

# Target Turner System with voice commands.

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## User Manual

V2.0

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**Target Turner System (TTS)** is designed to assist with Bullseye and some ISSF disciplines' practice. The system is portable and can set at the range in minutes. The target turner box is mounted on a horizontal surface or tripod. Standard NRA style voice commands are given for Bullseye slow, timed, and rapid-fire courses. The 'attention' command is given for ISSF rapid (8, 6, and 4 sec) and 3/7 fire courses. The system is controlled by a smartphone or tablet.

### **Available modes:**

- Bullseye: Slow (10 min), Timed (20 sec), and Rapid (10 sec).
- ISSF: Rapid (8, 6, and 4 sec). Women Rapid (3/7 sec ).

### **The system consists of:**

- Target turner servo box
- Turner servo box tripod mount
- Rod and rod support
- Target holder
- Wi-Fi base

### **Mounting System.**

The system is designed to be mounted upright or upside down depending on the mounting support. The 8 mm fiberglass rod connecting the main unit with the target holder is 12 inches long. The provided box holder can be mounted on the tripod as well. Longer rods are available at the hardware store. Rod support can be used to provide better alignment especially when longer rods are used.

### **Power supply options.**

The target turner box is powered by the internal 4-AA batteries or by 5V USB. When the USB cable is plugged in the internal batteries are disconnected. Only use 5V USB power supplies or portable USB power banks. The system will go into standby mode after 30min of inactivity. To replace the batteries remove four screws, lift the lid, rotate it, and replace the batteries. Batteries should last for many months under normal usage. Use good quality AA batteries (Duracell suggested).

The Wi-Fi base needs to be powered by a USB power bank or plugged into a phone charger.

## Wi-Fi base.

Wi-Fi base is communicating with the user's phone/tablet and sends the commands to the target turner box. To connect to the Wi-Fi base plug it into a USB power bank or a USB phone charger. Once powered it will create a Wi-Fi network **TargetTurner.wifi** . Find the network in the phone's Wi-Fi menu and connect to it. Default password '01234567'. Then open the browser and enter address **192.168.4.1** . Once connected you will be presented with the Target Turner controller menu. Go to the Bullseye menu and try Face/Edge target commands. Don't forget to turn on the target turner box itself. The commands selected from the menu are sent from the Wi-Fi module to the target turner box.

If you need to pair the Wi-Fi base with a new target turner box following the steps below:

- Turn the system OFF by pushing and holding the power button until you hear the buzzer sounds.
- Wait 3 seconds.
- Push and hold the power button, continue to hold the button. The system will produce intermediate beeps. Keep holding the button until you hear a continuous tone.
- Go to the Settings menu and press the **Pair** button. You should hear sixteen beeps from the box.

## Connecting multiple targets into a chain.

Multiple target turner boxes can be connected and operated by one Wi-Fi base. Use the provided cable to connect the systems, plug the 2.5 mm plug cable into system #1 and system #2, and then use another cable to connect system #2 to system #3 and so on. Now try to send Face/Edge commands. If some targets are not responding press the box power button for just a moment. It resets the internal status and will respond to external commands.

Alternative way: In some cases, the systems are too far apart to be connected by the cable. Multiple systems can be paired with one Wi-Fi base and be controlled simultaneously. Pair the Wi-Fi base with multiple boxes and all will respond to the commands at the same time. There could be a slight (max 0.2sec) difference in how the multiple systems are responding to the commands due to the way the RF commands are sent.

**Warning:** Plastic components are printed in PLA material on 3D printer. The plastic is temperature sensitive so do not store the system near the heat sources.