

乒乓球发球机
Table tennis robot

语音智能可编程多功能乒乓球发球机

Intelligent, programmable and multifunctional table tennis robot with voice prompts

V-989G

使用手册
Instruction Manual

使用前请阅读此手册
Please read this manual before operation

使用前的注意事项
CARE BEFORE USE

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安全使用注意事项
Safe utilization and the regulations

- 1.使用前请仔细阅读此手册，并按使用手册的指引操作发球机。
- 2.儿童需在成人指导下使用。
- 3.室外使用时，须避免在风沙和雨雪环境下进行。
- 4.移动发球机与装拆集球网，请小心轻放。
- 5.发球机工作时，请勿开启活动门、触及机头转动部位和储球器内拨条。
- 6.发球机工作时，请勿与出球口近距离正面接触，防止乒乓球射出伤及人体。
- 7.发球机工作时，如闻到异味或冒烟等非正常现象，请立即停机及拔开电源插头，请具有维修资格人员检修。
- 8.发球机在使用过程中某些部位可能会产生温度，请小心触摸以免烫伤。
- 9.使用结束，请关机并拔开电源插头。

1. Please read the instruction manual carefully before using the robot, and follow the instruction to operate the robot.
2. Instructive advice should be given when machine used by children.
3. Avoid the windy and rainy day for the outdoor use.
4. Be careful when connecting and disconnecting the ball collecting net.
5. When the robot is operating, please don't open the movable door, and don't touch the shooting head, and poke bar.
6. When the robot is operating, please keep away from the shooting head of the robot to avoid the ball harm the body.
7. When the robot is operating, if you observe something abnormal, such as some smoke come from the machine, please stop the robot and unplug it immediately. Repair or service must be performed by a qualified repair person.
8. Some places of robot will heat up during the operation. Please pay attention to avoid burning yourself.
9. Turn the power switch off and unplug the robot after use.

故障的排除方法 Trouble Shooting

故障 Failure	故障原因 Cause	排除方法 Solution
主机不工作 Machine doesn't work	<ul style="list-style-type: none"> 选择的出球次数已计数完毕，处于暂停状态 The number in ball counter has reached to 0, and the Robot is in stand-by mode. 电源线插头与插座接触不良 The plug has a poor contact with the socket. 控制盒轻触开关未按 The key on the control box is not pressed 控制盒因强烈震荡而失灵 The control box doesn't work due to fierce shake 	<ul style="list-style-type: none"> 按开始键 Press the "start" key 检查电源插座 Check the electric socket 按下开关到显示窗内数字亮 Press the switch until the number display 更换控制盒 Replace the control box
主机工作但不出球 Machine works, but does not release the table tennis balls	<ul style="list-style-type: none"> 储球器内拨条松动 The poke bar in ball container is loose 有杂物堵塞输球管道 The ball duct is jammed by foreign objects 储球器内的乒乓球数量太少 The amount of balls in the container are not enough 经输球道运送乒乓球至出球口及暂停后开机复位需要些许时间 It takes time to transport the balls from container to shooting head 	<ul style="list-style-type: none"> 锁紧拨条 Fasten the poke bar 清除杂物(见第11页中的机械部份) Clear away the foreign objects(see page 11) 保持有50~100个球 The amount should be 50-100 balls 稍等片刻 Wait for a while
按键失灵 Pressed key failure	<ul style="list-style-type: none"> 误操作控制盒导致发球机不工作 The robot doesn't work due to the improper operation of control box 连接电机的电线松脱 The cable connecting to motor is loose 控制盒轻触按键破损 The thin-film switch of the control box has been broken 	<ul style="list-style-type: none"> 断开电源3秒后启动 Start up again after shut-off for 3 seconds 按原样接驳 Connect it with the original method 更换控制盒表面的薄膜开关 Replace the thin-film switch on the surface of control box
落点不稳定 Landing spot is unstable	<ul style="list-style-type: none"> 上、下轮(摩擦轮)因长时间使用积污垢或磨损 There would be dirt and wear on the top-wheel and bottom-wheel after a long time of operation 选择了长短、组合球功能 The long and short ball sequence mode is selected 选择了无规律旋转 The irregular rotation mode is selected 机头遇外力作用偏移 The shooting head is deflected by external force. 	<ul style="list-style-type: none"> 清洁或更换 Clean or replace the friction wheel 取消长短、组合球功能 Cancel the long and short ball sequence mode 取消无规律旋转 Cancel the irregular rotation mode. 暂停后重启 Restart the robot.

