RangeTech App

User Manual
V 1.4
Last updated: 27 Feb 2018

★ Indicates troubleshooting tips throughout the manual.

Troubleshooting reference guide

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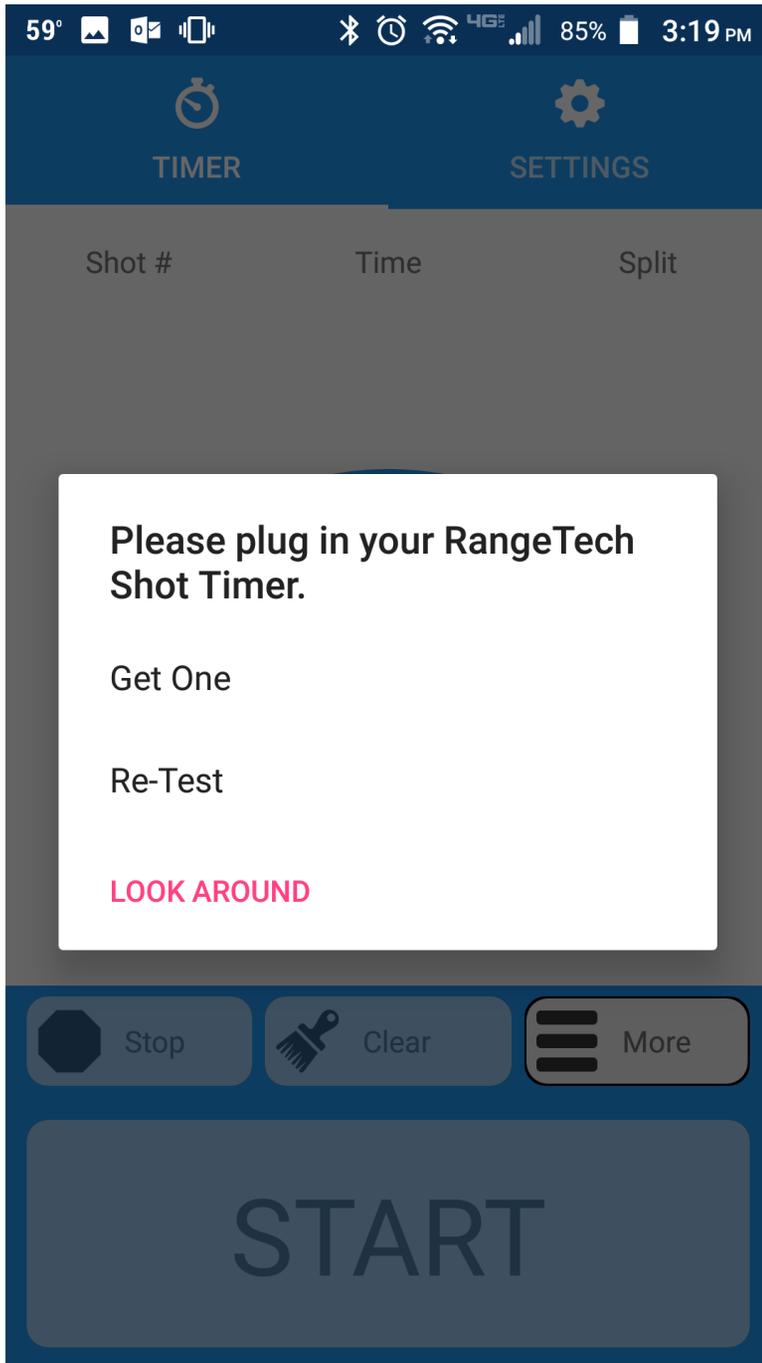
Device Recognition

The RangeTech app and the RangeTech attachment require one another to work correctly. No other apps and no other attachments will work.

When the app first starts up, it will conduct a test to ensure it recognizes the correct device.

If you do not have a RangeTech attachment:

Tap on "***Get One***" to go to our online shop where you can order one.

Tap on "***Look Around***" to look around the app. You will not be able to start the shot timer without a RangeTech device.

★ **If you do have a RangeTech attachment:**

Occasionally, the RangeTech attachment may not be recognized correctly on the first try. If you have the device plugged in, and you are still seeing this screen, try clicking on "***Re-Test***".

If a second test still does not find the attachment, there are several things to check for and try:

1. Restart the phone completely
2. Ensure that the attachment is completely seated and making a good connection. Bulky phone cases can prevent a good connection.
3. Check for lint, foreign objects, or other blockages in the phone's 3.5mm audio port that could be preventing a good connection.
4. Check to ensure no other apps are attempting to use the microphone or speakers. Some apps will do this automatically when a device is plugged in.

In rare cases, phones have been known to simply be faulty and not use their 3.5mm ports correctly, or even not support 3.5mm external microphones at all.
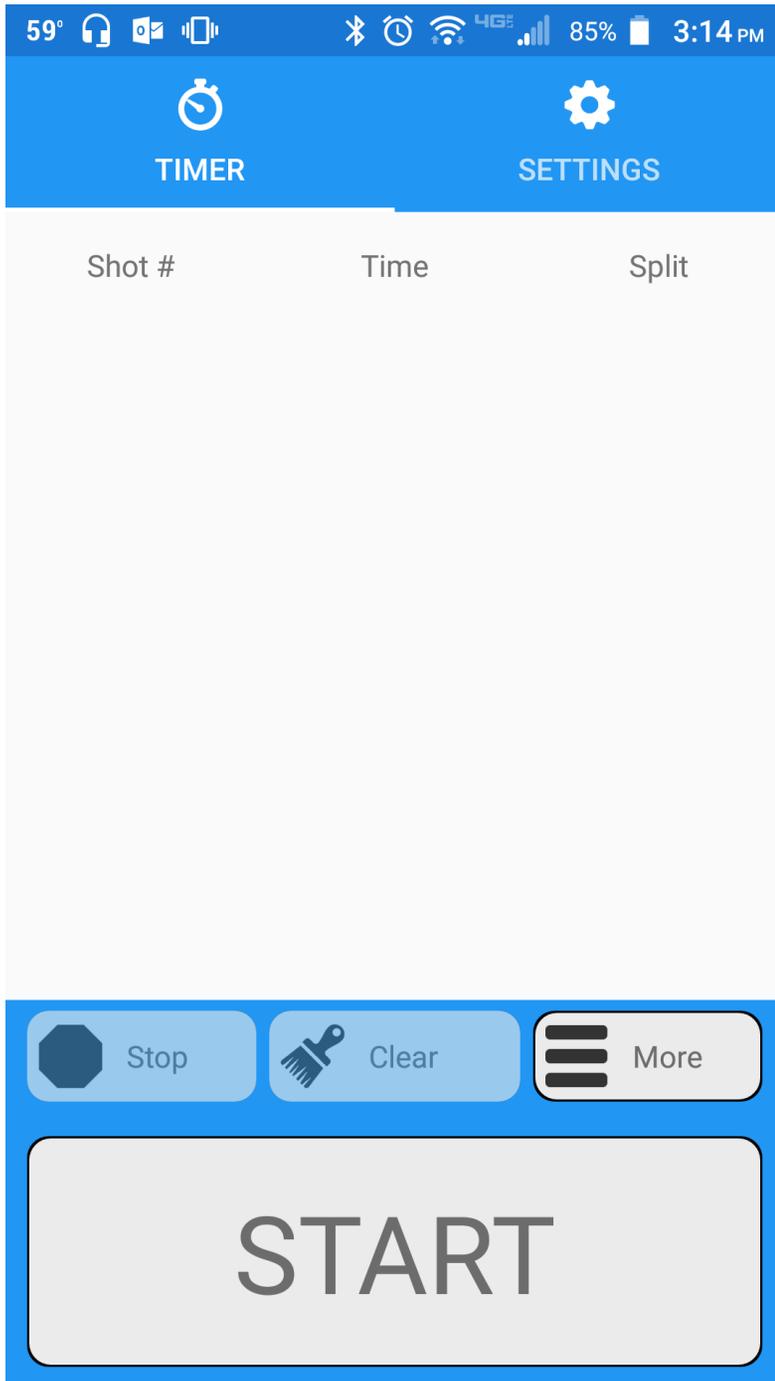
Timer Tab

The timer tab is the Main tab that you will use when operating the shot timer.

