

Troubleshooting Guide

CONSOLE IS READING ERROR MESSAGE

<u>Symptom</u>	<u>Solution</u>
1) Console reads an error message E1-E6	A) Enter engineering mode. Reset speed and elevation values (See engineering mode for specific treadmill).
2) Console reads all 8's	A) Peel back the overlay and see if the UP elevation arrow button is stuck on the touch pad. If so then see if peeling up the overlay and resetting it back in place frees up the UP elevation arrow key.

NO POWER

<u>Symptom</u>	<u>Solution</u>
1) No power going into treadmill	A) Check power cord and power socket for any damage or bad wiring (check if the on/off switch is lit up). B) Magnets too weak in key (replace key). C) Reset breaker first by turning off the power for 30 seconds, then turn power back on. D) Check continuity at switch, if none replace switch. E) Check all connections at lower PWM board. (See PWM wiring diagram). F) Check all connections at upper console board. (See wiring diagram). G) T8100 Only. Check wiring harness for any damage. Replace if bad. Check Signal converter board and make sure all connections are good. If all connections are good replace board.
2) Console blank.	A) Reed switch is defective, replace reed switch. B) Small data cable is damaged. Replace Small data cable.
3) Treadmill trips the circuit breaker on power up.	A) Check wiring diagram for proper grounding setup. (See specific treadmill). B) Check to see if the deck and the belt are properly waxed. C) Elevation motor is not wired properly. Replace elevation motor. T8100 Only

Troubleshooting Guide

TREADMILL STARTS ON POWER UP

<u>Symptom</u>	<u>Solution</u>
1) Treadmill belt starts when plugged in or switch is turned on, but treadmill is not started.	A) Lower board may have moisture on it, run treadmill for 10 minutes to dry off board. Recheck and replace if needed. B) Charge in lower PWM board. Replace lower PWM board C) Large data cable damaged. Replace Large data cable.

ELEVATION PROBLEMS

<u>Symptom</u>	<u>Solution</u>
1) Elevation does not move when key is pressed.	A) Check connections of data cables small & large at console & lower PWM board. B) Enter engineering mode and reset elevation values. (See engineering mode guide for specific treadmill). C) Check connection of Large data cable. If bad then replace cable. D) T8100 Only Check connections at signal convert board. If bad replace signal converter board. E) T8100 Only Check toggle switch if bad, replace. F) Elevation motor is bad. Replace the elevation motor.
2) Elevation does not reach minimum or maximum elevation.	A) Enter engineering mode and reset elevation values. (See engineering mode guide for specific treadmill).
3) Elevation reads maximum when deck is flat.	A) Enter engineering mode and reset elevation values. (See engineering mode guide for treadmill). B) Calibration must be done manually (See manual calibration procedures).
4) Elevation jumps to maximum elevation on power up.	A) Large data cable damaged. Replace cable. B) Enter engineering mode and reset elevation values. (See engineering mode guide for specific treadmill).

Troubleshooting Guide

NOISE PROBLEMS

<u>Symptom</u>	<u>Solution</u>
1) Knocking noise in treadmill	<p>A) Let the treadmill run for about one week. This will sometimes let the roller bearings seat on the roller axle.</p> <p>B) If the running belt is overtightened it will put an excessive load on the roller bearings. Loosen the rear roller adjustment bolts and retention the running belt.</p> <p>C) Check for wax build up on both front and rear rollers.</p> <p>D) The belt may be overtightened. Run the treadmill for about 1/2 hour, so the running belt stretches.</p>
2) Squeaking or chirping noise under front motor cover.	<p>A) Drive belt not correctly aligned. Adjust motor pulley and align with the front roller pulley.</p> <p>B) Remove the drive belt and check the grooves in the belt for debris. Clean drive belt, motor pulley and front roller pulley.</p> <p>C) Remove and inspect motor brushes. Check for abnormal wear, if brush is worn replace them.</p> <p>D) Remove motor brushes and stone commutator. Motor bearings defective, Replace motor.</p>

