8.11 02B5 Error Troubleshooting ................................................................. 41
8.12 02B9 / 02BA / 02BC / 02BD Error Troubleshooting ................................... 42
8.13 04A0 Error Troubleshooting ................................................................. 43
8.13 04A0 Error Troubleshooting ................................................................. 44
8.15 Troubleshooting Heart Rate Issues ....................................................... 45

CHAPTER 9: PART REPLACEMENT GUIDE

9.1 Motor Cover Replacement ................................................................. 46
9.2 Rear Roller Replacement ................................................................. 47
9.3 Side Rail Replacement .................................................................... 48
9.4 Running Deck Replacement ............................................................. 49
9.5 Deck Cushion Replacement ............................................................... 50
9.6 Front Roller Replacement ............................................................... 51
9.7 Running Belt Replacement ............................................................... 52
9.8 Motor Control Board (MCB) Replacement ......................................... 53
9.9 Motor Replacement .......................................................................... 56
9.10 Drive Belt Replacement .................................................................. 58
9.11 Incline Motor Replacement ............................................................. 59
9.12 Console Replacement .................................................................... 60
9.13 Emergency Stop Switch Replacement ............................................... 61
9.14 Cup Holder Replacement ............................................................... 62
9.15 Console Frame Replacement ........................................................... 64
9.16 Heart Rate Board Service ............................................................... 66
9.17 Handlebar Frame Replacement ......................................................... 67
9.18 Heart Rate Handlebar Replacement .................................................. 68
9.19 Heart Rate Grips Replacement ........................................................ 69
9.20 Console Mast Replacement ............................................................. 70
9.21 Testing the Treadmill .................................................................... 71

CHAPTER 10: TREADMILL SPECIFICATIONS AND ASSEMBLY GUIDE

10.1 Treadmill Specifications .................................................................. 72
10.2 Fasteners and Assembly Tools ......................................................... 73
10.3 Assembly Instructions ..................................................................... 74
10.4 TV Programming Instructions .......................................................... 77

CHAPTER 11: SOFTWARE UPGRADE GUIDE

11.1 Software Upgrade Instructions ......................................................... 79
1.1 SERIAL NUMBER LOCATION

CONSOLE SERIAL NUMBER LOCATION

FRAME SERIAL NUMBER LOCATION
CHAPTER 2: IMPORTANT SAFETY INSTRUCTIONS

2.1 BEFORE GETTING STARTED

This treadmill is intended for commercial use. To ensure your safety and protect the equipment, read all instructions before operating the Matrix Treadmill.

LOCATION OF THE TREADMILL

Place the treadmill on a level and stable surface away from direct sunlight. The intense UV light can cause discoloration on the plastics. Locate your treadmill in an area with cool temperatures and low humidity. Please leave a clear zone behind the treadmill that is at least the width of the treadmill and at least 79” (2000 mm) long. This zone must be clear of any obstruction and provide the user a clear exit path from the machine. For ease of access, there should be an accessible space on both sides of the treadmill of at least 24” (600 mm) to allow a user access to the treadmill from either side. Do not place the treadmill in any area that will block any vent or air openings. The treadmill should not be located in a garage, covered patio, near water or outdoors.
2.2 READ AND SAVE THESE INSTRUCTIONS

This treadmill is intended for commercial use. To ensure your safety and protect the equipment, read all instructions before operating the MATRIX T1xe-04 treadmill. When using an electrical product, basic precautions should always be followed including the following:

DANGER: To reduce the risk of electric shock: Always unplug this equipment from the electrical outlet immediately after using and before cleaning.

WARNING: To reduce the risk of burns, fire, electrical shock or injury to persons that may be associated with using this product.

An appliance should never be left unattended when plugged in. Unplug from the outlet when not in use and before putting on or taking off parts.

This product must be used for its intended purpose described in this service manual. Do not use other attachments that are not recommended by the manufacturer. Attachments may cause injury.

To prevent electrical shock, never drop or insert any object into any opening.

Do not remove the console covers. Service should only be done by an authorized service technician.

Never operate the treadmill with the air opening blocked. Keep the air opening clear, free of lint and hair.

Never operate product if it has a damaged cord or plug, if it is working improperly, if it has been damaged, or immersed in water.

Do not carry this unit by its supply cord or use the cord as a handle.

Keep any power cord away from heated surfaces.

Close supervision is necessary when the treadmill is used by or near children or disabled persons.

Do not use outdoors.

Do not operate where aerosol (spray) products are being used or when oxygen is being administered.

To disconnect, turn all controls to the off position, then remove plug from the outlet.

Connect this treadmill to properly grounded outlets only.

CAUTION: If you experience chest pain, nausea, dizziness or shortness of breath, STOP exercising immediately and consult a physician before continuing.

• Do not use the equipment in any way other than designed or intended by the manufacturer. It is imperative that all Matrix Fitness System’s equipment is used properly to avoid injury.

• Keep hands and feet clear of moving parts at all times to avoid injury.

• Unsupervised children must be kept away from this equipment.

• Do not wear loose clothing while on equipment.
2.3 ELECTRICAL REQUIREMENTS

For your safety and to ensure good treadmill performance, the ground on this circuit must be non-looped. Please refer to NEC articles 210-21 and 210-23. Your treadmill is provided with a power cord with a plug listed below and requires the listed outlet. Any alterations of this power cord could void all warranties of this product.

MATRIX DEDICATED CIRCUIT / ELECTRICAL REQUIREMENT INFO

All Matrix treadmills require the use of a 20 amp "dedicated circuit" with a non-looped (isolated) neutral / ground for the power requirement. Quite simply this means that each outlet you plug your treadmill into should not have anything else running on that same circuit. The easiest way to verify this is to locate the main circuit breaker box, and turn off the breaker(s) one at a time. Once a breaker has been turned off, the only thing that should not have power to it is the treadmill. No lamps, vending machines, fans, sound systems, or any other item should lose power when you perform this test.

Non-looped (isolated) neutral / grounding means that each circuit must have an individual neutral / ground connection coming from it, and terminating at an approved earth ground. You cannot “jumper” a single neutral / ground from one circuit to the next.

In addition to the dedicated circuit requirement, the proper gauge wire must be used from the circuit breaker box, to each outlet that will have the maximum number of units running off of it. If the distance from the circuit breaker box, to each outlet, is 100 feet or less, then 12 gauge wire may be used. For any distance greater than 100 feet from the circuit breaker box to the outlet, 10 gauge wire must be used.
3.1 RECOMMENDED CLEANING TIPS

In order to maximize life span, and minimize down time, all Matrix Fitness Equipment requires regularly scheduled cleaning.

YOU WILL NEED:

- Mild dish soap and water mixture in a spray bottle (10:1 water to soap ratio).
- Lint free 100% cotton cleaning cloths or Micro fiber cleaning cloths.
- Vacuum / Shop Vac with extendable hose and soft brush attachment.
- Computer screen or LCD / LED screen cleaner.

DAILY:

1. Wipe down the unit after each use with a mild dish soap and water mixture. **NOTE:** Spray the soap / water mixture onto the cloth. NEVER spray directly onto the equipment. We recommend that you do NOT allow customers to use spray bottles to clean the equipment. If the cleaner is sprayed directly on the equipment or over spray is present, it may cause your equipment to rust and / or cause damage to console overlays.

WEEKLY:

1. With a clean dry 100% lint free cloth and water / soap mixture, wipe any dust and dirt from the sides of the running deck between the running belt and side rails.
2. With a clean dry 100% lint free cloth and water / soap mixture, wipe the dust from the top of the motor cover.
3. With a clean dry 100% lint free cloth and water / soap mixture, wipe down the entire console area including the hand grips and hand rails.
4. Use a computer screen cleaner or LCD / LED screen cleaner on the touch screen portion of the console (see Section 3.4).

MONTHLY:

1. Vacuum under and around the Treadmill. If you need to move it, unplug the unit first.
2. Vacuum the air vent on the front of the unit.

QUARTERLY:

1. Unplug the unit. Remove the motor cover. Use a vacuum with a soft brush extension, vacuum the dust and dirt from the motor, MCB, fan, and surrounding areas. Be careful not to hit any of the wire connections.

3.2 CHECK FOR DAMAGED PARTS

**DO NOT** use any equipment that is damaged or has worn or broken parts. Use only replacement parts supplied by Matrix Fitness Systems.

**MAINTAIN LABELS AND NAMEPLATES.** Do not remove labels for any reason. They contain important information. If unreadable or missing, contact Matrix Fitness Systems for a replacement at 866-693-4863 or www.matrixfitness.com.

**MAINTAIN ALL EQUIPMENT.** Preventative maintenance is the key to smoothly operating equipment. Equipment needs to be inspected at regular intervals. Defective components must be kept out of use until they are repaired. Ensure that any person(s) making adjustments or performing maintenance or repair of any kind is qualified to do so. Matrix Fitness Systems will provide service and maintenance training at our corporate facility upon request or in the field if proper arrangements are made.
3.3 Preventative Maintenance Instructions

In order to maximize life span, and minimize down time, all Matrix Fitness System's equipment requires regular cleaning, and maintenance items performed on a scheduled basis. This section contains detailed instructions on how to perform these items and the frequency of which they should be done. Some basic tools and supplies will be necessary to perform these tasks which include (but may not be limited to):

- Metric Allen wrenches
- #2 Phillips head screwdriver
- Adjustable wrench
- Teflon based spray lubricant such as "Super Lube" or other Matrix approved products.
- Vacuum cleaner with an extendable hose and crevasse tool attachment.

