

# BattleMark Trainer User Manual

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## **\*IMPORTANT WARNINGS\***

1. I take NO liability for ANY accidents or misuse of any firearm by any person. This device is simply a way to automate drills and has no impact on firearm safety. **ALWAYS PROMOTE AND PARTAKE IN SAFE SHOOTING PRACTICES.**
2. I am NOT responsible for devices that have been shot or have been damaged due to firearms. **Always mount the device either behind and well above any targets or directly in front of the shooting line.**
3. The device is NOT recommended to be used in a public setting with other shooters not in your party, as loud noises or other gunfire can register as your shots.
4. The device is intended for Semi-Automatic fire.
5. The device has not been tested in indoor ranges.
6. This device does NOT have internet capabilities and does NOT communicate to the outside world. WiFi is used as the communication protocol ONLY, and information does NOT leave the range of the WiFi signal.
7. Do not upload unofficial code.
8. During any update attempt, you **must** have the power switch in the **OFF** position before plugging in the Micro USB connector.

The 30-day (from delivery) warranty is VOID if warnings are not followed.

## **Terminology:**

- 1) TARGET: Refers to each different target available (FAR LEFT TARGET, LEFT TARGET, RIGHT TARGET, FAR RIGHT TARGET, CENTER TARGET).
- 2) BODY PART: Refers to what part of the body you are to target (HEAD OR CHEST).

## 1. Startup and Connecting

To start the device, locate the Power switch on the back of the device and flip it to the ON position. The device will beep once and flash its light. It will then illuminate the center target green ring and the blue body outline lights. This is the NOT CONNECTED state.

*IF THE DEVICE WHEN POWERED ON HAS ALL LIGHTS ON AND IS BEEPING CONSTANTLY POWER OFF THE DEVICE AND WAIT 15 SECONDS BEFORE POWERING IT BACK ON.*

On your mobile device, go to your WiFi settings and find the WiFi network called **BattleMark Trainer - XXXX** (Each device will have a unique XXXX to ensure independent operation with multiple devices). Select this network. Only one mobile device can be connected at any given time.

After a moment, the device will illuminate the LEFT and RIGHT green arrows. The device is now in the CONNECTED state.

If your mobile device supports RFID, go up to the BattleMark Trainer and put your device close to the RFID indicator on the front of the device. Click the link that pops up, and you will see the device's dashboard.

OR

Go to your web browser and type in **BattleMark.local**

IF HAVING ISSUES PLEASE OPEN A NEW TAB AND TYPE IN `battlemark.local`

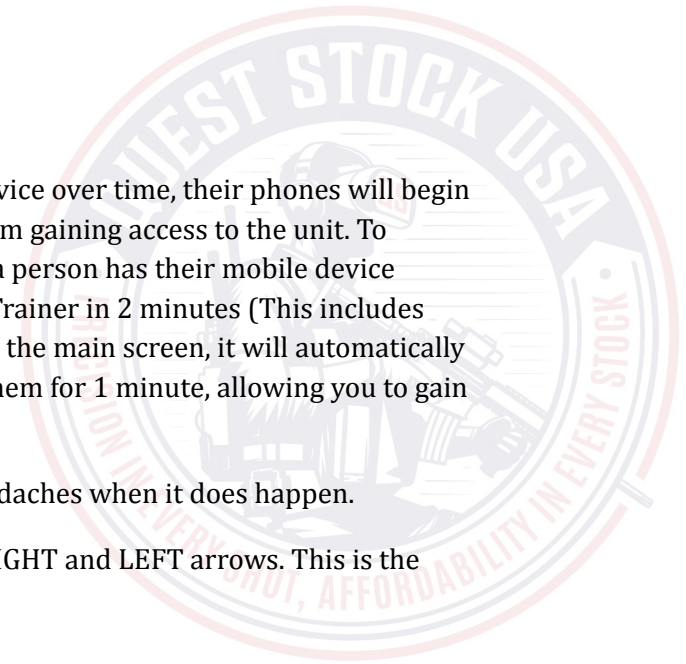
**IMPORTANT: If you are getting an error that says "safari cant open the page because it could not connect to the server" or any variation of that message. Be sure the web-address is <http://battlemark.local> and NOT <https://battlemark.local>! THE S IS IMPORTANT**

