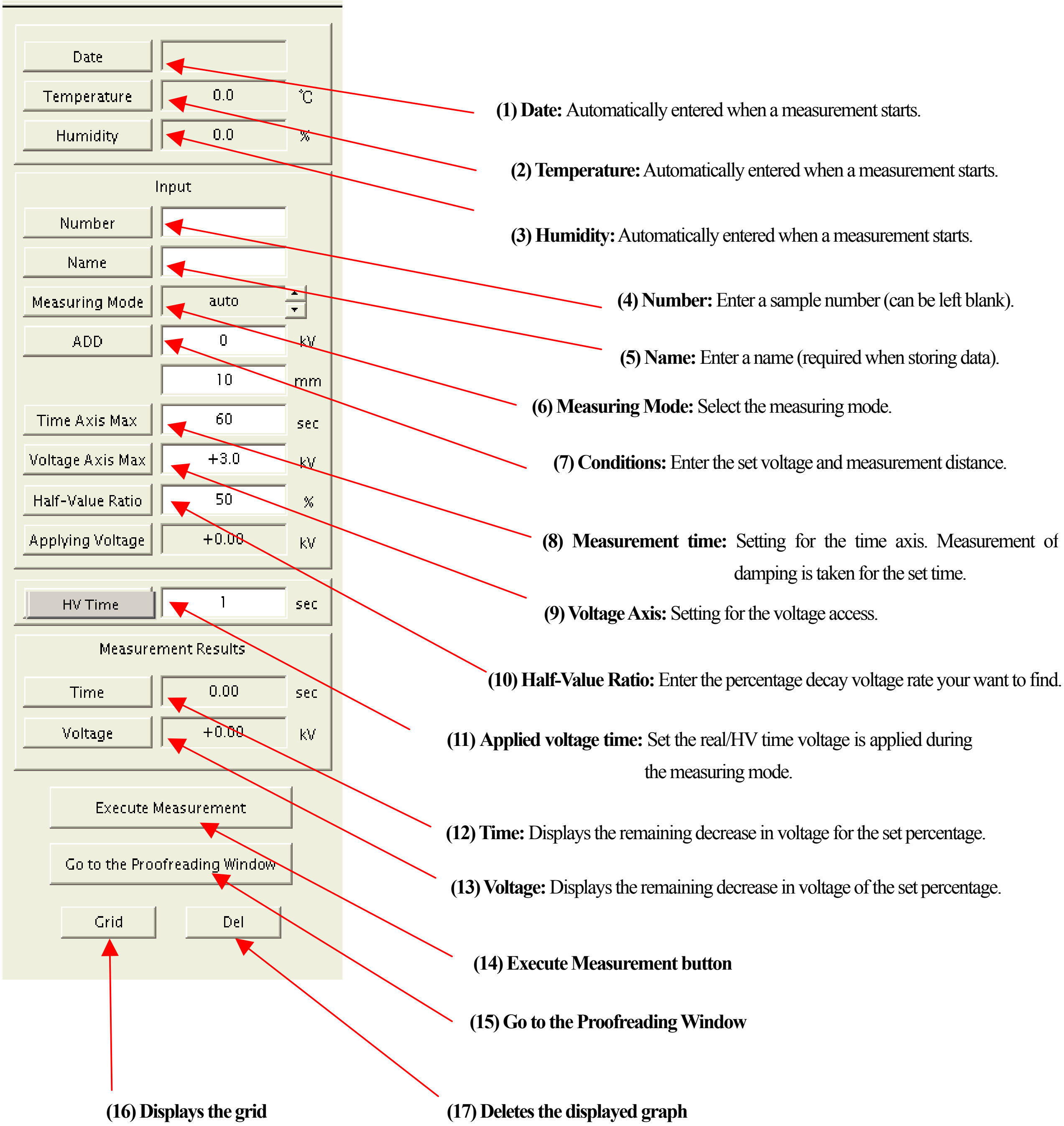
Parameter settings cannot be changed while a measurement is in progress. Only parameters with white fields can be set.

The display of measurement results will be updated when a measurement is finished.

11-3. Temperature and humidity measurement

Temperature and humidity measurements are taken with a sensor connected to the analyzer. If the sensor is not connected properly or is damaged, “0° C, 0%” will be displayed. Not measurements are taken only once immediately after pressing the execute measurement button. If the temperature or humidity changes while the measurements are being taken, the change will not be reflected in real time. The data from this one-time measurement are included in the saved data.

11-4. Explanation of parameters



Date
Temperature 0.0 ℃
Humidity 0.0 %
Number
Name
Measuring Mode auto
ADD 0 kV
10 mm
Time Axis Max 60 sec
Voltage Axis Max +3.0 kV
Half-Value Ratio 50 %
Applying Voltage +0.00 kV
HV Time 1 sec
Time 0.00 sec
Voltage +0.00 kV

(1) Date: Automatically entered when a measurement starts.