You may periodically see addendums to this document, as the Matrix Technical Support Team identifies items that require specific attention, the latest version will always be available on the Matrix web site at www.matrixfitness.com.

Daily Maintenance Items

1) Check the unit for stability and adjust leveling feet if necessary.
2) Inspect the power cord, hand grip area, and emergency stop button and cord for damage.

Monthly Maintenance Items

1) Check the alignment of the running belt. It should be centered on the running deck. See Section 3.6 for instructions for aligning the belt.
2) Check the running belt for proper tension, adjust as needed (see Section 3.6).

Note: If there is any damage to the running deck or belt, replace with new. If you have a new deck or flip a deck, it should always be accompanied by a new running belt.

Quarterly Maintenance Items

1) Unplug the unit. Remove the motor cover and vacuum the entire inside area of the machine being careful not to bump any wires or connections loose.
2) While the motor cover is off, inspect the drive belt for visible wear. Replace if any signs of damage.
3) While the motor cover is off, start the unit and raise incline settings to maximum height. Turn the power switch off at the front of the machine to prevent it from lowering accidentally. Lubricate incline motor Acme screw (Matrix recommends Super Lube brand grease with PTFE additive).

Bi-Annual Maintenance Items

1) Remove any wax build up from the front and rear rollers of the machine using a plastic putty knife. DO NOT use any metal objects to scrape the rollers as this can cause damage to the roller surface.
2) Inspect the underside of the running belt for damage, check for cracking or glazed surfaces.
3) During normal operating conditions, the running belt replacement and deck service should be done every 15,000 miles.
3.4 TOUCH SCREEN CARE & CLEANING

TOUCH SCREEN CARE AND CLEANING

* The touch screen requires very little maintenance. We recommend that you periodically clean the touch screen surface with a clean dry 100% lint free cloth and water / soap mixture or a computer or LCD / LED screen cleaner.

* It is very important to avoid using any other chemical on the touch screen.

* Always dampen the cloth and clean the screen. Do not spray the water / soap mixture on the screen itself, the drips can seep into the display or stain the bezel.

* After cleaning, make sure the surface is dry. There should not be any left over solvent to seep into the display.

* It is very important to handle the touch screen with care. Do not use excessive force when cleaning.

* Do not use any sharp materials to clean the touch screen surfaces.

* Do not use high pressure air, water, or steam to clean the touch screen surface.
3.5 AUTO CALIBRATION INSTRUCTIONS

Run Auto Calibration to calibrate incline after assembly and after replacing any electronic component.

**AUTO CALIBRATION PROCEDURE:**

1) Press ENTER, 2, 0, 0, 1, then ENTER. Engineering Mode will appear on the display.

2) Press the button next to CALIBRATION.

3) Press the button next to AUTO CALIBRATION. You SHOULD NOT be standing on the unit while it is calibrating.

4) After completion, the display either return to normal operation (indicating that calibration passed) or say Auto Calibration failed.

5) Press the button next to BACK then the button next to HOME to return to normal operation mode. You can also press the Emergency Stop.

3.6 ADJUSTING THE RUNNING BELT

After placing the treadmill in the position it will be used, the belt must be checked for proper tension and centering. The belt may need to be adjusted after the first 2 hours of use. Temperature, humidity, and use cause the belt to stretch at different rates. If the belt starts to slip when a user is on it, be sure to follow the directions below.

**STEP 1:** Locate the two hex head bolts on the rear of the treadmill. The bolts are located at each end of the frame at the back of the treadmill. These bolts adjust the rear roller. Do not adjust until the treadmill is on. This will prevent over tightening of one side.

**STEP 2:** The belt should have equal distance on either side between the frame. If the belt is touching one side, do not start the treadmill. Turn the bolts counter clockwise approximately one full turn on each side. Manually center the belt by pushing the belt from side to side. Tighten the bolts the same amount as when the user loosen them, approximately one full turn. Inspect the belt for damage.

**STEP 3:** While the treadmill is running at 3 mph, observe the belt position. If it is moving to the right, tighten the right bolt by turning it clockwise 1/4 turn, and loosen the left bolt 1/4 turn. If it is moving to the left, tighten the left bolt by turning it clockwise 1/4 turn and loosen the right 1/4 turn. Repeat Step 3 until the belt remains centered for several minutes.

**STEP 4:** Check the tension of the belt. The belt should be very snug. When a person walks or runs on the belt, it should not hesitate or slip. If this occurs, tighten the belt by turning both bolts clockwise 1/4 turn. Repeat if necessary.
The T1xe-04 has a fully integrated touch screen display. All information required for workouts is explained on screen. Exploration of the interface is highly encouraged. The information explaining how to program for various workouts will give an explanation about the contents of each screen on the T1xe.

A) **GO**: One Touch Start.

B) **UP / DOWN INCLINE**: Adjust incline and make program selections.

C) **UP / DOWN SPEED**: Adjust speed and make program selections.

D) **STOP** (displayed on-screen during workout): Ends workout and shows workout summary data.

E) **PAUSE** (displayed on-screen during workout): Pauses workout. Pause duration can be set in manager or engineering mode.

F) **COOL DOWN** (displayed on-screen during workout): Puts treadmill into Cool Down mode. Cool Down time is dependent on the length of the workout. Workouts 19 minutes and shorter will have a cool down length of 2 minutes. Workouts 20 minutes and longer will have a cool down length of 5 minutes.

G) **EMERGENCY STOP / IMMOBILIZATION**: To stop all functions and immobilize the unit. The emergency stop on this treadmill must be returned to its original position in order to allow normal operation of the unit.

H) **VOLUME UP/DOWN**: Adjusts the volume output through headphones.

I) **CHANNEL UP/DOWN**: Allows for channel selection on the integrated console TV.

J) **MUTE**: Turns sound on or off.

K) **CLOSED CAPTION**: Turns closed captioning on or off.

L) **HOME**: Returns user to home screen.

M) **LAST CHANNEL**: Allows the user to cycle between the current channel and the previous channel they were viewing.

N) **NUMBER KEYPAD**: Allows for easy number inputs.
4.2 MANUAL WORKOUT OPERATION

QUICK START OPERATION

Press the GO key and the treadmill will enter into a manual mode of operation. All energy expenditure values will be calculated using the default weight measurement.

MANUAL WORKOUT OPERATION

Manual is a workout that allows you to manually adjust the speed and incline values at anytime. The manual workout also contains a setup screen which allows you to input your weight to help calculate a more accurate caloric burn rate.

To enter into this Manual Workout:

1) Choose a Manual Workout by selecting MANUAL WORKOUT on the display.
2) Enter the desired workout length using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value—providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the desired start speed using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Press GO to begin the workout.

4.3 LEVEL BASED WORKOUT OPERATION

Your Matrix T1xe-04 Treadmill offers a variety of level-based workouts to challenge users of all fitness levels. The following information will briefly explain the workouts and how to program the treadmill for each workout selection.

ROLLING HILLS WORKOUT OPERATION

Rolling Hills is a level based workout that automatically adjusts the incline value to simulate walking or running up hills.

1) Choose a Rolling Hills workout by selecting ROLLING HILLS on the display.
2) Enter the desired workout length using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Enter the desired intensity level using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Enter the desired speed using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
6) Press GO to begin the workout.

FAT BURN WORKOUT OPERATION

Fat Burn is a level-based workout that is designed to help users burn fat through various incline changes.

1) Choose a Fat Burn workout by selecting FAT BURN on the display.
2) Enter the desired workout length using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Enter the desired intensity level using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Enter the desired speed using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
6) Press GO to begin the workout.

5K RUN WORKOUT OPERATION

5K Run is a level-based workout with a fixed distance of 5 kilometers. Incline is adjusted automatically throughout the workout. You control the speed.

1) Choose a 5K Run workout by selecting 5K RUN on the display.
2) Enter the desired intensity level using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the desired speed using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Press GO to begin the workout.
4.4 HEART RATE CONTROL WORKOUT OPERATION

Your Matrix T1xe-04 Treadmill offers a heart rate control workout mode. The heart rate control workout mode allows the user to program their desired heart rate zone and maximum allowable incline and the treadmill will automatically adjust the incline based upon the user's heart rate. The heart rate zone is calculated using the following equation: 

\[(220 - \text{Age})*\% = \text{target heart rate zone}\]

The user must wear a telemetric heart rate monitor or continually hold onto the contact heart rate grips for his workout.

1) Choose the Target Heart Rate workout by selecting TARGET HEART RATE on the display.
2) Enter the user's age using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the user's target heart rate percentage using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Press GO to begin the workout.

4.5 FITNESS TEST WORKOUT OPERATION

Your Matrix T1xe-04 Treadmill offers a variety of fitness tests - the Gerkin Firefighter Protocol, the Wellness Fitness Initiative (WFI), the Army, Navy, USMC, and USAF as well as the Physical Efficiency Battery (PEB).

The Gerkin Protocol was developed by Dr. Richard Gerkin of the Phoenix (Arizona) Fire Department. It is a sub-maximal graded treadmill evaluation used by many fire departments across the United States to assess the physical condition of the firefighters. The test requires constant monitoring of the user's heart rate so the use of a telemetric chest strap is highly encouraged. The workout operates as follows:

WARM UP: The warm up is 3 minutes long and runs at 3.0 mph (4.8 kph) and 0% incline.

STAGE 1: At the 3 minute mark, the treadmill will gradually increase speed to 4.5 mph (7.2 kph). The actual test begins at 4.5 mph (7.2 kph).

