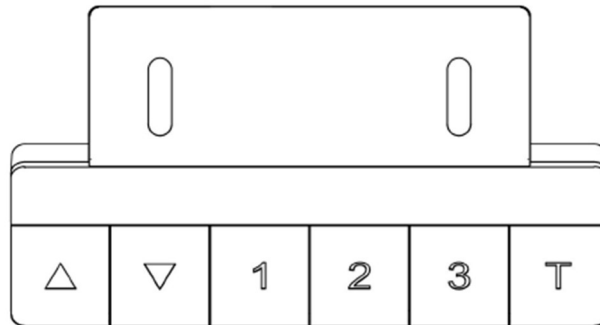




H15 Handset Model

Troubleshooting guide:

1. Understanding the causes of faults in the Vertilift Operating System

There are four general causes of faults in the Vertilift Operating System – all of which can be rectified either by following appropriate Reset/Recalibration Procedures or by replacing specific components within the system.

The four causes of faults are summarised below:

- Wiring fault (including cable connections)
- Installation error
- Equipment failure
- Collision or Impact

To rectify faults/issues, the first step is to understand the Error Code displayed on the handset. Then, using this guide, follow the appropriate steps to resolve the issue.

2. Understanding Error Codes

There are two primary types of error code in the Vertilift control system which indicate where the fault has occurred.

Error codes starting with 'E0' (i.e. E01 – E09) refer to a specific fault in the Control System (Control Box and/or Hand-set Controller)

Error Codes starting with 'E1' 'E2' or 'E3' (i.e. E11-E19, E21-E29 and E31-E39) relate specifically to a fault in a specific Leg/Motor. The 1,2,3 identifies which leg/motor the fault is in. 'E1' relates to the leg/motor plugged into the 'M1' Port. 'E2' relates to the 'M2' Port. 'E3' relates to the 'M3' Port.

Using the attached Error Code Summary – this will allow the user to identify and rectify faults.

Error Code Summary:

Error Code:	Summary of issues / cause:	Resolution:
--- or LOC	Frame set to Child Lock The Handset controller has been placed in Child Lock	Hold the UP and Down buttons simultaneously until a beep is heard. The display will change from '---' to the height.
RST or AST	Control System requires Reset. Occasionally the Control Box / Handset system will identify an error and require a reset to be performed.	This error code can usually be resolved by following a reset procedure on the desk. To do this, perform the following steps: 1. Check for any possible obstructions around the desk and clear these before proceeding. Be sure to check for anything that the desk could impact when lowering to the lowest height. 2. Hold the 'down' arrow for 5-10 seconds or until the desk starts the reset process (the desk will lower all the way to its lowest point). Keep holding the 'down' arrow until the desk performs a reset (slight lower and raise from lowest point – followed by a beep). 3. Once the desk is level again and has been reset – test the full range of movement from lowest point to highest point to check for any obvious causes of impact or collision.
HOT	Control System is over heated. The Control Box system is designed to shut down in the event the internal components/motors start to overheat to protect the components from damage. Overheating generally occurs when the desk exceeds its pre-set duty cycle (2 minutes of continuous operation / 20-minute period).	The desk will automatically return to normal operation after a period of 20 minutes has passed (standard duty cycle). After no use for 20 minutes, if the control system has not returned to normal. Turn off the power supply for 5-10 minutes before using the desk.
888	Handset connection/programming malfunction This is an uncommon error in which the Handset controller has a programming malfunction and cannot communicate with the Control Box unit.	This requires a replacement Handset Controller to be installed.

Error Code:	Summary of issues / cause:	Resolution:
E01	Electrical over supply to Control Box The power supply from the Power point/GPO to the Control Box is too high (Voltage exceeding normal level). This error can be caused by either an electrical fault in the Power point/GPO or through an electrical fault in the Control Box itself. Note, this sometimes occurs following a power surge or power outage.	Turn off power to the Control Box by unplugging the electrical cable from the Power point/GPO. Wait for 5-10 minutes before plugging in the desk. If the error appears again, turn off the power and try plugging the cable into a different power point/GPO. If the error disappears, there is a likely electrical fault with the power point/GPO itself – contact an Electrician to inspect/repair. If the error is still appearing, the control box may need to be replaced. Contact your Vertilift Reseller to arrange replacement parts.
E02	Frame not level (exceeding 10mm height difference) One or more of the legs is out of level (higher or lower than the other legs). This error generally occurs for one of two reasons: 1. The desk has collided with a fixed object (wall, shelf, mobile pedestal/drawers, or other furniture) 2. There has been a mechanical failure in the internal drive mechanism in one of the legs. Sometimes the desk can be significantly out of level (following a big collision or mechanical failure). Other times the height variance can be difficult to detect. Depending on how much weight is on the frame, and where the weight is located there can be a minor variance in leg operation over time. This is the most common cause of the E02 Error and is easily rectified. Installer error: A common cause of the E02 fault is that the installer has not correctly secured the Control Box unit by sliding the unit into the frame slot per the instructions.	This error code can usually be resolved by following a reset procedure on the desk. To do this, perform the following steps: 1. Check for any possible obstructions around the desk and clear these before proceeding. Be sure to check for anything that the desk could impact when lowering to the lowest height. 2. Check that the Control Box unit is correctly secured to the frame in accordance with the assembly/installation instructions. 3. Hold the 'down' arrow for 5-10 seconds or until the desk starts the reset process (the desk will lower all the way to its lowest point). Keep holding the 'down' arrow until the desk performs a reset (slight lower and raise from lowest point – followed by a beep). 4. Once the desk is level again and has been reset – test the full range of movement from lowest point to highest point to check for any obvious causes of impact or collision. If the frame is significantly out of level, it may not be possible to perform a reset without assistance as the safety/anti-collision protocols will not allow the desk to lower. In this case, you may need to ask for help to hold one side of the desk off the ground until the top is level. Follow step 3 and the desk should be able to be reset. If one of the legs appears jammed/stuck, this may need to be replaced. Contact your Vertilift Reseller to arrange replacement parts.

