Error Messages

Error messages are a series of text messages which appear in your software. These messages notify you that either the spectrophotometer is not functioning correctly or, in case you are using your own customized programs, that you have made a mistake in the commands which you have given to the spectrophotometer.

The following is an overview of the error messages. For suggestions regarding causes and courses of action, see Table 20 through Table 34.

- Multicell Transport Home Position Not Found
- No Filament Current On Deuterium Lamp
- Deuterium Lamp Ignition Failed
- No Current Sensed On Deuterium Lamp
- No Voltage Sensed On Deuterium Lamp
- No Current Sensed On Tungsten Lamp
- No Voltage Sensed On Tungsten Lamp
- Cooling Fan Defective
- Lamp Door Open (Lamps are switched off)
- Digital Signal Processor Error
- Wavelength Calibration Data Rejected
- Excessive Dark Current Detected On Photodiodes
- Raw Data Buffer Overflow
- Power Fail

Most of these error messages are stored with the 8453 spectrophotometer logbook and can be recalled through the operating software.

Table 20 through Table 34 show the error messages with their meanings. The tables explain the instrumental conditions required to generate the message and potential causes which lead to generation of the message. There is a list of suggested actions to correct the instrument state when necessary.

Table 20 **Multicell Transport Home Position Not Found**

Possible Causes	Action
The multicell transport mechanism is jammed.	Make sure the carriage can move freely along its entire path and that there are no obstructions
	Check that the two screws which fix the multicell transport in the spectrophotometer are not pushed up into the path of the mechanism (e.g. this is the case when putting the transport beside the instrument).
Electronics failed.	Check for defective HOME-switch, defective multicell transport cable, defective motor, or defective spectrophotometer processor main (SPM) board.

Table 21 **Lamp Door Open (Lamps Are Switched Off)**

Possible Causes	Action
Lamp door is open.	Close lamp door.
Lamp door is bent. Light switch tab is positioned incorrectly.	Bend light switch tab on lamp door to correct tab position.
Light switch or electronics have failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 22 **Invalid Data Points In Spectrum**

Possible Causes	Action
Blank has higher absorbance than sample measurement. Solvent or chemical matrix of blank has higher absorbance than solvent/matrix of sample.	Ensure sample and blank use the same solvent or chemical matrix. Measure blank on water. In kinetics mode of ChemStation software: **1** Under Options & Information in the Method menu, select Adjust gains separately from blank measurement. **2** Under Set Gains in the Measure menu, select water or air
Bubble in flow cell absorbing during blank.	Use cell cleaning fluid to prevent air bubbles sticking on the window surface of the flow cell.
Floating particle(s) in cell	Clean cell or wait untill particle(s) have settled
Variation in sample absorbance during the measurement process due to chemical or physical processes.	Select a shorter integration time.
Fluorescent sample.	Use fixed gain settings in your advanced software for the ChemStation. This feature is not implemented in the software of the handheld controller.
Electronics failed.	Replace the spectrophotometer data acquisition (SDA) board. Replace optical unit.
Bad blank.	Repeat blank measurement.

Table 23 **No Filament Current Through Deuterium Lamp**

Possible Causes	Action
Lamp is defective.	Replace deuterium lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 24 **Deuterium Lamp Ignition Failed**

Possible Causes	Action
Lamp is defective.	Replace deuterium lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 25 **No Current Through Deuterium Lamp**

Possible Causes	Action
If diagnostics in your software indicate that lamp voltage is available, the lamp is defective.	Replace deuterium lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 26 **No Voltage At Deuterium Lamp**

Possible Causes	Action
Lamp is defective.	Replace deuterium lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 27 **No Current Through Tungsten Lamp**

Possible Causes	Action
If diagnostics in your software indicate that lamp voltage is available, the lamp is defective.	Replace tungsten lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 28 **No Voltage At Tungsten Lamp**

Possible Causes	Action
Lamp is defective.	Replace tungsten lamp.
Electronics failed.	Replace spectrophotometer lamp power supply (SLS) board.

Table 29 **Cooling Fan Defective**

Possible Causes	Action
Number of cycles per minute sensed at fan is too low. Fan is defective.	Replace cooling fan.
Number of cycles per minute sensed at fan is too low. Electronics failed.	Replace spectrophotometer processor main (SPM) board.

Table 30 **Digital Signal Processor Error**

Possible Causes	Action
SIMM memory module on SPM board missing or in wrong position.	Make sure a module of minimum 1 MB is plugged into the position located towards the front panel of the instrument.
Communication error between the main processor and one of the digital signal processors located on the SPM or SDA board. Cable between SDA board and SPM board disconnected or defective.	Reconnect or replace cable.
Communication error between the main processor and one of the digital signal processors located on the SPM or SDA board. Electronics failed.	Replace spectrophotometer processor main (SPM) board. Replace the spectrophotometer data acquisition (SDA) board.

Table 31 **Wavelength Calibration Data Invalid**

Possible Causes	Action
Communication error between EEPROM of spectrograph and SDA board. Cable between spectrograph and SDA board disconnected or defective.	Reconnect or replace cable.
Wavelength calibration data from EEPROM of spectrograph rejected or communication of calibration data disrupted.	Replace the spectrophotometer data acquisition (SDA) board.
Wavelength calibration data in EEPROM of spectrograph corrupted.	Replace optical unit

Table 32 **Wavelength Recalibration Data Lost**

Possible Causes	Action
8-bit configuration switch sets the instrument to resident mode.	Correct 8-bit configuration switch settings and turn instrument off, then on again. Perform a wavelength recalibration with your software.
When doing a firmware upgrade, wavelength recalibration data are lost. The factory wavelength calibration is still valid.	Perform a wavelength recalibration with your software.
When exchanging the SPM board, wavelength recalibration data are lost. The factory wavelength calibration is still valid.	Perform a wavelength recalibration with your software.

Table 33 **Excessive Dark Current Detected On Photodiodes**

Possible Causes	Action
Spectrophotometer data acquisition (SDA) board failure.	Replace spectrophotometer data acquisition (SDA) board.
Photodiode array electronics failure.	Replace optical unit.

Table 34 **Raw Data Buffer Overflow**

Possible Cause	Action
Attempting to acquire large amounts of data within too short of a time period.	Change data acquisition rate, and/or change cycle time, and/or change wavelength range.

Table 35 **Power Fail**

Possible Causes	Action
Instrument power fail.	Check that instrument power indicator in on.
No interface link to PC	Check that the HP-IB cable is properly connected to both 8453 and PC.
Incorrect interface settings.	Check that the HP-IB interface setting on the spectrophotometer (see section "Installing your 8453 Spectrophotometer" in the handbook *Installing Your UV-visible Spectroscopy System*), on the HP-IB interface in PC (see section "Installing an HP-IB Interface Board in the PC" in the handbook *Installing Your UV-visible Spectroscopy System*), and in the software configuration (see section "Installing the UV-visible Operating Software" in the handbook *Installing Your UV-visible Spectroscopy System*) are correct.
Loss of communication	This may occur because of exceptional power line conditions (spikes or drop-outs). Check that the power supply to the instrument is good.