STAGE 2: After one minute, the treadmill incline will increase to 2%.

STAGE 3: After one minute, the treadmill speed increases to 5.0 mph (8.0 kph).

STAGES 4 THROUGH 11: After every odd minute the treadmill incline will increase by 2%. After every even minute the treadmill speed will increase by 0.5 mph (0.8 kph). Once the user's heart rate exceeds the target heart rate (85% of maximum as determined by the equation \((220 - \text{Age})*\% = \text{target heart rate zone}\)), the individual continues the evaluation for an additional 15 seconds. During the 15 second period, the evaluation remains at the stage where the target heart rate is exceeded, without any change to speed or incline. If the heart rate does not return to or below the target heart rate, the evaluation ends and the final evaluation stage is recorded. If the heart rate returns to or below the target heart rate, the program continues at the point where it would have been had the program not stabilized for 15 seconds.

TEST COMPLETION: The test is completed when user's heart rate exceeds the target for more than 15 seconds or when the user completes all 11 stages, whichever occurs first. The treadmill will enter a cool down cycle for 3 minutes at 3.0 mph (4.8 kph), 0% incline.

1) Choose the Gerkin Test workout by pressing FITNESS TEST, then GERKIN on the display.
2) Enter the user's age using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
3) Select the user's gender using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
4) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the ARROW KEYS or the NUMBER KEYPAD and press ENTER.
5) Press GO to begin the workout.
## Sub Maximal Treadmill Evaluation Conversion Table

<table>
<thead>
<tr>
<th>Stage</th>
<th>Time</th>
<th>Converted VO2max</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>1:00</td>
<td>31.15</td>
</tr>
<tr>
<td>2.1</td>
<td>1:15</td>
<td>32.55</td>
</tr>
<tr>
<td>2.2</td>
<td>1:30</td>
<td>33.6</td>
</tr>
<tr>
<td>2.3</td>
<td>1:45</td>
<td>34.65</td>
</tr>
<tr>
<td>2.4</td>
<td>2:00</td>
<td>35.35</td>
</tr>
<tr>
<td>3.1</td>
<td>2:15</td>
<td>37.45</td>
</tr>
<tr>
<td>3.2</td>
<td>2:30</td>
<td>39.55</td>
</tr>
<tr>
<td>3.3</td>
<td>2:45</td>
<td>41.3</td>
</tr>
<tr>
<td>3.4</td>
<td>3:00</td>
<td>43.4</td>
</tr>
<tr>
<td>4.1</td>
<td>3:15</td>
<td>44.1</td>
</tr>
<tr>
<td>4.2</td>
<td>3:30</td>
<td>45.15</td>
</tr>
<tr>
<td>4.3</td>
<td>3:45</td>
<td>46.2</td>
</tr>
<tr>
<td>4.4</td>
<td>4:00</td>
<td>47.5</td>
</tr>
<tr>
<td>5.1</td>
<td>4:15</td>
<td>48.6</td>
</tr>
<tr>
<td>5.2</td>
<td>4:30</td>
<td>50</td>
</tr>
<tr>
<td>5.3</td>
<td>4:45</td>
<td>51.4</td>
</tr>
<tr>
<td>5.4</td>
<td>5:00</td>
<td>52.8</td>
</tr>
<tr>
<td>6.1</td>
<td>5:15</td>
<td>53.9</td>
</tr>
<tr>
<td>6.2</td>
<td>5:30</td>
<td>54.9</td>
</tr>
<tr>
<td>6.3</td>
<td>5:45</td>
<td>56</td>
</tr>
<tr>
<td>6.4</td>
<td>6:00</td>
<td>57</td>
</tr>
<tr>
<td>7.1</td>
<td>6:15</td>
<td>57.7</td>
</tr>
<tr>
<td>7.2</td>
<td>6:30</td>
<td>58.8</td>
</tr>
<tr>
<td>7.3</td>
<td>6:45</td>
<td>60.2</td>
</tr>
<tr>
<td>7.4</td>
<td>7:00</td>
<td>61.2</td>
</tr>
<tr>
<td>8.1</td>
<td>7:15</td>
<td>62.3</td>
</tr>
<tr>
<td>8.2</td>
<td>7:30</td>
<td>63.3</td>
</tr>
<tr>
<td>8.3</td>
<td>7:45</td>
<td>64</td>
</tr>
<tr>
<td>8.4</td>
<td>8:00</td>
<td>65</td>
</tr>
<tr>
<td>9.1</td>
<td>8:15</td>
<td>66.5</td>
</tr>
<tr>
<td>9.2</td>
<td>8:30</td>
<td>68.2</td>
</tr>
<tr>
<td>9.3</td>
<td>8:45</td>
<td>69</td>
</tr>
<tr>
<td>9.4</td>
<td>9:00</td>
<td>70.7</td>
</tr>
<tr>
<td>10.1</td>
<td>9:15</td>
<td>72.1</td>
</tr>
<tr>
<td>10.2</td>
<td>9:30</td>
<td>73.1</td>
</tr>
<tr>
<td>10.3</td>
<td>9:45</td>
<td>73.8</td>
</tr>
<tr>
<td>10.4</td>
<td>10:00</td>
<td>74.9</td>
</tr>
<tr>
<td>11.1</td>
<td>10:15</td>
<td>76.3</td>
</tr>
<tr>
<td>11.2</td>
<td>10:30</td>
<td>77.7</td>
</tr>
<tr>
<td>11.3</td>
<td>10:45</td>
<td>79.1</td>
</tr>
<tr>
<td>11.4</td>
<td>11:00</td>
<td>80</td>
</tr>
</tbody>
</table>

The Military Test programs and the Physical Efficiency Battery (PEB) provide workouts of a preset distance. These distances are established by the various branches of the Military with the objective of each test to complete the distance as quickly as possible. At the completion of the test, a time-based score as defined by the respective Military branch will be shown on the console.

1) Choose your Military Test by pressing the FITNESS TEST button.
2) Enter the user's age using the NUMBER KEYPAD and press ENTER.
3) Select the user's gender using the NUMBER KEYPAD and press ENTER.
4) Enter the user's weight (the user's weight is used to calculate the caloric expenditure value, providing an accurate weight helps to ensure an accurate caloric expenditure rating for each user) using the NUMBER KEYPAD and press ENTER.
5) Press GO to begin the workout. The display will read 3, 2, 1, and the workout will begin.
5.1 MANAGER MODE OVERVIEW

1) To enter Manager Mode, press "ENTER, 1, 0, 0, 1, ENTER" on the number keypad and Manager Mode will appear on the display.

2) Manager Mode is divided into 7 tabs. They are About, Time, Speed, Defaults, Language, TV, and Other.

3) Choose a tab by touching the desired tab.

4) Each of the tabs have options that will appear once you have chosen that particular tab.

5) Press the HOME key on the display or the EMERGENCY STOP to exit Manager Mode.
### 5.2 MANAGER MODE - ABOUT TAB

<table>
<thead>
<tr>
<th>MANAGER MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>About</td>
<td>Accumulated Distance</td>
<td>Total distance showed in native units (miles or kilometers).</td>
<td>Cannot be modified.</td>
</tr>
<tr>
<td></td>
<td>Accumulated Time</td>
<td>Total time.</td>
<td>Cannot be modified.</td>
</tr>
<tr>
<td></td>
<td>Software Versions</td>
<td>Software Version, for display only.</td>
<td>Cannot be modified.</td>
</tr>
<tr>
<td></td>
<td>Key Sound Default: On</td>
<td>This option controls whether a chime sounds when a button is pressed.</td>
<td>On or Off</td>
</tr>
<tr>
<td></td>
<td>Out of Order Default: OFF</td>
<td>To show out of order on the console if repair is needed.</td>
<td>On or Off</td>
</tr>
</tbody>
</table>

### 5.3 MANAGER MODE - TIME TAB

<table>
<thead>
<tr>
<th>MANAGER MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>Maximum Time</td>
<td>This option enables fitness club managers to set the maximum workout duration during peak and non peak hours of club traffic.</td>
<td>Max: 99 Minutes Min: 5 Minutes</td>
</tr>
<tr>
<td></td>
<td>Default: 60 Minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Default Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Default: 30 Minutes</td>
<td>This option controls the default program time.</td>
<td>Max: Max Time Min: 5 Minutes</td>
</tr>
<tr>
<td>Pause Time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Default: 5 Minutes</td>
<td>This option controls the default pause time.</td>
<td>Max: 10 Min: 1</td>
</tr>
</tbody>
</table>
## 5.4 MANAGER MODE - SPEED TAB

### MANAGER MODE

<table>
<thead>
<tr>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>Controls the maximum speed for all programs, Displayed in native units (MPH or KPH).</td>
<td>Maximum: 19.3 KPH / 12 MPH Minimum: 0.8 KPH / 0.5 MPH</td>
</tr>
<tr>
<td>Maximum Speed Default: 19.3 KPH / 12 MPH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Start Speed</td>
<td>Controls the starting speed for all programs. Displayed in native units (MPH or KPH).</td>
<td>Maximum: 2.3 KPH / 1.4 MPH Minimum: 0.8 KPH / 0.5 MPH</td>
</tr>
<tr>
<td>Default: 0.8 KPH / 0.5 MPH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HRT Speed based</td>
<td>This option allows the user to choose speed based type in setup screen of target heart rate program.</td>
<td>On or Off</td>
</tr>
<tr>
<td>Default: Off</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 5: MANAGER MODE