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The company has the right to amend the description of products in this manual without any notice in advance.

发球机及集球网的各部位名称
Components name of the table tennis robot and ball collecting net



集球网的安装方法

How to assemble the ball collecting net



1、先将集球网的锁扣打开。

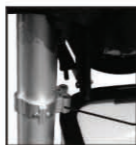
First, open the lock buckles of the ball collecting net.



2、将集球网略分开，网的方孔套进发球机的机头。然后集球网插销插入发球机的支承架上。

Partially unfold the ball collecting net, adapt the square outlet of the net with the robot head. Insert the pin from the ball collecting net into the support frame of the robot.

支承架
Support frame



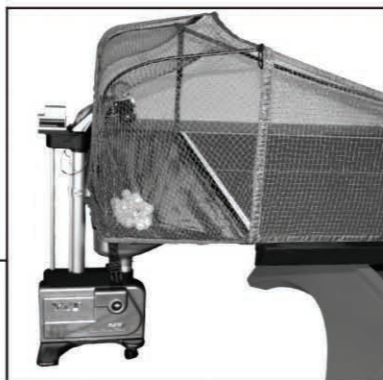
3、将集球网向两边推开。

Spread out the ball collecting net with both sides.

4、将发球机移至球台边缘，移动时应把脚轮锁紧器打开。

Put the table tennis robot close to the edge of table. Open the wheel lock when moving the robot.

锁紧器
Wheel Lock



发球机的保养

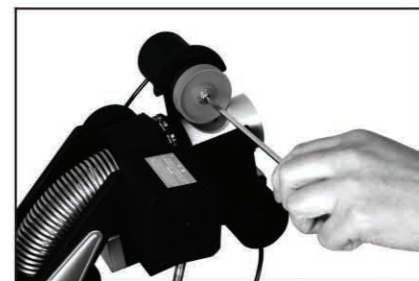
How to maintain the table tennis robot

正常情况下使用，上、下轮（摩擦轮）能用5000小时以上，使用时间过长则需要更换新的。更换时，首先关机断电，松开保护罩，用螺丝批取下摩擦轮的螺丝，顺时针锁紧，逆时针松开。

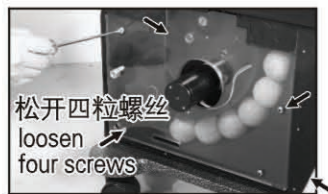
发球机应保持清洁，上、下轮（摩擦轮）使用时间长会有污垢，需用湿布抹掉，以保证出球的质量，清洁时需关机断电不能粗暴手动调节机头方向，防止损坏内部零件。使用及运输时需避免对发球机的强力撞击或震荡，练习结束后，请关机并拔开电源插头。

Under normal operation, the top and bottom wheels (friction wheels) are able to work for 5000 hours or longer. The friction wheels need to be replaced after long use. When performing the replacement, power off the robot, remove the protective cover and take out the screw from friction wheel with a screwdriver. After replacing a new one screw back everything properly.

Please keep the robot clean. The top and bottom wheels (friction wheels) may be getting dirty after long use. To ensure a quality serve, please often clean the wheels with wet towel. Turn off the power before clean the robot. Don't move the shooting head roughly, so as to prevent the damage to the internal parts. During an operation or transportation, protect the robot against any strong impact or oscillation. Unplug and power off the robot after finish your exercise.



发球机的保养 How to maintain the table tennis robot



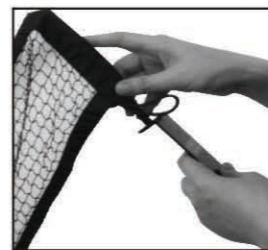
电器部份：本产品的电器部分主要由主机线路板及控制盒组成，是发球机的指挥中心，所以尽可能避免受强烈震荡，控制盒一定要按要求插在球台边的支架上，以免摔坏。任何液体都不能洒在上面，防止漏电及损坏内部的电子元件。

机械部份：发球机的机械部份主要集中在输送球机构方面，特别注意的是除了乒乓球以外，任何杂物不能放入储球器内，否则杂物会卡住发球机的输送轮，造成不出球甚至损坏发球机，主机活动门下侧安装有方便观察的视窗，如果发现杂物，先关机断电打开活动门，拆下透明保护板，将杂物取出即可正常工作。储球器内拨条使用长时间后，需检查是否有螺丝松动或拨条断裂等，以防止有下球不顺畅故障发生。