Error Code:	Summary of issues / cause:	Resolution:
E03 E04	Handset / Controller connectivity issue There is a bad connection between the Handset/Controller and the Control Box.	This error code can usually be resolved by unplugging the Handset and plugging it back into the connection port. Follow the below steps: 1. Turn off power to the Control Box by unplugging the electrical cable from the Power point/GPO. Wait 1-2 minutes for any residual power to drain from the system. 2. Unplug the handset cable from the Control Box. 3. Inspect the cable/plug connection for any signs of damage. 4. Re-connect the handset cable to the Control Box – checking the connection is tight. 5. Turn the power back on and check the display for an error code. If the error persists – there may be a failure within the Handset / Controller - this may need to be replaced. Contact your Vertilift Reseller to arrange replacement parts.
E05	Resistance – Anti-Collision Error Similar to the E02 error, this error generally occurs for one of two reasons: 1. The desk has collided with a fixed object (wall, shelf, mobile pedestal/drawers, or other furniture) 2. There has been a mechanical failure in the internal drive mechanism in one of the legs. Note, in some older frames (5+ years old) or frames that have had significant and repetitive heavy use – there can be mechanical wear and tear that can cause the Anti-Collision sensors to trigger.	This error code can usually be resolved by following a reset procedure on the desk. To do this, perform the following steps: 1. Check for any possible obstructions around the desk and clear these before proceeding. Be sure to check for anything that the desk could impact when lowering to the lowest height. 2. Hold the ‘down’ arrow for 5-10 seconds or until the desk starts the reset process (the desk will lower all the way to its lowest point). Keep holding the ‘down’ arrow until the desk performs a reset (slight lower and raise from lowest point – followed by a beep). 3. Once the desk is level again and has been reset – test the full range of movement from lowest point to highest point to check for any obvious causes of impact or collision.
E06	Power module failure The inbuilt power regulation module inside the Control Box has failed. This is an un-common error code and generally occurs after a power surge/power failure.	This error code requires the user to replace the Control Box unit - contact your Vertilift Reseller to arrange replacement parts. Before disconnecting/reconnecting any cables from the Control Box unit – ensure that the system is disconnected from the Power point/GPO.

Error Code:	Summary of issues / cause:	Resolution:
E07	Power module failure The inbuilt power regulation module inside the Control Box has identified an oversupply of power and has shut down. This is an un-common error code and generally occurs after a power surge/power failure.	This error code can usually be resolved by unplugging the Control Box from the power supply. Follow the below steps: 1. Turn off power to the Control Box by unplugging the electrical cable from the Power point/GPO. Wait 1-2 minutes for any residual power to drain from the system. 2. Re-connect the power to the Control Box and attempt to operate the desk. If the error continues this may require the user to replace the Control Box unit - contact your Vertilift Reseller to arrange replacement parts.
E08	Frame not level (exceeding 10mm height difference) One or more of the legs is out of level (higher or lower than the other legs). This error generally occurs for one of two reasons: 1. The desk has collided with a fixed object (wall, shelf, mobile pedestal/drawers, or other furniture) 2. There has been a mechanical failure in the internal drive mechanism in one of the legs. Sometimes the desk can be significantly out of level (following a big collision or mechanical failure). Other times the height variance can be difficult to detect. Depending on how much weight is on the frame, and where the weight is located there can be a minor variance in leg operation over time. This is the most common cause of the E02 Error and is easily rectified. Installer error: A common cause of the E02 fault is that the installer has not correctly secured the Control Box unit by sliding the unit into the frame slot per the instructions.	This error code can usually be resolved by following a reset procedure on the desk. To do this, perform the following steps: 1. Check for any possible obstructions around the desk and clear these before proceeding. Be sure to check for anything that the desk could impact when lowering to the lowest height. 2. Check that the Control Box unit is correctly secured to the frame in accordance with the assembly/installation instructions. 3. Hold the 'down' arrow for 5-10 seconds or until the desk starts the reset process (the desk will lower all the way to its lowest point). Keep holding the 'down' arrow until the desk performs a reset (slight lower and raise from lowest point – followed by a beep). 4. Once the desk is level again and has been reset – test the full range of movement from lowest point to highest point to check for any obvious causes of impact or collision. If the frame is significantly out of level, it may not be possible to perform a reset without assistance as the safety/anti-collision protocols will not allow the desk to lower. In this case, you may need to ask for help to hold one side of the desk off the ground until the top is level. Follow step 3 and the desk should be able to be reset. If one of the legs appears jammed/stuck, this may need to be replaced. Contact your Vertilift Reseller to arrange replacement parts.