(2) Temperature: Automatically entered when a measurement starts.

(3) Humidity: Automatically entered when a measurement starts.

(4) Number: Enter a sample number (can be left blank).

(5) Name: Enter a name (required when storing data).

(6) Measuring Mode: Select the measuring mode.

(7) Conditions: Enter the set voltage and measurement distance.

(8) Measurement time: Setting for the time axis. Measurement of damping is taken for the set time.

(9) Voltage Axis: Setting for the voltage access.

(10) Half-Value Ratio: Enter the percentage decay voltage rate your want to find.

(11) Applied voltage time: Set the real/HV time voltage is applied during the measuring mode.

(12) Time: Displays the remaining decrease in voltage for the set percentage.

(13) Voltage: Displays the remaining decrease in voltage of the set percentage.

(14) Execute Measurement button

(15) Go to the Proofreading Window

(16) Displays the grid

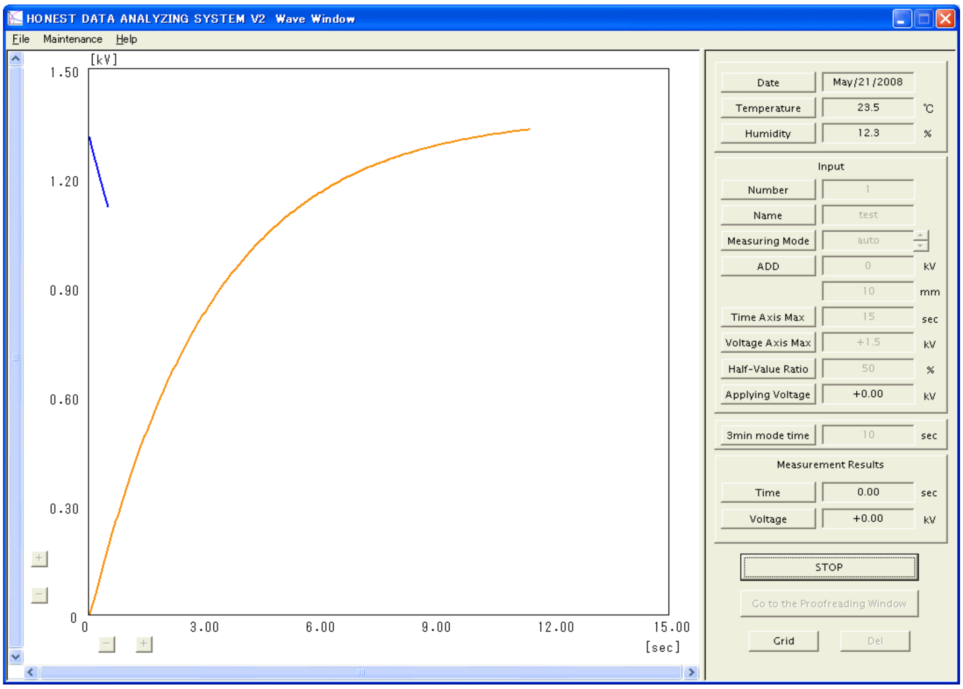
(17) Deletes the displayed graph

The half-value period can be changed after measurement. If no decay curve exists for the indicated half-value period, none will be displayed.

11-5. Graph display

Data acquired during measurement is displayed in a graph in real time. Saved data can also be displayed in a graph.

