

## Error Codes

These codes notify you of a problem condition and provide a measure of safety by stopping the treadmill. These codes can also help to indicate the part of the treadmill most likely to be causing the problem.

If you have a problem that interrupts an important operational area of the treadmill, you may see one of the following error codes displayed on the control panel. If you are in the middle of an exercise routine, these error codes initiate an immediate treadmill shutdown.

All error codes are numbered and will appear in the dot matrix display. Unless otherwise described, occurrence of these error codes disables the operation of the treadmill.

An error code must be corrected before the machine will again be operable. Often, you can clear the error code by simply turning the power to the treadmill off, waiting a few seconds, and then on again. An error code can also be cleared by entering the Diagnostic Mode and going to Test 8 and clearing the code. Should an error code reappear soon after cycling on and off, Cybex recommends that you contact our Customer Service department or an authorized Cybex service technician. To reach Cybex Customer Service from most areas call 888-GO-CYBEX or 888-462-9239. Otherwise call 508-533-4300 or fax 508-533-5183.

**NOTE:** When recycling power, wait for the display to go out before turning power back on.

The following list will help to explain the specific error messages:

### **ERR CODE 01: PWM Shutdown**

This condition will cause an abrupt shutdown of the belt as the motor control detects a sharp increase in drive current and immediately stops driving the belt. While some situations, such as jamming the belt, may cause this error, an ERR CODE 1 without such abuse should be a cause for extreme care and analysis by an authorized service technician.

### **ERR CODE 02: Belt Speed Loss**

This condition indicates that the speed pickup signal was lost continuously for longer than one second after the motor successfully started. It normally indicates a failure of the speed pickup or an abrupt belt stoppage due to any motor, wiring, or motor controller failure.

### **ERR CODE 03: No Belt Speed**

This condition indicates that no speed is detected when the motor is first started. If the belt moves slightly before the error occurs, it indicates a speed pickup problem. If it does not move at all, the indication is for a motor or controller problem.

### **ERR CODE 04: Belt Over Speed**

The belt was running at least 1 mph (1.6 kmh) above the set speed. It indicates a loss of control.

### ERR CODE 06: Drive Motor Over Voltage

The voltage on the motor exceeded the maximum rated voltage due to a controller failure. This error usually indicates an open circuit across the drive motor, such as a bad motor brush.

### ERR CODE 08: Power Fault

A motor controller failure is detected which will prevent full power being switched on for the motor. This error is usually the result of an intermittent power loss such as the power cord getting kicked or turning the power switch on too quickly when recycling the power.

### ERR CODE 10: Elevation Overspeed

The elevation motor is not within the controlled speed range. Either the motor speed detector is generating extraneous information that will cause the elevation to be uncalibrated, or the motor may be overdriven by a controller failure.

**NOTE:** Only the elevation system is disabled by errors 10, 12 and 13.

### ERR CODE 11: No Elevation Speed

This condition indicates that no elevation movement is detected when the elevation motor is powered. If the elevation system moves slightly before the error occurs, it indicates an elevation detector problem. If it doesn't move at all, it indicates an elevation or motor controller problem.

### ERR CODE 12: Elevation Limit

This condition indicates that the elevation limit switch has traveled outside of the normal range of the treadmill (-5% to 20%). If the treadmill is at one of the limits, this may indicate that there may be another failure in the elevation system which has caused loss of elevation calibration. Turning the power switch to off (O) then on (I) will cause the controller to attempt to adjust the elevation by a 0.1% adjustment in the appropriate direction. If the elevation moves in the correct direction, cycling the power switch should correct this condition. If near a limit and cycling the power switch causes the elevation to move further in the wrong direction, the treadmill should be turned off and a service technician should be called. Repeated occurrences of this error message should be addressed by a service technician.

If this error occurs and the treadmill is not near one of the limits, it is an indication of a failure of the limit detectors. If cycling the power switch does not remove the error condition, the treadmill may be used without the elevation control until the problem is addressed.

#### Front Pages

About this Manual . . . . .	i
FCC Compliance Information . . .	i
Table of Contents. . . . .	iii

#### 1 Safety

Important Voltage Information	1-1
Grounding Instructions . . . . .	1-1
Important Safety Instructions	1-2
Caution Decals . . . . .	1-4

#### 2 Technical Specifications

Specifications . . . . .	2-1
Bioflex. . . . .	2-2

#### 3 Preventive Maintenance

Regular Maintenance Activities	3-1
Cleaning Your Treadmill . . . . .	3-1
Running Belt Maintenance . . . . .	3-2
Other Preventive Maintenance. . . . .	3-6
Service Schedule . . . . .	3-7
Log Sheet. . . . .	3-8

#### 4 Troubleshooting

Diagnostic Test Mode. . . . .	4-1
Diagnostic Menu. . . . .	4-1
LED Functions . . . . .	4-6
Motor Current & Voltage . . . . .	4-7
Speed Sensor Adjustment . . . . .	4-9
Error Codes . . . . .	4-10
Flow Charts . . . . .	4-13

#### 5 Removal & Replacement

Running Belt & Deck . . . . .	5-1
Drive Belt . . . . .	5-4
Front Roller . . . . .	5-4
Rear Roller . . . . .	5-4
Drive Motor. . . . .	5-5
Drive Motor Cleaning . . . . .	5-8
Motor Brushes. . . . .	5-12
Elevation Motor . . . . .	5-14
Limit Switch Assembly . . . . .	5-17
PWM Module . . . . .	5-18
Display Board. . . . .	5-20
EPROM. . . . .	5-21
Contact Heart Rate Board . . . . .	5-22
CSAFE Board . . . . .	5-24
Display Cable . . . . .	5-25
Display Overlays. . . . .	5-26
Handrail Assembly . . . . .	5-28

#### 6 Diagrams

Parts List. . . . .	6-1
Exploded View . . . . .	6-3
900T Schematic . . . . .	6-4

#### 7 Customer Service

Contacting Service. . . . .	7-1
Serial Number . . . . .	7-1
Return Material Authorization (RMA). . . . .	7-1
Damaged Parts . . . . .	7-2

**ERR CODE 13: Elevation Time Limit**

The elevation motor has been on for a longer time period than any movement should take. The treadmill can still be used without the elevation until the condition is addressed. Cycling the power switch normally clears this error.

**ERR CODE 14: Communications Time-out Lower**

the signal from the upper console to the motor controller. Check the connections between the console cables and the PWM as well as the connection into the display board.

**ERR CODE 15: Line Tick Loss**

This is a warning condition that is noted only in the Error Log. It does not disable the treadmill. It indicates a loss of, or an erratic line frequency count.

**ERR CODE 16: Loss of NOVRAM Data**

Information stored in non-volatile memory (NOVRAM), such as the error log and user programs, is different than that expected by the program stored in the EPROM. The most likely cause of this error is a corrupted or failing EPROM. If the EPROM is old, replace it with the latest version.

This error can also occur by booting up the first time with a newer version EPROM. In this case, simply clear the error.

**ERR CODE 17: No Lower Board**

If no information is detected from a lower board, a special "mockup" mode is entered which simulates normal treadmill user interface without lower board functions. This condition is noted only in the error log file, and is primarily used for stand-alone console board service testing.

**ERR CODE 18: Communications Time-out Upper**

There is an interruption in the signal from the motor controller to the upper console. Check the connections between the console cables and the PWM as well as the connection into the display board.