HAL-HPC600

Handheld Particle Counter

Operational Manual

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Important Messages

The information in this manual is believed to be accurate to date. However, Hal Technology assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Hal Technology be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. In the interest of continued product development, Hal Technology reserves the right to make improvements or changes in this manual and the products it describes at any time, without notice or obligation.

Published in the United States of America

Quality Assurance

- This product has met the product specifications based on our best knowledge. All the test instruments and standard materials used for calibration are traceable.
- This certification is for new production only and not valid for used one or ones for an exhibition purpose.

Commonly used symbols in this manual

Following symbols are used throughout this manual:

WARNING

The action could lead to harmful damage to the instrument.

NOTICE

Bring you attention about the features of the instrument.

Unpacking and Inspection

- Inspect the receiving package and notify the shipper immediately if there appears to be susceptible damage during shipping.
- Please verify that the enclosed items match with the shipping package list.

WARNING

This Instrument is designed to be the class-1 laser equipment. Removing the cover without authorization may result in exposing to the laser radiation or high voltage. This Instrument also contains static sensitive components that may be damaged by improper handling. The warranty is void for any unauthorized opening of the instrument.

Environmental Requirements

To avoid any accident or damage to the instrument, please avoid using in the following situations:

- DO NOT expose to combustible, explosive environments.
- DO NOT expose to environments where rust or radioactivity are present.
- DO NOT expose to an environment exceeding the specified limits.

Technical Support and Warrantee

Within a year from the date purchased, the manufacturer will provide free technical support and software upgrade if applicable. For additional help, please contact **info@haltechnologies.com**

NOTICE

It is strongly recommended that the instrument should be calibrated annually. Please contact Hal Technology to schedule your calibration or any services needed. The HAL-HPC600 can only be serviced at Hal Technology or by Hal Technology's authorizing trained professionals.

1.0 Introduction

The Model HAL-HPC600 handheld optical particle counter utilizes the laser technology for single particle detection. The scattering of light from the particles in the sampling air steam is converted into electrical pulses, which is then measured and calculated as a particle size. The HAL-HPC600 consists of a handheld set with a main base unit that allows users to conduct the sampling around with a handheld set while easily expanding to multiple functionalities with a base unit. These extended functions include data downloading, real-time remote sampling, real-time data printing, software upgrading, and battery charging, etc. In addition to USB and RS232 interfaces, the RJ45 interface allows users to conduct the remote sampling away from the sampling location over the Ethernet or Internet even with multiple instruments in the network.

The HAL-HPC600 has up to six adjustable particle size channels starting at 0.3 microns with a step resolution of 0.1 micron at a flow of .1 CFM (2.83 LPM). Particle count data is displayed as Cumulative, Differential or Concentration mode (Counts/Liter or Counts/Cubic foot, Counts/Cubic Meter). The Model HAL-HPC600 can also include a digital temperature and relative humidity probe, back lit interface and is capable of storing 6,000 sample records. It is in compliance with the international standards (JIS B 9925:1997 and ISO14644-1) and support both metric and English systems.

1.1 Features

- User configurable for six size channels with a step resolution of 0.1μm
- Support both handheld and portable operation with a built-in printer
- High speed USB interface for real-time remote sampling and data downloading
- RJ45 port supports remote sampling of multiple units over Ethernet or Internet (purchase of a special software required)
- Count Limit Warning: user's choice of setting according to the FED standard 209E or ISO 14644-1 standard
- Error status indicator: The instrument will automatically monitor the sensor status, out of flow calibration (>±5%), or insufficient battery
- Up to 1000 sets or 6000 sizes of data can be saved
- Timer, auto-start, auto repeat sampling
- Average of multiple times of measurements
- More than 2500 sample location labels
- External digital temperature and humility sensors to assure accurate measurement
- Set and display date and time of the system.
- No less than 5 hours of continuous operation.
- Auto print function.

1.2 Specifications

- Size Rang: 0.3μm~25μm
- Channel Sizes: All six channels can be configurable by users
- Light Source: Laser diode (more than 100,000 hours MTBF)
- Coincidence Loss: <5% @70,000 particles/Liter
- Flow Rate: 2.83 Liter/min (0.1cfm)
- Counting Efficiency: 50±20%@0.3μm; 100±10%@0.5μm
- Test Standard: JIS-B-9921 (1997), ASTM-F649-01, ASTM-F328-98 (NIST traceable)
- Sampling Time: 1 sec ~ 59 min and 59sec (User defined)
- Sampling Count: 1 ~ 99 (User defined)
- Count Limit Warning: FED STD 209E (Class 1 ~ 100,000) or ISO 14644-1 (Class 2 ~ 9)
- Measurement: Single/Repeat/Average
- Error Indication: Count limit, loss of laser power, out of flow calibration (>±5%), insufficient battery
- Communication Speed: USB —12Mbps, RJ45—100Mbps, RS-232—9600bps
- Power: Li-ion polymer Battery (7.4V/2800mAH)
  or AC adapter (AC input: 100 ~ 240V, DC output: 9V/1.5A)
- Max. Operating time: continue operation > 5 hours with Li-ion polymer battery
- Dimension: 93 (W) ×185 (H) × 46 (D) mm (Handheld set)
- Φ152×97 (H) mm (Base unit)
- Weight: < 600 g
- Environmental Condition: Operating: 0~ 50°C, <90%RH, Storage: -20~ +50°C, <90%RH