Error Code:	Summary of issues / cause:	Resolution:
E09 or 'HOT'	Control System is over-heated. The Control Box system is designed to shut down in the event the internal components/motors start to overheat to protect the components from damage. Overheating generally occurs when the desk exceeds its pre-set duty cycle (2 minutes of continuous operation / 20-minute period).	The desk will automatically return to normal operation after a period of 20 minutes has passed (standard duty cycle). After no use for 20 minutes, if the control system has not returned to normal. Turn off the power supply for 5-10 minutes before using the desk.
E11, E12, E13 E21, E22, E23 E31, E32, E33	Motor not connected / poor connection / damaged connection. This error code indicates that one of the following scenarios has occurred: 1. The connecting leads between the Motor and the Control Box are not connected or have been damaged resulting in a poor connection. 2. The connection between the Motor and the Connecting Lead has failed.	This error code can usually be resolved by unplugging the Leg Connection Leads from Control Box. Follow the below steps: 1. Turn off power to the Control Box by unplugging the electrical cable from the Power point/GPO. Wait 1-2 minutes for any residual power to drain from the system. 2. Disconnect all Leg Connection Leads from both the Control Box and the Leg. 3. Re-connect all Leg Connection Leads to the Control Box and the Leg 4. Re-connect the power to the Control Box and attempt to operate the desk. 5. Perform a reset by holding the down arrow down. The desk should start to lower all the way to the lowest point. During the reset, the desk should drop a further 5mm and come back up to the minimum height – this is recalibrating the leg heights. You should hear a beep once this has been completed – the display should show 60.0. If the reset process fails and the desk still shows E11, 21 or 31 – this may require the user to replace the Control Box, the Leg Connection Cable, or the Motor. Further troubleshooting is required as follows: 6. Swap the cables from faulty port (M1 for E11, M2 for E21 or M3 for E31 to a different port and repeat Steps 1-5 above. If the error code now shows as relating to a different port – the error relates to either the leg or the cable plugged into the Port with the error code.

Error Code:	Summary of issues / cause:	Resolution:
		If the error code still shows as the original error – the fault is in the Control Box – this will need to be replaced. 7. Swap the cable that has the associated error code with another cable at the leg/motor end only (do not disconnect from the control box) and repeat steps 1-5 above. If the error code remains the same – the issue relates to the cable itself and this will require replacement. If the error code changes to a new Port, the issue relates to the motor itself (the motor plugged into the Port related to the error code). This will need to be replaced.
E14 E24 E34	Motor 'hall plate' error This error code indicates that the internal sensor within the motor has failed and requires replacement.	Contact your Vertilift Reseller to arrange replacement parts.
E15 E25 E35	Motor short circuit This error code indicates that the motor has short circuited and requires replacement.	Contact your Vertilift Reseller to arrange replacement parts.
E16 E26 E36	Motor jammed or blocked. This is an uncommon error where the Control System has identified a blockage in the operation of the motor. The motor itself has not failed, but some form of blockage has occurred in the internal drive operation gears of the leg which has caused the motor to stop working.	This error code can usually be resolved by following a reset procedure on the desk. To do this, perform the following steps: 1. Check for any possible obstructions around the desk and clear these before proceeding. Be sure to check for anything that the desk could impact when lowering to the lowest height. 2. Hold the 'down' arrow for 5-10 seconds or until the desk starts the reset process (the desk will lower all the way to its lowest point). Keep holding the 'down' arrow until the desk performs a reset (slight lower and raise from lowest point – followed by a beep). 3. Once the desk is level again and has been reset – test the full range of movement from lowest point to highest point to check for any obvious causes of impact or collision.

Error Code:	Summary of issues / cause:	Resolution:
		If the error persists, contact your Vertilift Reseller to arrange replacement parts.
E17 E27 E37	Motor failure This error code indicates that the motor has failed and requires replacement.	Contact your Vertilift Reseller to arrange replacement parts.
E18 E28 E38	Motor overloaded This error code is displayed when an individual motor has measured too much resistance (i.e., too much load has been placed on the motor). The most common cause of this error code is an unbalanced load on the desktop (e.g., a heavy printer on one end of a desk). Refer to the 'Understanding the Error Codes' section of this document to identify the problematic leg/motor. The Control System will automatically stop functioning until the load is reduced to prevent damage to the motor.	To resolve this issue, it is recommended that that the desktop is checked for any heavy items with weight unevenly distributed over one leg. By evenly distributing the weight of desktop items, the error should resolve itself. In some cases, the Control System may need to be reset to recalibrate the desk. Refer to 'RST' error code for summary of steps to perform reset.