

Room&Board®

Troubleshooting guide
for height-adjustable
desk systems



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Standard troubleshooting procedures



To begin the troubleshooting process, start by checking:

“Is there an error code on the desk display?”

If so, use the error code list to identify the issue, then proceed with necessary troubleshooting steps, if applicable.

Error codes

If the desk panel is displaying an error code, use the list below to identify the issue, or read more on page 10 for the full list of error codes.

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E01	Position Lost	The desk has an unknown position and needs to be initialized	- Position error - New desk leg added	- Initialize the system (P1)
E16	Key Error	Illegal key press (handled internally in DPIC)	Hitting multiple buttons simultaneously	- Check desk panel
E59	Ch1 SLS/PIEZO	Safety limit switch activated on channel 1	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E60	Ch2 SLS/PIEZO	Safety limit switch activated on channel 2	Hit obstruction - Remove obstruction (P3)	- Initialize if necessary (P1)
E61	Ch3 SLS/PIEZO	Safety limit switch activated on channel 3	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E93	Desk Sensor 1 – Activation	Detected trigger from LINbus safety limit switch, e.g., DS1	DS1 was triggered	- Remove any obstacles causing the desk movement to stop and adjust the height again
E94	Desk Sensor 1 – Not Responding	LIN SLS unit (e.g., DS1) no longer responding	DS1 can no longer be detected	- Check that DS1 is correctly mounted - Remove DS1 and reinsert it

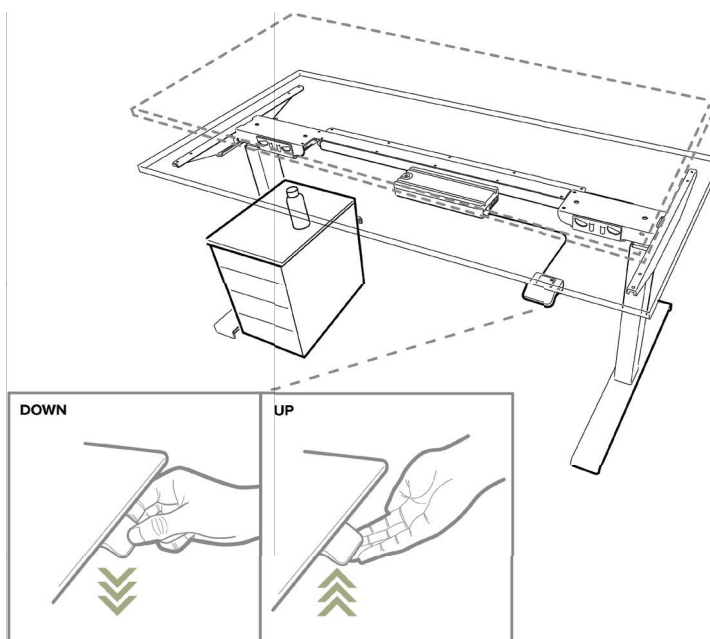
Procedure 1 (P1) - Initialize the control box



This procedure resets all desk legs to the fully retracted position so the control box knows where they are.

Note: This is the common solution for when a desk will move DOWN but not UP.
When a control box requires initialization, this is how the system is programmed to behave.

1. Check for any obstructions below the table.
2. Using the desk panel, press and hold DOWN button to ensure the desk is retracted to its lowest limit (the fully retracted hard stop or a configured lower limit).
3. Briefly release DOWN.
4. Press and hold DOWN for 5 seconds, wait until all desk movement has stopped then release.
5. If initialization is successful, a slight UP/DOWN “handshake” movement of the desk leg will appear. If you have a desk panel with display, E01 or “initialize” is displayed during this part of the procedure.



Procedure 2 (P2) - Check all cable connections

Note: When checking the cable connections, also check that the cables are not damaged in any way.

- 1.** Main cable is connected to both the control box and power outlet. **Note:** Power cables may be in different locations depending on the type of system.
- 2.** All motor cables are connected to both the control box and desk leg. For 2- and 3-legged tables, motor cables must be connected in channels 1 and 2, or channels 1, 2 and 3. **Note:** DF2 and DF3 systems do not require motor cables.
- 3.** Assuming a standard control box configuration, these must be connected in channels 1 and 2, or channels 1, 2 and 3 for a 3-legged table. They cannot be connected in channels 1 and 3 or 2 and 3 unless there is a configuration on the control box specifying this arrangement.
- 4.** Desk panel cable is connected to the control box in either port A1 or port A2.