Tapping on "**Start**" starts the shot timer. You will hear the start signal over the phone's speakers.

Alternatively, your phone's volume buttons are repurposed to start the shot timer. When using the RangeTech app, the app must control the phone's volume settings to ensure reliable functionality. Some volume controls are available in the settings area.

If you do not hear the start signal

The RangTech Android attachment uses your phone's speakers to play sounds.

★ If you do not hear the start signal:

1. Restart the phone completely
2. Ensure that you are not in "do-not-disturb" mode. You may need to exit the RangeTech app to check for this.
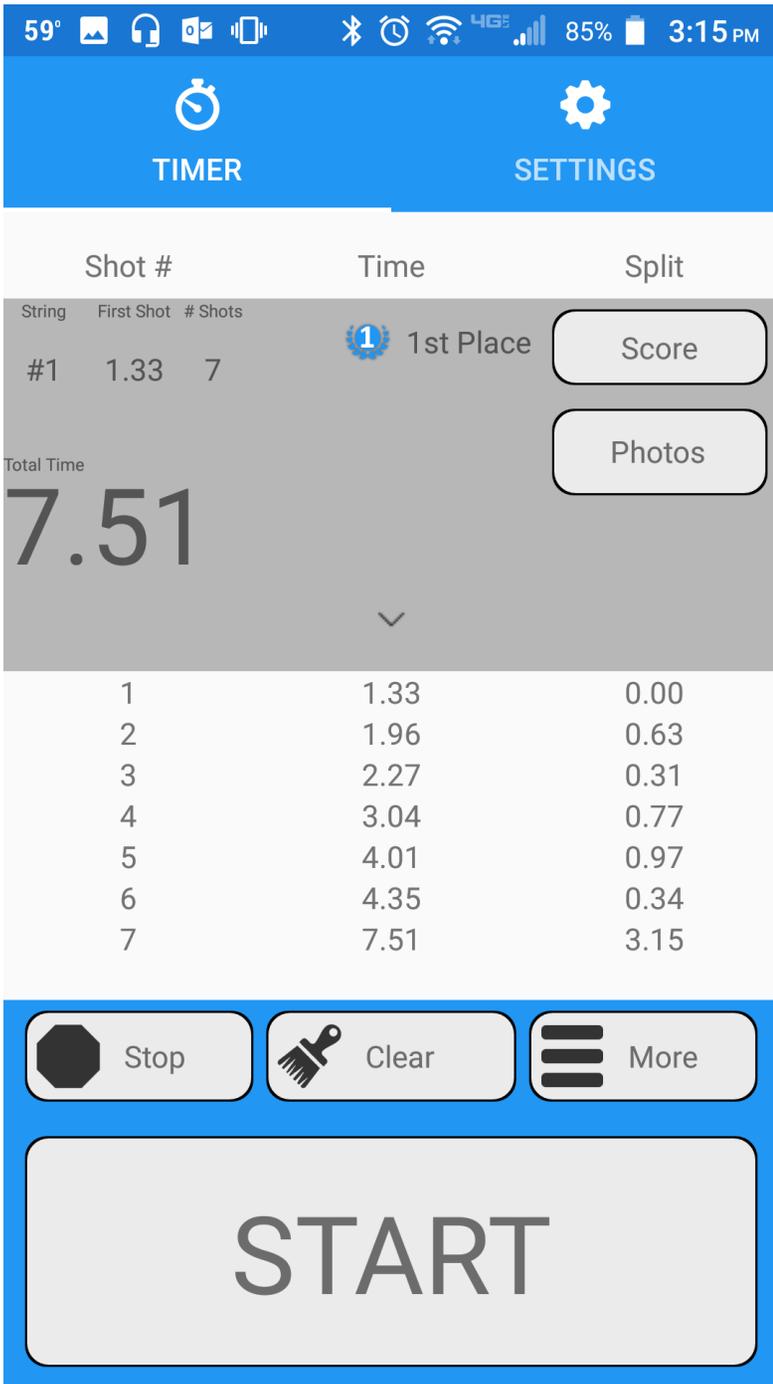
Your First String

Like most shot timers, RangeTech divides each timer-start into strings. Each string has a grey-box header where quick information on that string can be easily found.

"String" is the string number. This number resets each time the clear function is used.

"First Shot" is the time of the very first shot in that string, from the time of the start signal.

"# Shots" is the number of shots in this string.

"Total Time" is the time of the last shot in that string.

The first column is the "Shot #", the number of the shot in the string.

The second column is "Time", the time of that shot since the start signal, in seconds.

The third column is "Split", the time of that shot since the shot previous to it. This is used is a variety of ways and is a common feature of all other shot timers.

<u>When you are finished shooting, you have some options.</u>

Tapping "**_Stop_**" will stop the shot timer and prevent any new shots from being recorded, such as by an accidental drop or a nearby shooter.

Tapping "**_Clear_**" will clear out any currently held strings. You will be asked to confirm this action, as once strings are cleared, they cannot be recalled.

Tapping "**_Start_**" will restart the shot timer, creating a new string. If the previous string does not have any shots, such as from and accidental or false start, that string will be replaced.

Multi-String

RangeTech can store an infinite number of strings in the timer tab. A new press of the "**Start**" button (or the volme-button/timer-start shortcut) will create a new string. You can restart the shot timer at any time.

The advantages of this multi-string functionality are numerous.

From running a stage at a match, a multi-string drill for one person, a quick friendly competition, comparing quick runs of the same drill, and more.

RangeTech will even help rank and score strings against each other automatically. More info on this on the next page.

Tapping on the " ⌄ " button for a string will show or hide that string's shot list. You can collapse shot lists to save space on your screen.

Saving and Sharing

Tap on the "**More**" button to share your strings, either on an interactive custom web-page, or as a simple screen shot. You can share via various options and go back and look at your strings later.