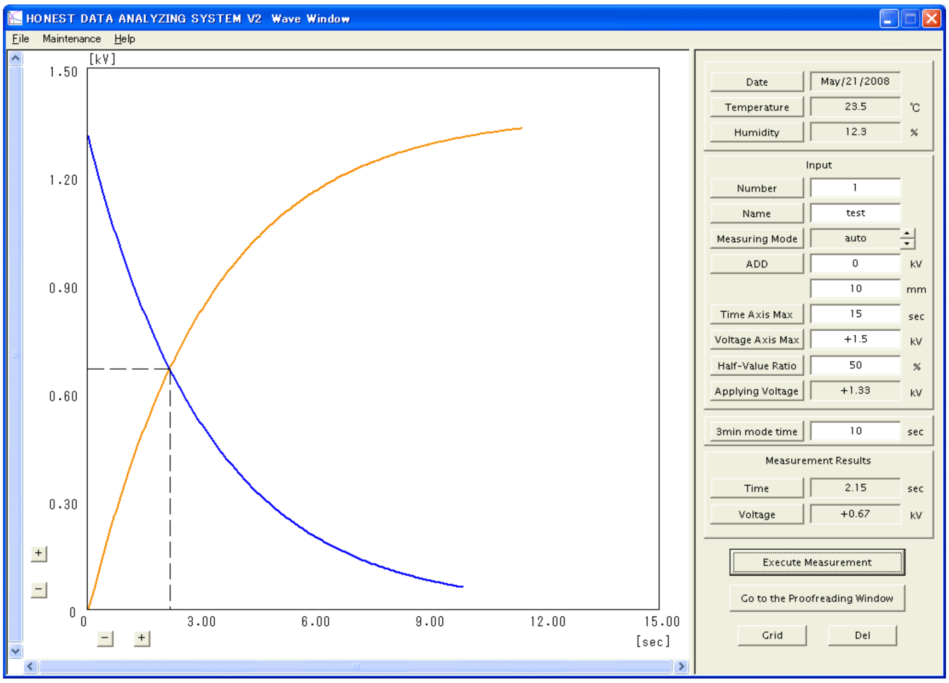
Display during measurement


HONEST DATA ANALYZING SYSTEM V2 Wave Window
File
Maintenance
Help
[kV]
1.50
1.20
0.90
0.60
0.30
0
0
3.00
6.00
9.00
12.00
15.00
[sec]
Input
Measurement Results
STOP
Go to the Proofreading Window
Grid
Del

Date May/21/2008
Temperature 23.5 ℃
Humidity 12.3 %
Number 1
Name test
Measuring Mode auto
ADD 0 kV
10 mm
Time Axis Max 15 sec
Voltage Axis Max +1.5 kV
Half-Value Ratio 50 %
Applying Voltage +0.00 kV
3min mode time 10 sec
Time 0.00 sec
Voltage +0.00 kV

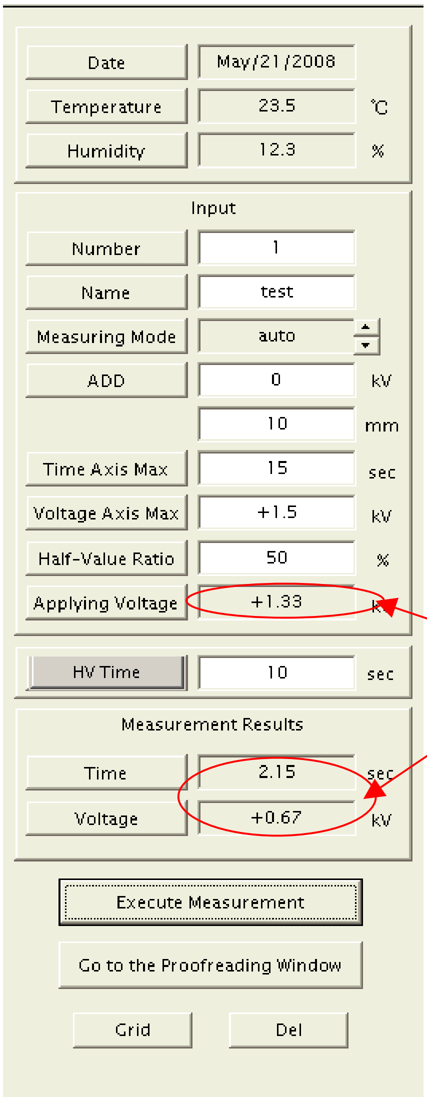
Clicking the “stop” button during measurement stops the measurement.

Display at end of measurement


HONEST DATA ANALYZING SYSTEM V2 Wave Window
File
Maintenance
Help
[kV]
1.50
1.20
0.90
0.60
0.30
0
0
3.00
6.00
9.00
12.00
15.00
[sec]
Input
Measurement Results
Execute Measurement
Go to the Proofreading Window
Grid
Del

Date May/21/2008
Temperature 23.5 ℃
Humidity 12.3 %
Number 1
Name test
Measuring Mode auto
ADD 0 kV
10 mm
Time Axis Max 15 sec
Voltage Axis Max +1.5 kV
Half-Value Ratio 50 %
Applying Voltage +1.33 kV
3min mode time 10 sec
Time 2.15 sec
Voltage +0.67 kV

11-6. About the display of maximum electrification voltage, half-value time, and half-value voltage



Date	May/21/2008	
Temperature	23.5	℃
Humidity	12.3	%

Input

Number	1	
Name	test	
Measuring Mode	auto	
ADD	0	kV
	10	mm
Time Axis Max	15	sec
Voltage Axis Max	+1.5	kV
Half-Value Ratio	50	%
Applying Voltage	+1.33	kV
HV Time	10	sec

Measurement Results

Time	2.15	sec
Voltage	+0.67	kV

Maximum electrification voltage, half-value time, half-value voltage

The maximum electrification voltage, half-value time, and half-value voltage are displayed when the measurement is complete. The half-value time is not displayed if there is no decay curve for the specified half-value period. The half-value time will be displayed even if the half-value period is changed, up until the point where there is no longer a decay curve.

