

Troubleshooting the Leafscan-45

Overview of troubleshooting

The troubleshooting information in this chapter is presented in these categories:

- Power-up failures
- Calibration failures
- Interface failures
- Mechanical failures
- DSP failures
- Image quality problems
- Application software failures

Recommended solutions are provided for each symptom. Try one correction at a time, in the order listed.

Troubleshooting tips

This section provides some general tips to keep in mind as you begin troubleshooting a Leafscan-45.

Recording pertinent information

When you troubleshoot a Leafscan-45, always record:

- The scanner serial number, PROM cartridge version, operating system software version, and application software version
- The names and versions of any INITs or extensions
- The system model and any special devices that are installed, such as accelerator cards
- Whether the problem is constant or intermittent

Identifying the symptoms

Be sure you have clearly identified the symptoms so you can check for them after you perform the corrective action

Checking for the obvious

Don't overlook obvious or seemingly small things, such as:

- Are the cables set up properly?
- Are any cable connections loose?
- Is there an operator error?
- Is the power cord plugged in securely?
- Is the lens cap on the lens?
- Are the mode and address switch settings correct?

Checking for operating environment problems

Don't overlook the possibility of problems in the scanner's operating environment, such as:

- Power fluctuations
- Temperature variations
- Interference from other equipment

If the problem disappears...

If you can't duplicate the symptoms, or if the problem seems to have disappeared, consider these possibilities:

- Operator error
- An intermittent problem exists

Understanding error messages

All error messages are generated at the host.

Some messages are displayed on the screen in a dialog box at the time of the error.

Other messages are displayed in the Scanner Info window when you are using the Leafscan 35 / 45 Plug-In software. To access these messages, select **More Settings** → **Scanner Info**.

The error codes listed in the tables in this chapter are hexadecimal values displayed by the status LEDs on the back of the scanner. These error codes are valid when the red Fault light turns on.

Power-up failures

This table describes power-up errors and the recommended actions.

Symptoms	Error code	Recommended actions
Scanner will not power up	None	<ol style="list-style-type: none"> 1. Check AC input voltage and scanner power On/Off switch. 2. Reset both computer and scanner; retry. 3. Send scanner to repair depot for service.
Scanner is not operating; fault light is on	None	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Make sure the interlock magnet is engaged. 3. Check that PROM cartridge is inserted properly. 4. Check status LEDs for error codes. 5. Check the power supply 12V output voltage. 6. Send scanner to repair depot for service.

Calibration failures

This table describes calibration failures and recommended actions.

Symptoms	Error code	Recommended actions
Lamp controller error	78	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Verify if the problem occurs in all film formats. 3. Perform lamp controller adjustment procedure. 4. Replace dim or high-usage lamp, air-clean color filters, and perform the lamp controller adjustment procedure. 5. Check processor board sensor operation. 6. Check that pins on the 15 connector of the lamp housing and of the tray are not bent or pushed in. 7. Replace the lamp controller. Perform the lamp controller adjustment procedure. 8. Send scanner to repair depot for service.
You see this message: Lamp controller is out of regulation		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify if this problem occurs in all film formats. 4. Check the seating of the lamp. 5. Replace dim or high-usage lamp, air-clean color filters, and then perform the lamp controller adjustment procedure. 6. Check processor board sensor operation. 7. Check that pins on the 15 connector of the lamp housing and of the tray are not bent or pushed in. 8. Replace the lamp controller. Perform the lamp controller adjustment procedure. 9. Send scanner to repair depot for service.

Gain calibration error	77	<ol style="list-style-type: none"> 1. Ensure scanner warm-up of at least 30 minutes. 2. Verify that lens cap has been removed. 3. Verify whether this problem occurs in all film formats. 4. Check main power supply output voltage. 5. Replace dim or high-usage lamp, air-clean the color filters, and perform the lamp controller adjustment procedure. 6. Verify the lens aperture. 7. Replace the camera board. 8. Send scanner to repair depot for service.
Dark reference error - DAC	7C	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify that the lens cap has been removed. 4. Verify whether this problem occurs in all film formats. 5. Check main power supply output voltage. 6. Replace dim or high-usage lamp, air-clean color filters, and perform the lamp controller adjustment procedure. 7. Replace the camera board. 8. Send scanner to repair depot for service.
You see this message: Camera subrange gain - out of range		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify whether this problem occurs in all film formats. 4. Check that lens cap has been removed and that lens aperture is at the proper setting. 5. Air-clean color filters. 6. Perform lamp controller adjustment procedure. 7. Send scanner to repair depot for service.
You see this message: Illegal gain in scanner		<ol style="list-style-type: none"> 1. Make sure camera board U20-3 has clock signal. 2. Make sure TP4 has CCD signal.

