

BVITS AR-01 Archery App and Target Instructions

WARNING

These instructions do not include basic archery safety instructions and it is important that any individual that intends to use an archery bow learn to use it safely and correctly.

Please be careful when using BVITS for aiming sporting devices. BVITS will not provide a warning if an archery bow, air gun or any other aimable device is pointed in an unsafe direction.

BVITS Targets

Any BVITS Tag can serve as a target. The printed size will impact the effective range of the system. An 8" target should be identifiable from about 10 m or 30 ft. Specialized, printed target sets are available at: <https://dxdtengeering.com/BVI-Target-System/>. They include:

- Elongated stickers for Cornhole
- Poster size for archery*
- Heavy paper for air gun*
- Waterproof laminated, wearable placards for squirt gun

*phone mounts for bow or air gun must be purchased separately

BVITS users are welcome to print out April Tags from the Directions Mode collection and modify them as necessary for these and other game and sport purposes.

Archery Game Mode Directions:

The targets available on our website are two-sided to support easy scoring.

Configuring the BVITS app for archery:

The app includes the following features that can be useful:

- Archery competitions take place at specified distances between the archer and the target. For this reason, we recommend the following BVITS App settings:
 - “Announce range to target”: off
 - Tag size (if range announcements are to be used, enter 23” for dxdt AR-01 targets.
 - “Manual Zoom”: on
- “Match a specific tag”: off
- “Vibrate when centered”: The system can be made to vibrate upon detection of a centered target. Set to your preference.
- “Message Speed”: Start at “Normal” and adjust to your preference later. It is likely that at longer target ranges the rate of messages should be decreased.
- “Centering Tolerance”: Set slider to middle of its range. It is likely that at longer target ranges the centering tolerance slider should be set further to the right because at long distances centering adjustments become too minute to be useful. If when you are at competition distance, the most minute change in bow angle causes a message, this is a sign that the centering tolerance should be set further to the right- for a larger tolerance.

Zeroing the host iPhone with the bow

The BVITS Sports Target System is not a highly precise system. It is designed to facilitate a medium level of competition- not a high level. That being said any efforts made ahead of time to ensure that the iPhone mount is aligned correctly with the bow will result in a higher degree of accuracy and competition. A few practice flights and adjustment can maximize the benefits of the system. Also, iPhone mounts must be held securely on the bow and not shift during use.

Mounting the target:

The AR-01 target system is of sufficient size to support target acquisition by the BVITS app from at least 50 m (150 ft). dxdt recommends that new archers start at a distance from the target no greater than 25 m (75 ft). Care should be taken to ensure that the target is mounted in an area where there will be no risk of harm or damage if an arrow were to miss the target and its backstop. Target backstops are typically hay bales but any backstop can be suitable if the area behind and on either side is not vulnerable to damage by errant arrows. Archery targets tend to be mounted facing upward by as much as 10 degrees.

Acquiring the target initially:

Prior to the competition or practice session the archer should acquire the target with the app at a close in range and then back themselves to the firing line, increasing the manual zoom as necessary from the slider at the top of the App display so as to maintain a good and stable acquisition of the target by the app. The objective of this step should be to arrive at app settings that will allow a sufficiently precise target picture without excessive or unnecessary messaging- which can be distracting and disruptive to the flow of sporting activities.

Acquiring the target during competition:

While at the firing line and facing the target, and it has been confirmed that it is safe to fire, place the app in Game mode and aim the bow and arrow downrange. Sweep the bow slowly right to left within a small angle until the BVITS app acquires the target. Sweep up and down by a small angle if necessary. Increase the sweep angle as necessary to acquire the target. The BVITS app affords the user a virtual target “box”. The edges of the box are defined by where, left, right and up and down, the app loses target acquisition and issues a message to that effect. In this way, it is possible for the archer to estimate when their bow is aimed at the center of the box. Arrow releases should be directed at the center of the box.

Scoring the target:

The machine-readable April tags that BVITS uses is not very suitable for directly scoring. When a two-sided target such as DXDT’s AR-01 is used, direct scoring is possible by viewing the target from the reverse side. Note that windage deviations that are; for example, to the left of center in the scoring target will actually be windage deviations to the right of the April tag target due to the target being read from behind. Reading the target from behind reverses the direction of the windage deviation impacting the front of the target.

Please enjoy your BVITS system and use it safely.