2.0 Basic Operation

2.1 Handheld Set

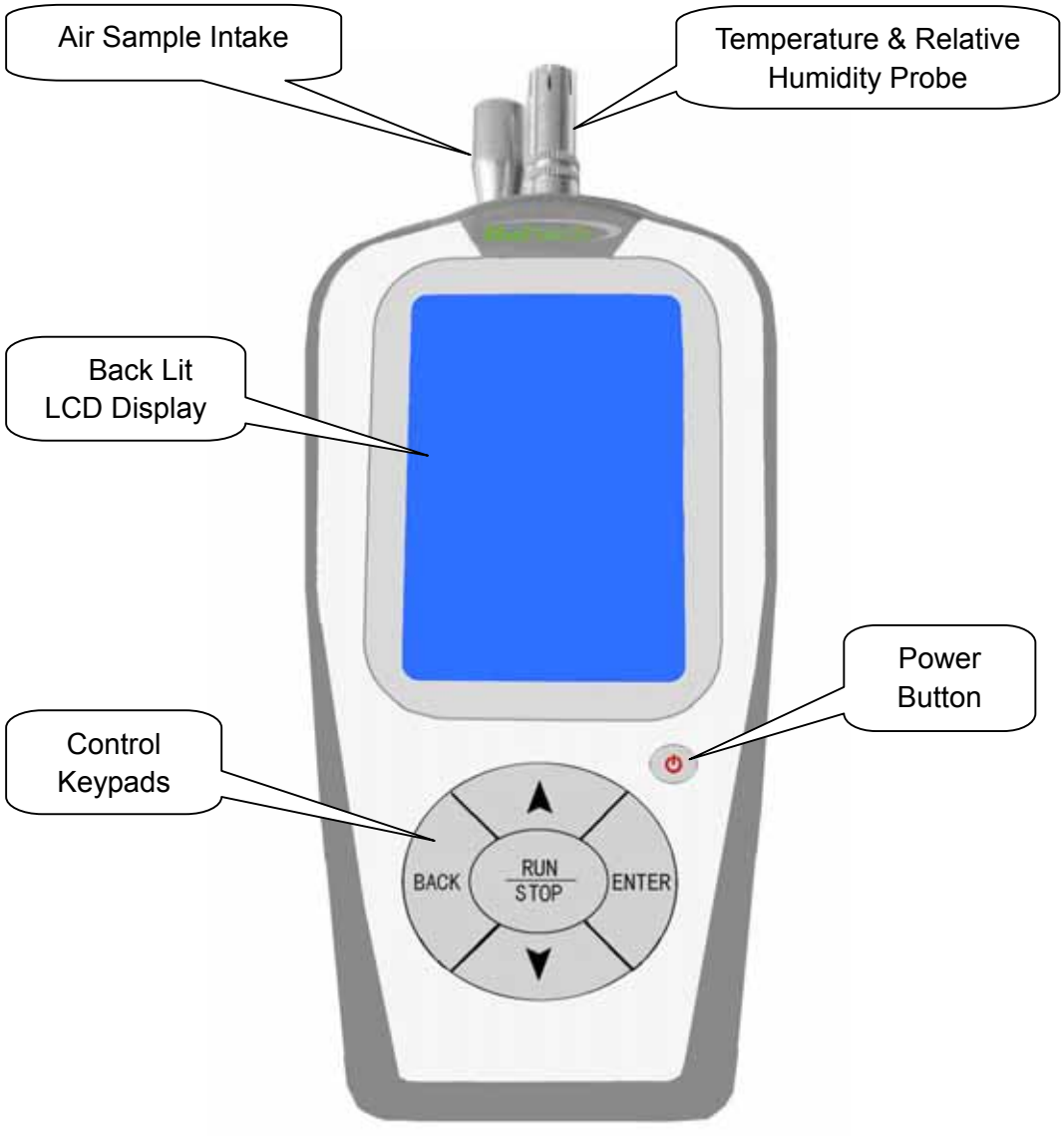

Figure 1 Front View of the Handheld Set

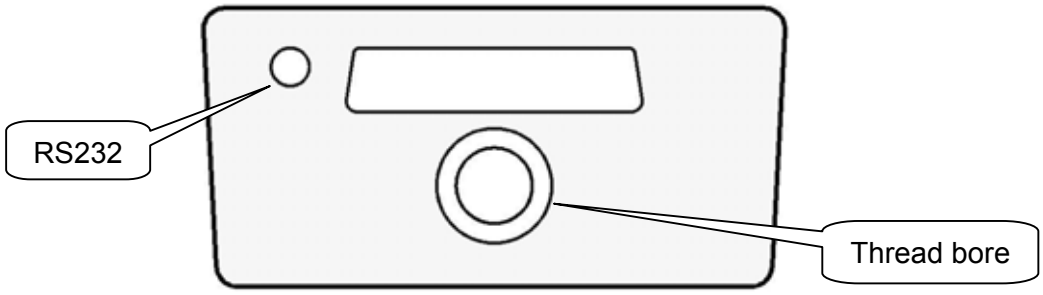

Figure 2 Bottom View of the Handheld Set

- RS232 Port is designed to connect the base unit for optional printing and data download capability.
- Thread bore is used for a tripod to minimize a human affect on the steady measurement condition.
- Multi-pin connector is to connect the handheld unit to a base unit for battery charging, data downloading, printing, and other functions.

WARNING

Do not place or displace the handset from the base unit while power is on and otherwise, the instrument may be damaged.

2.2 Base Unit

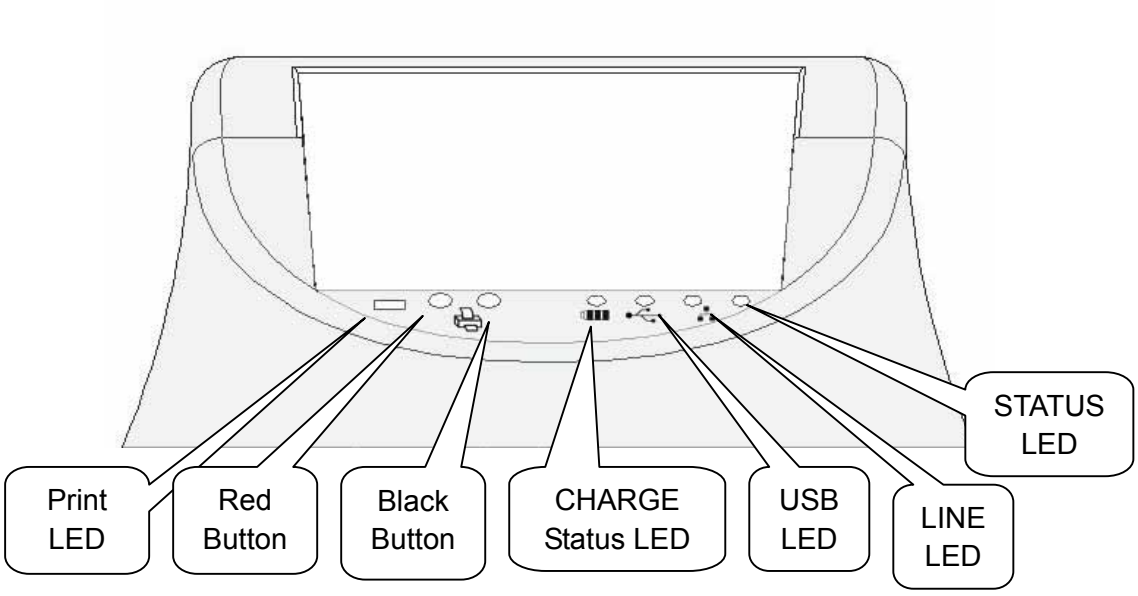

Figure 3 Front panel of the base unit

- Paper feeding: be sure that the green LED is on, and then press the red button. After the green LED is off, press the black button to start the printing paper feeding. Press the red button to stop paper feeding. Note that the green Print LED must be on for those functions.
- Printer self-check: be sure the green LED is on, and then press the red key button. After the green LED is off, press the Black and Red buttons simultaneously to start the self-check. Press the Red button to stop the self-check.
- Charge Status LED: when the battery is in charge, the red LED is on; when the battery is fully charged, the LED turns into green.
- USB status LED: When the USB cable is connector to a computer, the USB LED is on and blinks when the data is transferred.
- LINE status LED: The LINE LED will blink when the data is transferred.
- STATUS LED: The STATUS LED will be on when a LAN is activated.

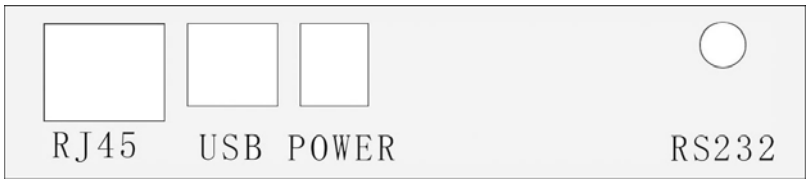

Figure 4 Back panel of the Base Unit

- RJ45: The interface for LAN network use.
- USB: USB interface
- POWER: An AC adapter plug-in port.
- RS232: Extra serial data port for data downloading and printing between a handheld set and base unit.