Additional saving options are coming soon!
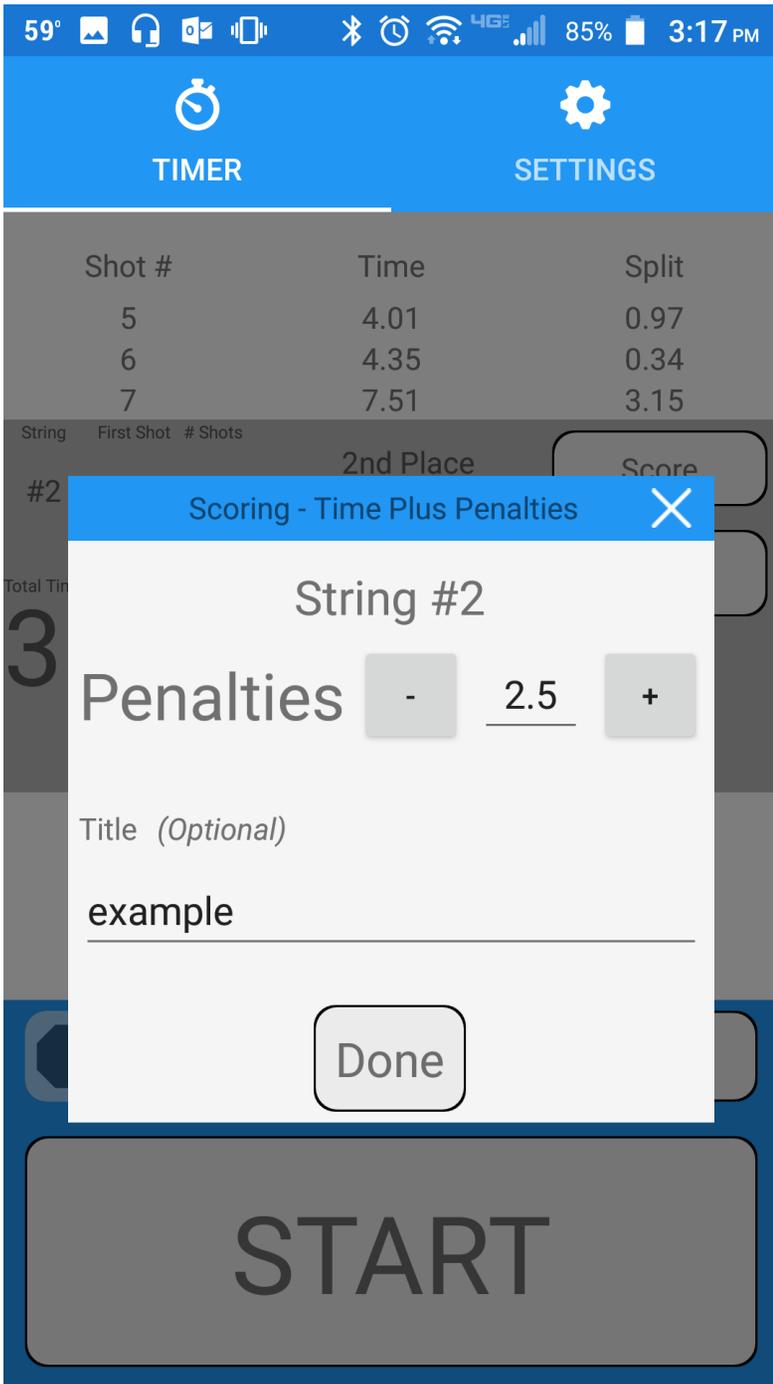
Scoring

Tap on the "**Score**" button for any string to add scoring information to that string. Currently, scoring has three options:

"None": Uses raw total shot time only. This is on be default, requires no user input, and cannot be disabled, but can be ignored.

"Time Plus Penalties": Adds time penalties to the raw total shot time, such as for IDPA, Steel Challenge, or 3-gun.

"Points with Hit Factor": Uses the points number you input to calculate the hit factor, or points per second. This is commonly used for USPSA, IPSC, Multi-gun, and Pro-Am

Tap on the "**+**" or "**-**" signs to increase or decrease the value of raw points or time penalties you wish to apply to this string, or tap on the number and type in the desired number.

Tap on the "**Title**" line to add additional notes, such the shooter name, run number, gun used, or whatever information you would like to include with that string. This is completely optional.

Click on "**Done**" to save the information to that string.
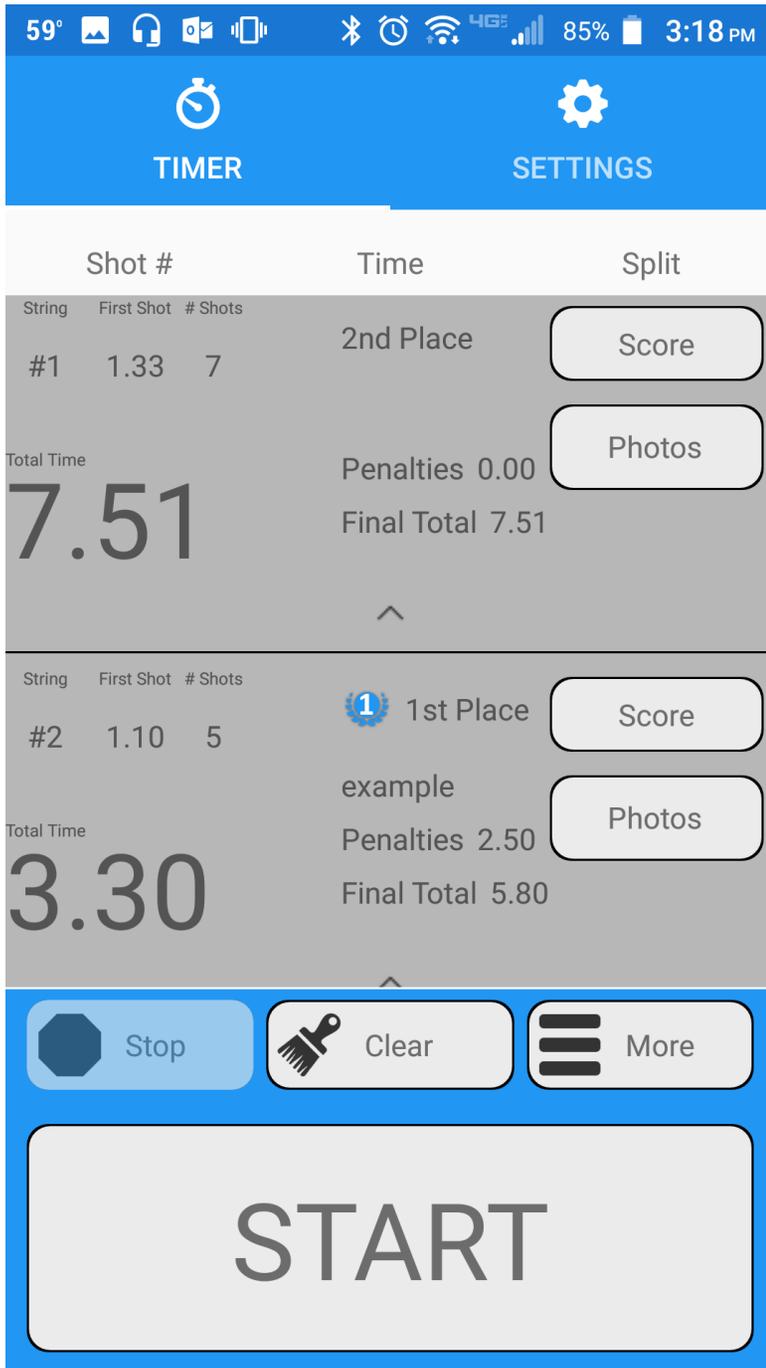
Scoring (continued)

"X Place" indicates the rank of that string among the other strings currently on the screen, and the "1st Place" ranked string will have a special icon to help identify and find it.