Electric component: Electric component in this product consists mainly of the base machine's circuit boards and the control box, which is the command center of the table tennis robot. Therefore, it should avoid any strong oscillation as much as possible. The control box must be inserted to the support at the side of the table to avoid any dropping and breaking. Never spread any liquid to its surface, in order to prevent electric leakage and/or damage to its internal electronic units

Mechanical component: Mechanical component in the table tennis robot is concentrated mainly on the mechanisms for ball service and delivery. Special attention should be paid that any foreign substances should not put into the ball container except for the balls. Otherwise, they would block the delivery wheel in the robot, and would result in no ball delivery and even make damage to the robot. There is a view window fixed at the under side of the movable door. You can turn off the power, open the movable door, remove the transparent guard plate, and take out any foreign objects if such things have entered, thus returning the robot to its normal operation. When the poke bar inside the ball container has worked for a long time, it should be checked for loose screws and/or broken poke bar, so as to prevent any trouble from happening which would lead to rough delivery of the balls.

发球机的摆放位置 How to position the table tennis robot

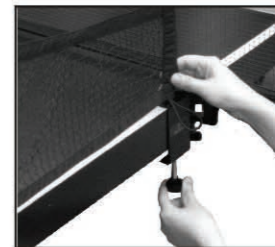


5、将集球网两侧的尾端套进网架上。

Put both end sleeves of the ball collecting net on the net supports.

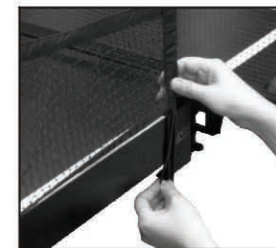


全部安装完毕展示图
The presenting picture of a completed installation



6、网架分别夹在球台近球网的两侧。

Clamp the net support onto both sides of table (close to the net).



7、橡皮筋扣在网架的侧边。

Pull the rubber band over the bottom of net support.

8、训练结束，将集球网按原来程序收叠，将锁扣扣好，移放在任意位置。

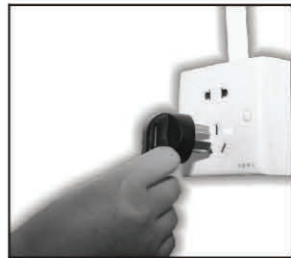
After training, fold back the ball collecting net in a reverse order of the original process, lock the buckles in a right way, and store it in any suitable place.



使用电源 What power supply to use

电源插头与插座要接触良好, 使用完毕则要拔开电源插头。

The connection between plug and socket should be perfect. Unplug the robot after finishing the exercise.



发球机的电源开关在主机后侧, 使用发球机时把电源开关拨在“开”的位置, 使用结束请关闭电源。



The power switch locates at the back side of the machine body, turn the switch "on" before using the robot and turn the switch "off" after use.

弧度调节 Loop modulation

发球机调节机头弧度高低与纵向出球落点长短有关系。
(组合球状态时、需要暂停后调节)

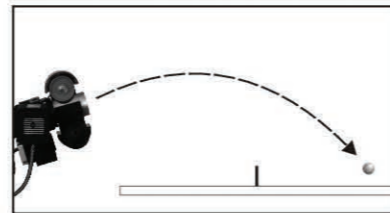
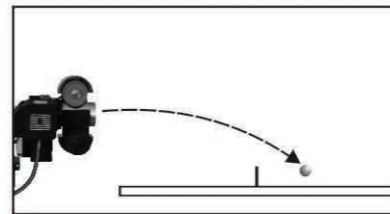
按▼键机头弧度下调落点变短。

按▲键机头弧度上升落点变长。

The level of shooting head is related to the landing spot in left/right and front/back direction. (Under " various serving sequence " mode, the adjustment can be done after pausing the machine)

Press "down arrow" to lower the shooting head, the landing spot become short (close to the net).

Press "up arrow" to raise the shooting head, the landing spot become long (far from the net).



音量调节 Adjusting the volume



音量调节
Adjusting the volume

暂停状态下, 按音量键, 按▼或▲键调节。0档为关闭发音, 1—9档逐级提高音量。

Under stand by condition, press "up or down arrow" key to adjust the volume for voice prompt. There are 9 stages for the volume level and '0' means volume off.

储球器的容量 Capacity of the Ball Container



储球器装40mm球约100个。放球时不能超过储球器内侧标签所示黄线位, 不能将其它杂物也倒入储球器内, 否则会损坏机内零件, 并影响发球机的正常工作。

The ball container may contain 100 balls in 40mm size. The level of the balls in the ball container should not be higher than the label (yellow line) positioned inside. Other things (except table tennis balls) should not be put into ball container, otherwise its parts may be damaged, affecting normal operation of robot.