2.3 Control Pads

- Users interfaces with the instrument through six control keypads: ⏻, **RUN/STOP**, **ENTER**, **BACK**, ▲, ▼.

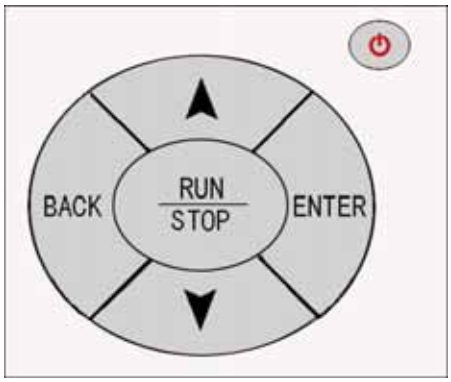

Figure 5 Control Key Pads

- Power button ⏻: Keep pushing on for about 2 seconds to turn on the instrument. After turned on, keep pushing on for about 2 seconds to turn off the instrument. After about 8 minutes standby or no operation, the instrument will shut off automatically to save the power.
- **RUN/STOP**: Start or stop a measuring/sampling operation.
- ▲ ▼ : Move the cursor to select desired page or item.
- **ENTER**: Confirm the current selection or enter parameter.
- **BACK**: Back to the previous page.

2.4 Operational Pages

2.4.1 Startup Homepage

Hold the power button for about 2 seconds to turn on the instrument power and start a start-up menu page appears as illustrated below. Use ▲ or ▼ to select a task to be performed. The selected item becomes highlighted. Push **ENTER** to confirm and enter into the selected working page.

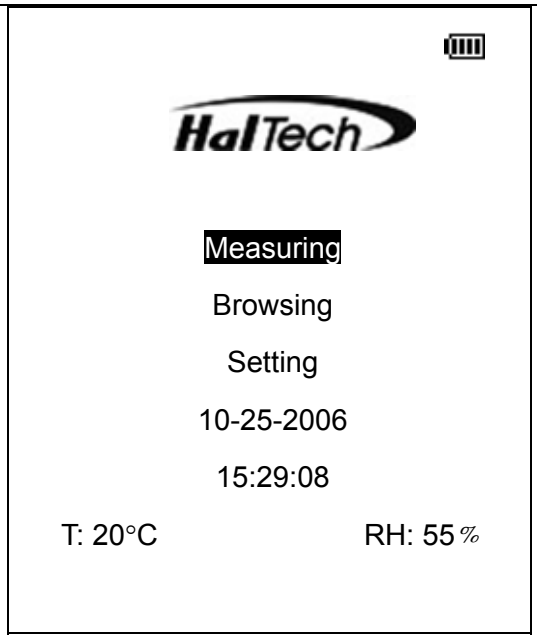

Figure 6 Startup Homepage

Battery Indicator

The battery indicator displays the battery strength graphically. Four bars represent 100% of charge in the battery; three bars 75%; two bars 50%; one bar 25%. No bars signify a low battery status and simultaneously the alarm will buzz as a warning. Charging of the battery is necessary at this level and after a few seconds of the warning sound the instrument shuts it off automatically.

NOTICE

It is suggested that not charge the battery using AC adaptor to while measuring particles.

Sensor Error Indication

This sign will not appear if the sensor is working under the normal conditions. Whenever the sensor error indicator appears the instrument will give a warning sound. The sound can only be quieted by turning off the instrument.

NOTICE

- Flashing of the sensor error indicates that the sensor is dirty. A zero-count filter attached to the air-sampling intake may clean the sensor.
- If a steady sensor error indicator appears, it may imply the sensor is malfunctioning. In this case, please contact the manufacturer immediately.

WARNING

Non-authorized personal may not open the instrument. Otherwise, the warranty is void. If there is an abnormal operation with the instrument, contact the authorized service personnel directly.

2.4.2 Measuring Window

After selecting the Measuring, the instrument enters into a Measuring Window page. The page is the main test window of the instrument. One may wish to change the setting before a measurement run by pressing up or down arrow to enter into the Setup after going back to the homepage. The example of the Measuring window is shown in the Figure 7.