If no scores have been entered, RangeTech will use the "Total Time" to rank strings, from fastest to slowest.
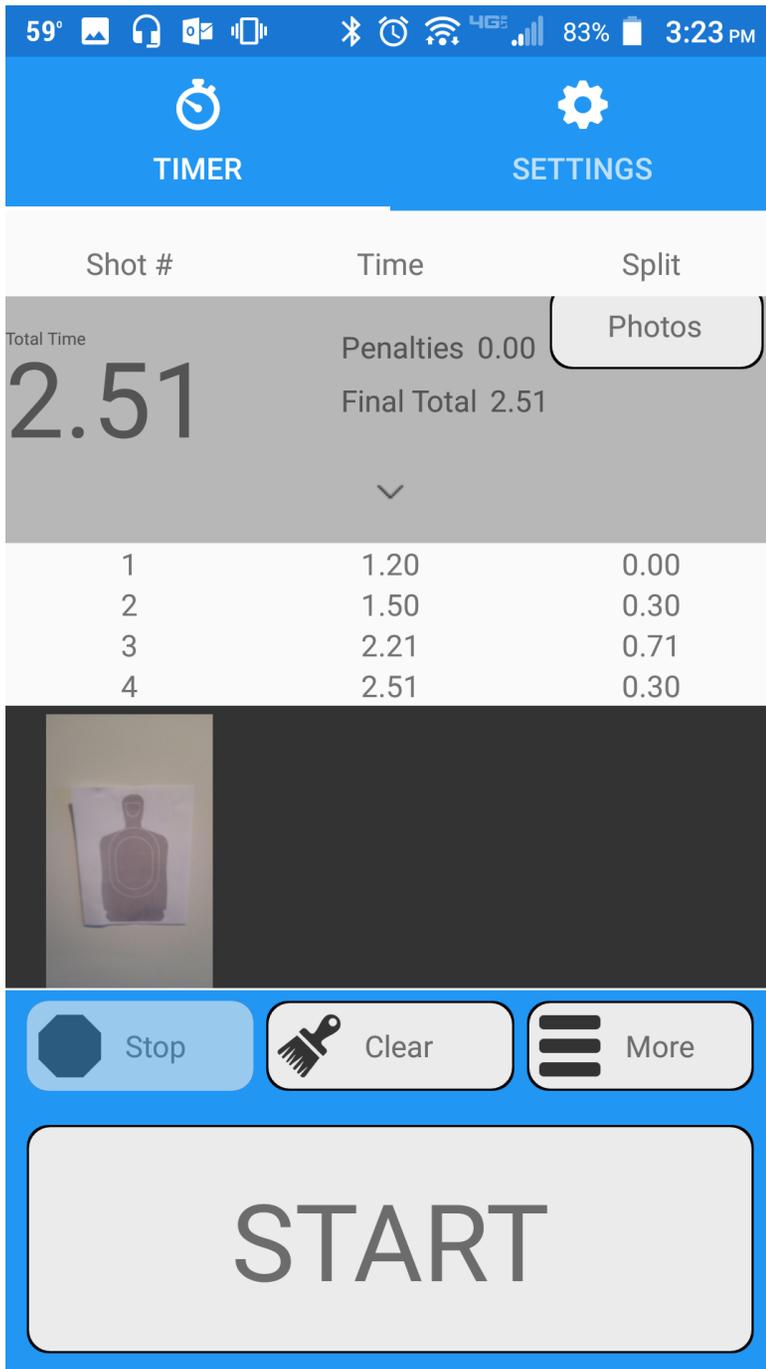
Photos

You can attach photos from your camera to any string, to document accuracy, target setup, or even just help you remember what drill you were shooting.

Tap on "Photos" to open up the camera and take a photo. That photo will be attached to the string, including when saving or sharing.

After taking the first photo, you have the option to take more photos by tapping on "*Take Photo*".

You can delete photos by tapping on "Delete Photos" then tapping to select the phots you want to delete, and tapping on done.

Tapping on the back button at the top will take you back to the timer screen. You can add or delete photos any time by clicking on that string's "*Photos*" button.
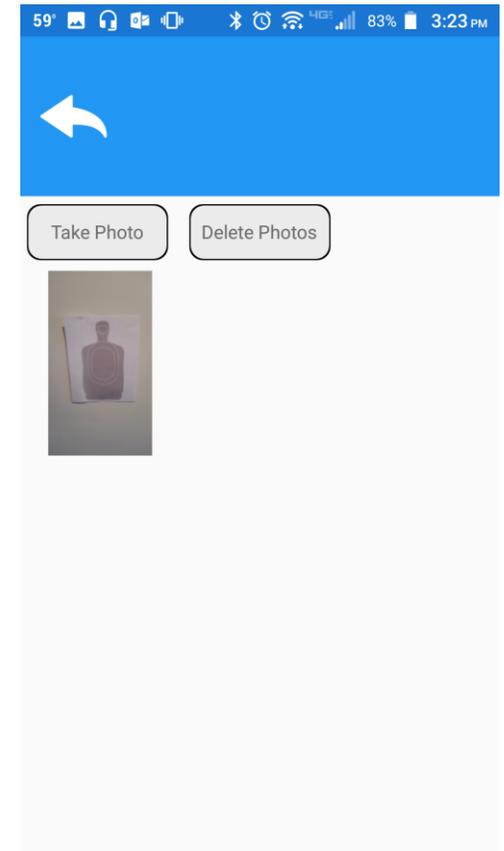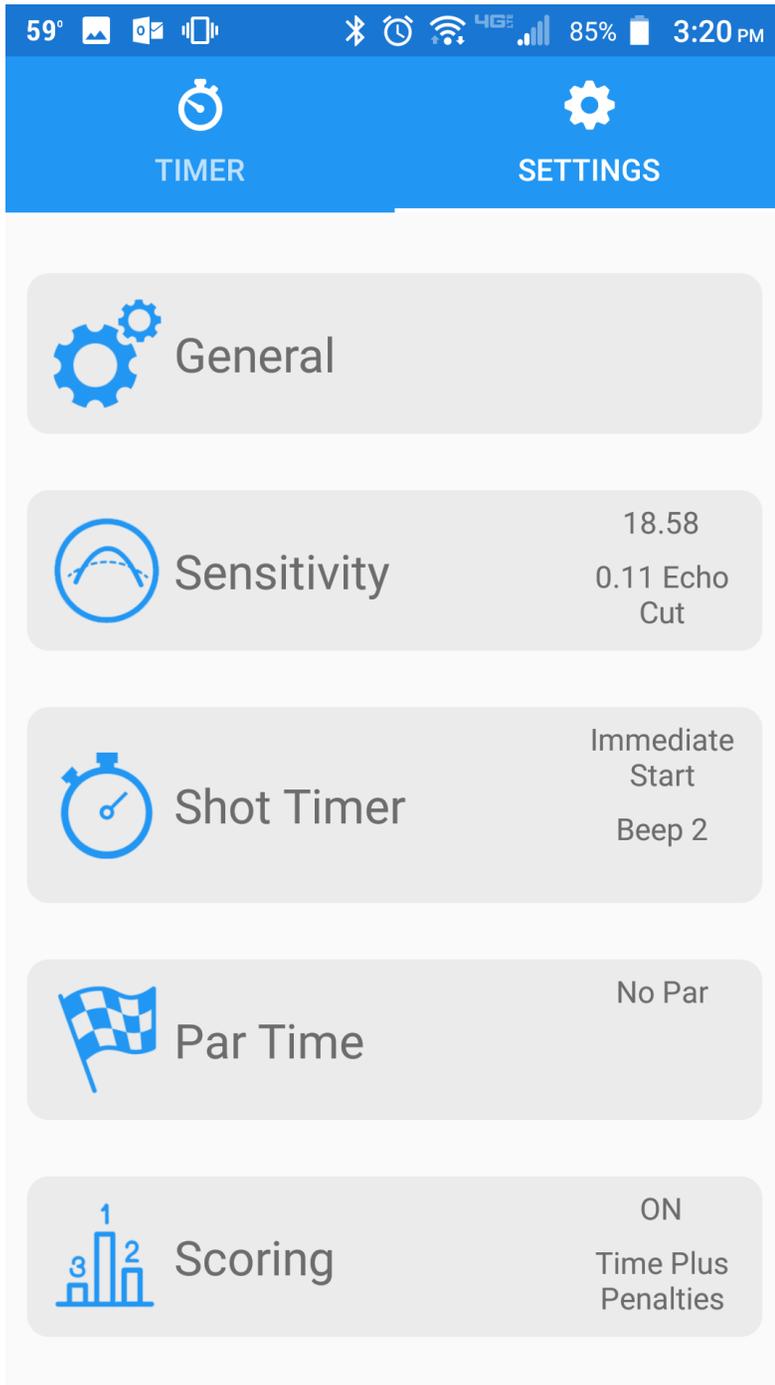
Settings