<p>During calibration, you see either of these messages:</p> <ul style="list-style-type: none"> • Camera: not enough light at CCD • Below legal limit 		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify that the lens cap has been removed. 4. Verify that the film holder is removed from scanner before calibration. 5. Verify whether this problem occurs in all film formats. 6. Open lens to the next f/stop setting. The setting of f/4 is wide open. 7. Perform lamp controller adjustment procedure. 8. Replace dim or high-usage lamp, air-clean color filters, and perform the lamp controller adjustment procedure. 9. Check processor board sensor operation. 10. Make sure lamp housing is installed properly. 11. Send scanner to repair depot for service.
<p>You see this message: Too much light at CCD for calibration</p> <ul style="list-style-type: none"> • Plug-in version 2.1 will not display this message. 		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify whether this problem occurs in all film formats. 4. Close lens to a higher number (not to exceed f/8). 5. Perform lamp controller adjustment procedure. 6. Make sure that all the filters in the filter assembly are properly set. 7. Send scanner to repair depot for service.
<p>Macintosh hangs up during red calibration</p>		<ol style="list-style-type: none"> 1. Reset both computer and scanner and observe whether the filters move; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify whether this problem occurs in all film formats. 4. Verify that a compatible Macintosh model is being used. 5. Verify that minimum Photoshop software is version 2.0.1. 6. Verify version of Leafscan software. 7. Verify version of Leafscan-45 PROM cartridge. 8. Verify if compatible style of SCSI interface is being used. 9. Send scanner to repair depot for service.

<p>You see this message: Error during single plane calibration</p>		<ol style="list-style-type: none"> 1. Reset both computer and scanner and observe whether the filters move; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify whether this problem occurs in all film formats. 4. Perform lamp controller adjustment procedure. 5. Send scanner to repair depot for service.
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Interface failures

This table describes interface failures and recommended actions.

Symptoms	Error code	Recommended actions
Accessing scanner problem via GPIB port		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check device addresses and port mode DIP switch settings. 3. Turn off all INITs except NB Handler (for GPIB). 4. Check GPIB0. Check that DEV setting matches the scanner device address. For example, DEV8 = address 8. 5. Check for repeat addressing or unaddressing status. 6. If multiple devices are used, change the order of devices on the chain. 7. Check that the total cable length does not exceed 30 feet. 8. Send scanner to repair depot for service.
Accessing scanner problem via SCSI port		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check for proper SCSI termination. 3. Check mode switch settings. 4. Check for possible SCSI device addressing conflict. 5. Try a different address. 6. Turn off all INITs; retry. 7. Check that device cable length does not exceed 20 feet. 8. Check that Macintosh cable to first device doesn't exceed 18 inches. 9. Swap cable to detect possible cable failure. 10. Send scanner to repair depot for service.
You see this message: Unable to locate Leafscanner		<ol style="list-style-type: none"> 1. Check for intermittent or disconnected interface cable. 2. Check for incorrect address switch settings. 3. Try different address switch settings. 4. Check for device (DEV8) configuration problem. 5. Reset both computer and scanner; retry. 6. Check for faulty interface board assembly. 7. Send scanner to repair depot for service.

<p>Accessing scanner with Macintosh, monitor goes dark</p>		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Select Control Panels → Monitors. Then select 256. 3. Replace Macintosh video board assembly. 4. Retry using a different Macintosh. 5. Send scanner to repair depot for service.
<p>You see this message: Unable to initialize scanner</p>		<ol style="list-style-type: none"> 1. Check for intermittent or disconnected interface cable. 2. Check for incorrect mode and address switch settings. 3. Try different address switch settings. 4. Check for device (DEV8) configuration problem. 5. Reset both computer and scanner; retry. 6. Check for a faulty interface board assembly. 7. Send scanner to repair depot for service.

Mechanical failures

This table describes mechanical failures and recommended actions.

