

# Enhanced Tennis Twist USERS MANUAL



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## INTRODUCTION

What factors make some individuals superior in skills during sporting events? This question has been asked by many trainers for as long as civilizations have existed.

The Enhanced Tennis Twist (**ET<sup>2</sup>**) does not address all the factors, but it does address the issue of movement. Learning 'timed' movements at an early age can significantly increase the attainable skill level of most athletes.

**ET<sup>2</sup>** provides a teaching tool which can influence our youth at an age when habits are more easily molded. Using this simple tool allows a skilled coach to begin physical training that utilizes 'timed' movements rather than just movements. Learning to move at specific times that relate to an opponent's action can improve what is called the sensory-motor responses. Learning these basics at a young age allows the growing athlete to develop skills that allow them to perform better at an older age. These skills will maximize the starting acceleration with resulting speeds that allow quicker positioning of the individual or athlete, and thus better control of muscle groups involved in executing [a stroke](#), a kick, [a catch](#), a toss or other [complex movements](#). A document on our website ([www.Sports-Split-Step.com](http://www.Sports-Split-Step.com)) called 'The Fundamental Sequence of Movement' provides an in-depth look at the movement called the 'split step'.



When directing our attention to the game of tennis, one might ask, "What are the fundamental movements of professional tennis players?"

Professional tennis players will perform the same basic movements on each and every ball hit by the offensive player (even if they cannot make it to the CENTER of possible returns) before the offensive player hits the ball. The defensive player is at a disadvantage when not being in the perfect position, but their best reaction is to execute the following moves.

- Shortly before the offensive player hits the tennis ball, the defensive player or the player about to have the ball land in their court will have CENTERED or moved to the most likely spot where the opponent's ball will land.
- As the offensive player's begins their swing to contact the ball, the defensive player will begin to load their legs for performing a HOP into the air.
- Ball contact by the offensive player is an important time and the defensive player's goal is to be at the TOP of their HOP when the ball is struck.
- Reading the direction of the ball coming off the offensive player's racket is a most important skill and the defensive player's goal is to determine the direction as they begin to descend from the TOP of

- the HOP to the tennis court. Timing is crucial for insuring the defensive player the best possible position for the opponent's shot.
- The defensive player will try and land on the foot that is away from the incoming ball (especially the very wide balls) so that gravity can help them accelerate as quickly as possible in the proper direction for the incoming ball.
  - After the defensive player gets near the hitting position they begin taking shorter steps in preparation for their shot. Once the player hits the ball they can then recover from their shot and begin centering for the opponent's next shot.

## Features

ET<sup>2</sup> emulates the movements and timing of athletes in the sport of tennis, but can be used to train athletes in many of today's sports. Furthermore it provides a platform by which the player can perform what Daniel Coyle in his New York Times bestselling book, '[The Talent Code](#)', describes as 'Deep Training'. Deep Training is where an athlete executes sport specific movements at controlled speeds and in a repetitive fashion, so that the athlete can perform exactly what is desired. In so doing the sensory-motor pathways for remembering are greatly enhanced as they increase the speed and add more difficult movements.

- Timed Shadowing and patterns of play are available in 7 different modes.
- Accelerates the training and skill building of an athlete.
- Enhances the training of the Split Step, an important move in tennis and in fact all sports.
- Promotes better court or field coverage.
- Develops movements timed to the opponent's shot or other movements.
- Builds aerobic capacity while executing a timed stroke.

- Can be used with players before, during or after the introduction of strokes.
- Stroke production and technique can also be practiced without having the skills required for hitting a real ball.
- Can be used on court, in your driveway, or any open area.
- Allows players to train in large groups, either on a court or inside on rainy days.

## Quick Guide for the Enhanced Tennis Twist (ET<sup>2</sup>)

When you power ON the ET<sup>2</sup> it will automatically begin executing the selected drill on the small Thumb Wheel Switch (TWS) located just below the Power Switch at the rear of the ET<sup>2</sup>. To change the selected drill, press the small vertical actuator at either end of the TWS; one will increase and the other will decrease the selection. TWS=8 & TWS=9 settings are not used.



### BASIC DRILLS Using the LEDs

- TWS=0: When in this mode the Coach will position the athlete at various locations relative to the ET<sup>2</sup> and then have the

athlete perform a Split Step and move to hit a delivered ball from the **ET<sup>2</sup>**; **TWS=0** is the only drill that will deliver a ball (note: in this mode be sure to keep balls in the hopper).