12. Applied measurement

See the explanations of each parameter in item 11-4 on page 18.

The default settings can be changed.

(4) Enter a sample number if needed.
(5) Enter a name. A name must be entered if data are to be saved.
(6) The measurement mode is normally Auto, but can be changed if needed.
(7) It is convenient to enter the voltage to be applied and height of the receiver in the conditions field.
(There is no direct effect on the measurement. It is just a parameter for your records.)
(8) Set the measurement time depending on the characteristics of the sample.
(9) Set the voltage axis depending on the characteristics of the sample.
(10) The half-value period is normally 50%, but can be changed if needed.
(14) Measurement starts when the execute measurement button is clicked.

13. Measurement mode

Auto: Mode for taking measurements under automatic control

In this mode, the system uses a proprietary method for detecting the saturation voltage, automatically stops the H.V. application, and moves to the attenuation measurement. Priority is given to detecting the saturation voltage, and so the time for applying H.V. is not fixed. Different H.V. application times may affect the attenuation measurement results. Accordingly, the company recommends setting a date specific H.V. application time when you want to take more stable measurements.

Manual: Mode for taking measurements under manual control

The start and stop of the motor and of H.V. application are controlled by clicking the execute measurement button. Each click of the execute measurement button moves one step through the process series: motor on → H.V. on → H.V. off → motor off.

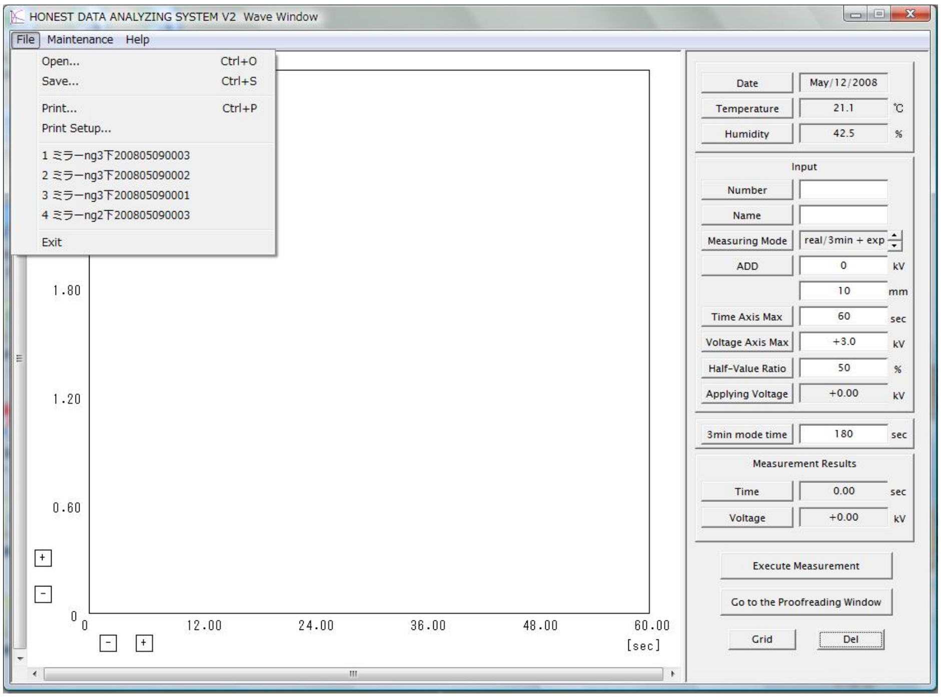
real/HV Time: Mode for taking measurements under a set H.V. application time

This mode is basically the same as Auto, except that the H.V. application time is set by setting a voltage application time. This setting is appropriate when you want to take measurements by applying H.V. for a specified time without detecting the saturation voltage.

14. Working with files

Measurement data and measurement parameters can be saved and saved data opened later.

You can open, save, or print data by selecting “file” on the menu bar.
(For printing, the user must prepare a printer separately, the same as with a computer.)