Procedure 3 (P3) - Check for obstructions

1. Check under, above and on the sides of the desk for any obstructions that could prevent movement in either direction or trigger collision detection. If the desk moves DOWN, briefly stops, and then retracts a couple of millimeters (mm), this indicates that collision detection has been activated.
2. If obstructions are identified, remove the obstruction, and activate the desk



Procedure 4 (P4) - Check for faulty component(s) WITH error

(digital display on desk panel or on app via Bluetooth®)

Procedure 4 (P4) is for a 2-legged desk system. The same concepts can be used for a 3-legged system using channel 3 and so forth.

Notes: Check the error codes list for assistance. The code should read E##. Some error codes are channel specific, which can help pinpoint the problem.

Symptom	Procedure
System will move DOWN but not UP	1. Initialize (see Procedure 1 (P1)).
System unresponsive (no power to display when any button is pressed). If any of these steps activate the digital display, initialize the system (see Procedure 1 (P1)).	1. Check main cable connection. 2. Test power outlet using another device (lamp, phone charger, etc.). 3. Plug in a new switch and test. 4. Connect all existing cables to a new control box and test.
System is powered but will not initialize	1. Try pressing and releasing the DOWN button a few times before pressing and holding for 5 seconds. 2. Also, be aware if the control box has a special configuration: If the desk is programmed with a lower stroke limit to avoid a collision with something like a file cabinet, it is possible that it also has a custom, longer Forced Initialization Time. This is the time required to press and hold the DOWN button before initialization begins. Sometimes this is 10 seconds or longer. 3. If you have a standard control box without a special configuration (i.e., Plug & Play™), try to initialize each desk leg in channel 1 by itself, with nothing else plugged into the motor channels on the control box. Also, swap the motor cables so a different motor cable is used to initialize channel 1 by itself. The problem could be a faulty desk leg or a faulty motor cable.
Channel-specific error (e.g., E41 – Channel 1 overload) – Everything except PIEZO errors (E59-E63)	1. Swap the motor cable connections at the control box (motor cable #1 from channel 1 to 2, motor cable #2 from channel 2 to 1). If it remains E41, there could be a problem with the application (load or obstruction on one side) or a defective control box. If the error changes to E42, go to step 2. 2. Swap the motor cable connections at the desk legs so the desk leg that was originally connected to channel 1 is reconnected to channel 1, but with the motor cable that was originally connected to channel 2. If it remains E42, it is most likely a defective motor cable, now connected to channel 2. If it returns to E41, it is most likely a defective desk leg, now connected to channel 1.
Desk is uneven	1. Initialize the desk. If both desk legs begin to run DOWN, complete the initialization. If only one desk leg moves, stop and go to step 2. 2. Check motor cable connections. Check to ensure motor cables are not pulled during movement. With a standard Plug & Play™ control box, it is possible that only one desk leg is connected, and it is connected to channel 1. In this case, it will initialize and run channel 1 only. If there is only one desk leg but it is connected to channel 2, it will not initialize. 3. If a motor cable was disconnected, reconnect the cable and try initializing again. 4. If unsuccessful, connect the desk leg from channel 2 to channel 1 with nothing in channel 2, and initialize. 5. Try initializing the same desk leg that is in channel 1 but with a different motor cable. If it still will not initialize, replace the desk leg.

Procedure 5 (P5) - Check for faulty component(s) WITHOUT error codes

(no digital display on desk panel, no Bluetooth®)

Procedure 5 (P5) is for a 2-legged desk system. The same concepts can be used for a 3-legged system using channel 3 and so forth.