5.5 MANAGER MODE - DEFAULTS TAB

<table>
<thead>
<tr>
<th>MANAGER MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
</table>
| Defaults     | Default Level       | This option controls the default program level. | Max: 20  
|              | Default: 1          |              | Min: 1   |
|              | Default Age         | This option controls the default user's age used in the target heart rate calculations. | Maximum: 99  
|              | Default: 30         |              | Minimum: 10 |
|              | Default Weight      | This option controls the default user's weight used in the calorie calculations. Displayed in native units (Pounds or Kilograms). | Max: 400 lb / 182 kg  
|              | Default: 150 lb / 68 kg |          | Min: 50 lb / 22 kg. |
|              | Default Height      | This option controls the default Height used in the calorie calculations. Displayed in native units (pounds or kilograms). | Inch: 40~90  
|              | Default: 68 inch / 173 cm |        | Cm: 101~228 |
|              | Gender              | This option controls the user's default gender. | Male or Female |
|              | Default: Male       |              |          |
|              | Key Sound           | This option can set the keypad tone to sound or not sound. | Yes or No |
|              | Default: Yes        |              |          |
### Chapter 5: Manager Mode - TV Tab

<table>
<thead>
<tr>
<th>MANAGER MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV</td>
<td>Default Channel</td>
<td>This option controls the default TV channel on start up.</td>
<td>1-999</td>
</tr>
<tr>
<td></td>
<td>Default: 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Default Volume</td>
<td>Default: 8</td>
<td>This option controls the default TV volume on start up.</td>
<td>Maximum: 17</td>
</tr>
<tr>
<td>Tuner Available</td>
<td>Default: Yes</td>
<td>This option controls the default TV function. If NO is selected, the TV tab will be removed from the normal function.</td>
<td>Yes or No</td>
</tr>
<tr>
<td>Setup</td>
<td></td>
<td>This option is for setting the TV tuner functions. Press the &quot;-&quot; key on the NUMBER KEYPAD to enter this function.</td>
<td>N/A</td>
</tr>
<tr>
<td>Output Format</td>
<td>Default: Auto</td>
<td>This option is for setting the TV signal output format. If Auto is selected, the TV signal output format will be for YPBPR or CVBS detection.</td>
<td>Auto or CVBS</td>
</tr>
<tr>
<td>Remote TV</td>
<td>Default: No</td>
<td>This option allows the controller to work with an external MYE TV.</td>
<td>Yes or No</td>
</tr>
<tr>
<td>Remote TV</td>
<td>Default: 1</td>
<td>This option controls the Remote TV channel on start up.</td>
<td>Maximum: 37</td>
</tr>
<tr>
<td></td>
<td>Default: 15</td>
<td>This option controls the Remote TV volume on start up.</td>
<td>Maximum: 15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Minimum: 1</td>
<td></td>
</tr>
</tbody>
</table>
# 5.7 MANAGER MODE - LANGUAGE TAB

## MANAGER MODE

**FUNCTION & DEFAULTS**

Select default language.

**DESCRIPTIONS**

This option allows the user to select a flag for a specific language.

**MODIFIED**

N/A

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>FLAG</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td><img src="flag1.png" alt="Flag" /></td>
<td>Mile</td>
</tr>
<tr>
<td></td>
<td><img src="flag2.png" alt="Flag" /></td>
<td>Mile</td>
</tr>
<tr>
<td></td>
<td><img src="flag3.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>German</td>
<td><img src="flag4.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td></td>
<td><img src="flag5.png" alt="Flag" /></td>
<td>KM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>FLAG</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td><img src="flag6.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>Dutch</td>
<td><img src="flag7.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>Italian</td>
<td><img src="flag8.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>Japanese</td>
<td><img src="flag9.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>French</td>
<td><img src="flag10.png" alt="Flag" /></td>
<td>KM</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>FLAG</th>
<th>UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td><img src="flag11.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>Portuguese</td>
<td><img src="flag12.png" alt="Flag" /></td>
<td>KM</td>
</tr>
<tr>
<td>French</td>
<td><img src="flag13.png" alt="Flag" /></td>
<td>KM</td>
</tr>
</tbody>
</table>
### Manager Mode - Other Tab

<table>
<thead>
<tr>
<th>Manager Mode</th>
<th>Function &amp; Defaults</th>
<th>Descriptions</th>
<th>Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>Altitude Default: Below 5000 feet</td>
<td>This option allows the club to setup the treadmill for a higher altitude.</td>
<td>Below 5000 feet or Above 5000 feet</td>
</tr>
<tr>
<td></td>
<td>Virtual Active Default: Off</td>
<td>This option controls the Virtual Active function.</td>
<td>Off or On</td>
</tr>
<tr>
<td></td>
<td>Belt Stop Default: Off</td>
<td>This option is to check the running belt to see if a user is there. If there is no user, and the status is over the default time, the machine will enter into a pause mode for 5 minutes. If no user is present within 5 minutes, the display will return to the start up screen.</td>
<td>Off, 30, 60, or 90</td>
</tr>
</tbody>
</table>
6.1 ENGINEERING MODE OVERVIEW

The Engineering Mode allows the club owner to keep track of the technical settings and error history for the treadmill.

1) To enter Engineering Mode, press ENTER, 2, 0, 0, 1, ENTER on the number keypad. Engineering Mode will appear on the display (Figure A).

2) Select the setting that needs to be changed, and follow the prompts to change.

3) Press the ENTER key once the desired setting is correct to save.

4) Press the HOME key on the display or press the EMERGENCY STOP key to return to normal operation.

6.2 ENGINEERING MODE - CALIBRATION TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>Auto Calibration</td>
<td>This option calibrates the elevation parameters.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incline Minimum</td>
<td>This option controls the minimum elevation parameter.</td>
<td>Range: 2500 - 12000</td>
</tr>
<tr>
<td></td>
<td>Default: 4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Incline Maximum</td>
<td>This option controls the maximum elevation parameter.</td>
<td>Range: 25000 - 32700</td>
</tr>
<tr>
<td></td>
<td>Default: 29000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6.3 ENGINEERING MODE - STATISTICS TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td></td>
<td>This option displays the workout information history of the unit.</td>
<td></td>
</tr>
</tbody>
</table>

6.4 ENGINEERING MODE - ERRORS TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Errors</td>
<td></td>
<td>This option displays the error code history for the unit.</td>
<td></td>
</tr>
</tbody>
</table>
### 6.5 ENGINEERING MODE - CLUBS TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clubs</td>
<td>Default: Matrix</td>
<td>This option selects a screen header from a list.</td>
<td></td>
</tr>
</tbody>
</table>

### 6.6 ENGINEERING MODE - CLUB ID TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Club ID</td>
<td></td>
<td>This option records the club ID of the equipment.</td>
<td></td>
</tr>
</tbody>
</table>
### 6.7 ENGINEERING MODE - OTHER TAB

<table>
<thead>
<tr>
<th>ENGINEERING MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>ErP Time</td>
<td>If there is no use of the machine over a period of time, the console will turn off (go into sleep mode).</td>
<td>Maximum: 30 minute</td>
</tr>
<tr>
<td></td>
<td>Default Value: 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7.1 SERVICE MODE OVERVIEW

The Service Mode allows an authorized service provider to test and store information on the treadmill.

1) To enter Service Mode, press ENTER, 3, 0, 0, 1, ENTER on the number keypad. Service Mode will appear on the display (Figure A).

2) Select the setting that needs to be changed, and follow the prompts to change.

3) Press the ENTER key once the desired setting is correct to save.

4) Press the HOME key on the display or press the EMERGENCY STOP key to return to normal operation.

FIGURE A
### 7.2 SERVICE MODE - SETUP TAB

<table>
<thead>
<tr>
<th>SERVICE MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setup</td>
<td>Machine Type</td>
<td>This option selects the current model.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Default: Treadmill</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serial Number</td>
<td>This option display the serial number of the console and frame.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Accumulated Distance</td>
<td>This option displays the total distance of workouts since production.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Displayed in native units (miles or kilometers).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accumulated Time</td>
<td>This option displays the total time of the workouts since production.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Show Service on Boot</td>
<td>Factory Setting Only.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### SERVICE MODE - TEST TAB

<table>
<thead>
<tr>
<th>SERVICE MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Test</td>
<td>Keypad</td>
<td>This option is for a keypad test.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Touch Calibration</td>
<td>This option allows for a touch calibration of the console. Follow the cross mark and touch the screen to catch. After 5 positions are tested, touch the center of the screen to exit this test.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
7.4 SERVICE MODE - LOG TAB

<table>
<thead>
<tr>
<th>SERVICE MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Log</td>
<td></td>
<td>This option allows the club to record key components replacement history.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## 7.5 SERVICE MODE - DATE & TIME TAB

<table>
<thead>
<tr>
<th>SERVICE MODE</th>
<th>FUNCTION &amp; DEFAULTS</th>
<th>DESCRIPTIONS</th>
<th>MODIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date &amp; Time</td>
<td></td>
<td>This option is to set the current date and time on the machine.</td>
<td>N/A</td>
</tr>
</tbody>
</table>
CHAPTER 8: TROUBLESHOOTING

8.1 ELECTRICAL DIAGRAM - CONTINUED

DIGITAL COMMUNICATION WIRE

<table>
<thead>
<tr>
<th>A. HOLE</th>
<th>B. HOLE</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>VDD</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>VDD</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>A</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>SAFE KEY NC</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>SAFE KEY</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>B</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>GND</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>GND</td>
</tr>
</tbody>
</table>