Tap on the settings tab to access the apps settings.

"General" settings includes user display, audio, and other preferences.

"Sensitivity" settings include shot detection sensitivity to tune to specific situations (quieter guns, crowded range) and echo cut to prevent single shots from reporting as multiple hits in closed spaces or with steel targets.

"Shot Timer" settings include setting the start delay, start signal, and preparatory command.

"Par Time" settings include setting par for time or number of shots, including a variable range, the par-expired sound, and setting up auto-restart mode for multiple runs of the same drill in a row.

"Scoring" settings include setting the scoring type.

"Feedback and Support" will take you to a contact form on our website to provide feedback or contact us to get help.

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TIMER | SETTINGS

General

Sensitivity   18.58
0.11 Echo Cut

Shot Timer   Immediate Start
Beep 2

Par Time   No Par

Scoring   ON
Time Plus Penalties
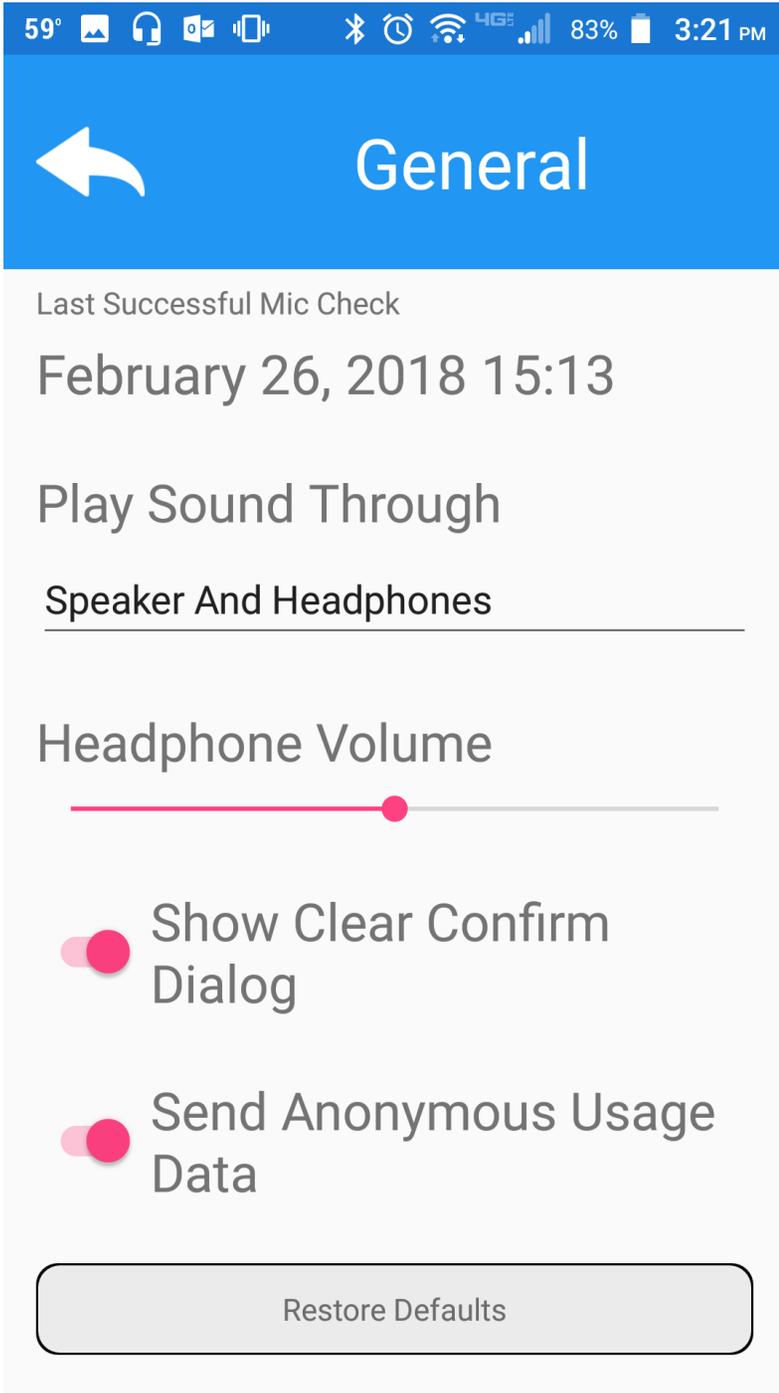
General Settings

"Last Successful Mic Check" documents when the last test was conducted to verify the RangeTech attachment is present and working correctly. This information may be relevant.

"Play Sound Through" can be set to "Speaker and Headphones" or "Just Headphones".

"Headphone Volume" controls the volume of sound coming over the headphones, if you are using them with the pass-through connection. Volume for the speakers is always the maximum volume of your phone and must be controlled by the application to ensure accurate shot times.

"Show Clear Confirm Dialog" controls whether or not the confirmation dialog is shown when the "Clear" button is tapped in the main screen, and gives you the option to turn it back on if you disabled it previously.

"Send Anonymous Usage Date" controls whether or not the app is allowed to send Shooter Technology Group information on performance, crashes, and typical usage. It is completely anonymous and is only used to improve the application.