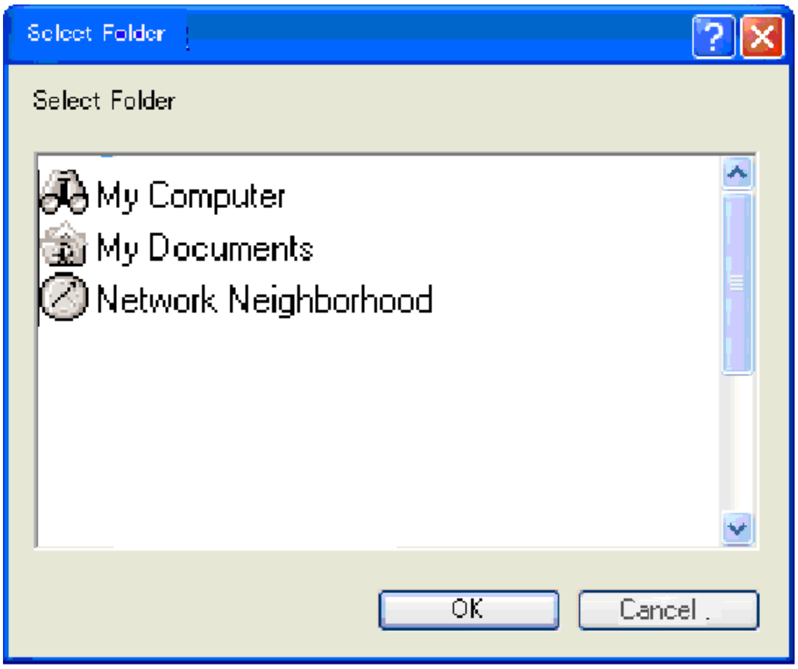

HONEST DATA ANALYZING SYSTEM V2 Wave Window
File
Maintenance
Help
Open... Ctrl+O
Save... Ctrl+S
Print... Ctrl+P
Print Setup...
1 ミラ−ng3下200805090003
2 ミラ−ng3下200805090002
3 ミラ−ng3下200805090001
4 ミラ−ng2下200805090003
Exit
1.80
1.20
0.60
0
0
12.00
24.00
36.00
48.00
60.00
[sec]
Input
Number
Name
Measurement Results
Execute Measurement
Go to the Proofreading Window
Grid
Del

Date May/12/2008
Temperature 21.1 ℃
Humidity 42.5 %
Measuring Mode real/3min + exp
ADD 0 kV
10 mm
Time Axis Max 60 sec
Voltage Axis Max +3.0 kV
Half-Value Ratio 50 %
Applying Voltage +0.00 kV
3min mode time 180 sec
Time 0.00 sec
Voltage +0.00 kV

14-1. Saving data

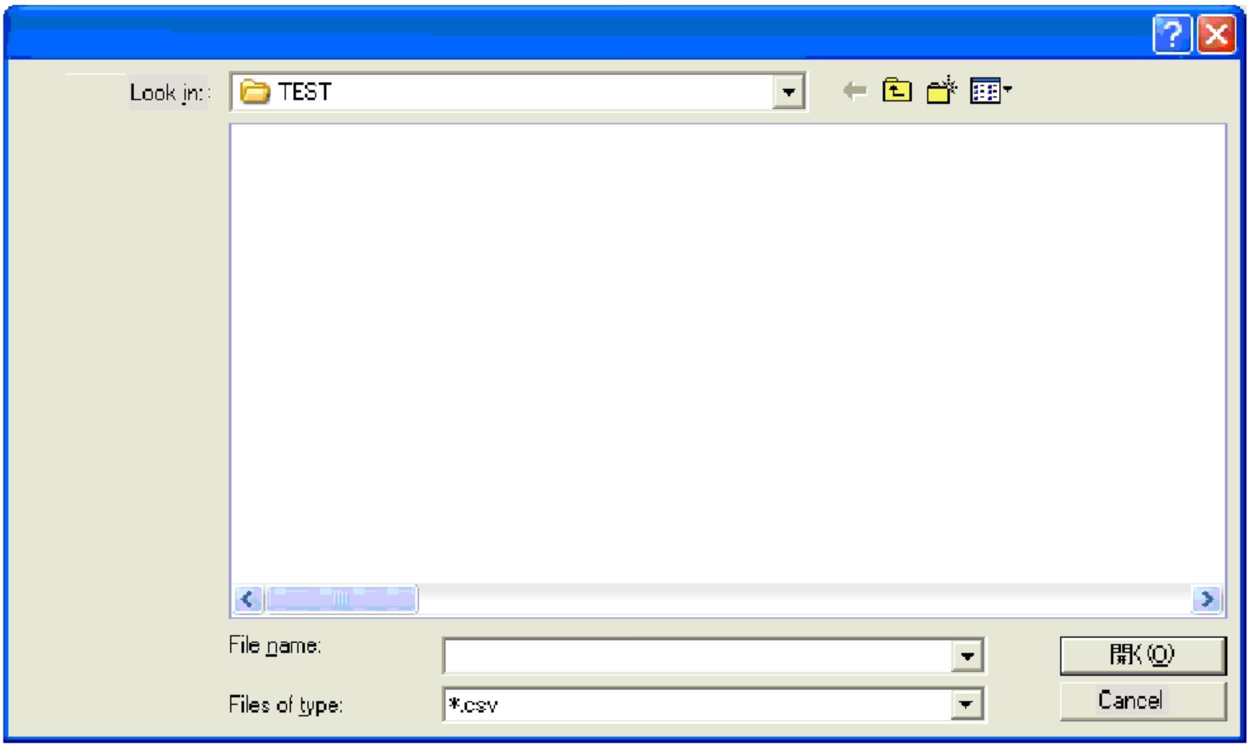
The Select Folder dialogue box appears when you select Save from the file menu after taking a measurement.