GRIP SENSOR WIRE

<table>
<thead>
<tr>
<th>A. HOLE</th>
<th>B. HOLE</th>
<th>C. HOLE</th>
<th>FUNCTION</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>RT-PR</td>
<td>RED</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>2</td>
<td>RT-SEC</td>
<td>WHITE</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>GND</td>
<td>Shielding</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>1</td>
<td>LT-PR</td>
<td>RED</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>LT-SEC</td>
<td>WHITE</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>3</td>
<td>GND</td>
<td>Shielding</td>
</tr>
</tbody>
</table>
8.1 ELECTRICAL DIAGRAMS - CONTINUED

H/P WIRE

![H/P Wire Diagram]

<table>
<thead>
<tr>
<th>A.HOLE</th>
<th>B.HOLE</th>
<th>COLOR</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>BLACK</td>
<td>A: GND no Shield</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>RED</td>
<td>VCC</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>RED</td>
<td>SGN</td>
</tr>
</tbody>
</table>

KEYPAD WIRE

![Keypad Wire Diagram]

<table>
<thead>
<tr>
<th>A.HOLE</th>
<th>B.HOLE</th>
<th>Shield</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td></td>
<td>NC(DA1)</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td></td>
<td>NC(DA2)</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td></td>
<td>NC(SC7)</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td></td>
<td>NC(DA6)</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td></td>
<td>NC(SC2)</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td></td>
<td>NC(DA5)</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td></td>
<td>NC(SC1)</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td></td>
<td>NC(DA7)</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td></td>
<td>NC(GND)(Keypad)</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td></td>
<td>NC</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td></td>
<td>NC</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>Shield</td>
<td>GND</td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td></td>
<td>ER-R</td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td></td>
<td>ER-L</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td></td>
<td>NC</td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td></td>
<td>NC</td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td>Shield</td>
<td>+5V(HR)</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>Shield</td>
<td>GND(HR)</td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td></td>
<td>OUT(HR)</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td></td>
<td>GND(HR)</td>
</tr>
</tbody>
</table>
8.2 MCB WIRING

JP3 - Console Cable
JP4 - Incline Motor Cable
N - Power Input (white)
L - Power Input (Black)
U - Motor Wire (red)
V - Motor Wire (White)
W - Motor Wire (Black)

AC 110V: J1 and J4 Short
AC 220V: J1 and J4 Open
8.3 MCB LED PLACEMENT AND DEFINITIONS

PWM - Console PWM signal light (when the motor is running, the light should flash).

COM - Digital communication light.

FAULT - The machine has stopped due to any C class error.

UP / DOWN (FF) - Incline motor status light.
8.4 0140 / 01A0 ERROR TROUBLESHOOTING

ERROR MESSAGE 0140 / 01A0

1) **CAUSE:**
   a. 0140 – Incline motor operation failure.
   b. 01A0 – Incline motor disconnection.

2) **SOLUTION:**
   a. Check the incline motor wire connection between the incline motor and MCB (Figure A).
   b. Run Auto Calibration as outlined in Section 3.4. If the problem still exists, refer to the steps below.
   c. See if a console signal is transmitted to MCB by checking the MCB LED UP and DOWN. If the LEDs do not light, check the console cable connections. If LEDs light, please replace the incline motor (Figure B).
   d. Replace the MCB if all other solutions fail.

![FIGURE A](image1)

![FIGURE B](image2)
ERROR MESSAGE 01A4 / 01A5 / 01A6

1) **CAUSE:**
   a. 01A4 - Main motor U phase disconnection.
   b. 01A5 - Main motor V phase disconnection.
   c. 01A6 - Main motor W phase disconnection.

2) **SOLUTION:**
   a. Check the connection between motor cable and MCB (Figure A).
   b. Replace the motor.
   c. Replace the MCB.

---

**FIGURE A**

U V W
8.6 01A8 / 01AD / 02B6 / 02B7 / 02B8 ERROR TROUBLESHOOTING

ERROR MESSAGE 01A8 / 01AD / 02B6 / 02B7 / 02B8

1) CAUSE:
   a. 01A8 - Main motor over current of 7 Amps.
   b. 01AD - Motor over temperature.
   c. 02B6 - Speed up is over current.
   d. 02B7 - Speed down is over current.
   e. 02B8 - Running status over current.

2) SOLUTION:
   a. Perform an amp draw (see instruction for how to run an amp draw on Matrix treadmills). Flip the deck or replace the running belt as needed.
   b. If the amp draw is normal, replace the MCB.
ERROR MESSAGE 01AB

1) **CAUSE:**
   a. Inverter error.

2) **SOLUTION:**
   a. When the display is showing a 01AB error, the MCB Fault LED should be lit (Figure A).
   b. If the MCB Fault LED is not lit, replace the console.
   c. If the MCB Fault LED is lit, replace the MCB.
8.8 02A0 / 02A8 ERROR TROUBLESHOOTING

ERROR MESSAGE 02A0 / 02A8

1) CAUSE:
   a. 02A0 - Main motor failure. The belt does not move when it is supposed to move.
   b. 02A8 - Inverter circuit of the motor failed. Motor resistance is closed.

2) SOLUTION:
   a. Check the Motor wire connection between the Motor and MCB (Figure A).
   b. Press the start key and check the MCB PWM LED (Figures B).
      -- If PWM LED does not flash, replace the console.
      -- If PWM LED flashes, follow the steps below.
   c. Use a multi-meter to check the 3 points (U / V / W) and see if there’s a resistance reading (Figures C, D & E).
      -- If yes, replace MCB.
      -- If no, replace the motor.
8.9 02A1 / 02A2 ERROR TROUBLESHOOTING

ERROR MESSAGE 02A1 / 02A2

1) **CAUSE:**
   a. 02A1 - Over AC power input voltage.
   b. 02A2 - Over / low DC bus voltage.

2) **SOLUTION:**
   a. Use a multi-meter to check if the input power matches local power specifications at the MCB. Switch to a different outlet if necessary.
   - If a known good outlet is not providing the correct power, replace the power components as needed.
   b. If the power input is ok, replace the MCB.
8.10 02AD ERROR TROUBLESHOOTING

ERROR MESSAGE 02AD

1) **CAUSE:**
   a. MCB over temperature.

2) **SOLUTION:**
   a. Check the Motor wire connection between the Motor and MCB (Figure A).
   b. Use the electric meter to check the 2 points (blue wire–thermograph) and see if there is a resistance reading (Figure B).
      -- If yes, replace MCB.
      -- If no, replace the motor.
CHAPTER 8: TROUBLESHOOTING

8.11 02B5 ERROR TROUBLESHOOTING

ERROR MESSAGE 02B5

1) CAUSE:
   a. The inverter sensor is reading the normal rated current is over 10.5 amps for 60 seconds.

2) SOLUTION:
   a. Use a multi-meter to check the 3 points (U / V / W) and see if inside resistance is over 4Ω (Figures A, B & C).
      -- If yes, replace the motor.
      -- If no, flip the deck and / or replace the running belt.
   b. Replace the MCB if all other solutions fail.

FIGURE A

FIGURE B

FIGURE C
**8.12 02B9 / 02BA / 02BC / 02BD ERROR TROUBLESHOOTING**

**ERROR MESSAGE 02B9 / 02BA / 02BC / 02BD**

1) **CAUSE:**
   a. 02B9 - The inner memory IC data write error.
   b. 02BA - The inner memory IC data read error.
   c. 02BC - Ground connection or fuse error.
   d. 02BD - Inverter hardware interrupt error.

2) **SOLUTION:**
   a. Replace the MCB.
ERROR MESSAGE 04A0

1) **CAUSE:**
   a. PCB communication disconnected.

2) **SOLUTION:**
   a. Check the console cable connection between the UCB and MCB (Figures A & B).
   b. Replace the console cable if any damage is found.
   c. Replace the console if the connections are good.
   d. Replace the MCB if all other solutions fail.

**FIGURE A**

**FIGURE B**
ERROR MESSAGE 04B0

1) CAUSE:
   a. MCB communication disconnected.

2) SOLUTION:
   a. Check the console cable connection between the UCB and MCB (Figures A & B).
   b. Replace the console cable if any damage is found.
   c. Replace the console if the connections are good.
   d. Replace the MCB if all other solutions fail.
HEART RATE ISSUES

1) SYMPTOM:
   a. No heart rate.
   b. High or Irregular heart rate.

2) SOLUTION:
   a. With a multi meter set for DC Voltage, place one prong of the multi meter on each of the HR plates on the handlebar (Figure A). A correctly connected HR grip will have a DC Voltage reading of between 0.5 and 2.0. If this reading is correct, skip to Step b.
      - If the reading is not correct, remove the screws holding the 2 halves of the HR grip together and check the connection of the HR grip wiring to the grips (Figure B). Replace the grips if any damage is seen to the plates.
      - Remove the console and split the plastic and metal portions of the console frame to expose the HR board (Figure C).
      - Check the connection of the HR grip wiring to the 6 pin Y cable attached to one side of the HR board. Use a multi meter set for ohms to verify the continuity of these wires. If the ohm reading is more than 1 (or not there at all), replace the HR grip wiring (this will require replacing the HR handlebar). If the ohm reading is correct, your issue is not with the HR grip / HR wire portion of the HR system.
   b. Perform a continuity test on the treadmill console (see Service Bulletin - Continuity Test on Matrix Treadmills).
      - Verify the HR board ground wire. With a multi meter set for ohms, place one prong on the HR board ground wire, and the other on the console ground screw. You should get a resistance reading of 1 or less. If you get a reading over 1 (or none at all), replace the HR board.
      - Check the continuity of the wire that goes from the HR board to the Translator Board. With a multi meter set for ohms, place one prong on the 3 pin wire connecting to the HR board and the other on where this wire connects to the Translator Board (Figure D). If you get a reading of over 1 (or no reading at all), replace this wire.
      - Check the connection of the wire that goes from the Translator Board to the UCB. Replace this wire if needed.
      - If all wiring checks out good and the unit is still having HR issues, replace the HR board.
      - If the HR board does not resolve the issue, replace the UCB.
9.1 MOTOR COVER REPLACEMENT

1) Remove the 2 screws holding the motor cover to the frame using a 6 mm Allen wrench (Figures A).
2) The cover is secured to the frame with velcro, so you will have to pull up with some force (Figure B).