出球次数选择 Selecting number of balls

在发球机暂停状态下选择，按出球次数键，按▲或▼在1~999范围内任意选择，长按则快速调节，按开始键，发球机开始定量出球，显示窗内数字自动减一计数，当减到0时发球机暂停工作，数字灯全灭。重新设定可按以上方法操作。重复已设定的上一次数值，按出球次数键，然后按开始键工作。不再定量出球（也就是无限量出球）则直接按开始键工作。

Under "standby" condition, press the "ball counter" key, and then change the number by pressing "up or down arrow" key. The range of output number is 1~999. Holding the key for fast forward adjustment. Once the robot has started, the number begins counting down. When the number becomes 0, the robot stops and back into standby mode. To set the "infinite" amount (unlimited), start the robot without setting any number.



组合球选择 Selecting different serve sequence.

暂停状态下，按组合球键，按▲或▼在1—30种组合球内循环选择。按开始键工作，发球机按随机设定的程序自动发球。此状态下，旋转键、上、下轮速度键、选择落点键、无规律旋转键暂时锁定，可按暂停键后按选择落点键解除。（因电机速度误差及机头弧度高低影响落点有变化，可能需微调机头弧度）

Under "standby" condition, press the "various serving sequence" key, and then press up or down arrow to choose one from the 30 sets of serve sequence. Press "start" key, and then the robot begins serve automatically according to the selected sequence. Under this condition, "Spin" key, "Up" and "Down" key, "selecting landing spot" key, "Irregular rotation" key are locked temporarily, you can press the "Pause" key and select the landing spot to unlock this condition. (the landing spot may be unstable due to the motor speed and curve level of shooting head. At this point, adjust the serve loop/curve by pressing the "serving curve/loop" key)

速度调节 Speed modulation

可在暂停状态或工作状态时调节。当发球机接通电源时，控制盒上档位闪烁，如显示的档位合适，可直接按开始键工作。如需重新选择可按“⊖”键减档（减速），按“⊕”键加档（加速），调节好选定的速度档位，再按开始键工作。上、下轮可同时工作，亦可单独工作。发球机由低至高共10级档位。低档最慢，高档最快，速度快慢与乒乓球的旋转强弱基本成正比。如上、下轮档位接近时，所发出的球则基本没有旋转。控制盒具有暂停或停电记忆功能，下一次开机时仍然保留关机前的设定值（组合球状态下，上、下轮速度键锁定，不能调节）。

Ball speed can be adjusted in the "Working" or "Stand by" condition of the robot. The stage-level light on the control box will flash when the power of the robot is on. If the stage doesn't need to be changed, press the start key directly to play. Otherwise, adjust the stage level by pressing the "Increase" or "Decrease" key. There are totally 10 stages from lowest to highest level. The top wheel and bottom wheel can work at the same time or work independently. The higher the stage being selected, the faster the ball speed will become. Basically the speed of the ball is proportional to the strength of the spin. If the stages of two wheels are close enough, the ball that has been produced is nearly no spinning. The control box also has a memory function that memorize the current setting which is capable to play with the same setting as next time you start. (Under "various serving sequence" mode, the speed keys of top and bottom wheel are locked, you can't adjust the speed at this point)



频率调节 Frequency modulation

与速度调节方法相同，也是通过“⊕”键和“⊖”键调节，由低至高共分10级。低档时出球频率最慢（约25球/分钟），高档时最快（约95球/分钟）。

With the same modulation method as speed's, the frequency can also be adjusted by pressing the "Increase" or "Decrease" key with totally 10 stage level. The lowest stage of frequency is about 25 balls per minute and the highest stage is about 95 balls per minute.