★ "Restore Defaults" will restore installation-default settings throughout the app, and is used as an escape hatch if you change settings and cannot remember how to change them back.
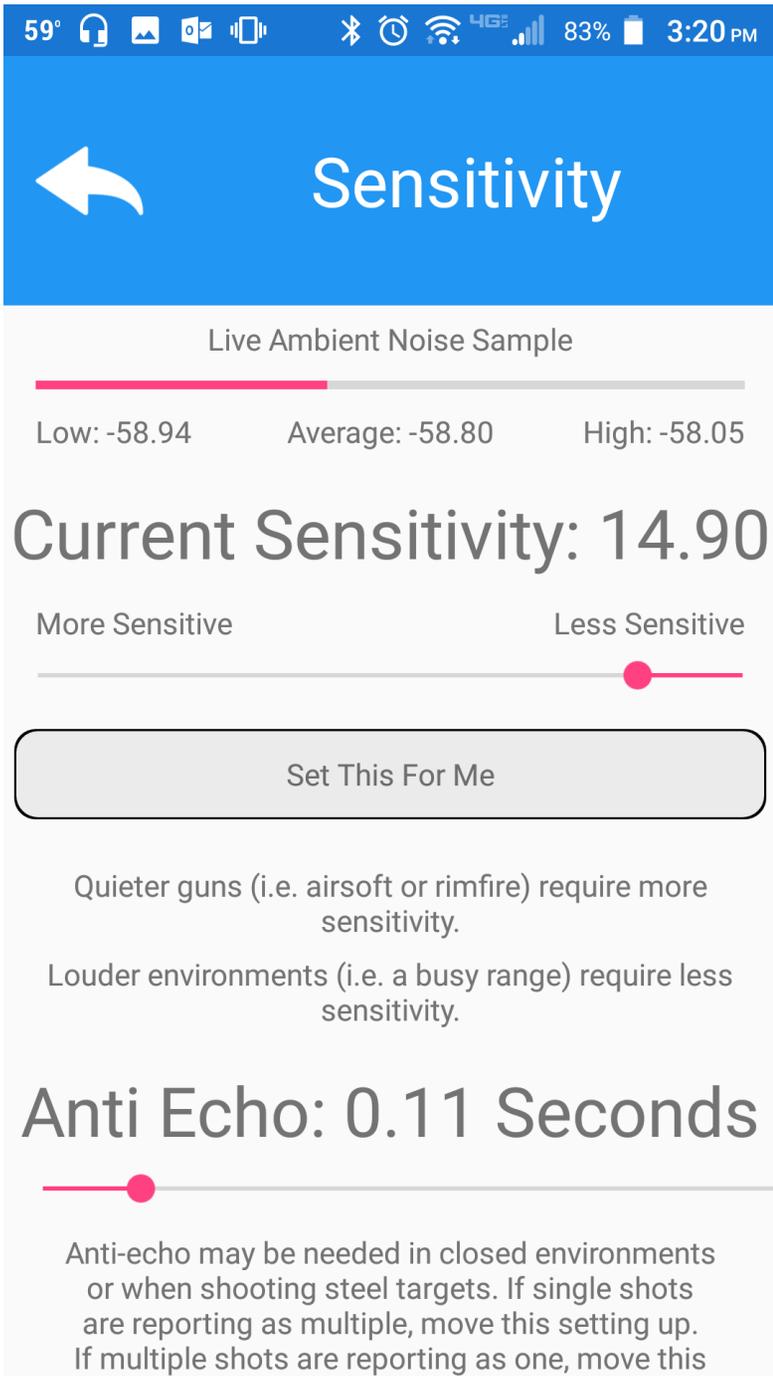
Sensitivity Settings

"Live Ambient Noise Sample" shows you what your current ambient sound levels are like in real-time, and can be helpful when setting sensitivity in tricky situations, such as crowded ranges or for very quiet guns. You will also notice that this gauge does not move much for common noises, like wind or talking, when the RangeTech attachment is plugged in.

"Current Sensitivity" provides a number as a reference point for the current sensitivity level, and a slider to change the sensitivity level. The slider is scaled with the "Live Ambient Noise Sample" gauge above it.

★ Moving the slider towards "More Sensitive" will make RangeTech more sensitive to noises, and may be needed with quieter guns or further-away shooters, but also runs a higher risk of detecting false-shots from ambient noises, nearby shooters, etc.

★ Moving the slider towards "Less Sensitive" will make RangeTech less sensitive to noises, and may be needed in louder environments, such as a busy range, but also runs a higher risk of missing shots from too-far-away shooters or too-quiet guns.

★ "Set This For Me" will read the ambient noise level and set the sensitivity automatically. It is important to note that this setting may not work well for you in your particular situation, and manual adjustments to the sensitivity slider may be needed.
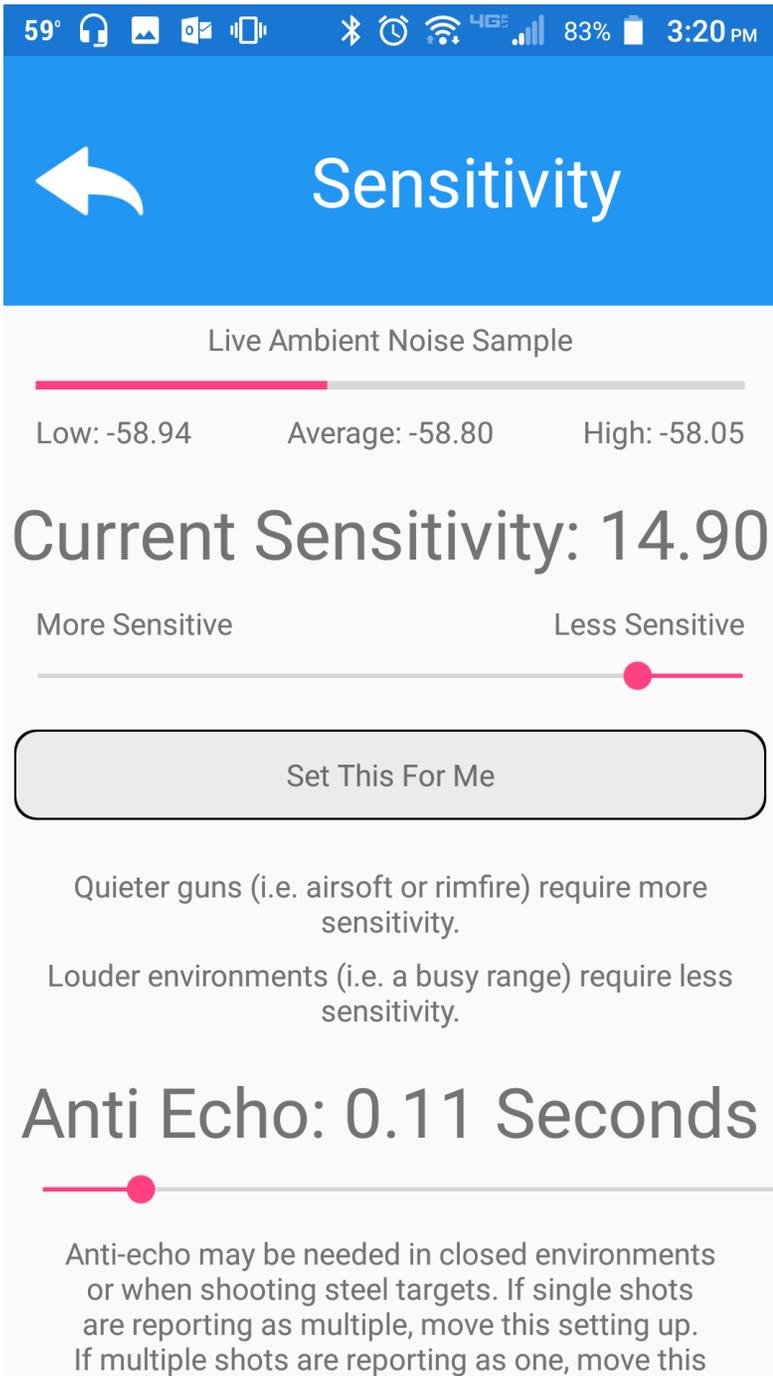
Sensitivity Settings (Continued)

★ **Anti-Echo**

"Anti Echo" is used to ensure things such as hit steel, falling steel, or echo of the gunshot does not get detected as an errant second shot. This setting is measured in seconds and is basically a minimum split time, preventing any noises that are unrealistically fast from being registered as shots. Setting this too high may cause very-close-together shots to not be recorded.