3) Figure C shows the motor area with the motor cover removed.
4) Reverse Steps 1-3 to install a new motor cover. **NOTE:** When reinstalling the motor cover, be sure to tuck the sides in so they do not bow outward (Figure D).
9.2 REAR ROLLER REPLACEMENT

1) Remove one of the rear end caps using a Phillips screwdriver (Figure A).
2) Remove both roller adjustment screws using an 8 mm Allen wrench (Figure B).

3) Remove the rear roller from the running belt (Figures C & D).

4) Reverse Steps 1-3 to install a new rear roller.
5) Test the treadmill for function as outlined in Section 9.21.
9.3 SIDE RAIL REPLACEMENT

1) Remove the rear end cap using a Phillips screwdriver (Figure A).
2) Loosen the four screws under the frame using a 5 mm Allen wrench (Figure B).

3) Slide the rail off the back of the treadmill (Figures C & D).

4) Reverse Steps 1-3 to install a new side rail. **NOTE:** After reinstalling the side rail, make sure the rear end cap is on first before tightening the screws for proper gap spacing. Be careful not to over tighten the screws, or they will poke through the top of the side rail.
9.4 RUNNING DECK REPLACEMENT

1) Remove the motor cover as outlined in Section 9.1.
2) Remove the side rail as outlined in Section 9.3.
3) Remove the four running deck screws using a 5 mm Allen wrench (Figure A).

4) Remove the running deck from the running belt (Figures B & C).

5) Reverse Steps 1-4 to install a new running deck. **NOTE:** The running deck is waxed on both sides so the opposite side surface may be usable. New deck surfaces must ALWAYS be matched to a new running belt.

6) Test the treadmill for function as outlined in Section 9.21.
9.5 DECK CUSHION REPLACEMENT

1) Remove the deck as outlined in Section 9.4.
2) Holding the bolt with a 5 mm Allen wrench, loosen the nut with a 13 mm socket (Figure A & B).

3) For the rear cushion, hold the cushion and remove the 13 mm nut (Figure C).

4) Reverse Steps 1-3 to install new deck cushions.
5) Test the treadmill for function as outlined in Section 9.21.
9.6 FRONT ROLLER REPLACEMENT

1) Remove the motor cover as outlined in Section 9.1.
2) Loosen both of the rear roller screws using an 8mm T-Shaped wrench to remove tension from the running belt (Figure A).
3) Remove the front roller mounting screws using an 6 mm Allen wrench (Figures B & C).
4) Use a hook or loop of wire to remove the spring from the drive belt tensioner. The tensioner should now pivot away from the drive belt (Figure D).
5) Remove the drive belt from the front roller and remove the roller from the running belt (Figure E).
6) Reverse Steps 1-5 to install a new roller.
7) Test the treadmill for function as outlined in Section 9.21.
9.7 RUNNING BELT REPLACEMENT

1) Remove the motor cover as outlined in Section 9.1.
2) Remove the rear roller as outlined in Section 9.2.
3) Remove the running deck as outlined in Section 9.4.
4) Remove the front roller as outlined in Section 9.6.
5) Remove the running belt (Figures A).

6) Reverse Steps 1-5 to install a new running belt. **NOTE:** New running belts should ALWAYS be installed on a new deck surface (deck should either be flipped or replaced to gain a new surface).

7) Test the treadmill for function as outlined in Section 9.21.
9.8 MOTOR CONTROL BOARD (MCB) REPLACEMENT

1) Turn off power and disconnect the cord from the machine.
2) Remove the motor cover as outlined in Section 9.1.
3) Disconnect the wire connectors at the MCB.
4) Remove the 2 screws holding each side of the MCB to the frame (Figures A & B).
5) Remove the MCB (Figure C).
6) Reverse Steps 1-5 to install a new MCB. Make sure that all wires removed during Step 3 are re-connected.
7) Test the treadmill for function as outlined in Section 9.21.
9.9 MOTOR REPLACEMENT

1) Turn off power to the treadmill and disconnect the power cord.
2) Remove the motor cover as outlined in Section 9.1.
3) Use a hook or loop of wire to remove the spring from the drive belt tensioner (Figure A).
4) Remove the drive belt tensioner using a 6 mm Allen wrench (Figure B).
5) Cut any wire ties holding the motor cable to the frame (Figure C).
6) Disconnect the motor cable ground wire from the grounding post (Figure D).
9.9 MOTOR REPLACEMENT - CONTINUED

7) Disconnect the motor cable from the MCB (Figure E).
8) Remove the 4 screws holding the motor to the frame (Figure F).
9) Remove the motor from the treadmill.

10) Reverse Steps 1-9 to install a new motor. **NOTE:** Be sure that the motor isolator pad is in place prior to mounting the new motor (Figure G).

11) Test the treadmill for function as outlined in Section 9.21.
9.10 DRIVE BELT REPLACEMENT

1) Turn off power to the treadmill and disconnect the power cord.
2) Remove the motor cover as outlined in Section 9.1.
3) Use a hook or loop of wire to remove the spring from the drive belt tensioner (Figure A).
4) The tensioner should now pivot away from the drive belt (Figure B).

5) With the tension on the drive belt relieved it can be walked off of the motor pulley (Figure C).
6) Loosen the rear roller screws to relieve tension on the running belt (Figure D).
7) Remove the two 8 mm screws from front roller (Figures E & F).

8) Lift the roller and remove the old drive belt (Figure G).

9) Reverse Steps 1-8 to install a new drive belt. **NOTE:** After installing a new belt, check it for correct alignment to the motor pulley before setting the tensioner in place.

10) Test the treadmill for function as outlined in Section 9.21.
9.11 INCLINE MOTOR REMOVAL

1) Turn off power to the treadmill and disconnect the power cord.
2) Remove the motor cover as outlined in Section 9.1.
3) Lift the treadmill and support it so that the front wheels are off the floor, or the unit may be tipped on its side (Figure A).
4) Remove the cotter pin from the elevation rack pin (Figure B).
5) Remove the elevation rack pin (Figure C).
6) Disconnect the incline motor power cable from the MCB (Figure D).
9.11 INCLINE MOTOR REMOVAL - CONTINUED

7) Remove the incline motor cable ground wire from the ground prong in the motor frame (Figure E).
8) Disconnect the incline motor from the top mounting bracket (Figure F).

9) Lift the incline motor away from the treadmill (Figure G).
10) Reverse Steps 1-9 to install a new incline motor. **NOTE**: When installing a new incline motor, make sure to replace the white nylon washers at the top and bottom connection points of the incline motor (Figure H).

11) Test the treadmill for function as outlined in Section 9.21.
9.12 CONSOLE REPLACEMENT

1) Turn off power to the treadmill and disconnect the power cord.
2) Remove the 2 screws holding the back cover onto the console (Figure A).
3) Remove the 4 screws holding the console onto the console frame (Figure B).

4) Disconnect the 7 wire connections from the console (Figure C).
5) Remove the console (Figure D).

6) Reverse Steps 1-5 to install a new console.
7) Test the treadmill for function as outlined in Section 9.21.
9.13 EMERGENCY STOP SWITCH REPLACEMENT

1) Turn off power to the treadmill and remove the power cord.
2) Remove the console as outlined in Section 9.12.
3) Remove the 2 screws holding the emergency stop key to the emergency stop frame (Figure A).
4) Remove the 2 screws holding the emergency stop frame to the console frame (Figure B).

5) Use a flat screwdriver to flex the emergency stop key to remove it from the emergency stop frame (Figures C & D).
9.13 EMERGENCY STOP SWITCH REPLACEMENT - CONTINUED

6) Disconnect the 2 wires plugged into the back of the emergency stop switch (Figure E).
7) Depress the tabs on the top and the bottom of the emergency stop switch (Figure F).

8) Once the tabs are depressed, the emergency stop can be removed from the emergency stop frame (Figure G).
9) Reverse Steps 1-8 to install a new emergency stop switch. **NOTE:** If replacing the emergency stop key, be sure to attach the safety clip string to the emergency stop key before installing it (Figure H).

10) Test the treadmill for function as outlined in Section 9.21.
9.14 CUP HOLDER REPLACEMENT

1) Remove the console as outlined in Section 9.12.
2) Remove the 3 screws holding the cup holder to the console frame (Figure A & B)

3) Remove the cup holder (Figure C).

4) Reverse Steps 1-3 to install a new cup holder.
9.15 CONSOLE FRAME REPLACEMENT

1) Turn off power to the treadmill and disconnect the power cord.
2) Remove the console as outlined in Section 9.12.
3) Remove the 2 screws on each side holding the console frame to the handlebar frame (Figure A).
4) Remove the 3 screws on each side holding the cup holders to the console frame (Figure B).
5) Remove the 2 cup holders from console frame (Figure C).
6) Remove the console cable wiring from the console frame (Figure D).
9.15 CONSOLE FRAME REPLACEMENT - CONTINUED

7) Remove the console frame from the handlebar frame (E).