Symptoms	Error code	Recommended actions
Stepper table won't go to home position.	A1	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Make sure the interlock magnet is engaged. 5. Send scanner to repair depot for service.
Stepper table is stuck in home position.	A2	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Make sure the interlock magnet is engaged. 5. Send scanner to repair depot for service.
Stepper table full travel count doesn't equal zero.	A3	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Make sure the interlock magnet is engaged. 5. Send scanner to repair depot for service.
Stepper table won't go to home position (accelerated mode).	A4	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Make sure the interlock magnet is engaged. 5. Send scanner to repair depot for service.
Stepper table is stuck in home position (accelerated mode).	A5	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Make sure the interlock magnet is engaged. 5. Send scanner to repair depot for service.
Stepper table full travel count doesn't equal zero (accelerated mode).	A6	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check stage mechanical and sensor operation. 3. Check film stage speed setting. 4. Send scanner to repair depot for service.

<p>Filter assembly won't go to home position.</p>	<p>A8</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check filter motor mechanical and sensor operation. 3. Replace lamp housing. Perform lamp adjustment procedure. 4. Replace the motor control board. 5. Send scanner to repair depot for service.
<p>Filter assembly is stuck in home position.</p>	<p>A9</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check filter motor mechanical and sensor operation. 3. Replace lamp housing. Perform lamp adjustment procedure. 4. Replace the motor control board. 5. Send scanner to repair depot for service.
<p>Filter assembly full travel count doesn't equal zero</p>	<p>AA</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check filter motor mechanical and sensor operation. 3. Replace lamp housing. Perform lamp adjustment procedure. 4. Replace the motor control board. 5. Send scanner to repair depot for service.
<p>Camera platform won't go to home position.</p>	<p>AC</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check camera platform motor mechanical and sensor operation. 3. Inspect roller assembly for course or rough movement. 4. Replace the camera motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.
<p>Lens platform won't go to home position.</p>	<p>AD</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check lens platform motor mechanical and sensor operation. 3. Inspect roller assembly for coarse or rough movement. 4. Replace the lens motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.

<p>Camera platform is stuck in home position.</p>	<p>AE</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check camera platform motor mechanical and sensor operation. 3. Inspect roller assembly for coarse or rough movement. 4. Replace the camera motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.
<p>Lens platform is stuck in home position.</p>	<p>AF</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check lens platform motor mechanical and sensor operation. 3. Inspect roller assembly for coarse or rough movement. 4. Replace the lens motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.
<p>Camera platform full travel doesn't equal zero.</p>	<p>B0</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check camera platform motor mechanical and sensor operation. 3. Inspect roller assembly for coarse or rough movement. 4. Replace the camera motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.
<p>Lens platform full travel count doesn't equal zero.</p>	<p>B1</p>	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check lens platform motor mechanical and sensor operation. 3. Inspect roller assembly for coarse or rough movement. 4. Replace the lens motor cable. 5. Replace the motor control board. 6. Send scanner to repair depot for service.

DSP failures

This table describes DSP failures and recommended actions.

Symptoms	Error code	Recommended actions
Download and start DSP program error.	B3	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check board connections between the processor board and the camera board. 3. Replace processor board. 4. Send scanner to repair depot for service.
DSP internal data memory error.	B4	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check board connections between the processor board and the camera board. 3. Replace processor board. 4. Send scanner to repair depot for service.
DSP external data memory error.	B5	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check board connections between the processor board and the camera board. 3. Replace processor board. 4. Send scanner to repair depot for service.
DSP host interface error.	B9	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Check board connections between the processor board and the camera board. 3. Replace processor board. 4. Send scanner to repair depot for service.
DSP pixel value overflow during scan error.		<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Disregard unless image artifacts are present in scan. 3. Send scanner to repair depot for service.
DSP no scan.	93	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Verify that the host computer is not hung up. 3. Check board connections between the processor board and the camera board. 4. Replace processor board. 5. Send scanner to repair depot for service.

Image quality problems

This table describes problems you may observe in scanned images and the recommended actions.

Symptoms	Error code Recommended actions
Streaking problems	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Verify whether this problem occurs in all film formats. Verify the lens setting (f/stop). 3. Air-clean color filters. Clean the lens and the CCD. 4. Perform lamp controller adjustment procedure. 5. Replace dim or high-usage lamp. 6. Check infrared mirror. 7. Replace camera board. 8. Send scanner to repair depot for service.
Resolution problems	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Ensure scanner warm-up of at least 30 minutes. 3. Verify whether this problem occurs in all film formats. 4. Using the Crop tool, adjust the size of the crop. 5. Verify the proper quality factor for image size of pre-press. 6. Verify within limits for given magnification. 7. Check lens aperture for optimum range and recalibrate. 8. Using the Leafscan software window, verify for optimum exposure time. 9. Send scanner to repair depot for service.
Skew - horizontal lines are not perpendicular.	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Verify whether this problem occurs in all film formats. 3. Verify the problem with another film carrier or glass alignment target. 4. Adjust table top, table channel, and table mount. 5. Adjust camera board. 6. Send scanner to repair depot for service.