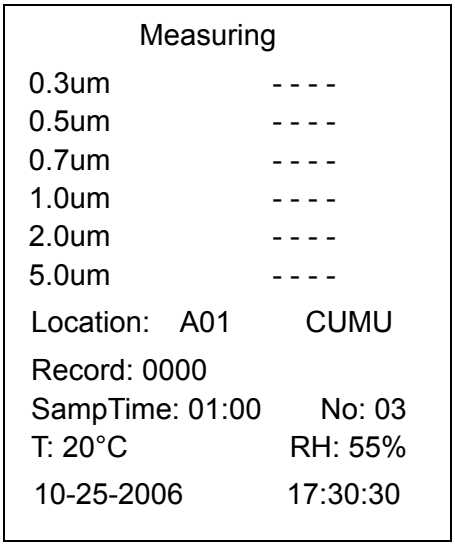

Figure 7 Measuring Window page

Sizes

Factory default settings of the six particle sizes are 0.3μm, 0.5μm, 0.7μm, 1.0μm, 2.0μm, and 5.0μm. All channel sizes are user configurable and may be changed between 0.3μm and 25μm with 0.1μm step resolution. When the channel size is larger than 5μm, the increment is the 1μm.

Display Count Mode

There are three display modes for particle counts: Cumulative (CUMU), Differential (DIFF), and Concentration (e.g., Counts per Liter). The factory default setting is cumulative.

Count Mode	Meanings
Cumulative	The results represent the number of particles that are larger than the size (channel) that is displayed.
Differential	The results represent the number of particles between the size (channel) that is displayed and the adjacent channel (the larger size). The number displayed does not include the particles whose sizes are larger than the adjacent channel or larger.
Concentration	The results represent the number of particles in a unit volume under the accumulative situation. The unit volume may be set Counts per Liter, Counts per Cubic Meter (Counts/ Cu.M.), or Counts per Cubic Foot (Counts/Cu.Ft.).

Sample Time (SampTime)

Sample time is the time that is set for each air sample. Sample times can be set as low as one sample per second. In the case of multiple air samplings, each air sample will run at this sample time setting.

Number (No.)

Number indicates the number of samples that will be processed after pressing, “RUN”. The factory default is set at one sample. The user may change the sample time in the Setting window. In the case that “No.” is set at more than one sample, the displayed result is the average of the multiple samples.

Location

Location allows the user to label a location for each measurement by selecting a combination of letter and number (A to Z and 1 to 99). The location can only be changed in the Measuring window.

NOTICE

There are several short-cut key functions to quick change the location labeling without going to the setup window.

- Hold the up arrow key up to 2 seconds; one may change the location label number to next one, for example, A01→A02.
- Hold the down arrow key up to 2 seconds; one may change the location label number to previous one, for example, A01→A99.
- Hold the up or down arrow key with the Enter key simultaneously up to 2 seconds, one may change the location's alphabet label to next or previous one, for example, A01→B01 or A01→Z01.

Record

Record displays the total number of data samples that are saved.

Temperature & Relative Humidity (T and R/H)

Temperature and Relative Humidity automatically displays when the external sensor probe is attached.

Time and Date

The current date and time is always displayed in the format of month-day-year and hour:minute:second, respectively. Date and time can be changed in the Setting window.

2.4.3 Browsing Window

Press the arrow keypad to select the Browsing window and enter into the window. This window will allow the user to browse, print or delete historic data. In the Browsing window, press **ENTER** keypad to enter into the last saved data record. Then use the arrow

keypad to scroll through the stored data.

- Use  keypad to go to the next saved data record.
- Use  keypad to return to the previous saved data record.
- Use **BACK** keypad to return to the main Browsing window and the homepage.

  BACK keypad is effective only after entering into the data record.

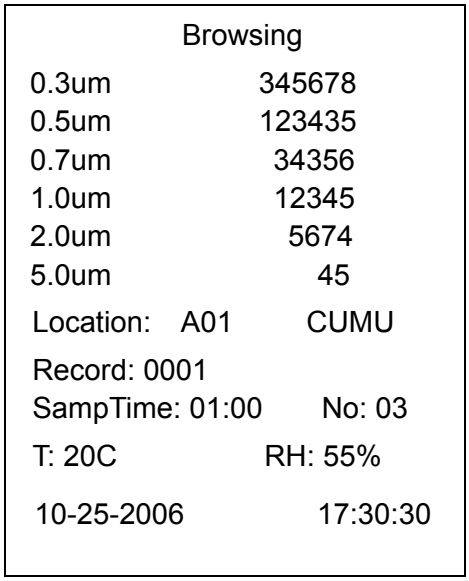

Figure 8 An example of the Browsing Window

Location

Displays the sampling location of a historic data.

CUMU

Displays the mode that data was saved in CUMU

Record

Format as number of saved data/total number of stored Data. (e.g., 0015/0110)

SampTime

Displays the length of sampling time of a saved data.

Temperature and Humidity

Displays temperature and humidity at the time of a data saved.

Date and Time

Display the date and time of a data saved. The formats of date and time are Month-Day-Year and Hour:Minute:Second, respectively.