## 2. Unauthorised User Protection

When other people's devices get connected to your device over time, their phones will begin to constantly connect to the device, preventing you from gaining access to the unit. To combat this, A WiFi kickoff feature is implemented. If a person has their mobile device connected and does not interact with the BattleMark Trainer in 2 minutes (This includes loading the webpage or pressing any of the buttons on the main screen, it will automatically kick them off of the network and **temporarily** “ban” them for 1 minute, allowing you to gain control of the unit again.

This is a rare occurrence, but it can greatly reduce headaches when it does happen.

During this protection, you may see flickering in the RIGHT and LEFT arrows. This is the “Banned” phone attempting to reconnect.



### 3. Calibration

Due to different environments and shooting distances, a calibration menu has been developed to fine-tune your device to ensure it picks up shots even with suppressors and to ensure its picking up each round. Each unit is calibrated during manufacturing, but may still need some adjustment.

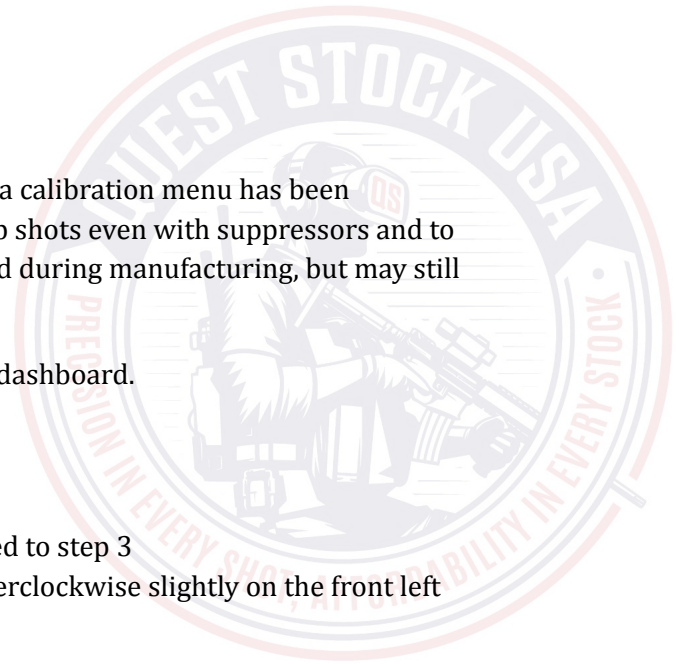
To access, click the **Calibration** button on the device's dashboard.

Follow these steps to fully calibrate your unit

- 1) Press the **LISTEN** button and fire a round
- 2) If **Trigger State** says **SHOT DETECTED**, proceed to step 3
  - a) If it did not, turn the small screw counterclockwise slightly on the front left of the unit, close to the microphone.
  - b) Click **Reset**
  - c) Move to step 1

Once you consistently get **SHOT DETECTED**, we must calibrate the Ignore Window

- 3) Click reset to reset the # **Shots Detected** indicator
- 4) Fire multiple rounds as fast as you normally would.
- 5) Ensure the # **Shots Detected** matches the number of rounds you shot.
  - a) If # **Shots Detected** is LESS than the number of rounds you actually fired, DECREASE **IGNORE WINDOW (ms)** slightly and click save. Move to step 3
  - b) If # **Shots Detected** is MORE than the number of rounds you actually fired, INCREASE **IGNORE WINDOW (ms)** slightly and click save. Move to step 3
- 6) You have completed the calibration of your BattleMark Trainer



## 4. Configuration

This system has the ability to adjust parameters for training and overall usage.

To access, press the **Configuration** button on the dashboard menu.

**Target Setup:** Depending on your range, you may want to adjust your target setup. (FAR LEFT, LEFT, CENTER, RIGHT, FAR RIGHT). Configure how your range is set and click **SAVE**.