Symptom	Procedure
System will move DOWN but not UP	1. Initialize (P1).
System will not initialize OR system will not complete the full range of motion	1. Check main cable connection. Test power outlet using another device (lamp, phone charger, etc.). 2. Plug in a new switch and test. 3. Connect all existing cables to a new control box and test. 4. Try pressing and releasing the DOWN button a few times before pressing and holding for 5 seconds.
– After each of these steps, attempt to initialize (P1).	5. Also, be aware if the control box has a special configuration: If the desk is programmed with a lower stroke limit to avoid a collision with something like a file cabinet, it is possible that it also has a custom, longer Forced Initialization Time. This is the time required to press and hold the DOWN button before initialization begins. Sometimes this is 10 seconds or longer. 6. If you have a standard control box without a special configuration (i.e., Plug & Play™), try to initialize each desk leg in channel 1 by itself, with nothing else plugged into the motor channels on the control box. Also, swap the motor cables so that a different motor cable is used to initialize channel 1 by itself. The problem could be a faulty desk leg or a faulty motor cable.
Desk is uneven 1	See “Desk is uneven” (Procedure 4 (P4)).

Terms and functions

Control box functionality

The control box is an integral component of the DESKLIFT™ system. There are many clever procedures, checks and measurements performed in the control box. Here is a brief description of what the control box is trying to accomplish while it is activating an application:

Safe activation of the application

- Parallel, even movement of all desk legs in the application is critical.
 - The control box does not directly know the position of each desk leg. Instead, the position of each desk leg is constantly calculated via Hall pulses from each motor. The desk legs on a single reference are not allowed to be more than +/- 5 Hall pulses out of sync. For a standard desk, this amounts to +/- 0.55 mm.
 - Motor cable disconnections are also detected as errors.

Collision detection with PIEZO technology

- If PIEZO technology is present in the desk leg, the control box monitors for PIEZO “collision” signals from each channel. When a PIEZO signal is sensed, movement is immediately stopped and, if space allows it, the system reverses in the opposite direction for a short distance.

Error management

- Anytime the control box detects an incomplete signal, or more than one signal (e.g., multiple keys pressed, multiple desk panels activated at the same time), an error is determined, and no movement is allowed at that moment. This is to prevent unintended movement by the user.

Protection from equipment damage

- Internal temperature of the control box is monitored.
- Maximum current draw for each motor channel, as well as the system as a whole, is measured. When the current exceeds an allowable limit, an error is presented.

Error codes

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E01	Position Lost	The desk has an unknown position and needs to be initialized	- Position error - New desk leg added	Initialize the system (P1)
E02	General Overload UP	Overload in upward direction has occurred	- Obstruction - Defective desk leg or motor cable	- Check all cable connections (P2), initialize the system (P1) - Troubleshoot components by initializing one at a time (only possible with Plug & Play™ configuration) (P4)
E03	General Overload DOWN	Overload in downward direction has occurred	- Obstruction - Defective desk leg or motor cable	- Check all cable connections (P2), initialize the system (P1) - Troubleshoot components by initializing one at a time (only possible with Plug & Play™ configuration) (P4)
E08	Watchdog	Software failed to kickstart watchdog	Program fault	- Unplug main cable for 15 seconds - Initialize the system (P1) - Replace control box
E09	LIN collision	Collisions detected on the LIN bus	- Key pressed on two or more connected handsets simultaneously - Multiple LINbus devices activated	- Check if another desk panel is connected and being activated - Unplug all desk panels except for one, and then test the system
E10	Power fail	Power fail happened, or power regulator adjusted below 10%	- Main cable pulled during driving - Internal fault - Only 1 battery for a 3- or 4-channel system - E10 is a power fail, voltage on power supply drops below a certain limit, power removed	- Check main cable is not caught, and can travel freely - Use strain-relief loop built into control box - Use a 2nd battery; charge batteries
E11	Channel mismatch	Change in number of actuators since initialization	- Disconnection - Desk leg added	- Check motor cable connections and integrity (P2) - Replace motor cable or desk leg - Initialize the system (P1)
E12	Position error	One channel has a different position than the others	Excessive back-drive occurred	- Move table to fully retracted position - Initialize system (P1)
E13	Short circuit	Short circuit detected during operation	- Squeezed motor cable - Short circuit in motor	- Check motor cable connections (P2) - Isolate and replace motor cable (P4) - Isolate and replace desk leg (P4)
E15	Power limit	System has reached its power limitation	- Main cable pulled during driving - Internal fault - This is frequently seen alongside E10. E15 indicates when power regulator has reduced speed of actuators without any significant current draw, usually caused by power supply dropping.	- Check mains cable is not caught, and can travel freely - Use strain-relief loop built into control box

