TABLE TENNIS ROBOT AMICUS ADVANCE

OPERATION MANUAL IMPORTANT: Please read instructions carefully prior to use!

From novice to professional, from defender to attacker,
... ideal for every type of player and every level of play

Congratulations, you are now the owner of a Butterfly table tennis robot.

The manufacturer offers a full 2 year guarantee as well as a 5 year service plan covering repairs and replacement parts, effective from the date of purchase. Please ensure you keep your receipt!

Special features:
- Unique worldwide innovation: Ball delivery with state of the art three-wheel technology
- The wheels are manufactured using rigid sponge with a special coating for better durability
- Compact, solid, functional construction (6kg)
- A large all-round collection net
- Well designed and user-friendly control panel.
- Variable ball placement, adjustable to desired spin, speed and trajectory
- Programmed and random delivery of balls with different spin, speed, direction and trajectory
- Automatic correction of length of ball delivery
- All functions adjustable from the player's side on the control panel
- Adjustable height of ball delivery
- Memory space for 22 exercises and AFC (automatic Frequency control) function
- 10 pre saved exercises selected by Richard Prause (see page 5)

Please note:
- Please read this instruction manual carefully before using the machine!
- The Table Tennis Robot may only be connected to a 100-230V power supply
- The projection wheels rotate at high speed, therefore avoid touching the wheels while the machine is running as this can cause injury!
- The Table Tennis Robot, AMICUS ADVANCE, should only be used in closed and dry rooms!

1. ASSEMBLY

The following components are included with the robot and must either be assembled or connected to the machine prior to its use.

a) Base unit with collection net
b) 24V DC power adapter
c) Control unit
d) Extension cable
e) Control unit holder

Other components: Allen keys, projection wheels, tube for wheel adjustment, spare rubber for the collec-tion net, Velcro strips for securing the collection net.

1. Place the base unit on the table in an upright position (connections facing you). (Fig.1.). Open out the net supporting frame into Position 1. (Fig. 2); the metal poles facing you are for securing the base unit to the table as seen in the photograph.

2. Attach the base unit to the table with the aid of the preassembled holder (see photo-graph) and rotate the head by loosening the large screw on the base unit, turning it in the opposite direction (180 degrees).

3. Standing behind the machine, fold down the net supporting frame completely by grip-ping the top part of the frame on each side and pulling the sides apart until fully exten-ded (Fig. 3.) Attach the plastic corner pieces to the corners of the table (Fig. 4.)

4. Then pull the ends of the ball collection net between the table tennis net posts and its supports, and secure the rubber bands to the clamp screws.

Secure the velcro strips, which are attached to the side of the ball collection net, to their counterparts fixed to the plastic corner pieces.

5. Connect the extension cable and the adap-ter to the appropriate connections found on the side of the base unit (Fig.7). The cable on the opposite side of the table is then connec-ted to the control unit which you should then mount onto the players-side of the table. (Fig. 8.)