1. RIGHT, CENTER, LEFT: Designated by a **solid** indicator light
2. FAR LEFT, FAR RIGHT: Designated by a **flashing** indicator arrow

**Unauthorised User Protection:** Toggles on and off this feature (DEFAULT OFF)

**WEIGHTS:** All 3 weights MUST add up to 100

- 1) Accuracy weight - What percent out of 100 do you value accuracy over the others?
- 2) Reload and reacquire weight - What percent out of 100 do you value Reload speed and reacquire speed compared to others?
- 3) Overall time weight- What percent out of 100 do you value Overall speed compared to others?

**PAR's:** If all PAR's are hit exactly, you will get 7500 out of 10000 points. Just like golf, what is considered acceptable?

- 1) Accuracy Par- How many points out of 60 are acceptable?
- 2) Reload and Reacquire Speed Par: How much time in milliseconds (1000ms = 1 sec) is acceptable for reloading and reacquiring your target?
- 3) Overall speed Par: How long in milliseconds (1000ms = 1 sec) is acceptable for your overall drill speed?

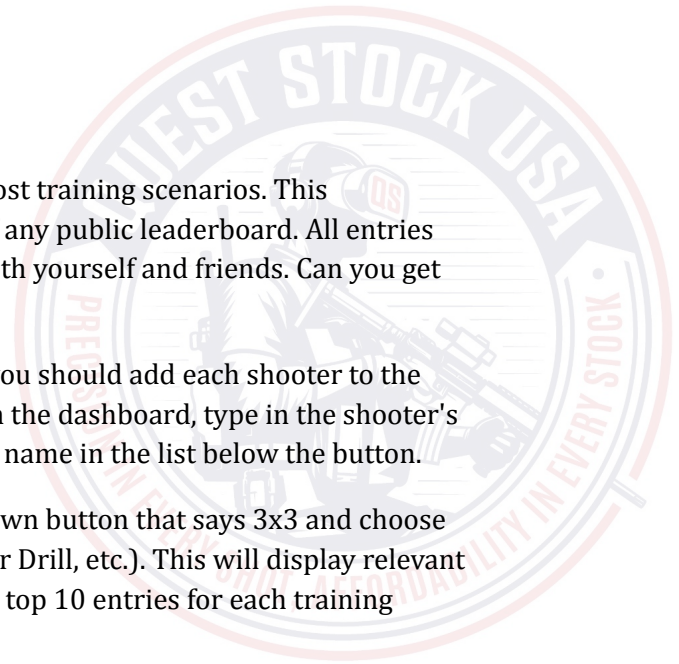
After any changes are made, make sure you click SAVE. If you do not hear a beep, there was an invalid entry.

## 5. Leaderboard

This device is equipped with a local leaderboard for most training scenarios. This leaderboard is for that device ONLY and is not a part of any public leaderboard. All entries are lost on power off. This is a great way to compete with yourself and friends. Can you get the high score?

Before every training session, to use the leaderboard, you should add each shooter to the leaderboard. After clicking the **Leaderboard** button on the dashboard, type in the shooter's name and click **ADD**. You should now see the shooter's name in the list below the button.

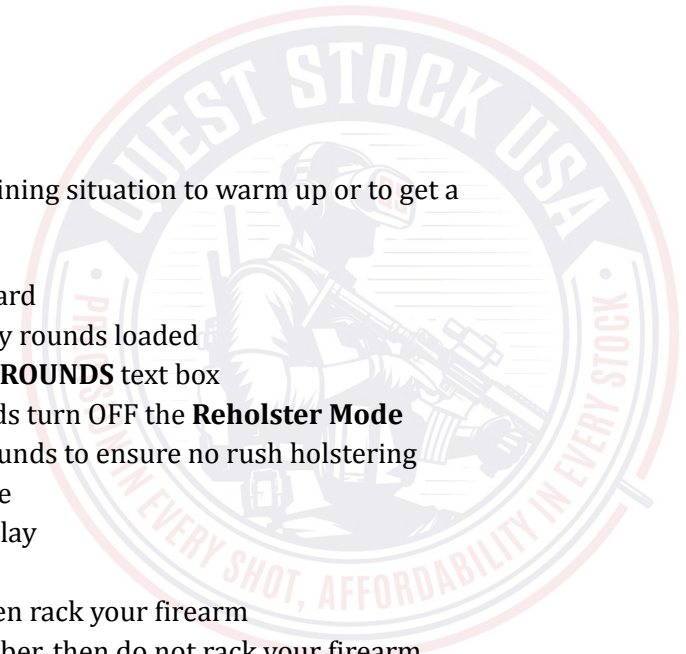
To navigate the different leaderboards, find the dropdown button that says 3x3 and choose another training scenario (Simon Says, Bill Drill, Tueller Drill, etc.). This will display relevant information for each game. The leaderboard shows the top 10 entries for each training scenario.