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E16	Key Error	Illegal key-press pressed (handled internally in DP1C)	Hitting multiple buttons simultaneously	- Check desk panel
E17	Safety missing	LINbus unit does not support safety feature	DP1C/DPF1C does not have UP-to-date software	- Try DP with newer software version (printed on label)
E18	Missing initialization plug	A special service tool is required to change number of channels to the system	[BASELIFT only] Service tool missing from BASELIFT system when initializing	- Add service tool
E23	Ch1 missing	Channel 1 is detected missing	- Disconnection - Faulty motor cable - Faulty motor in desk leg	- Check motor cable connections and integrity (P2) - Replace motor cable or desk leg - Initialize the system (P1)
E24	Ch2 missing	Channel 2 is detected missing	- Disconnection - Faulty motor cable - Faulty motor in desk leg	- Check motor cable connections and integrity (P2) - Replace motor cable or desk leg - Initialize the system (P1)
E25	Ch3 missing	Channel 3 is detected missing	- Disconnection - Faulty motor cable - Faulty motor in desk leg	- Check motor cable connections and integrity (P2) - Replace motor cable or desk leg - Initialize the system (P1)
E26	Ch4 missing	Channel 4 is detected missing	- Disconnection - Faulty motor cable - Faulty motor in desk leg	- Check motor cable connections and integrity (P2) - Replace motor cable or desk leg - Initialize the system (P1)
E29	Ch1 type	Channel 1 is not same type as when initialized	- Change in desk leg type - Loose wire inside motor	- Check desk leg type - Replace desk leg - Initialize the system (P1)
E30	Ch2 type	Channel 2 is not same type as when initialized or not same type as channel 1	- Change in desk leg type - Loose wire inside motor	- Check desk leg type - Replace desk leg - Initialize the system (P1)
E31	Ch3 type	Channel 3 is not same type as when initialized or not same type as channel 1	- Change in desk leg type - Loose wire inside motor	- Check desk leg type - Replace desk leg - Initialize the system (P1)
E32	Ch4 type	Channel 4 is not same type as when initialized or not same type as channel 1	- Change in desk leg type - Loose wire inside motor	- Check desk leg type - Replace desk leg - Initialize the system (P1)
E35	Ch1 pulse fail	Channel 1 had too many pulse errors	- Loose/faulty cable - Hall sensor PCB	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E36	Ch2 pulse fail	Channel 2 had too many pulse errors	- Loose/faulty cable - Hall sensor PCB	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E37	Ch3 pulse fail	Channel 3 had too many pulse errors	- Loose/faulty cable - Hall sensor PCB	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E38	Ch4 pulse fail	Channel 4 had too many pulse errors	- Loose/faulty cable - Hall sensor PCB	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E41	Ch1 overload UP	Overload UP occurred on channel 1	- Desk leg is overloaded - Hit obstruction - Reached end stop (before initialization at upper end stop occurs)	- Remove load - Remove obstruction (P3) - Initialize if necessary (P1)
E42	Ch2 overload UP	Overload UP occurred on channel 2	- Desk leg is overloaded - Hit obstruction - Reached end stop (before initialization at upper end stop occurs)	- Remove load - Remove obstruction (P3) - Initialize if necessary (P1)
E43	Ch3 overload UP	Overload UP occurred on channel 3	- Desk leg is overloaded - Hit obstruction - Reached end stop (before initialization at upper end stop occurs)	- Remove load - Remove obstruction (P3) - Initialize if necessary (P1)
E44	Ch4 overload UP	Overload UP occurred on channel 4	- Desk leg is overloaded - Hit obstruction - Reached end stop (before initialization at upper end stop occurs)	- Remove load - Remove obstruction (P3) - Initialize if necessary (P1)
E47	Ch1 overload DOWN	Overload DOWN occurred on channel 1	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E48	Ch2 overload DOWN	Overload DOWN occurred on channel 2	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E49	Ch3 overload	Overload DOWN occurred on	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E50	Ch4 overload DOWN	Overload DOWN occurred on channel 4	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E53	Ch1 anti-col	Anti-collision triggered on channel 1	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E54	Ch2 anti-col	Anti-collision triggered on channel 2	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E55	Ch3 anti-col	Anti-collision triggered on channel 3	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E56	Ch4 anti-col	Anti-collision triggered on channel 4	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E59	Ch1 SLS/PIEZO	Safety limit switch activated on channel 1	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E60	Ch2 SLS/PIEZO	Safety limit switch activated on channel 2	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E61	Ch3 SLS/PIEZO	Safety limit switch activated on channel 3	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E62	Ch4 SLS/PIEZO	Safety limit switch activated on channel 4	Hit obstruction	- Remove obstruction (P3) - Initialize if necessary (P1)