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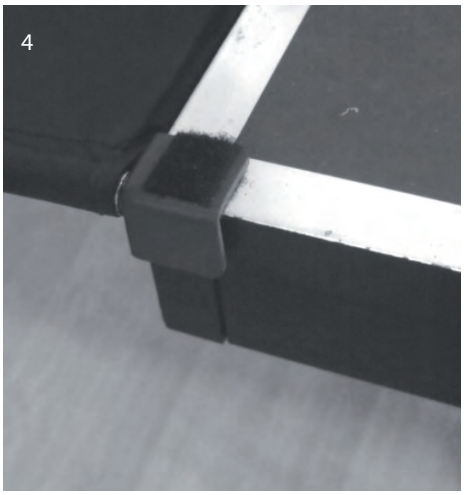
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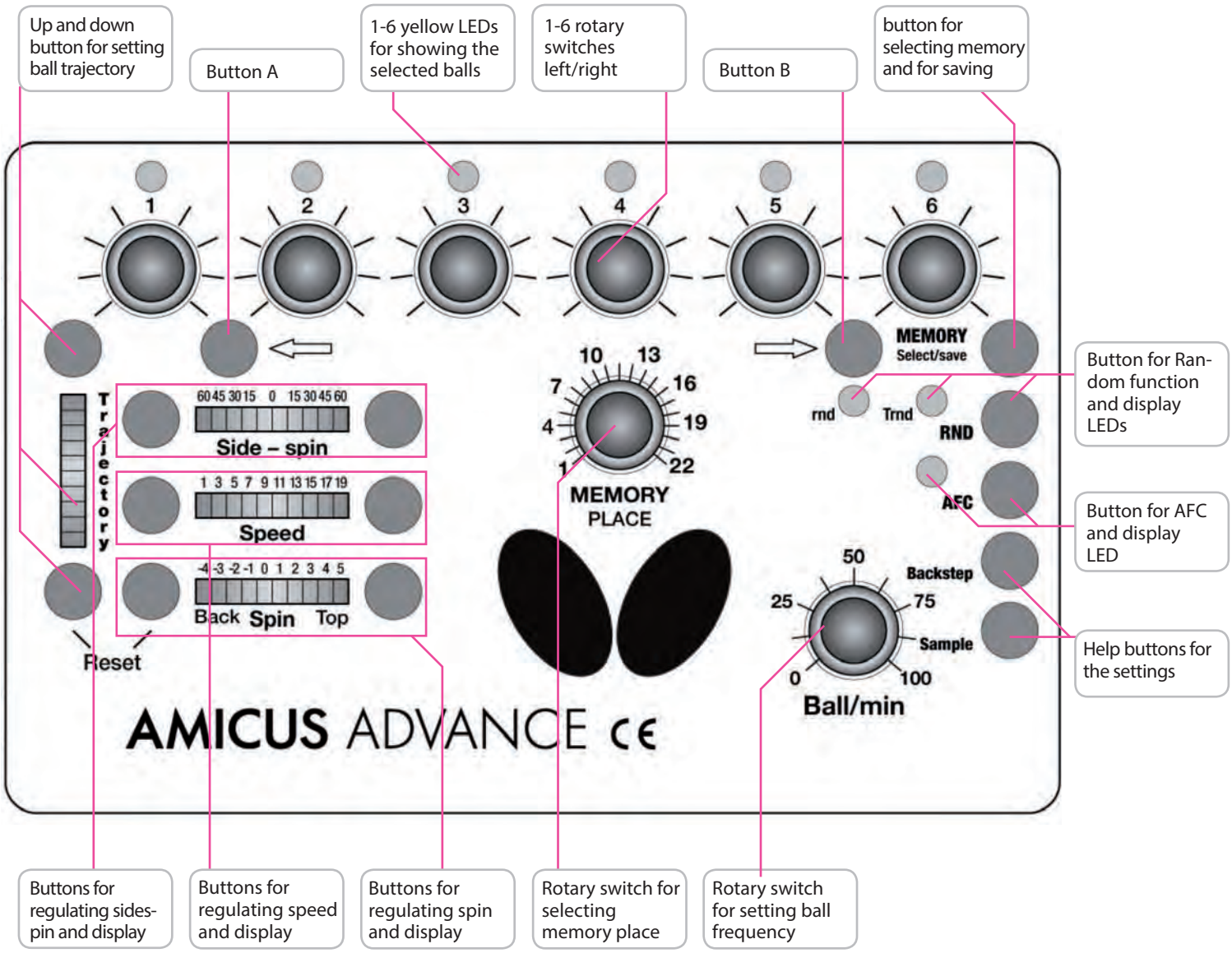
2. CONTROL UNIT (SHORT DESCRIPTION)



With the help of rotary switches 1-6 above and the buttons, it is possible to program six different landing spots, for example Ball 1 * middle, Ball 2 * left, Ball 3 * right, Ball 4 * right … See illustration.

Trajectory:	Trajectory regulation
Button A:	Setting balls 6-1
Button B:	Setting balls 1-6
Memory:	Saving rallies and exercises
Side-Spin:	Sidespin regulation (left → Sidespin left; 0 → no Sidespin; right → Sidespin right)
Speed:	Speed regulation (1 → slow; 19 → fast)
Spin:	Spin regulation (-4 → extreme backspin; 0 → no spin; 5 → extreme topspin)
Memory Place:	Choice of up to 10 previously saved exercises (Banks 1-10) and space for up to 12 individually created exercises
Ball/min:	Regulation of the ball frequency (balls/min), When set to 0, robot switches to „silent mode" (silent standby)
RND:	Choice of two random functions
AFC:	Automatic frequency regulation when playing with varied spin
Backstep:	Automatically uses the setting for the previous ball for the next ball to be set
Sample:	Simulates a ball delivery without saving it

Advise: When executing an exercise starting with service, both the trajectory and speed of the ball are to be adjusted in low position, whereas the height of the head in rather high position.

3.1 | STARTING THE ROBOT

Fill the „ball container" with a sufficient quantity of balls (50-60 balls) and then turn the Ball/min rotary switch to the „0" position before turning on the power.