## 6. Target Practice

No scoring, No leaderboards, No pressure. Use this training situation to warm up or to get a feel for how the device operates.

- 1) Click the Target Practice button on the dashboard
- 2) Load your magazines and remember how many rounds loaded
- 3) Enter in the number of rounds loaded into the **ROUNDS** text box
- 4) If not reholstering your firearm between rounds turn OFF the **Reholster Mode**
  - a) ON: Enables an extra delay between rounds to ensure no rush holstering therefore increasing safety on the range
  - b) OFF: Keeps the standard 3-5 second delay
- 5) Prepare for the drill
  - a) If you EDC with one in the chamber, then rack your firearm
  - b) If you do not EDC with one in the chamber, then do not rack your firearm
- 6) Click the green **BEGIN** button on the screen. All but the blue LEDs will turn off. After a random wait period of 3-7 seconds, the unit will beep and illuminate both a TARGET and a BODY PART (LEFT TARGET, HEAD for example).
- 7) Draw your firearm and fire 1 round into the target requested.
- 8) Re-Holster your firearm carefully if you have one.
- 9) After a delay, the device will pick a new target and body part combo
- 10) Repeat
- 11) When the device beeps and turns all lights on, the drill has concluded.



## 7. 3x3 Drill

In this training scenario, you are to defend yourself against 2 targets. You will be scored on your Accuracy, Reload and Re-acquire time, and Overall time. (See Config section for adjustments).

- 12) Click the 3x3 Drill button on the dashboard
- 13) Select shooter (See Leaderboard Section)
- 14) Gather 2 magazines and load 3 rounds in each ONLY
- 15) Prepare for the drill
  - a) If you EDC with one in the chamber, then rack your firearm
  - b) If you do not EDC with one in the chamber, then do not rack your firearm
- 16) Click the green **BEGIN** button on the screen. All but the blue LEDs will turn off. After a random wait period of 3-7 seconds, the unit will beep and illuminate both a TARGET and a BODY PART (LEFT TARGET, HEAD for example).
- 17) Draw your firearm and fire 3 rounds into the target requested.
- 18) After 3 rounds are detected, the device will select a new target and or a body part. The device will NEVER allow the same target AND body part.
- 19) Reload and Re-acquire your target.
- 20) Fire 3 more rounds.
- 21) When the device beeps and turns all lights on, the drill has concluded.
- 22) Determine your accuracy score out of 60 available points and enter it in the text box. If the incorrect target is shot, it is an automatic failure, and the score should be VOIDED and not submitted, as you have shot an innocent.
- 23) Press the Submit to leaderboard button to generate your overall score and to submit to the local leaderboard.