Print and Delete Selection Window

While in a data record window, press **ENTER** and you are taken to the Print and Delete Selection window:

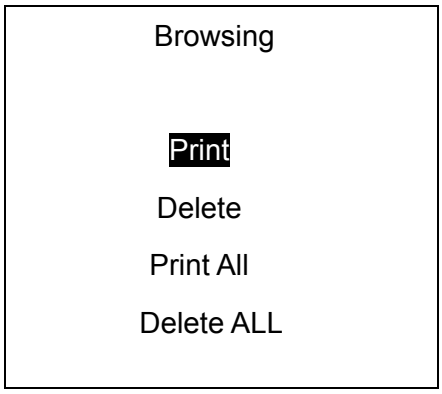

Figure 9 Browsing-Print and Delete Selection Window 1

- Press an arrow keypad to move up or down for highlighted selection
- Press **BACK** keypad to return to the previous Browsing window
- Press **ENTER** keypad to confirm the print or delete selection. Toggle between "Yes" and "No" selection with an arrow keypad and press **ENTER** to confirm the selection. Press **BACK** to cancel the selection and return to the previous Browsing window.

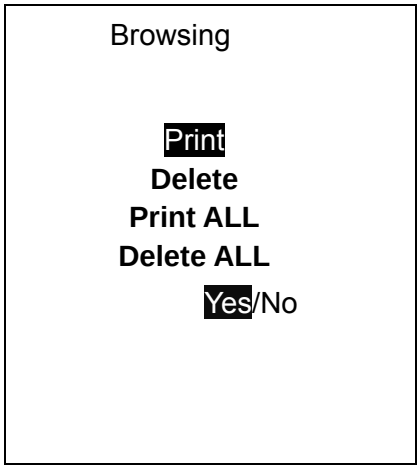

Figure 10 Browsing Print-and-Delete Selection Window 2

2.4.4 Setting Window

The Setting window allows users to set or change the measurement parameters. Use an arrow and **ENTER** keypads to enter into the Setting window from the homepage window. Then press **ENTER** keypad to highlight the parameter that needs to be changed / set. The chosen parameter will be at the bottom of the window. Press **ENTER** keypad again and using the keypads scroll through the parameter options or change the number and press **ENTER** to confirm the parameter's setting. Press **BACK** keypad to back to the previous window.

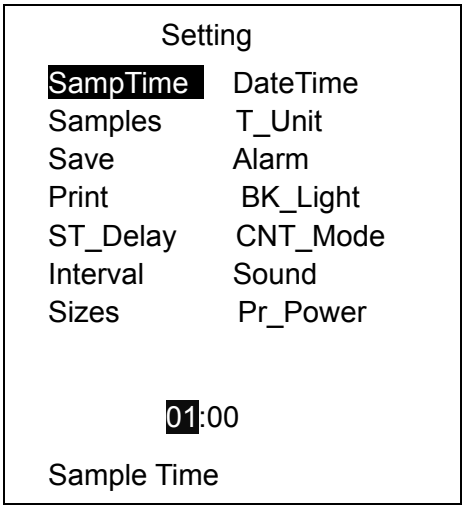

Figure 13 Setting Page

SampTime

Sampling duration may be changed up to 59 minutes and 59 seconds in the format of minute:second. The factory default setting is 10 second.

Samples

This function gives the user the ability to set a number of repeated measurements after pressing **RUN** each time. The maximum of repeated sample times that can be set are 99 and the delay time between each sample is 99 seconds.

Save

This function will allow the user to have option to save each sample data. The setting

options are: Off, Average Only, Every Sample. The user has the option of saving every sample, saving an average of a set of samples or not saving any sample data. If the setting is set to “Off”, no data will be saved for viewing in the Browsing window.

NOTICE

The maximum storage capacity is 1000 set or 6000 size data. When the instrument saved data reaches at the maximum capacity, the instrument will delete the first (the earliest) set of data set and save the new set of the data to the last record. Meanwhile, the record number will be automatically updated as an increment.

Print

The print function may be turned “On” or “Off” from this setting parameter. When it is on, each sampled data will be automatically printed once the measurement is completed. When printing a real time data is desired, be sure that the serial cable is connected through RS232 port between the handheld set and base unit or place the handheld set onto the base unit.

ST_Delay

The user has the option of setting a start time delay which is the period of time between pressing the **RUN** keypad and the beginning of the actual sample measurement. This function will allow the user to move away from the instrument so not to interfere with the environment the instrument is sampling. The maximum start time delay time between each sample is 59 minutes and 59 seconds.

Interval

The user has the option of setting a time interval between two consecutive sample runs. The maximum delay time between each sample is 59 minutes and 59 seconds.

Sizes

All channel sizes are user configurable and may be changed between 0.3μm and 25μm with 0.1μm step resolution. When the channel size is larger than 5μm, the increment is the 1μm. Factory default settings of the six particle sizes are 0.3μm, 0.5μm, 0.7μm,

1.0μm, 2.0μm, and 5.0μm.