After turning on the power, the robot will carry out a brief self test (approximately 5 seconds) and the control unit will then automatically switch to the basic setting. By turning the „Ball/min" rotary switch to a higher position the projection motors will start to work and the robot will start releasing balls.

3.2 | THE HEIGHT OF THE PROJECTION HEAD

As with all the Amicus robots, the height of the robot head can be adjusted as follows: Loosen the hand screw on the back of the tube which holds the projection head. The tube can be moved up and down as required. (Fig. 9.). Finally adjust to the desired height, ensuring that the top of the outer tube lines up with one of the markings on the inner tube then tighten the hand screw (Fig. 10).

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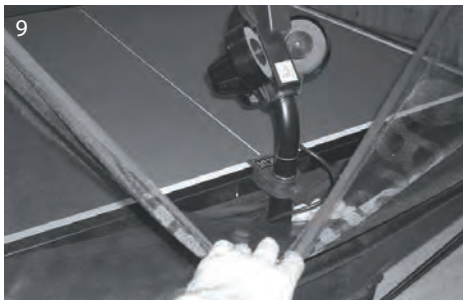

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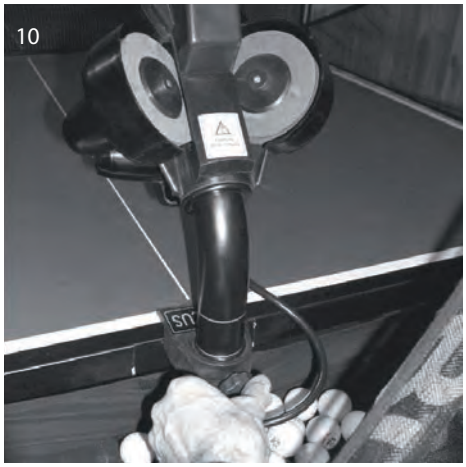

3.3 | BALL PLACEMENT

1. Ball delivery to a specific point on the table

After turning on of the robot, the first yellow light is flashing and the control unit will automatically switch-to the basic setting. The parameters of this ball (Trajectory, Sidespin, Speed and Spin) can be changed with the help of the buttons for setting the trajectory, sidespin, speed and spin. The landing spot can be continuously set using the rotary switch for left/right placement.

Pushing the "Sample" button the machine gives an actual ball (one that is set momently) during the setting procedure.

2. Programmed ball delivery to various points on the table

With Button B „→", at least two balls (maximum six) must be selected. Then various targets can be chosen by means of the corresponding left/right switches. The flashing LEDs indicate which ball will be delivered next. By pressing Button A „←" the number of balls can be reduced. After the end of each "round" the ball delivery will commence again from the beginning.

3. "rnd" Random ball delivery to various points around a specific point

In case the rnd is switched on with the Button for random function (RND) then the robot plays the set rally (described above) but not exactly to the set places, but to 20 cm big sur-rounding of those, which is closer to the real game. Do not set the ball placing to the edge of the table when using the „rnd", because the machine can throw the balls near the table by reason of the ball spread!
(It is enough the assigned one ball to this function.)

4. "RND" Random ball delivery to various points on the table

In case switching on the Rnd (pushing ones more the RND button) the machine doesn't throw anymore the set balls in their set order, but in random way, jumping here and there among the designated balls. Therefore it can not be foreseen where the robot throws the next ball. It is sure only the fact that the balls are thrown to one of the set places.
(There need to be at least 2 assigned balls to use this function.)

5. Combining „trnd" and „rnd"

The "trnd" and "rnd" functions can be combined by pressing Button RND for a third time. In this case the set points are chosen at random (RND) and the balls will be de-livered randomly within a 20cm diameter circle of the set points, simulating a real match situation.

Note: During play, only the trajectory can be changed.

3.4 | AFC FUNCTION

The new "AFC" (Automatic Frequency Control) function can be selected if there are different types of balls selected within an exercise.

When the AFC function has been selected the ADVANCE automatically adjusts the time inter-vals between individual balls with varied spin.

This function takes into consideration whether the previous ball was delivered fast or slow and with backspin or topspin. It can therefore simulate a real match situation by delivering the next ball earlier or later accordingly.

Note: This function was developed based on the fact that fast balls are generally returned quickly whilst returns of slow and shorter balls require more time.

3.5 | MEMORY

Programming sequences and exercises takes time. In order not to lose the programmed exercises after the robot is switched off, AMICUS ADVANCE allows to save up to 22 exercises that can be played at any time.