Image is fuzzy (under-water effect)

1. Reset both computer and scanner; retry.
2. Verify whether this problem occurs in all film formats.
3. Air-clean the filters, clean the lens and CCD.
4. Verify whether the problem occurs without the front cover.
5. Verify that the scanner passes self-diagnostic tests (Chapter 9).
6. Replace camera board.
7. Send scanner to repair depot for service.

Smearing (halo effect on the right side of lighter image).

1. Reset both computer and scanner; retry.
2. Try focusing manually.
3. Verify whether this problem occurs in all film formats.
4. Replace camera board.
5. Send scanner to repair depot for service.

Focus problems

1. Reset both computer and scanner; retry.
2. Move green focus line to another area and repeat focus.
3. Try a different piece of film and repeat prescan.
4. Using the glass alignment target, perform the focus test, described in Chapter 9. Perform focus alignment if necessary.
5. Send scanner to repair depot for service.

Soft focus and color shift

1. Reset both computer and scanner; retry.
2. Move green focus line to another area and repeat prescan.
3. Using the glass alignment target, perform the focus test, described in Chapter 9. Perform focus alignment if necessary.
4. Using the Leafscan 35 / 45 Plug-In software, apply more contrast.
5. Using unsharp masking (USM), apply contrast at pixel-level. This is done at the Application software level (PhotoShop).
6. Send scanner to repair depot for service.

Colors don't register.

1. Reset both computer and scanner; retry.
2. Perform lamp controller adjustment procedure.
3. Replace dim or high-usage lamp.
4. Make sure the film holder doesn't interfere with the cover during a scan.
5. Verify correct film holder side up when inserting.
6. Send scanner to repair depot for service.

Image is not centered from side to side.

1. Reset both computer and scanner; retry.
2. Using the glass alignment target, perform the right and left center verification, described in Chapter 9. Perform right and left center alignment if necessary.

Vertical lines after final scan

3. Send scanner to repair depot for service.
1. Reset both computer and scanner; retry.
2. Air-clean CCD and color filters.
3. Check mechanical operation by performing diagnostic self- tests described in Chapter 9.
4. Replace lamp housing and perform lamp controller adjustment procedure.

Horizontal lines or stretched images

5. Replace camera board.
6. Send scanner to repair depot for service.
1. Reset both computer and scanner; retry.
2. Check mechanical operation by performing diagnostic self-tests described in Chapter 9.

Misregistration, jagged, repeated, or missing lines

3. Send scanner to repair depot for service.
1. Reset both computer and scanner; retry.
2. Verify that the film holder is inserted correctly. Alignment pins on the holder should be up.
3. Check mechanical operation by performing diagnostic self-tests described in Chapter 9.
4. Check for correct power resistor values.
5. Send scanner to repair depot for service.

Reflective glare lines on one or both sides of image

1. Reset both computer and scanner; retry.
2. Add (8 places) P/N 90475 caps onto filter assembly.
3. Replace entire filter assembly.
4. Replace the camera board.
5. Send scanner to repair depot for service.

Prescan on Macintosh looks posterized

1. Reset both computer and scanner; retry.
2. Select Control Panels & Monitors. Then make sure Millions is selected.
3. Use the AutoRange tool.
4. Send scanner to repair depot for service.

Application software failures

This table describes application software failures and the recommended actions.

Symptoms	Error code Recommended actions
Using Photoshop, corrupted secondary final scans	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Verify if Macintosh Quadra/Micronet configuration. 3. Set address to SCSI ID # 1 and reinstall software; retry. 4. Run system and Photoshop from external drive. 5. Lock Get Info function on software; recalibrate. 6. Reformat internal disk with recommended software. 7. Retry, using a different Macintosh.
You see this message: Can't load prescan image from Leafscan image file	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Disk is full; archive and delete unwanted files. 3. Image file is locked or corrupted or may have been moved to a location other than where it was created; repeat prescan. 4. Send scanner to repair depot for service.
You see this message: Can't save prescan image this time	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Disk is full; archive and delete unwanted files. 3. Image file is locked or corrupted; repeat prescan. 4. Send scanner to repair depot for service.
You see this message: Not enough memory available to open Leafscan now	<ol style="list-style-type: none"> 1. Reset both computer and scanner; retry. 2. Save and close some open files and try again. 3. Minimum memory within Photoshop icon should be 4096K. 4. Send scanner to repair depot for service.