IMPORTANT SAFETY INFORMATION

Caution: The user shall not make any modifications or changes to the resistance trainer terminals. Any modifications could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

Contents:

I. Overview

The Resistance Trainer unit and accompanying sensor hardware is mounted on selectorized resistance exercise machines (those using a stack of weight plates adjusted by a pin setting). When a member enters their 'PIN' on the keypad, the interface retrieves the day's exercise (via 906mHz wireless network) and displays their personalized daily workout. The actual number of sets and repetitions per set are counted utilizing low-power ultrasonic position sensing of the top plate of the weight stack. Upon workout completion, set, repetition, and confirmed utilized weight data is transmitted to the server (PC) for inclusion in the member's comprehensive workout history. The member is then directed to move to the next exercise in their prescribed routine.

Configuration and setup of the Resistance Trainer consists of three steps: 1. Identification (ID) – the storage of exercise information particular to the exercise machine on which the resistance trainer is mounted. 2. Range of motion calibration – setting parameters for ultrasonic position sensing. 3. Weight stack data entry – Setting of the accessory weight and main weight stack weight.

These values are configured using the resistance trainer's 'Setup' menu. Advanced settings can be adjusted using the 'Manager' menu. A two level menu hierarchy is used to limit access to particular setup parameters to authorized users.

II.   Resistance Trainer 'Setup' Menu

The Fitness Advisor Resistance has an initial menu for machine settings and diagnostic features. This menu can be accessed by typing '9999' *enter*, then '1802' *enter.* The following menu will then appear on the screen:

1.   **Configure Box ID**
2.   **Range of Motion Calibration**
3.   **Setup Weight Values**
4.   **Live Display**

To select a choice, simply push the number and then ***enter***.

1. **Configure Box ID —** Communicates configuration information about the resistance trainer interface with the server PC. Simply enter the ID# assigned to the machine, and push 'enter'. If you log in as the **Administrator** at the kiosk and press '**Setup Machines'** you can view each machine's ID value.

2. **Range of Motion Calibration** — Calibrates the range of motion sensor(s) attached to your resistance trainer. See section IV range of motion calibration for more information.

3. **Setup Weight Values** — Sets weight stack parameters – Number of accessory weights, accessory weight increment, minimum weight stack value, main weight stack increment, and maximum weight stack value. Must always be performed when installing a new resistance trainer.

4. **Live Display** — This choice displays all the current data for the machine. You can review the machine's ID, Address, current range value, and battery voltage level.

III.   Resistance Trainer 'Manager Menu'

The Fitness Advisor Resistance Trainer has a secondary menu for adjustment of machine specific and resistance trainer operation settings. This menu can be accessed by typing '9999' **enter**, then '1776' **enter**. The following menu will appear on the screen:

1.   **Adjust System Timeouts**
2.   **Adjust Brightness**
3.   **Adjust Contrast**
4.   **Adjust Volume**
5.   **Restore Factory Defaults**
7.   **Set Passwords**

Each choice performs or stores a specific function. To select a choice, simply push the number and then *enter*.

1.   **Adjust System Timeouts** — Sets time intervals of the following options. After entering the desired timeout rates, press *'enter'* to advance to the next choice.

   Choice 1—Time Before Self Shutoff
   Choice 2—Time Before Dimming LCD
   Choice 3—Time To Display Message
   Choice 4—Time To Start ROM Setup
   Choice 5—Time To Reach Steady ROM
   Choice 6—Time To Hold Steady ROM
   Choice 7—Display Select Exercise
   Choice 8—Display Setup Summary
   Choice 9—Display Workout Summary
   Choice 10-Time Before Set Completes
   Choice 11-Display Next Exercise

2.   **Adjust Brightness**— Adjusts the backlight brightness level and the backlight dimmer level. Lower values increase battery life. Valid range is 0-63.

3.   **Adjust Contrast**— Adjusts the contrast level to desired level. Valid range is 0-63.