- **TWS=1**: Split Step (i.e. RED LEDs only) this mode is used to learn to time the vertical movement to the RED LED down and up sequencing; it can also be used for introducing lateral movements and landing on the opposite foot to the direction of movement.
- **TWS=2**: This mode uses the skills developed in the **TWS=1** mode, but moving to the LEFT when the GREEN LED comes ON; it can also be used to introduce the swing at an imaginary ball, along with a recovering/centering move.
- **TWS=3**: This mode uses the skills developed in the **TWS=1** mode, but moving to the RIGHT when the GREEN LED comes ON; it can also be used to introduce the swing at an imaginary ball, along with a recovering/centering move.
- **TWS=4**: This mode uses the skills developed in **TWS 1,2,3**; split step with landing, moving to the RIGHT, moving away from a BODY shot (both GREEN LEDs come ON), and then to the LEFT; all moves to the ball can be followed with a swing at the imaginary ball and a recovering/centering move.
- **TWS=5**: This mode develops movement into the court when the TOP GREEN LED comes ON (FORWARD towards the net, as in a short ball); all moves to the ball can be followed with a swing at the imaginary ball, along with a recovering/centering move to the baseline.
- **TWS=6**: This mode is used to develop both approach shots followed by an overhead; player moves FORWARD when the TOP GREEN LED comes ON and then BACKWARDS when the BOTTOM GREEN LED comes ON; all moves to the ball can be followed with a swing at the imaginary ball and a recovering/centering move to a specified location on the court.
- **TWS=7**: This mode exposes the player to movements in 8 different direction by using the ALL STAR drill; each

directional movement would start with the split step, then landing and moving in various directions based on which GREEN LEDs come ON: 1) LEFT, 2) 45 deg (TOP and LEFT), 3) FORWARD (TOP), 4) 45 deg (TOP and RIGHT), 5) RIGHT, 6) 45 deg (BOTTOM and RIGHT), 7) BACK (BOTTOM), 8) 45 deg (BOTTOM and LEFT); all moves to the ball can be followed with a swing at the imaginary ball and a recovering/centering move.

## READING AND REACTING TO THE LEDS



The RED LEDs will sequence downward and then upward, and the athlete has to learn to perform different activities during these sequences.

- As the top RED LED turns ON the athlete will have recovered and trying to reposition (called 'centering' in tennis) from the previous HIT.
- This centering will continue until 3 RED LEDs turn ON, at which time the athlete will have to start loading their legs in preparation for the HOP.

- Full leg loading should be completed by the time the 4<sup>th</sup> RED LEDs turn OFF in the down sequence.
- As the 4<sup>th</sup> RED LED turns OFF the athlete should begin their upward portion of the HOP into the air, an audio BEEP will occur at the same time.
- As the athlete rises into the air the directional GREEN LED(s) will turn ON and the athlete will begin to sense the indicated directional information.
- As the athlete develops their skills they will be able to determine the direction and will learn to respond by landing on the opposite foot to the direction they want to move.
- As the athlete's foot is thrust to the ground their center of gravity will be propelled with an equivalent force of about 60 pounds for a 100 lb person.
- As the athlete begins to increase their speed the RED LEDs begin to sequence in an upward direction as the athlete moves towards the final hitting position.
- After 3 of the RED LEDs turn OFF the athlete must begin to prepare for execution of the HIT; the hit (racket at the contact point) should occur as the TOP RED LED turns ON and the audio BEEP is heard.
- As the athlete completes execution of the swing and HIT, they will then begin recovering and centering for the next repetition.

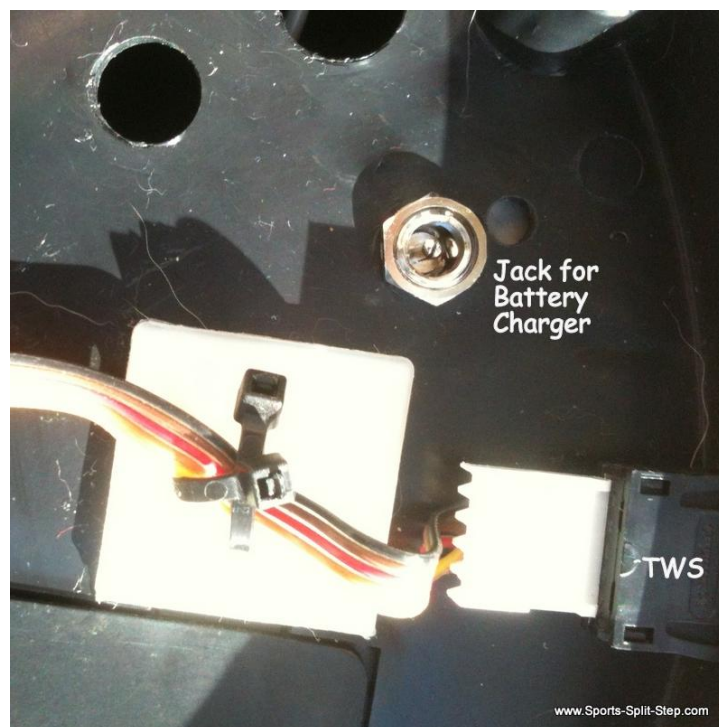
## **MAINTAINING THE ENHANCED TENNIS TWIST**

Here are some additional items that will provide help in maintaining and getting the most out of your **ET<sup>2</sup>**:

- When in the TWS=0 mode Do NOT let your **ET<sup>2</sup>** run without balls to extend the life of your ball machine.
- As the battery begins to run down the ball cycle time will increase or take longer between balls.