★ **FALSE SHOTS**

While adjusting sensitivity and anti-echo can remove most causes of false-shots, some causes, such as dropping or impacting the RangeTech attachment, are likely to cause false shots no matter what. Most dedicated shot timers will have the same issue in the same circumstance.

★ **Different devices are different**

During your first use of RangeTech, it is important to note that different phones and tablets have different tolerances and some minor trial-and-error may be needed.

★ If you are seeing "extra" shots. For example, you fired 4 times, but RangeTech shows more than 4 shots, you may want to try setting the sensitivity slider to "Less Sensitive" until is issue is resolved. If this does not work, increase the Anti-Echo setting.

★ If not all shots are being picked up. For example, you fired 4 times, but RangeTech shows fewer than 4 shots, set sensitivity to "more sensitive". If this does not work, decrease the Anti-Echo setting, or move the shot timer closer to the gun/shooter.

Shot Timer

Start Delay

Between 1 and 3 seconds

Start Signal

Beep 2

Preparatory Command

None
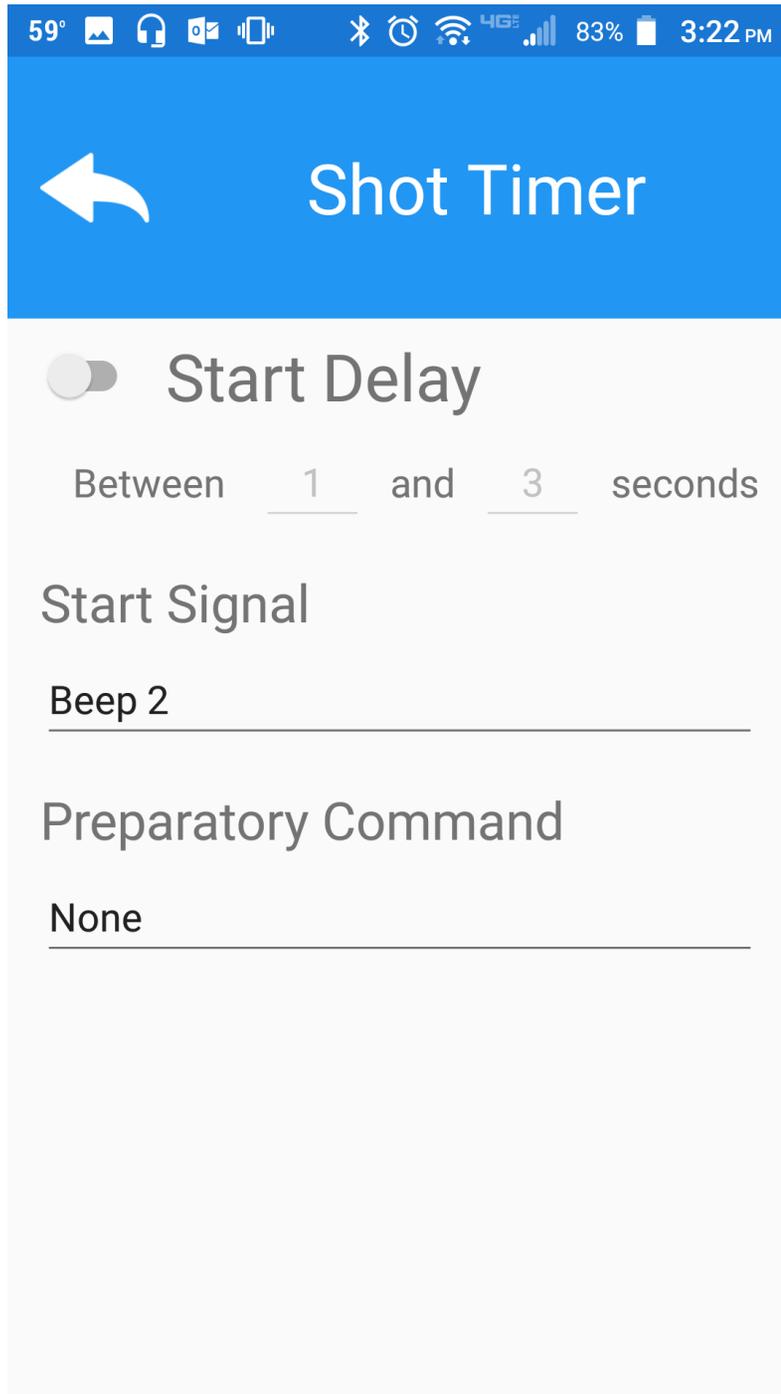
Shot Timer Settings

"Start Delay" controls whether or not there is a delay between when the start button is tapped on the main timer tab and when the start signal is given and the timer starts.

"Between X and X seconds" allows you to control the possible range of the start delay, in seconds. The switch for start delay must be enabled for this setting to be changed. For a fixed delay without variance, set both of the numbers to the same value, between 3 and 3 for example.

"Start Signal" is the sound used for when the shot timer starts. There are several options here, including Random, which will randomly cycle through the different options in the menu.