DECK OR BELT PROBLEMS

<u>Symptom</u>	<u>Solution</u>
1) Running belt slips	<p>A) Adjust running belt to proper tension.</p> <p>B) Drive belt might be loose not the running belt. Check tension on drive belt to see if the belt is too loose.</p>
2) Treadmill belt tracks to one side.	<p>A) Check to make sure that the running belt is tensioned. Belt should not track improperly if this adjustment is done properly.</p> <p>B) If the running belt still moves to the left or right side, adjust the angle of the roller so the belt centers itself. Make sure to adjust each side with the same amount of adjustment working in 1/4 turns on the rear roller allen bolt.</p>

Troubleshooting Guide

DECK OR BELT PROBLEMS

DECK OR BELT PROBLEMS

<u>Symptom</u>	<u>Solution</u>
3) Deck squeaks, knocks or makes thumping noise	<p>A) Check to make sure that the front roller is aligned properly.</p> <p>B) Install the running belt guide kit. This will put a little extra tension on the running belt and keep the belt in the center of the treadmill.</p> <p>C) Make sure the treadmill is leveled properly.</p> <p>D) Grease and tighten deck bolts.</p>

PWM Motor Controller Troubleshooting Chart

AC	+18V	+11V	MTR	I Limit	PWM	UP	DN	PROBLEM/RESULT	CORRECTIVE ACTION
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	NO OPERATION OF PWM CONTROLLER OR UPPER CONSOLE	VERIFY CONNECTIONS, POWER SWITCH,CIRCUIT BREAKER AND FUSE
ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF	NO OPERATION OF PWM CONTROLLER OF UPPER CONSOLE	CHECK FUSE F1
ON	ON	OFF	ON	OFF	OFF	OFF	OFF	UPPER CONSOLE WILL NOT POWER UP	DISCONNECT J2 AND J3,DOES THE 11V INDICATOR LIGHT? IF SO, CHECK AND REPLACE IF NECESSARY THE CABLING AND /OR THE UPPER CONSOLE
ON	OFF	ON	OFF	OFF	OFF	OFF	OFF	UPPER CONSOLE WILL POWER UP BUT THE MOTOR CONTROLLER WILL NOT OPERATE	VERIFY ADEQUATE LINE VOLTAGE. IF THE LINE VOLTAGE IS ADEQUATE,MOTOR CONTROLLER IS DAMAGED AND NEEDS TO BE RETURNED TO MANUFACTURER.
ON	ON	ON	OFF	OFF OR BLINKING	OFF	N/A	N/A	WILL NOT OPERATE THE MOTOR	VERIFY CONNECTIONS TO MOTOR AND THE MOTOR ITSELF. IF THE MOTOR AND ITS CONNECTIONS ARE GOOD, THE MOTOR CONTROLLER SHOULD BE REPLACE. RETURN CONTROLLER TO MANUFACTURER WITH INFORMATION ON LOCATION, POWER LEVEL,HOW IT WAS USED WHEN FAILURE OCCURRED ETC.
ON	ON	ON	DIM/OFF	ON	BLINKING	N/A	N/A	WILL NOT OPERATE THE MOTOR	A 5 SECOND CURRENT LIMIT TIME-OUT HAS OCCURRED. RESET CONSOLE OR CYCLE POWER TO CORRECT. CHECK TREADMILL FOR EXCESSIVE WEAR OR MECHANICAL DEFECTS. OF PROBLEM PERSISTS, RETURN MOTOR CONTROLLER.
ON	ON	ON	ON	ON	BLINKING	N/A	N/A	MOTOR CONTROLLER IN CURRENT LIMIT MODE	THE MOTOR CONTROLLER IS EXPERIENCING A DISCONTINUOUS OVER CURRENT EVENTS.CHECK FOR MECHANICAL WEAR AND/OR DEFECTIVE MOTOR.IF ON MECHANICAL WEAR AND MOTOR GOOD,REPLACE MOTOR CONTROLLER AND RETURN DEFECTIVE MOTOR CONTROLLER TO MANUFACTURER.
ON	ON	ON	ON	OFF	comes on briefly & then shuts off	N/A	N/A	WILL NOT OPERATE THE MOTOR	CHECK AND VERIFY THE J2 AND J3 CABLES. IF THE CABLES ARE GOOD, REPLACE THE UPPER CONSOLE. IF THE PROBLEM PERSISTS, REPLACE THE MOTOR CONTROLLER.
ON	ON	ON	ON	OFF	N/A	ON	OFF	INCLINE MOVE UP	
ON	ON	ON	ON	OFF	N/A	ON	OFF	INCLINE DOES NOT MOVE	VERIFY CONNECTIONS TO THE INCLINE MOTOR.IF THE MOTOR CONNECTIONS LOOK GOOD, CHECK F2
ON	ON	ON	ON	OFF	N/A	OFF	ON	INCLINE MOVE DOWN	
ON	ON	ON	ON	OFF	N/A	OFF	ON	INCLINE DOES NOT MOVE	VERIFY CONNECTIONS TO THE INCLINE MOTOR. IF THE MOTOR CONNECTIONS LOOK GOOD, CHECK F2