NOTICE

The size selection of the next adjacent channel must be larger than one of the lower channel number in order to make the cumulative counting mode meaningful.

DateTime

Date and time can be changed in the format of: month-day-year and hour:minute:second.

T_Unit

The instrument allows users to select temperature units between Fahrenheit (F) and Celsius (C).

Alarm

The user may set the instrument to alarm the count limit based on either the Federal 209E or ISO standard. With the 209E standard option the user may set as class 1, 10, 100, 1000, 10000, 100000. With the ISO standard option the instrument may be set to alarm between classes 2 to 9.

BK_Light

The back light of LCD display may be configured to stay on for the following lengths of time: On, Off, 5 seconds, 15 seconds, 30 seconds and 60 seconds. The factory default setting for this function is set to 15 seconds.

CNT_Mode

The instrument is configurable to collect and display data in the following modes: Cumulative (CUMU), Differential (DIFF), and Concentration (Counts/L, Counts/Cubic Foot, or Counts/Cubic Liter). The factory default setting is Cumulative.

Sound

The keypad buttons may be configured to sound with a beep each time they are touched. The factory setting for this function is set to “Off”.

Pr_Power

There are two printer power mode settings available. Power saving mode is selected if only the power to printer is needed. Normal mode means that there is always a power supply to the printer whenever the unit is on.

NOTICE

Normal mode is particularly useful when users need to use a printer manually with two red and black keys. For example, change and manually feed printer papers or run self-check.

3.0 Miscellaneous

AC adaptor

 NOTICE

- Be sure to use the factory supplied AC adapter 。
- It is suggested to recharge the battery whenever the battery power is low
- It is not recommended to take the sample measurement while the unit is in charge.

Iso-Kinetic Probe

 NOTICE

An iso-kenetic probe is necessary for accurate and reliable sampling.

Temperature and Humidity Probe

 WARNING

- Gently press the probe into a keyed socket and it will be automatically locked into the spring-loaded position after you hear a click. No rotation is needed.
- Do not emerge the T/RH probe into water.

Zero-Count Filter and Purge Test

The instrument must be periodically cleaned using the purge filter. Following are instructions to purge the unit:

1. Unscrew the iso-kinetic probe and attach the 0.2μm Purge Filter to the air-sampling inlet using the provided tubing/adaptor. Be sure that the fit is very snug.
2. Configure the instrument to sample for a 30-minute period.
3. Then reconfigure the instrument to sample for ten (10) one (1) minute samples with a 10 second time delay between samplings.

4. There should be minimum no more than 1 count on an average per one-minute sample after purge the unit for sometime.

5. If there is more than one count per one-minute sample then repeat steps 2 & 3 again.

6. If the instrument still fails the purge test, contact a Hal Technology representative for technical assistance.

NOTICE

The non-zero count may often to be improper seal on the inlet due to re-usable o-rings. Change it often if it is required for absolute zero count. The recommended O-ring size is 5.3 (OD) x 1.3 (H) (mm).

Data Downloading Software

The data download software, ***CParticle,*** can be used to download measurement data from the instrument using the provided USB cable. Simply open the executable file "setup.exe" provided on the CD to install the software package. After the installation, collect the instrument to a computer and open the application. Be sure that your communication settings are set to USB. After turning on the instrument, you should be ready to download the data from the instrument. Downloaded data software allows users to save the data as either Microsoft Excel file format or ASCII CSV data format. User may also view, print or delete the stored data in the instrument.

NOTICE

- Use the data download software may help users better manage the stored data record on the instrument. It is strongly recommended that users to deleted the data through the download software, particularly when the large amount of data was stored.
- Due to the automated power saving mode, the instrument may need to be freshly awakened by pressing any keypad to keep working with the software since the instrument may go to the sleep mode after a while.

WARNING

When connecting or disconnecting a USB cable from the device, make sure that the device is always powered off. Otherwise, it may cause damage the instrument.

Remote Sampling Software

There are two possible ways to conduct remote sampling: 1) through USB or 2) through RJ45 Ethernet connections. The standard shipment will enclose with USB remote sampling software while Ethernet-ready remote sampling software must be purchased as an optional accessory. The Ethernet remote sampling software supports multiple HPC600 units in the TCP/IP network and each has its own IP addresses.

Remote Sampling through USB port

After installing the software supplied with the instrument, start the application and select the device location as Instrument ID, for example, A01 and click “Remote” to put the instrument in the Remote mode (R displayed on the right top corner of the instrument).

- “AUTO”: Start an auto sampling session based on pre-set parameters on the instrument. The instrument returns results to PC and then automatically stops the sampling after the instrument finished required number of samples. However, it also stops the sampling when receiving a “STOP” command.
- “RUN”: Start a continuous sampling based on all the pre-set parameters on the instrument except ignoring sampling time and number of samples until receiving a “STOP” command.
- “STOP”: Stop a AUTO or RUN sampling session.