This drill works on Pars and Weights. If all 3 pars are hit, you get a score of 7500 out of 10000. The 3 weights determine which part of the 3 items should be worth more. (SEE CONFIG SECTION)

## 8. Simon Says Drill

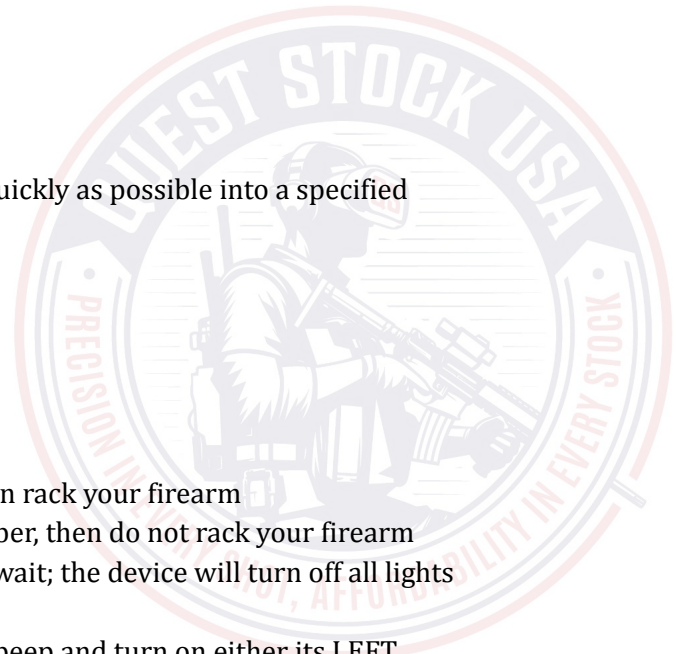
In this training scenario, you are tested on your ability to excel in target recognition and speed.

- 1) Click the Simon Says Drill button on the dashboard
- 2) Select shooter (See Leaderboard Section)
- 3) If you want the device to select multiple TARGETS, enable the Multi-Target checkbox
- 4) Determine how many consecutive rounds you would like to do. 1 Round = 3 Bullets
- 5) Gather one magazine and load the required bullets.
- 6) Prepare for the drill
  - a) If you EDC with one in the chamber, then rack your firearm
  - b) If you do not EDC with one in the chamber, then do not rack your firearm
- 7) When ready, press the green begin button and wait
- 8) DO NOT FIRE. The device will show the pattern of target/body part combinations you must replicate.
- 9) After it shows you the pattern, the device will turn off all lights except the blue body outline LEDs.
- 10) After a random 3-7 second delay. The unit will beep
- 11) Fire at your target/s at the same sequence shown. As you fire each round. The device will illuminate what target and body part should have been shot
- 12) If the Rounds setting is set to anything other than 1, immediately repeat this process.
- 13) If rounds are set to one, after your third shot, the device will illuminate all LEDs and will beep, signaling the drill is over.
- 14) Click the **Submit to Leaderboard** button to submit your score.

## 9. Bill Drill

Your typical Bill Drill requires you to fire 6 rounds as quickly as possible into a specified target.

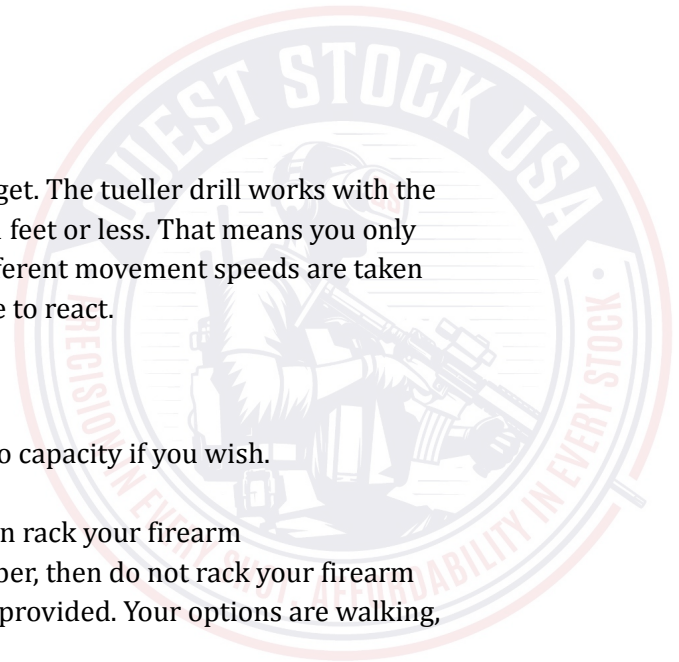
- 1) Click the Bill Drill button on the dashboard
- 2) Select shooter (See Leaderboard Section)
- 3) Gather one magazine and load 6 rounds.
- 4) Prepare for the drill
  - c) If you EDC with one in the chamber, then rack your firearm
  - d) If you do not EDC with one in the chamber, then do not rack your firearm
- 5) When ready, press the green begin button and wait; the device will turn off all lights except the blue body outline LEDs.
- 6) After a random 3-7 second delay. The unit will beep and turn on either its LEFT, RIGHT, or CENTER target indicator and BOTH of the body part indicators.
- 7) Fire all 6 shots in rapid succession at your designated target.
- 8) After your 6th shot, the device will illuminate all LEDs and will beep, signaling the drill is over.
- 9) Click the **Submit to Leaderboard** button to submit your score.