PWM Motor Controller Troubleshooting Guide

Models T8100/T8200/T8400/T8500/T8600

When we designed the lower control board for our treadmills we placed status lights (LEDs) on it to aid in field diagnosis and repair. The following is an overview of what these indicator lights mean and what can be checked with them in the field.

AC Light- When lit, this indicates that the motor controller has power applied. If this LED is off, check connections, power switch position, fuses and circuit breakers. If the AC light is not lit, the lower controller board will not operate.

+ 18V Light- When lit, this indicates the presence of the unregulated 18 volt direct current supply necessary for the operation of the motor controller circuitry. If **dim** the supply voltage may be marginal and if out, not present or inadequate. If this light is not lit, the motor controller will not operate even if the upper console is operating properly. If the AC light is lit and the **+11V** and **+18V** lights are not, check fuse F1. If the **+11V** light is lit and the **+18V** light is not lit, return the board to Vision Fitness.

+11V Power Light- When lit, this indicates the presence of the regulated 11 volt direct current supply necessary for the operation of the upper console. If **dim** the supply voltage may be marginal and if out not present or inadequate. If the light is not lit, the console will not operate. If the AC and **+18V** light are lit and the **+11V** light is not, check for shorted cabling or a defective upper console. If the AC light is lit and the **+11V** and **+18V** lights are not, check fuse F1.