Note: Memory Banks 1-10 contain presaved exercises that should not be overwritten.

Saving exercises in the memory

Turn the "MEMORY place" rotary switch to the position where you want to save the exercise on the control unit (places 11-22). Hold down the **"MEMORY Select/save"** button (approx. 2 secs) until the light starts to flash. The flashing LED means that the exercise has been saved in the memory.

Retrieving the saved exercise from the memory

First select the program you require by turning the **"MEMORY place"** button accordingly. By quickly pressing the **"MEMORY Select/save"** button, the program number will now appear on the control unit to which the switch is currently pointing. All the lights will now start flashing, indicating that the robot is operating in memory mode and is now ready to play the exercise from the memory. Turn the **„Ball/min"** rotary switch to start the exercise. The only settings which can now be adjusted are: **"Ball placement", „Ball/min", „AFC"** and **„RND"**. It is not possible to change the parameters of the other ball settings.

Changing programs in the Memory

It is possible to change the ball sequences in the programs which have previously been saved by using the „Backstep" button. This should be activated for the specific ball which you would like to adjust within the program which has just been retrieved from the memory.. After changing a ball´s settings, the program can now be saved again in the memory by pressing the „MEMORY select/save" button.

Ball characteristics

The set Spin, Speed, Side-Spin and trajectory apply for each programmed ball in the same way.

Ball-frequency

By turning the „rotary switch for ball-frequency" you can adjust the quantity of ejected balls per minute.
The AMICUS throws more balls out if the frequency is set higher.

Switch off

Disconnect the power supply when the robot is not used for a longer period of time;
the AMICUS should never be left alone switched on.

3.6 | PRE-SAVED EXERCISES

LEFT-HANDED

Position	Ball 1	Ball 2	Ball 3	Ball 4	Ball 5
1	Forehand	Forehand	Backhand	Backhand	
2	Backhand	mid-table	Backhand	Forehand	Forehand
3	Forehand	mid-table	Forehand	Backhand	Backhand
4	Backhand	mid-table	Forehand		
5	Forehand	Forehand	Backhand		
6	Backhand	Backhand	Forehand		
7	mid-table	Forehand	mid-table	Backhand	
8	short Backhand	long Backhand			
9	short Forehand	long Forehand			
10	short mid-table	long mid-table			

RIGHT-HANDED

Position	Ball 1	Ball 2	Ball 3	Ball 4	Ball 5
1	Backhand	Backhand	Forehand	Forehand	
2	Forehand	mid-table	Forehand	Backhand	Backhand
3	Backhand	mid-table	Backhand	Forehand	Forehand
4	Forehand	mid-table	Backhand		
5	Backhand	Backhand	Forehand		
6	Forehand	Forehand	Backhand		
7	mid-table	Backhand	mid-table	Forehand	
8	short Forehand	long Forehand			
9	short Backhand	long Backhand			
10	short mid-table	long mid-table			

Note: Short balls should be returned with a flick, half – long balls with topspin. More exercises with Videos can be found in the official Butterfly APP for android and iOS. To start the exercises, simply turn up the ball / min knob.

4. MAINTENANCE AND REPAIR

Important: Always unplug from the mains before carrying out any maintenance or repairs!

• Ensure that whilst operating the robot small objects such as hair and broken balls etc do not find their way into the collection net and subsequently into the machine, because this can lead to ball jams.

• The ball projection wheels are very durable and will last for at least 500 hours. Never-theless, these wheels will finally wear off after intense use. One sign for a worn wheel is that the machine releases the balls at irregular lengths at high speed. This means that the surface of the wheels does not have enough grip on the balls. For that rea-son, the distance of the wheels has to be adjusted.

• To do this first remove the adjustable plastic tube from its holder which can be found between the projection wheels (Fig. 11.). First loosen the black adjusting screw next to the protective cover of the lower motor (Fig. 12.) with the bigger allen key provided with the accessories. Push the motor up towards the adjustable tube, gripping its cover, until the wheels touch the tube. (Fig. 13.) Repeat this for the two upper mo-tors.

Please note: The correct distance between the wheels should be 36-37 mm.

• If the distance can no longer be adjusted, the ball projection wheels have to be re-placed. Therefore loosen the screws (Fig.14.) located in the wheel mounts using the smaller allen key provided among the accessories; this applies to all three wheels. Now remove the "adjusting screws" on the two upper motors (it is not sufficient just to loosen them) (Fig. 15.)