## 10. Tueller Drill

This training scenario is as close to real life as you can get. The tueller drill works with the fact that most self-defence interactions take place at 21 feet or less. That means you only have a limited amount of time to react and fire. The different movement speeds are taken into account when calculating how much time you have to react.

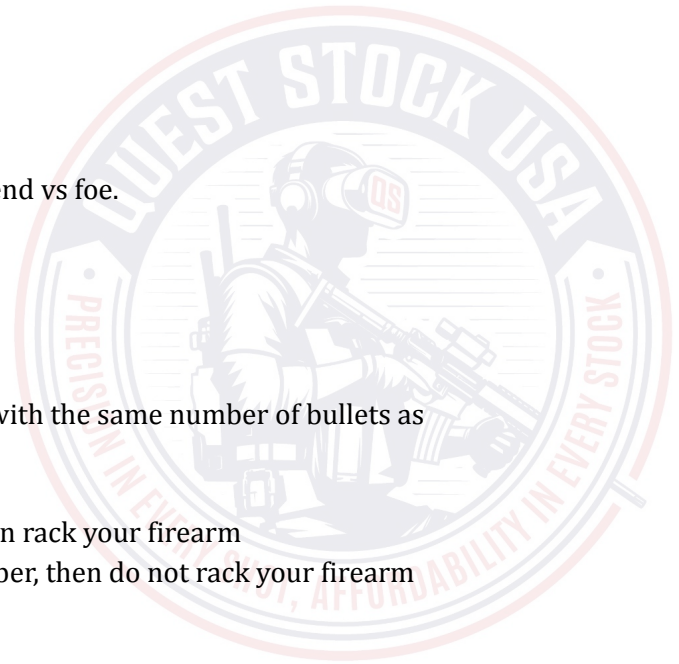
- 1) Click the Tueller Drill button on the dashboard
- 2) Select shooter (See Leaderboard Section)
- 3) Gather one magazine and load your magazine to capacity if you wish.
- 4) Prepare for the drill
  - e) If you EDC with one in the chamber, then rack your firearm
  - f) If you do not EDC with one in the chamber, then do not rack your firearm
- 5) Select your attacker's pace with the dropdown provided. Your options are walking, jogging, sprinting, and Crackhead speeds.
- 6) When ready, press the green begin button and wait; the device will turn off all lights except the blue body outline LEDs.
- 7) After a random 3-7 second delay. The unit will beep and turn on either its LEFT, RIGHT, or CENTER target indicator and BOTH of the body part indicators.
- 8) Fire as many shots in rapid succession at your target.
- 9) After the time is up, the device will illuminate all LEDs and will beep, signaling the drill is over.
- 10) Click the **Submit to Leaderboard** button to submit your score.



## 11. Judgement Call Drill

In this training scenario, you are to quickly identify friend vs foe.