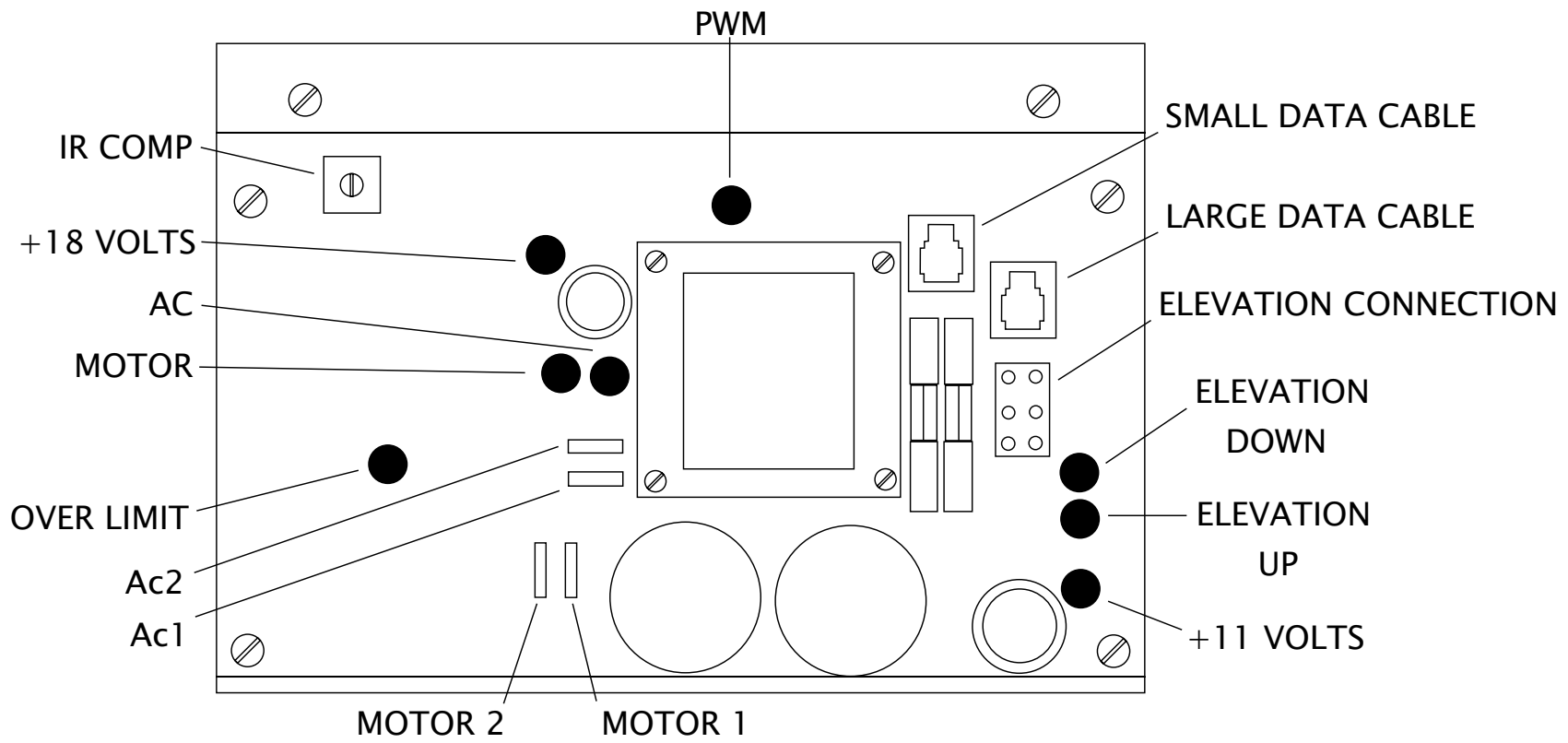
MTR Light- When lit, indicates the High Power Direct Current supply for the motor (B+) is online. This light will remain lit for a period of time after power has been removed from the motor controller. **While the MTR light remains lit, anyone handling the motor controller should use caution since there is still a hazardous potential present.** When the MTR light is off, B+ is not present and the motor controller will not operate. If the MTR and I-limit lights are off, verify motor connections and proper motor operation. If the MTR light is off and the I-limit light is on, the motor controller shut off due to an extended current limit condition. In this case, resetting the upper console or cycling power will eliminate the problem. However, the treadmill should be thoroughly examined for wear or damaged components which might have lead to the extended current limit condition. If this problem persists, return the board to Vision Fitness.

I-Limit Light- When lit, indicates the current to the motor has reached the peak current trip point of 26 Amps. The motor controller will limit the current when the current limit point has been reached. If the current limit continues for roughly 5 seconds, the motor controller shuts down and the I-Limit light will remain on. To reset the I-Limit, turn the treadmill off at the power switch wait about 30 seconds then turn the power back on.

PWM Light- Indicates the control PWM from the upper console is present. It will blink at the control frequency used by the upper console when the upper console commands speed. If the control signal should exceed 95 percent duty cycle, the PWM light shuts off and sets the motor controller to a safe shutdown mode. In the event this should occur, the power to the treadmill should be removed, the cabling checked for shorts and the upper console replaced. If this problem persists, replace the lower board (motor controller).

UP Light- Indicates the upper console is commanding the incline motor to move up. If the User is commanding the incline to increase and this light is not lit, check cabling, verify proper upper console operation and replace it if either is defective. If the problem persists, replace the motor controller. If the light is lit but the incline is not moving, check and verify incline motor and its connection to the board; check fuse F2. If this problem persists replace lower board (motor controller).

DN Light- Indicates the upper console is commanding the incline motor to move down. If the User is commanding the incline to decrease and this light is not lit, check cabling, verify proper upper console operation and replace it if either is defective. If the problem persists, replace the motor controller. If the light is lit but the incline is not moving, check and verify incline motor and its connection to the board; check fuse F2. If this problem persists replace lower board (motor controller).



PWM Motor Controller Troubleshooting Diagram