8) Reverse Steps 1-7 to install a new console frame.
9) Test the treadmill for function as outlined in Section 9.21.
9.16 HEART RATE BOARD REPLACEMENT

1) Turn off power to the treadmill and remove the power cord.
2) Remove the console as outlined in Section 9.12.
3) Disconnect the wire connections that go to the heart rate board (Figure A & B).

4) Depress the 4 spacer supports holding the heart rate board to the console frame and remove it (Figure C).

5) Reverse Steps 1-4 to install a new heart rate board.
6) Test the treadmill for function as outlined in Section 9.21.
9.17 HANDLEBAR FRAME REPLACEMENT

1) Turn off power to the treadmill and remove the power cord.
2) Remove the console as outlined in Section 9.12.
3) Remove the console frame as outlined in Section 9.15.
4) Remove the 3 screws on each side holding the handlebar frame to the console mast (Figure A).

5) Lift the handlebar frame up and away from the console mast (Figure B). **NOTE:** The console cable wiring will need to be removed from the handlebar frame on the user's right side as it is removed.

6) Reverse Steps 1-5 to install a new handlebar frame. **NOTE:** A new console cable will be sent with the handlebar frame, be sure to plug it into the MCB.
7) Test the treadmill for function as outlined in Section 9.21.
9.18 HEART RATE HANDLEBAR REPLACEMENT

1) Turn off power to the treadmill and remove the power cord.
2) Remove the console as outlined in Section 9.12.
3) Remove the console frame as outlined in Section 9.15.
4) Remove the 3 screws on each side holding the handlebar frame to the console mast (Figure A).
5) Lift the handlebar frame up and away from the console mast (Figure B). **NOTE:** The console cable wiring will need to be removed from the handlebar frame on the user's right side as it is removed.

6) Remove the screw on each side holding the heart rate handlebar to the handlebar frame (Figure C).

7) Pull the two sides of the handlebar frame away from each other and remove the heart rate handlebar from the handlebar frame.
8) Reverse Steps 1-7 to install a new heart rate handlebar.
9) Test the treadmill for function as outlined in Section 9.21.
9.19 HEART RATE GRIPS REPLACEMENT

1) Turn off power to the treadmill and unplug the power cord.
2) Remove the 2 screws holding the lower plastic heart rate grip to the upper plastic heart rate grip (Figure A).
3) Pull apart the 2 halves of the heart rate grip (Figure B).

4) Unplug the wires from the top and bottom plate and remove the heart rate grip (Figure C).

5) Reverse Steps 1-4 to install a new heart rate grip. **NOTE:** When installing a new HR grip, the red wire should attach to the top plate and the white wire to the bottom plate.
6) Test the treadmill for function as outlined in Section 9.21.
9.20 CONSOLE MAST REPLACEMENT

1) Turn off power to the treadmill and remove the power cord.
2) Remove the console as outlined in Section 9.12.
3) Remove the console frame as outlined in Section 9.15.
4) Remove the handlebar frame as outlined in Section 9.17.
5) Remove the motor cover as outlined in Section 9.1.
6) Remove the 4 screws holding the console mast to the base frame (Figure A).

7) Remove the console mast. **NOTE:** You will need to pull the console cable wiring through the hole in the bottom of the right side console mast (Figure B).

8) Reverse Steps 1-7 to install a new console mast. **NOTE:** Be sure to run the console cable wiring through the right side console mast prior to mounting it to the base frame.

9) Test the treadmill for function as outlined in Section 9.21.
9.21 TESTING THE TREADMILL

ONCE THE TREADMILL OR REPLACEMENT PART IS FULLY INSTALLED AND ASSEMBLED AND PROPERLY PLACED ON THE FLOOR, USE THE FOLLOWING INSTRUCTIONS TO SETUP AND TEST THE MACHINE:

1) If the treadmill was just assembled or if any electronic component has been replaced (including if the console cable is unplugged for any reason), the treadmill MUST be auto calibrated. Refer to the procedure in Section 3.5.

2) If the treadmill was just assembled or if the running belt, deck, or rollers are replaced, center and tension the running belt. Refer to the procedure in Section 3.6.

3) Once Auto Calibration has been run and the running belt is centered, press GO on the display. Listen for any odd noises or squeaks.

4) Press the INCLINE UP key until the treadmill is raised to the maximum incline, then lower back down to the minimum incline. Listen for any odd noises or squeaks during this procedure.

5) Press the SPEED UP key until the treadmill is raised to the maximum speed, then lower back down to the minimum speed. Listen for any odd noises or squeaks during this procedure.

6) Grasp the heart rate grips to check for proper heart rate response.

7) Press and release the Emergency Stop to return to normal operation.
## 10.1 Treadmill Specifications

<table>
<thead>
<tr>
<th>MODEL NAME</th>
<th>T-1x</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL TYPE</td>
<td>T1xe TREADMILL</td>
</tr>
<tr>
<td>FRAME PART #</td>
<td>T-1X-04-F</td>
</tr>
<tr>
<td>CONSOLE PART #</td>
<td>T-1XE/3XE-03-C</td>
</tr>
</tbody>
</table>

### Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>DECK TYPE</td>
<td>ULTIMATE™ HARD-WAX REVERSIBLE 1” DECK</td>
</tr>
<tr>
<td>BELT TYPE</td>
<td>HABASIT - 2-PLY COMMERCIAL GRADE</td>
</tr>
<tr>
<td>RUNNING AREA</td>
<td>60” X 20” / 152.4 CM X 50.8 CM</td>
</tr>
<tr>
<td>DECK STEP HEIGHT</td>
<td>7.5” / 19.1 CM</td>
</tr>
<tr>
<td>CUSHION SYSTEM</td>
<td>ULTIMATE DECK™ CUSHIONING SYSTEM</td>
</tr>
<tr>
<td>INCLINE RANGE</td>
<td>0%-15% (700 LB / 317.5 KG ELEVATION MOTOR)</td>
</tr>
<tr>
<td>SPEED RANGE</td>
<td>0.5 - 12.0 MPH / 0.8 - 19.3 KPH</td>
</tr>
<tr>
<td>CONTACT &amp; TELEMETRIC HR SENSORS</td>
<td>YES</td>
</tr>
</tbody>
</table>

### Drive System

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOTOR</td>
<td>MATRIX 3.0 HP AC DYNAMIC RESPONSE DRIVE SYSTEM™</td>
</tr>
<tr>
<td>MOTOR CONTROLLER</td>
<td>COMMERCIAL TREADMILL AC DRIVE</td>
</tr>
</tbody>
</table>

### Console

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISPLAY TYPE</td>
<td>15.6” / 39.6 CM LCD</td>
</tr>
<tr>
<td>DISPLAY FEEDBACK</td>
<td>TIME, TIME ELAPSED, TIME REMAINING, TOTAL PROGRAM TIME, CLOCK, DISTANCE (KILOMETERS OR MILES), CALORIES, CALORIES PER HOUR, SPEED, INCLINE, PACE, HEART RATE, METS, WATTS, STATIC PROFILE DISPLAY, DYNAMIC PROFILE DISPLAY</td>
</tr>
<tr>
<td>USER DEFINED MULTI-LANGUAGE DISPLAY</td>
<td>YES - ENGLISH, GERMAN, FRENCH, ITALIAN, SPANISH, DUTCH, PORTUGUESE, CHINESE, JAPANESE, KOREAN, SWEDISH, FINNISH, RUSSIAN, ARABIC</td>
</tr>
<tr>
<td>WORKOUTS</td>
<td>MANUAL, ROLLING HILLS, FAT BURN, 5K, TARGET HR, GERKIN PROTOCOL, ARMY PFT, NAVY PRT, MARINE PFT, AIR FORCE PRT, PHYSICAL EFFICIENCY BATTERY (PEB), WFI PROTOCOL</td>
</tr>
<tr>
<td>CSAFÉ, FITLINXX READY</td>
<td>NO</td>
</tr>
<tr>
<td>NETPULSE READY</td>
<td>NO</td>
</tr>
<tr>
<td>ON-THE-FLY PROGRAM CHANGE</td>
<td>YES</td>
</tr>
<tr>
<td>FIT TOUCH TECHNOLOGY™</td>
<td>YES</td>
</tr>
<tr>
<td>INTEGRATED VISTA CLEAR™ DIGITAL READY TELEVISION</td>
<td>YES - 15.6” / 39.6 CM LCD</td>
</tr>
<tr>
<td>VIRTUAL ACTIVE™ COMPATIBLE</td>
<td>YES</td>
</tr>
<tr>
<td>FITCONNEXION™ READY</td>
<td>NO</td>
</tr>
<tr>
<td>WIFI</td>
<td>NO</td>
</tr>
<tr>
<td>IPOD COMPATIBLE</td>
<td>NO</td>
</tr>
<tr>
<td>NIKE + IPOD COMPATIBLE</td>
<td>NO</td>
</tr>
<tr>
<td>PERSONAL FAN</td>
<td>NO</td>
</tr>
<tr>
<td>CROSSBAR CONTROLS</td>
<td>NO</td>
</tr>
</tbody>
</table>