- 1) Click the Tueller Drill button on the dashboard
- 2) Select shooter (See Leaderboard Section)
- 3) Pick difficulty
- 4) Select how many rounds you wish to train
- 5) Gather one magazine and load your magazine with the same number of bullets as selected rounds.
- 6) Prepare for the drill
  - g) If you EDC with one in the chamber, then rack your firearm
  - h) If you do not EDC with one in the chamber, then do not rack your firearm
- 7) Holster firearm
- 8) Click begin
- 9) Upon the beep, you are to identify what target and what body part to fire at
  - a) To be a credible threat, the following must be true
    - i) Either the Left, Right, or center target must be designated
    - ii) The buzzer must have beeped on that round
    - iii) The blue body outline must be lit
    - iv) Exactly ONE body part must be lit. Not 0 and not 2.
  - b) If any one of those items is not true, the target is a civilian and is not a threat
  - c) If you fire at a civilian, the session is over, and the following will occur
    - i) Blue LEDs will flash
    - ii) The buzzer will alarm for an extended period of time
    - iii) Both body and head targets will be lit
    - iv) All other lights are off
- 10) If you successfully took down your valid threat, you will have 8 seconds plus 0-3 seconds to holster your firearm and wait for the next round
- 11) If you successfully avoided shooting at a civilian by waiting 5 seconds after a civilian target was picked, all lights will turn off except the blue outline LEDs, which will be on. This is its reset state and will be this way for 3 seconds. It will then continue with the game
- 12) After all rounds are finished, take a look at your average reaction time and submit your score to the leaderboard.



## 11. Pattern Break

In this training scenario, you are to quickly identify targets and react

- 1) Click the Pattern Break button on the dashboard
- 2) Select shooter (See Leaderboard Section)
- 3) Pick difficulty
- 4) Gather and load your magazines
- 5) Prepare for the drill
  - i) This drill requires you to not have your firearm holstered
- 6) Click begin
- 7) Upon the beep, the device will begin flashing random sequences
  - a) To be a credible threat, the following must be true
    - i) Either the Left, Right, or center target must be designated
    - ii) The blue body outline must be lit
    - iii) Exactly ONE body part must be lit. Not 0 and not 2.
  - b) If any one of those items is not true, the target is a civilian and is not a threat
  - c) If you fire at a civilian, the session is over, and the following will occur
    - i) Blue LEDs will flash
    - ii) The buzzer will alarm for an extended period of time
    - iii) Both body and head targets will be lit
    - iv) All other lights are off
- 8) If you successfully took down your valid threat, the leds will go dark briefly and the delay between sequences will be lowered slightly depending on your difficulty.
- 9) If you successfully avoided shooting at a civilian no delay difference will be implemented
- 10) Survive for as long as you can by repeating the process above until you are unable to react quick enough.
- 11) Game is over when you shoot a non combatant or are unable to shoot your target within the current timeframe.
- 12) When Drill is over **Submit to leaderboard**





### 13. Software Updates

Software updates are able to be installed by the user when available.

#### Required Materials

- 1) Micro-USB cord with power and data capabilities
- 2) Windows computer
- 3) BattleMark Trainer
- 4) The BattleMark Trainer update file.
- 5) Screwdriver

#### Update Process:

- 1) Locate the BattleMarkTrainer update file

<https://www.queststockusa.org/battle-mark-trainer/>

- 2) Go to <https://github.com/nodemcu/nodemcu-flasher>
- 3) Click the green CODE button at the top right of the webpage
- 4) Click Download ZIP
  - a) This is not my code this is a common microcontroller code uploader that we will be using
- 5) Unzip the folder
- 6) Open the folder
- 7) Open the Win64 folder
- 8) Open the Release folder
- 9) Double click the ESP8266Flasher exe
- 10) If you get a warning click more info and run anyways
- 11) A GUI will open, go to config
- 12) Click the first gear icon
- 13) Locate the BattleMark Trainer Update file and double click
- 14) Click Operation
- 15) Plug in the BattleMark Trainer
- 16) Unscrew the top 4 screws
- 17) Pull the 3 jumpers
  - a) 2 right next to the plug in
  - b) 1 near the right arrow
- 18) Select the correct port
- 19) Click Flash
- 20) Wait until progress bar is complete
- 21) Blow into the microphone to simulate a gunshot
- 22) Replace jumpers and put lid back on
- 23) Device is updated!

For any questions about this process please email me at [queststockusa@gmail.com](mailto:queststockusa@gmail.com)