4.   **Adjust Volume** — Adjusts the volume level to desired level. Valid range is 0-63.

5.   **Restore Factory Defaults** — Brings up a sub menu to allow the factory settings to be restored for System Timeouts, Brightness, Contrast, Volume, or All Settings.

6.   **Set Passwords** — Sets custom passwords for security purposes (replacing '1802' and '1776'. Available only after the resistance trainer 'ID' has been configured (Setup Menu option 1).

IV.   Range of Motion Calibration

The ultrasonic range of motion sensor must be calibrated for each machine it is used on. This only needs to be done the first time the equipment is installed or after the range of motion sensor has been replaced. The range of motion sensor measures the distance to the top of the weight stack by transmitting low frequency sound pulses and then listening for the return echo. The distance is calculated by measuring time it takes for the echo to return. The initial calibration "teaches" the range of motion sensor what the expected travel of the weight stack will be.

To start the calibration process select option 2 from the 'Setup' menu. The resistance trainer will then begin tracking movements of the weight stack. First the resistance trainer will require the weight stack to be moved through it's entire range of motion. **Note: USE THE ENTIRE RANGE OF MOTION OF THE MACHINE, NOT YOUR RANGE OF MOTION.** Once the machine has been moved through its entire range of motion press "Enter" to continue. The resistance trainer will then ask that the range be verified. Again, move the machine through it's entire range of motion while watching the range of motion bar at the bottom of the screen to verify the weight stack is properly tracked. If this operates properly press "Enter" to exit the calibration, otherwise press "Option" to retry.

V.   First Use Instructions for Facility Staff

Position the member on the first machine and make the necessary biomechanical adjustments. (It is not required to do the exercises in order; some gyms however prefer this to control the flow of traffic).

1.   Turn the resistance trainer ON, have the member type in their 'PIN' and press 'Enter'.

2.   The display will greet the member and take them through a setup procedure:

- Type the position number for any machine adjustments (such as Seat Position) and press 'Enter'.
- Change the recommended lifting speed, if desired, using the up and down arrows. Press 'Enter' to accept the indicated number. Increasing the value means you'd like the repetition to be slower (take a longer time).
- Follow the instructions for the Range Of Motion (ROM) setup.   If a 'Weights Unsteady' message is displayed, repeat the ROM setup, and assist the member in holding the weight still at the top and bottom of their range. Make sure the member does not overreach during the setup!
- Now the member's personal setup is permanently stored for that machine. You will not have to repeat the setup procedure in the future unless you or the member wishes to change the settings. Press 'Enter' to continue…

3.   The resistance trainer will now prompt for the workout:

- The first set is a <u>warm-up</u> of 10 repetitions at a light weight. (For this set, and for that of the actual Test, remember: the recommended weight is just that – a recommendation. ADJUST THE WEIGHT VALUE AS YOU, THE TRAINER, SEES FIT!) For each repetition, listen for the "BEEP" at both the top and bottom of the stroke. Each repetition is only counted if both "BEEPs" are heard. (If a 'triple beep' is heard, the rep was performed too quickly; either the member should slow down, or the lifting time should be decreased through the Setup the next time the member logs on to that machine). When the member is done with the warm-up set, press enter to move on to the actual Test set.
- Adjust the weight so the member will fail between 5 to 15 repetitions (12 is optimal). Again, the targets on the first Strength Test are only a recommendation based on the member's gender and weight. <u>This test set is how the computer will recommend the weight for future workouts, so encourage the member work hard!!</u>   A third or fourth set may be performed (the MINIMUM is two); the set with the greatest workload (weight and rep combination) will be used for future workout targets.

Follow the same procedure for ALL OF THE MACHINES ON THE LIST. A TEST MUST BE COMPLETED ON ALL MACHINES ON THE LIST TO MOVE ON TO FUTURE WORKOUTS! Be sure to remind the member that they may be asked to repeat the strength test at some point later in their workout program. The exact workout day the member is asked to repeat the strength test is determined by the layout of the program. See system user's manual for further details.