Then rotate the two upper motors away from the projection hole. Grip the outer casing to enable the removal of the projection wheels from the axis of the motor. (Fig. 16.)

The plastic disc can now be removed from the motor shaft. (Fig. 17.a, b,) Remove the plastic disc from the projection wheel (which is held together by three screws) and replace it with a new one.

Slide the new wheel onto the end of the axis and tighten the screw. Then adjust the correct distance of the wheels with the help of the adjustable tube as described above.

• If a ball jam should occur, the machine will try to remove the jam automatically by turning the motor and the projection wheels backwards and forwards (7-8 times). Should for any reason the feeding motor and both projection motors jam at the same time, the machine will stop to prevent any damage to the motors. In this case, all six yellow lights will start to flash on the control unit. You will have no alternative but to remove the head from the machine together with any damaged balls located in the bottom sec-tion of the robot with the aid of a pencil or screw-driver, etc. (Fig. 18)

5. ERROR MANAGEMENT

PROBLEM	SOLUTION
The robot does not function after mounting	a.) Check the correct connection of the extension cord between body and the control box. b.) If the rotary button for ball frequency (Ball/min) is set to 0, set it to a higher value.
The ball is released with irregular lengths.	Check the distance between the ball throw discs – the discs may be worn. (see page 4)
The robot releases balls irregularly: two balls quickly, then failing to release one ball.	There are silver rings on the tube of the robot head. These rings have to be visible when mounted on the tube of the base. Please mount the head exactly on top of the base so a ring is visible.
E1 is displayed, yellow lights flash on the control unit, the feeding motors are stuck. Ball jam.	Unplug the power cord, and remove foreign object or defective ball in the ball transport. Plug the robot back in.
E2 is displayed, the robot stops. Ball gets stuck between throwing discs. Yellow lights flash on the control box.	Unplug the power cord and remove the ball between the throwing discs. Then set the Ball/min button to 0 and plug the robot back in.
E3 is displayed, the robot stops. The electronics have overheated, perhaps due to an electric shortage in the machine.	Start the robot again with low speed balls. If E3 is still displayed, please consult a technician to solve the problem.

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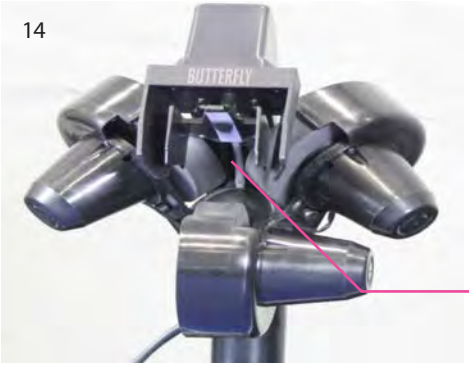

Pin for regulating the length

Attention: If you are not able to resolve the problems with the help of this checklist, a specialist must be consulted! Please contact your specialist supplier or the Butterfly service centre (address is located on the side). Always contact a competent specialist if the power cable is defective or if the fuse blows again immediately after being replaced. Failure to do so will invalidate your claim for a refund during the two year guarantee period

6. LIST OF REPLACEMENT PARTS

mobil -100	Base unit with collection net
mobil -101	Robot head
ADVANCE -102	Control unit
mobil -103	Holder for control unit
mobil -104	DC adapter (24V; 2,5A)
mobil -105	Extension cable
mobil -106	Projection motor
mobil -107	Feeding motor
mobil -108	Oscillating head motor
mobil -109	Motor for height adjustment
mobil -110	Projection wheel
mobil -111	Axis for projection wheel
mobil -112	Ball placement mechanism
mobil -113	Motor casing (3 pieces)

Further replacement parts on demand!

7. TECHNICAL DATA

Mains Power Supply: 100-230V, 50-60 Hz transformer, approximately 40 W
The robot should only be operated indoors within a temperature range of 0-40°C.
Weight: 6 kg (with net). Overall dimensions (with net): Height 0.75m; Width 0.28 m; Depth 0.25 m

The electrical adapter device was subject to a test for the approval of electrical appli-ances and was found to conform to the standard outlined below:

Conformity with the Low Voltage directive 73/23/EEC
As last amended by EEC Directive 93/68/EEC
Registration No.: AN 50091861 0001
Report No.: 17004848 001

As is evident from Test Report
Nos. NTEK-2010NT1115351E
and NTEK-2010NT1115353SS

The robot AMICUSADVANCE is perMid-tabled to bear the CE trademark.

Further product information and the product video are available on butterfly.tt/amicus

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