Select the folder where you would like to save the data. Enter a character string beforehand in the name of the Wave Window. Not doing so will result in an error.


Select Folder
Select Folder
My Computer
My Documents
Network Neighborhood
OK
Cancel

14-2. Opening data

A file selection dialogue box appears when you select Open from the file menu.
Select the file you want to open.


Look in: TEST

File name:

Files of type: *.csv

15. Proofreading

Proofreading takes measurements for voltages at a number of levels and prepares proofreading data for comparison against base values. Proofreading data can be displayed in a graph. (See appendix.)

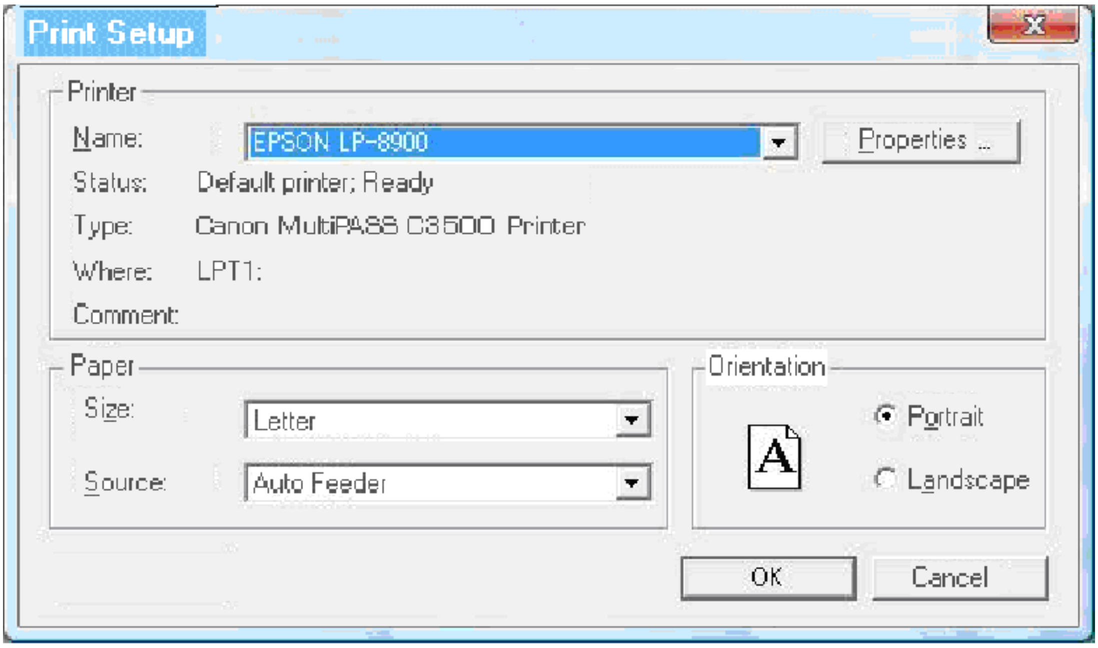
16. Maintenance

Select and transmit data files to update the analyzer’s internal program. (See appendix.)

17. Printing

17-1. Printer settings

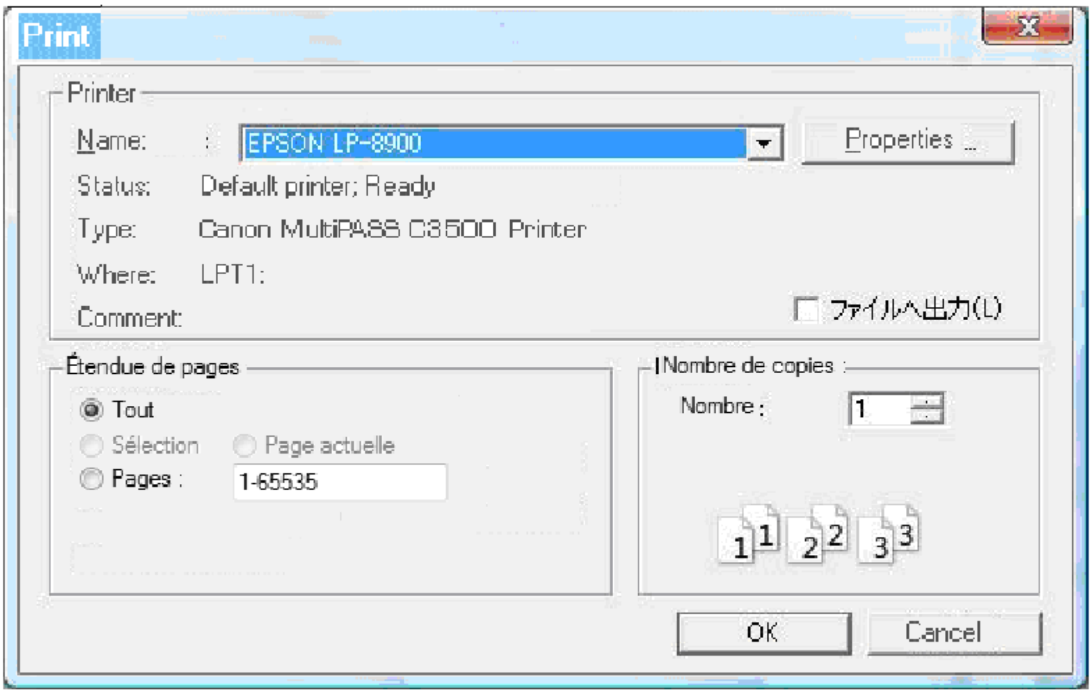
The printer setting dialogue box appears when you select “Print setup” from the file menu. Select the printer you want to use, indicate the paper size and layout, and click OK. (The user must prepare a printer separately, the same as with a computer. Users should understand beforehand how to use their printer. If no printer name is displayed, the printer is not installed.)