The software automatically saves results of each sampling session into a CSV-format data file.

NOTICE

The remote session through the USB port must be conducted in Measuring Window

Page and Cumulative (CUMU) mode only. All other data can be derived from cumulative data (please contact support@haltechnologies.com for more information).

4.0 Warranty

Hal Technology provides a one-year limited warranty of the Model HPC600 Handheld Air Particle Counter.

- Warranty begins from shipping date.
- The user is responsible for the cost of shipping in the case of any service or repair needed.
- The warrantee only limits to the HPC600 and HAL TECHNOLOGY does not extend this liability to accessories and any other equipment damage, body injury and loss of properties due to abnormal use.

The following are not included in the warranty:

- Improper connection to a power source, resulting in damage of the instrument.
- Any physical damage due to mechanical forces (e.g., collision or dropping) that may cause any damage of the front panel, LCD screen, switch and internal components, etc.
- Unauthorized opening of the instrument.
- Damage due to operation in an un-specified environmental condition.
- Abnormal operation due to instrument needing calibration.

Limitation of Warranty

A. Hal Technology warrants that all equipment shall be free from defects in material and workmanship under normal use for a period of one year from date of shipment to Buyer except that Hal Technology does not warrant that operation of the software will be completely uninterrupted or error free or that all program errors will be corrected. Buyer shall be responsible for determining that the equipment is suitable for Buyer's use and that such use complies with any applicable local, state, or federal law. Provided that Buyer notifies Hal Technology in writing of any claimed defect in the equipment immediately upon discovery and any such equipment is returned to the original shipping point, transportation charges prepaid, within one year from date of shipment to Buyer and upon examination Hal Technology determines to its satisfaction that such equipment is defective in material or workmanship, i.e. contains a defect arising out of the manufacture of the equipment and not a defect caused by other circumstances, including, but not limited to accident, misuse, unforeseeable use, neglect, alteration,

improper installation, improper adjustment, improper repair, or improper testing, Hal Technology shall, at its option, repair or replace the equipment, shipment to Buyer prepaid. Hal Technology shall have reasonable time to make such repairs or to replace such equipment. Any repair or replacement of equipment shall not extend the period of warranty. If the Instrument is modified or in any way altered without the explicit written consent of Hal Technology then the warranty is null and void. This warranty is limited to a period of one year, except as noted below, without regard to whether any claimed defects were discoverable or latent on the date of shipment.

B. If Buyer shall fail to pay when due any portion of the purchase price or any other payment required from Buyer to Hal Technology under this contract or otherwise, all warranties and remedies granted under this Section may, at Hal Technology's option, be terminated.

C. Warranty repairs shall be completed at a Hal Technology authorized service location, by an authorized service technician, or on site at buyer's facility by a Hal Technology authorized employee. Buyer pays shipping costs to factory; seller will pay standard return shipping costs during the warranty period. Buyers may select a faster method of shipment at their own expense.

Warranty of Repairs after Initial One (1) Year Warranty

A. Upon expiration of the initial one-year warranty, all parts and repairs completed by an authorized Hal Technology repair technician are subject to a six (6) month warranty.

B. Other than the above, Hal Technology makes no warranty of any kind, expressed or implied, except that the products manufactured and sold by Hal Technology shall be free from defects in materials and workmanship and shall conform to Hal Technology's specifications; Buyer assumes all risk and liability resulting from use of the products whether used singly or in combination with other products. If instrument is modified or in any way altered without the explicit written consent of Hal Technology, then the warranty is null and void.

C. Warranty repairs shall be completed at a Hal Technology authorized service location, by an authorized service technician, or on site at buyer's facility by a Hal Technology authorized employee. Buyer pays shipping costs to factory; seller will pay standard return shipping costs during the warranty period. Buyers may select a faster method of

shipment at their own expense.

Contact

HAL TECHNOLOGY, LLC

10302 Northridge Drive

Rancho Cucamonga, CA 91737 USA

Phone: (909) 908-3161

Fax: (909) 244-0100

Info@haltechnologies.com

http://haltechnologies.com

Information Record

Model _____

Serial No. _____

Purchase Place _____

Address _____

_____

Phone _____

Service Place _____

Address _____

_____

Phone _____

Please fill out the Registration form below and send to:

HAL TECHNOLOGY, LLC

10302 Northridge Drive

Rancho Cucamonga, CA 91737 USA

Phone: (909) 908-3161

Or send relevant registration information to the email address below:

services@haltechnologies.com

User Registration Form

Company _____

Contact Person _____

Address _____

_____

City _____State/Province_____Country _____

Postal Code_____

Phone _____

Fax _____

E-mail _____

Product Model _____

Serial No. _____

Purchase Date_____

Purchase Place _____

Preferred Contact Method

□ E-mail □ Mail □ Phone