- If the TWS=0 will not deliver a ball, there is a good chance the battery is not fully charged.
- Even thou the **ET<sup>2</sup>** will not deliver balls, you can still utilize the drills TWS 1 thru TWS 7; this mode of operation can continue until the small RED LED located on the front left of the **ET<sup>2</sup>** comes ON.
- Once the RED LED battery indicator comes ON, you have about 2 hours of running time left.
- The rechargeable batteries should provide some 16 to 20 hours of continuous operation, for most coaches this means recharging on a weekly basis; when **ET<sup>2</sup>** is not in use the batteries will remain charged for up to 2 weeks.
- It is best to trickle charge overnight (some 12 to 16 hours) to get a full charge.



- One end of the charger is plugged into an electrical jack located on the bottom of the **ET<sup>2</sup>** and the other into a 115 VAC outlet.
- A special charger is provided and using other chargers could cause damage to your batteries and will void the warranty.



- The **ET<sup>2</sup>** is not water proof and leaving it out in a rain could create problems.
- The batteries can be recharged between 500 & 1000 times before needing replacement; replacement will be indicated when the batteries can no longer hold a charge for more than 4 hours.
- Replacing the batteries with 10,000 mA-Hr batteries from [TENENERGY](#) will provide you with the best operation.
- Replacing batteries is accomplished by turning the **ET<sup>2</sup>** upside down and releasing the two small plastic snaps.



- Batteries are a bit tricky to install as one will need to first orient them properly and then be sure all 6 batteries are securely down and NOT riding on top of the end terminals.
- To assure proper installation, first insert the (-) end of the battery at the spring; then set another battery at the other end, but tilt it up so that the middle battery can be wedged between the two previously inserted batteries, and then push all batteries into place. Note that each group of 3 batteries is pointed in opposite directions.



- The battery cover will not close if the batteries are not securely down; if the batteries are inserted in the wrong direction the unit will not function.
- We advise you to not try and separate the base from the tower as one could cause damage to the interconnecting cables; call Sport-Split-Step at (530-272-7345) for any questions you might have.

## **Limited 1 Year Warranty**

Sports Split Step provides product purchasers with a limited 1 year warranty for all products.

### **Limited 1 Year Warranty Clauses**

1. In order to be eligible for Sports Split Step Limited 1 Year Warranty, product registration must be completed by the purchaser. The warranty of the purchased product is activated from the completion date of the product registration at Sports Split Step or from an authorized distributor. Sports Split Step reserves the right to determine the eligibility of the product registration if the registration process is delayed by the purchaser for more than three months after the original purchase date. Satisfactory proof is required to claim the warranty; for example, the invoice from the initial purchase.
2. The Limited 1 Year Warranty is for the original purchaser only. In the event of a sale or product transfer by the original purchaser to a third party, the warranty period shall be as described in the “After the Limited 1 Year Warranty Period”.
3. If the product is operated under a normal operating environment during the warranty period and a malfunction is not caused by external or internal self-assembly, Sports Split Step reserves the right to exchange components, repair, or substitute the appropriate types of products at its discretion.
4. All replaced parts will be brand new parts. These can include but are not limited to: new components, modules, or substitute products for repairing.
5. When the product has exceeded the warranty period, warranty clauses, or is otherwise inapplicable to warranty (please refer to the “After the Limited 1 Year Warranty” section), maintenance service, replacement, shipment, and any other related charges might occur.

### **Other Exception Clauses**

Sports Split Step guarantees its products against defects in materials and workmanship under limited conditions. However, under the following exceptions, Sports Split Step has no liability to provide warranty services for the repair or maintenance without charge.

1. Damages caused by accidental events, damages due to the human force or self-assembly, damages caused by negligence of maintenance or modification behaviors without authorized technical support.
2. Damages resulting from any natural disaster.
3. The appearance of a product due to dust, dirt and age, normal wear of mechanical components and accessories outside of the product itself.
4. Purchasers are responsible to pack the repair product in good condition and ship it to the original distributor/representative. Shipping charges must be paid by the sender.

### **After the Limited 1 Year Warranty Period**

If the received products have exceeded the warranty time, Sports Split Step will still provide the related repair and or maintenance services. However, the owners of the products are responsible for the repair and or maintenance charges, the return shipping charges and any additional costs.

## ET<sup>2</sup> SHIPPING INSTRUCTIONS FOR RETURNS

1. Unit must be returned in the original double box with bubble wrap for repairs.
2. If original packaging is not available, then UPS must be used to package the ET<sup>2</sup> for return to the Sports Split Step factory.
3. Batteries must be removed from the battery compartment; you do not need to return batteries for repair work.
4. The Customer is responsible for sending the unit via UPS with \$500 insurance; this return shipping must be PAID by the Customer.
5. Once the unit is received and examined, the Customer will be notified of the Repair Costs and an invoice will be sent to the Customer for payment.
6. Upon receipt of payment the unit will be repaired and returned to the Customer.