### Tech Specs

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL DIMENSIONS</td>
<td>84.6” X 34” X 52”</td>
</tr>
<tr>
<td></td>
<td>214.9CM X 86.4CM X 132.1CM</td>
</tr>
<tr>
<td>MAXIMUM USER WEIGHT</td>
<td>350 LBS/158.8 KG</td>
</tr>
<tr>
<td>WEIGHT</td>
<td>338 LBS/153.8 KG</td>
</tr>
<tr>
<td>SHIPPING WEIGHT</td>
<td>379 LBS/172.3 KG</td>
</tr>
<tr>
<td>ELECTRICAL RECEPTACLE &amp; PLUG</td>
<td>NEMA 5-20R/P 110 V OR NEMA 6-20R/P 220 V</td>
</tr>
<tr>
<td>ELECTRICAL REQUIREMENTS</td>
<td>20 AMPS-DEDICATED CIRCUIT REQUIRED-NON-LOOPED GROUNDED</td>
</tr>
</tbody>
</table>
### FRAME SET

<table>
<thead>
<tr>
<th>Part #</th>
<th>Part Name</th>
<th>Diagram</th>
<th>Specification</th>
<th>Quantity</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>SOCKET HEAD CAP SCREW</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>8</td>
<td>Blue</td>
</tr>
<tr>
<td>12</td>
<td>FLAT WASHER</td>
<td></td>
<td></td>
<td>8</td>
<td>Blue</td>
</tr>
<tr>
<td>14</td>
<td>SOCKET HEAD CAP SCREW</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>4</td>
<td>Black</td>
</tr>
<tr>
<td>15</td>
<td>BUTTON HEAD SCREW</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>6</td>
<td>White</td>
</tr>
<tr>
<td>16</td>
<td>BUTTON HEAD SCREW</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>6</td>
<td>White</td>
</tr>
<tr>
<td>18</td>
<td>BUTTON HEAD SCREW</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>2</td>
<td>Yellow</td>
</tr>
<tr>
<td>T-Wrench</td>
<td></td>
<td></td>
<td>1/4&quot; x 14&quot;</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

### CONSOLE SET

<table>
<thead>
<tr>
<th>Part #</th>
<th>Part Name</th>
<th>Diagram</th>
<th>Specification</th>
<th>Quantity</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Hex Head Cap Screw</td>
<td></td>
<td>M8 x 1.25P x 40L</td>
<td>4</td>
<td>Yellow</td>
</tr>
</tbody>
</table>
ATTENTION

After assembly and installation is complete, the treadmill will need to be calibrated using the auto-calibration procedure outlined in Section 3.5. **DO NOT stand on the belt while the auto-calibration sequence is in progress.**

Prior to assembling the treadmill, unpack all of the contents of the box and make sure that all necessary components are present. Review the contents of the hardware package for completeness. Contact Matrix customer service at 866.693.4863 to report any missing items.

ASSEMBLY INSTRUCTIONS

Please make sure that the power cord is not plugged into the wall outlet while completing the following procedure. To ensure correct assembly of the treadmill, carefully read and follow these steps:

**STEP 1**

A. Cut the yellow banding straps and lift the running deck upward to remove all contents from underneath the running deck.

B. Remove the motor cover and set aside. The motor cover needs to be removed to gain access to the motor compartment so that wire harness connections can occur.

**STEP 2**

A. Open BLUE HARDWARE BAG.

B. Assemble both the left and right console masts to the treadmill base using item **11-SOCKET HEAD CAP SCREW** and item **12-FLAT WASHER**.

**NOTE:** Do not tighten bolts until step 3 is complete.

**NOTE:** The console mast caps are marked with an L if they are to be used on the left-hand side of the treadmill or an R if they are to be used on the right-hand side of the treadmill. If the console mast caps are assembled on the incorrect side of the treadmill, the unit will not assemble correctly.
10.3 ASSEMBLY INSTRUCTIONS - CONTINUED

STEP 3

A Open YELLOW AND WHITE HARDWARE BAGS.

B Assemble the contact HR crossbar to the left and right handlebars using 18-BUTTON HEAD SCREW. Fasten the contact HR crossbar/handlebar assembly to the console masts using 15-BUTTON HEAD SCREW AND 12-FLAT WASHER.

NOTE: Make sure the arrows on the mast rings are pointing upward towards the console when sliding into place.

C Pull the HR wires through handlebars using wire pull. Pull mast wire through handlebar.

**ASSEMBLY TIP:** look at the labels on the HR wire coming from the contact HR crossbar to ensure contact with HR crossbar and left-right handlebars are assembled in the proper orientation.

NOTE: Be careful not to pinch any wires while assembling the right console mast.
STEP 4

A Open BLACK HARDWARE BAG.

B Assemble the console to the handlebars using 14-SCREW HEAD CAP SCREW. Be sure to route the console cables down the console mast and connect the contact HR wires. Make all appropriate wire connections within the motor compartment.
STEP 5

For T1xe and T3xe **110 V** units, an additional power board needs to be installed.
For T1xe and T3xe **220 V** units, the additional power board is not needed.

1) The power board will ship with the console and look like Figure A:

![Figure A](image1)

2) The power board will be installed in the motor tray (Figure B).
3) Connect the 2 wire (black and white) connector into the W101 terminal on the power board (Figure C - Top Connection).
4) Connect the 6 wire (3 red / 3 white) connector into the W102 terminal on the power board (Figure C - Bottom Connection).

![Figure B](image2)

![Figure C](image3)

5) Tilt the board on its side and mount to the frame with 2 screws (Figure D).
6) Figure E shows the power board correctly installed in the motor tray area.

![Figure D](image4)

![Figure E](image5)
STEP 6

A Replace the motor cover(s) and power the treadmill unit on. The power button is located next to the power cord inlet.

B BEFORE THE FIRST USE: Calibrate the treadmill using the auto-calibration feature found in 'Manager Mode' or 'Engineering Mode'. DO NOT stand on the belt while the auto-calibration sequence is in progress.

ASSEMBLY COMPLETE!
10.4 TV Programming Instructions

Once the cardio equipment has been installed, and proper power and cable wiring is provided, The Television must be programmed to the club's channels and settings.

**Auto Scan** - An auto scan will search for channel signals from the coax cable. It will tune in all channels that provide a signal.

1. Press ENTER, 1, 0, 0, 1, ENTER on the number keypad to enter Manager Mode.
2. Press TV on the display (Figure A).
3. Press SETUP on the display (Figure B). A TV will appear.

4. Press the - key on the number keypad and a Menu will appear on the TV (Figure C). **NOTE:** Once the Menu is present on the screen, the following buttons must be pressed quickly, or the Menu will minimize after 5 seconds of no key strokes.
5. Use the CHANNEL UP and DOWN keys to move, ENTER key to enter this action in the Menu. Use the VOLUME UP and DOWN keys to select item and ENTER key to start / change / save this setting item in the sub-menu.
6. Use the CHANNEL UP and DOWN keys to scroll the cursor to Installation of the Menu, then press the ENTER key to enter the Installation sub-menu(Figure D).

7. Use the CHANNEL UP or DOWN keys to scroll down to Auto Scan (Figure E), then press the ENTER key to start the channel scan (Figure F).
10.4 TV PROGRAMMING INSTRUCTIONS - CONTINUED

Auto Scan (continued):

8. If the channels are not coming in clearly after a channel scan (or if only some channels come in), follow Steps 4-7 to enter the Installation. Use the CHANNEL UP or DOWN keys to change the TV System to match the club’s incoming frequency (Figure G), then re-run Auto Scan.

9. If the channels are coming in clearly, press the HOME key to return to normal function (Figure H). If some channels are still not coming in, are blurry, or are not scanning, follow the procedure below for adding / deleting a single channel.

**Adding or Deleting a Single Channel** - At times the Channel Scan can pick up channels that do not have a strong enough signal to come in clearly or will fail to pick up channels that do come in clearly. Use the following procedure to manually add or delete a channel.

1. Follow Steps 1-4 in the Auto Scan instructions to access the TV Menu.
2. Use the CHANNEL UP or DOWN keys to scroll to Channel Management the Menu. Then press the ENTER key to enter the Channel Management sub-menu.
3. Use the CHANNEL UP or DOWN keys to scroll to Hide / Show (Figure I). Then press the ENTER key to enter the Hide / Show sub-menu.
4. The Hide / Show sub-menu will show a list of channels available (Figure J). Channels with a check mark are scanned in and should show up during normal TV usage.
5. To remove or add any channel, simply scroll to the channel using the CHANNEL UP or DOWN keys, and then press ENTER to add or delete a check mark (which adds or deletes the channel).
6. Once the desired channels are scanned in, press HOME to return to normal operation.
11.1 SOFTWARE UPGRADE PROCEDURE

* An AC power cord is required to update software in the field. Plug in the unit prior to beginning the update procedure.
** All plug ins must be removed prior to updating software (for example, no iPod can be connected). Do not use the console while an update is in process.
*** If VA is installed on the console, wait until the Virtual Active icon on the standard display picture turns red prior to updating the software.

1) Five files should be present on the USB drive. These are DrumnuDeploy.cab, NK, IO Xxx, updateLMM.confige, and Extract_CE.
2) Turn on the power and wait until the standard display picture has been come up (Figure A).
3) Wait until the Virtual Active icon turns RED. Insert the USB Drive into the USB port in the console (Figure B).
4) After a few seconds, the console will auto run the upgrade processing. The achieved percentage of the scheduled process will be displayed in the bottom right corner of the display (Figure C).
5) When the update is complete, the display will ask you to remove the USB drive (Figure D). Once the USB drive is removed, turn off the power and wait 30 seconds, then turn the power back on.