Print Setup
Printer
Properties ...
Paper
Orientation
A
OK
Cancel

Name: EPSON LP-8900
Status: Default printer; Ready
Type: Canon MultiPASS C3500 Printer
Where: LPT1:
Comment:
Size: Letter
Source: Auto Feeder
● Portrait
○ Landscape

17-2. Printing

After finishing the printer setup, the print dialogue box will appear when Print is selected from the file menu. Indicate the number of copies to be printed and click OK.


Print
Printer
Properties ...
Étendue de pages
Nombre de copies
1 1 2 2 3 3
OK
Cancel

Name: EPSON LP-8900
Status: Default printer; Ready
Type: Canon MultiPASS C3500 Printer
Where: LPT1:
Comment:
☐ ファイルへ出力(L)
● Tout
○ Sélection ○ Page actuelle
○ Pages : 1-65535
Nombre : 1

１８. File format

18-1. Saved file format

Data files are saved as text files with each parameter separated by a comma.

Date,date,	Date,Oct/01/2007,
Number,measurement number,	Number,#111,
Name,measurement data name,	Name,Nylon_No1,
Mode,measurement mode,	Mode,auto,
ADD1,additional item 1,	ADD1,0,
ADD2, additional item 2	ADD2,10,
Temperature,temperature,	Temperature,20.0,
Humidity,humidity,	Humidity,55.0,
Time Axis Max,time axis max,	Time Axis Max,30,
Voltage Axis Max,voltage axis max,	Voltage Axis Max,3.0,
Half-Value Ratio,half-value ratio,	Half-Value Ratio,50,
Applying Voltage,max. electrification voltage,	Applying Voltage,2.5,
Half Time,half time,	Half Time,1.75,
Half Voltage,halfvoltage,	Half Voltage,2.75,
Num of Data,total data,	Num of Data,6459,
Saturation Point,saturation point,	Saturation Point,512,
Start Point,graph start point,	Start Point,64,
ProofData +0.0kV,proofreading value,	ProofData +0.0kV,0,
ProofData +0.2kV,proofreading value,	ProofData +0.2kV,4369,
ProofData +0.4kV,proofreading value,	ProofData +0.4kV,8738,
ProofData +0.6kV,proofreading value,	ProofData +0.6kV,13107,
ProofData +0.8kV,proofreading value,	ProofData +0.8kV,17476,
ProofData +1.0kV,proofreading value,	ProofData +1.0kV,21845,
ProofData +1.5kV,proofreading value,	ProofData +1.5kV,32768,
ProofData +2.0kV,proofreading value,	ProofData +2.0kV,43690,
ProofData +2.5kV,proofreading value,	ProofData +2.5kV,54613,
ProofData +3.0kV,proofreading value,	ProofData +3.0kV,65535,
3MinModeTimer,timer value,	3MinModeTimer,180000,
Flag time,measurement value,	000100000145,07675,
Flag time,measurement value,	000100000195,07851,
Flag time,measurement value,	000100000245,07988,
Flag time,measurement value,	000100000295,08065,
•	•
•	•
•	•

19. Uninstall

Select “Honest Data Analyzing System V2” from Add or Remove Programs in the control panel and click “Remove.”

20. Upkeep and precautions

(1) Set the analyzer in a location where water, oil, or other liquids will not get spilled on it. Should water, oil, paint, etc., get on the analyzer, wipe it with a rag or cloth.