旋转选择 Selecting regular spin

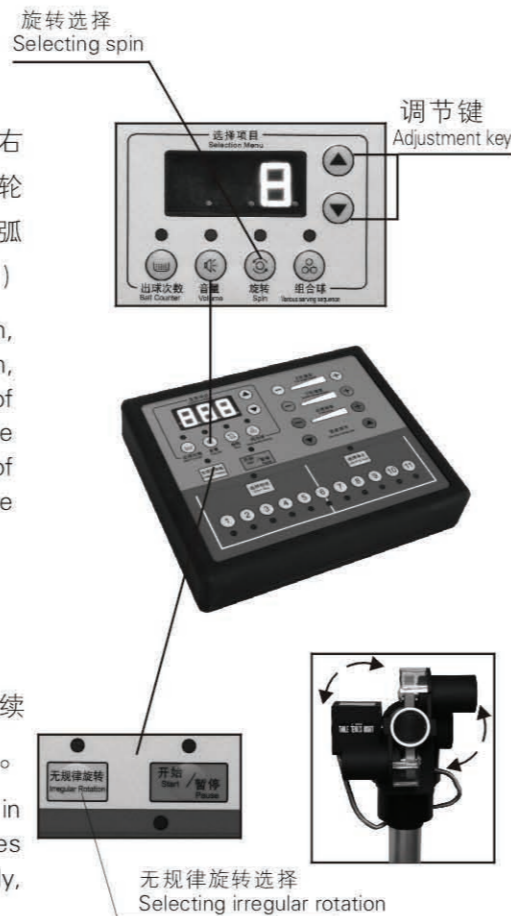
按 → 或 在9种旋转内循环选择旋转：包括上旋、下旋、不旋、左侧旋、右侧旋、左侧上旋、左侧下旋、右侧上旋、右侧下旋。旋转的强弱可相应调节上、下轮速度控制（组合球、无规律旋转状态下按旋转选择键无效）。因电机速度误差机头弧度高低影响出球落点变化，可能需微调上、下轮速度及机头弧度。（请参考第5、6页）

Press → or down or up arrow to choose one from 9 different spins: top spin, under spin, no spin, left side spin, right side spin, left-side top spin, left-side under spin, right-side top spin and right-side under spin. The strength of spin relates to the speed of the ball. The landing spot may be affected by the curve of shooting head and unstable voltage level, you may need to adjust the top or bottom wheel speed and curve of shooting head. (Under "Irregular rotation" and "various serving sequence" mode, there is no effect if you press the "Spin" key.)

无规律旋转选择 Selecting irregular rotation

按无规律旋转键，机头可自动正反约180度连续旋转，发出的球在各种旋转间连续不断变化（旋转键、组合球键暂时锁定，按键无效，重按无规律旋转键则解除锁定）。

Press the "Irregular rotation" key, the shooting head starts to rotate automatically in 180 degree (in clockwise or counter-clockwise direction) and the spin of serve becomes various. ("Spin" key and "various serving sequence" key are locked temporarily, press the "irregular rotation" again to unlock this condition).



横向或纵向出球落点选择 Selecting the landing spot

在发球机暂停状态下选择，发球机有定点、横向左右两点、任意多点及纵向长短球等多种出球落点组合选择，在控制盒上有11个按键，同时也代表了球落在球台上的11个位置，控制盒上的蓝色部份则代表球台，选择时，先按出球落点选择键，此时1~11按键的指示灯是灭的，当选择某一位置时，此位置的指示灯就会亮，按选择短球键则发短球，不按则默认长球。按开始键，发球机开始工作。例如：选择定点球；要求9号位置落球，那就按上述步骤按一次9号键。选择两点长、短球；11号位出3个长球，1号位出两个短球，那就按上述步骤连续按11号键3次，按1号键，按选择短球键，再按1号键，按选择短球键，按开始键。其它组合球也是同一原理，在11个位置范围内，任意在哪个位置按多少次，它就在那个位置上出多少次球，反复循环同时自动记忆，下次开机时仍是这种设定，如需改变，则按照以上步骤重新设定。

The landing spot can be selected in the "standby" condition of robot. The robot can perform many different kinds of serve style, such as fixed course, alternative course in left/right direction, Random course and long or short ball sequence and so on. There are 11 digit keys located at the bottom portion of control box. Those keys indicate the 11 positions of the table. The blue area indicates the whole table area from the player side. To select the landing spot, first of all press the "Landing spot" key, all indicator lights of 1-11 position are turned off at this point. Now you can press either one of the spot, the light of that corresponding spot will be turned on. Press the "short" ball key to make the ball become short. Otherwise, the default serve is long. Press the "Start" key to start the robot after finishing the selection. For example, to select fixed course that has the landing spot at the #9 position, you only need to press the digit "9" key, then start the robot. To select alternative course that serve at the #11 position with three long balls and at the #1 position with two short balls, you can follow the above the procedures, press the digit "11" key three times, then press digit "1" key once, follow by the "short ball" key, repeat this move once more (means that once again press the digit "1" key, follow by the "short ball" key). Press "Start" after finish this selection. The numbers of ball that land on the same spot depend on how many times you press the same position key. You can create as many as different serve sequence. The control box has a memory function that save the current setting which you can use for next time.