E65	Ch1 pulse dir	Pulses counted in wrong direction on channel 1	- Motor poles are crossed - Hall sensor cables are crossed	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E66	Ch2 pulse dir	Pulses counted in wrong direction on channel 2	- Motor poles are crossed - Hall sensor cables are crossed	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E67	Ch3 pulse dir	Pulses counted in wrong direction on channel 3	- Motor poles are crossed - Hall sensor cables are crossed	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E68	Ch4 pulse dir	Pulses counted in wrong direction on channel 4	• Motor poles are crossed • Hall sensor cables are crossed	- Check motor cable connections and integrity (P2) - Replace desk leg - Initialize the system (P1)
E71	Ch1A short	Short circuit on channel 1 [If T-splitter is used, short circuit on 1A]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged - Inspect cable exiting desk leg (if applicable), replace if damaged
E72	Ch1B short	Short circuit on channel 1 [If T-splitter is used, short circuit on 1B]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged - Inspect cable exiting desk leg (if applicable), replace if damaged
E73	Ch2A short	Short circuit on channel 2 [If T-splitter is used, short circuit on 2A]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged - Inspect cable exiting desk leg (if applicable), replace if damaged
E74	Ch2B short	Short circuit on channel 2 [If T-splitter is used, short circuit on 2B]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged. - Inspect cable exiting desk leg (if applicable), replace if damaged
E75	Ch3A short	Short circuit on channel 3 [If T-splitter is used, short circuit on 3A]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged - Inspect cable exiting desk leg (if applicable), replace if damaged
E76	Ch3B short	Short circuit on channel 3 [If T-splitter is used, short circuit on 3B]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged - Inspect cable exiting desk leg (if applicable), replace if damaged
E77	Ch4A short	Short circuit on channel 4 [If T-splitter is used, short circuit on 4A]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Inspect motor cable for damage, replace if damaged. - Inspect cable exiting desk leg (if applicable), replace if damaged
E78	Ch4B short	Short circuit on channel 4 [If T-splitter is used, short circuit on 4B]	• Damage to motor cable • Damage to cable exiting desk leg (if applicable)	- Damage to motor cable - Damage to cable exiting desk leg (if applicable)
E86	Master connection to master lost OR following messages are from master	[Only used in multi-parallel system]	• Poor cable connection to master box • If followed by another error code, then codes are being communicated from master box	- Check connection to master box, check cable integrity - If communicating other error codes, refer to relevant error code
E87	Follower 1 connection to 1st follower lost OR following messages are from 1st follower	[Only used in multi-parallel system]	• Poor cable connection to follower box • If followed by another error code, then codes are being communicated from follower box	- Check connection to master box, check cable integrity - If communicating other error codes, refer to relevant error code

ERROR CODE	NAME	DESCRIPTION	POTENTIAL CAUSE	TROUBLESHOOTING
E88	Slave 2	Connection to 2nd slave lost OR following messages are from 2nd slave	[Only used in multi-parallel system] » Poor cable connection to slave box » If followed by another error code, then codes being communicated from slave box	• Check connection to master box, check cable integrity • If communicating other error codes, see above
E89	Slave 3	Connection to 3rd slave lost OR following messages are from 3rd slave	» Damage to motor cable » Damage to cable exiting leg (if applicable)	• Inspect motor cable for damage, replace if damaged • Inspect cable exiting leg (if applicable), replace if damaged.
E93	DeskSensor 1 – Activation	Detected trigger from LIN bus safety limit switch, e.g. DS1	» Hit obstruction	• Remove obstruction
E94	DeskSensor 1 – No longer detected	LIN SLS unit (e.g. DS1) no longer detected	» LIN SLS unit (e.g. DS1) or cables are not connected	• Ensure DS1 unit and all cables are correctly mounted.