CAUTION!	• **Make sure to turn off the power to the analyzer before inspecting, cleaning, and performing maintenance. (Also make sure to turn off the Static Honestmeter.)** • **The analyzer runs on 100V.**
⚠	

21. List of error messages

Message	Status	How to manage
Parameter Error check Half-Voltage Ratio	There was an error in the specified half-voltage ratio when the measurement started.	Set the correct value.
Parameter Error check Time Axis Max	There was an error in the specified time axis setting when the measurement started.	Set the correct value.
Parameter Error check Voltage Axis Max	There was an error in the specified voltage axis setting when the measurement started.	Set the correct value.
Parameter Error check 3min mode time	There was an error in the time setting at measurement commencement in the 3 min mode.	Set the correct value.
Please enter 'Name'	No data name was entered when saving measurement data.	Enter a name and try again.
File Format Error!	The file format was incorrect when opening a data file.	Select the correct file.
File Open Error!	There was an error when trying to open a data file.	Select the correct file.
Proofreading not completion Change screen ?	Confirmation to change the screen even though the proofreading is not complete.	Change the screen after the proofreading is complete.
May I Update Proofreading data ?	Confirmation to update the proofreading values in the relay box after proofreading data measurement.	Confirm proofreading values when updating.
Communication Timeout!	No reply when sending a command signal to the relay box.	This is a system error.
USB Not found	The USB cable is not connected or the USB driver is not installed.	Check the USB cable connection and make sure the analyzer is turned on. Install the USB driver.
COMport cannot use	An error occurred in opening the COM port.	Install the driver.
Communication Timeout Error!	Signal reception timed out when sending a command signal to the relay box.	Check the USB cable connection.
Communication Length Error!	A length error occurred when sending a command signal to the relay box.	This is a system error.
[+] Proofreading Data Error!	Proofreading was not performed or completed for the positive (+) pole before the measurement was started.	Complete the proofreading process.
[-] Proofreading Data Error!	Proofreading was not performed or completed for the negative (-) pole before the measurement was started.	Complete the proofreading process.
Communication Status Error!	The status reply from the relay box was bad.	Check the power and high voltage cord connections.
firmware version : XX Do you execute sure?	Version display and confirmation to continue when updating firmware.	
Memory allocation Error!	Cannot secure memory for opening the update data when updating firmware.	This is a system error.
Emergency Stop command received! (Power OFF)	An emergency stop command was received from the relay box. (The power is off.)	Check the condition of the analyzer and turn the power on.
Data Error!	The data to open was bad.	Select the correct file.
File save Error	An error occurred while saving data.	Check the capacity of the location where data is to be saved.
Proofreading Timeout!	Saturation could not be detected during proofreading.	Do the proofreading process again.

22. Troubleshooting

If you experience a shock when touching the Static Honestmeter or the analyzer's case:

- The grounding of the Static Honestmeter's ground terminal is unreliable. • The analyzer is poorly ground.

No waveform is displayed:

- The high voltage cable to the Static Honestmeter is not connected securely.
- The Static Honestmeter's receiver or driver is in the safe position.

USB communication trouble:

- "USB Not Found"—In most cases this error occurs when the USB cable is poorly connected or the analyzer is turned off. "COMport cannot use"—Installation of the device driver may have failed. "Communication Timeout!" and "Communication Length Error!"—These are system errors. Contact Shishido Electrostatic if they occur.

Static Honestmeter trouble:

- "Communication Timeout Error!"—The system checks for errors when a measurement starts. This error occurs when the Static Honestmeter is turned off and when the high voltage cord is not connected. If you check and find that the these are not the problem, click the execute measurement button, and get the same error, it is possible that the cable connecting the analyzer and the Static Honestmeter is poorly connected.
- Never switch the mode during measurement. Leave it set to Auto.

Printer trouble:

- If the printer is not printing, check each of the following item (since there is no test print function):

1. There is no printer indicated in the printer selection screen → This is a problem with Windows or the printer.
   If the computer does not recognize the printer, it could be a problem related to the installation of Windows or the printer.
2. An error occurs after selecting the printer and clicking "Print" → This is a problem with the printer itself or with the printer connection
   This could be a problem with the computer, Windows, or the printer.
3. A network error occurs after selecting the printer and clicking "Print" → This is a problem with the LAN or other connection
   This could be due to a poorly connected cable or a bad network setup.
   Note: If you send large amounts of data over a network, the processing capacity of the CPU could drop and cause the application software to stop working properly.

CAUTION!	**Adjustment or repair by a specialist is required in the event of a malfunction. Please contact Shishido Electrostatic.**
⚠	

This manual is for the Honest Data Analyzing System V2. Please also consult the manual that came with the Static Honestmeter.

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Shishido Electrostatic, Ltd.
Homepage: http://www.shishido-esd.co.jp/english/index.html