"Preparatory command" is an option to have a sound, such as range commands, play prior to the start delay and start signal. Prepatory commands will add to any start delay, to ensure there is enough time to play the start signal.
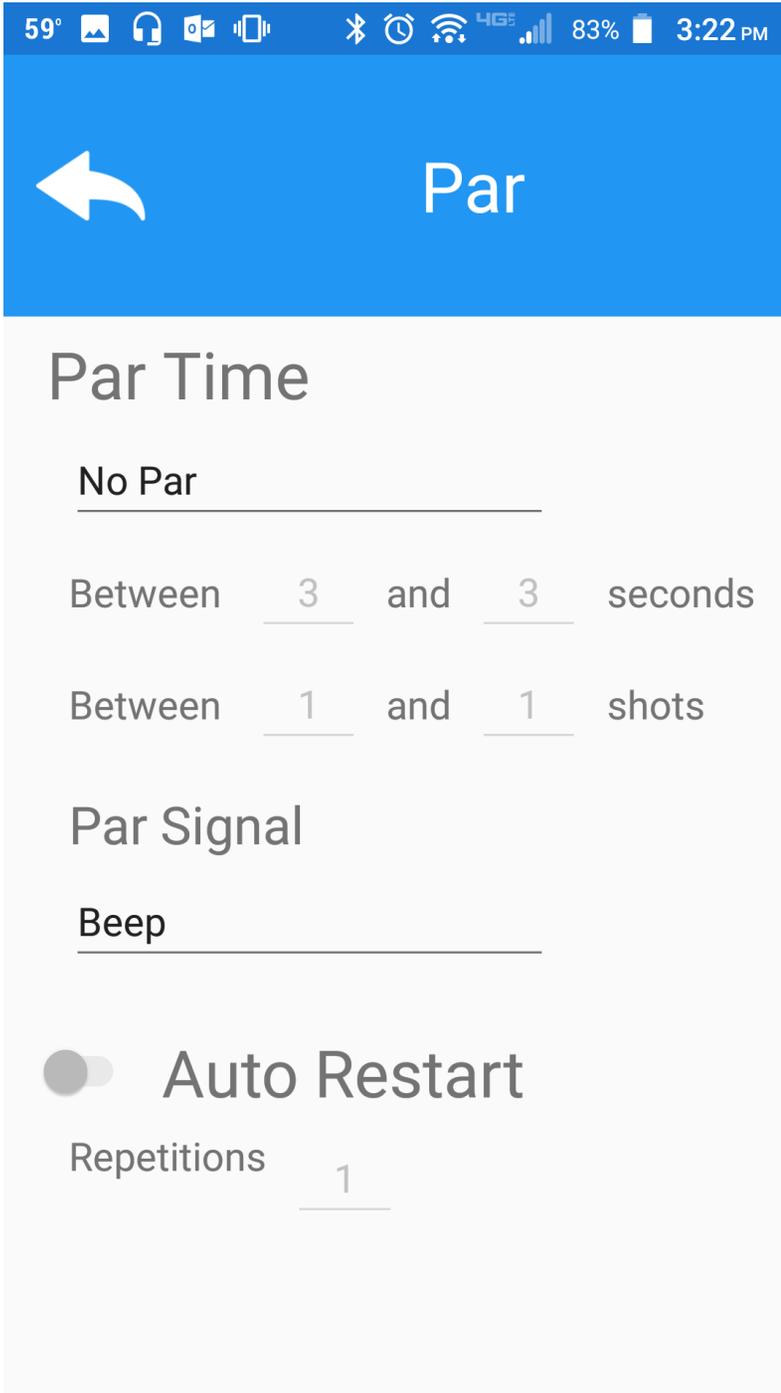
Par Settings

In the top dropdown menu, you can select what type of Par you want to have. Par is a goal, and most shot timers have a Par Time option, while RangeTech offers the option to also set par for a number of shots. This can be used in a wide-variety of ways.

"No Par" means there is no Par set, and any other settings in this menu are not used.

"Time" allows you to set a Par for time. This is the common setting found on almost all other shot timers. The time is in seconds from when the timer started/start signal was made.

"Shots" allows you to set a Par for shots. This feature is unique to RangeTech.

"Time And Shots" allows you to set a Par for when BOTH a certain time has elapsed, and a certain number of shots have been detected.

"Time Or Shots" allows you to set a Par that includes both time and shots, but only one condition has to be met for par to expire, whichever one comes first.

"Between X and X seconds" and "Between X and X shots" allows you to adjust the range for par time and par shots. These settings will only be enabled if a Par mode that uses them is selected. If a range is entered, 1 and 3 for example, then par will be a random number between the two. To have a fixed number, simple enter the same value for both (most common).

"Par Signal" allows you to set the sound played when Par expires.
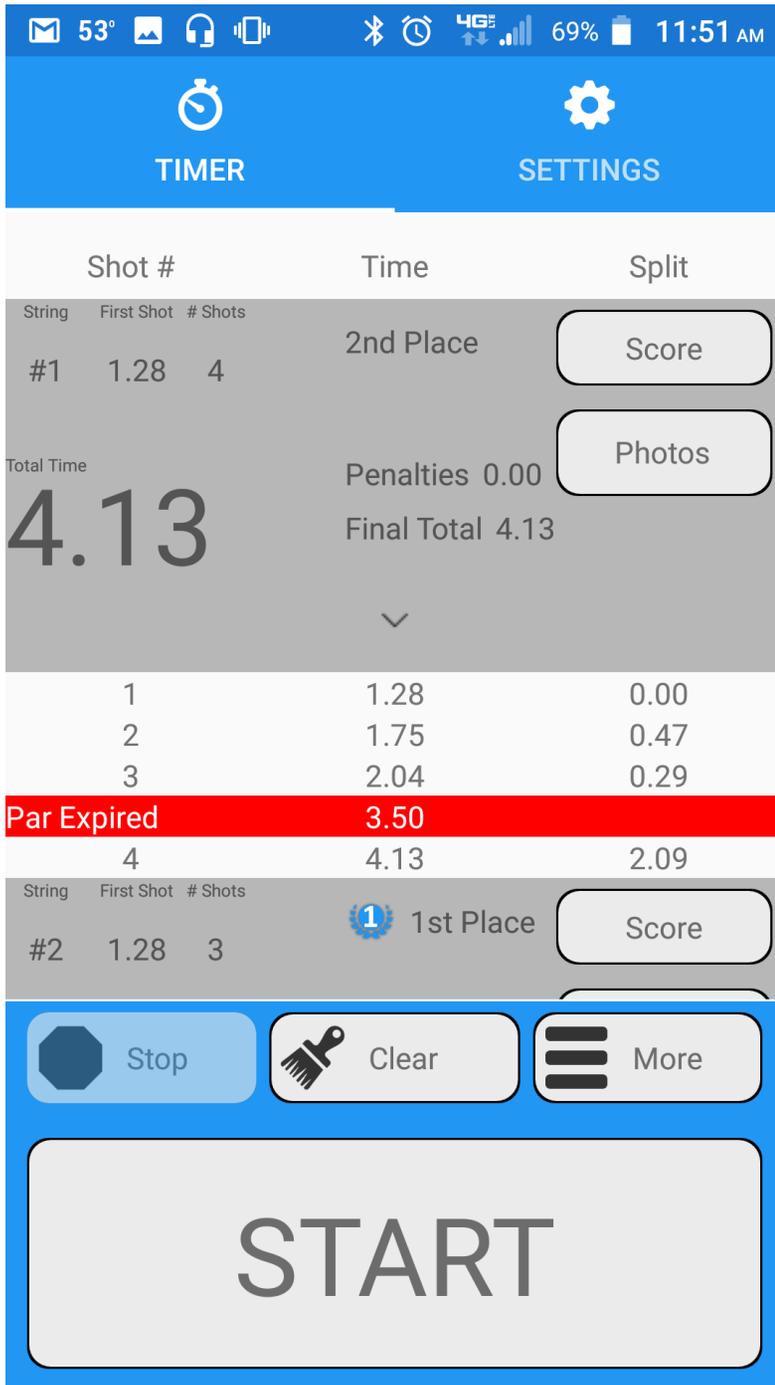
Par Settings (Continued)

When a Par setting is enabled, a red line is inserted into the timesheet to indicate when par expired.

Auto Restart

"Auto Restart" is used when you what RangeTech to automatically restart after par expires. This is extremely useful when performing multiple repetitions of the same drill.

"Repetitions" controls how many times RangeTech will automatically restart in a row without the "Start" button being tapped. Setting this to 1 will not restart at all, as 1 repetition is required to shoot at all. Setting this to 2 will cause a single restart, or two repetitions total.

When "Auto Restart" is on, and the "Repetitions" is set to more than 1 RangeTech will automatically restart itself when par expires. This includes the preparatory command, if set, and start delay, if set.

★ IMPORTANT: For auto-restart to be useful (in most cases), you will want to ensure start delay is turned on under Timer Settings, and ensure that the start delay is sufficient to allow you to reset between strings (reholster, move back to the starting position, etc)
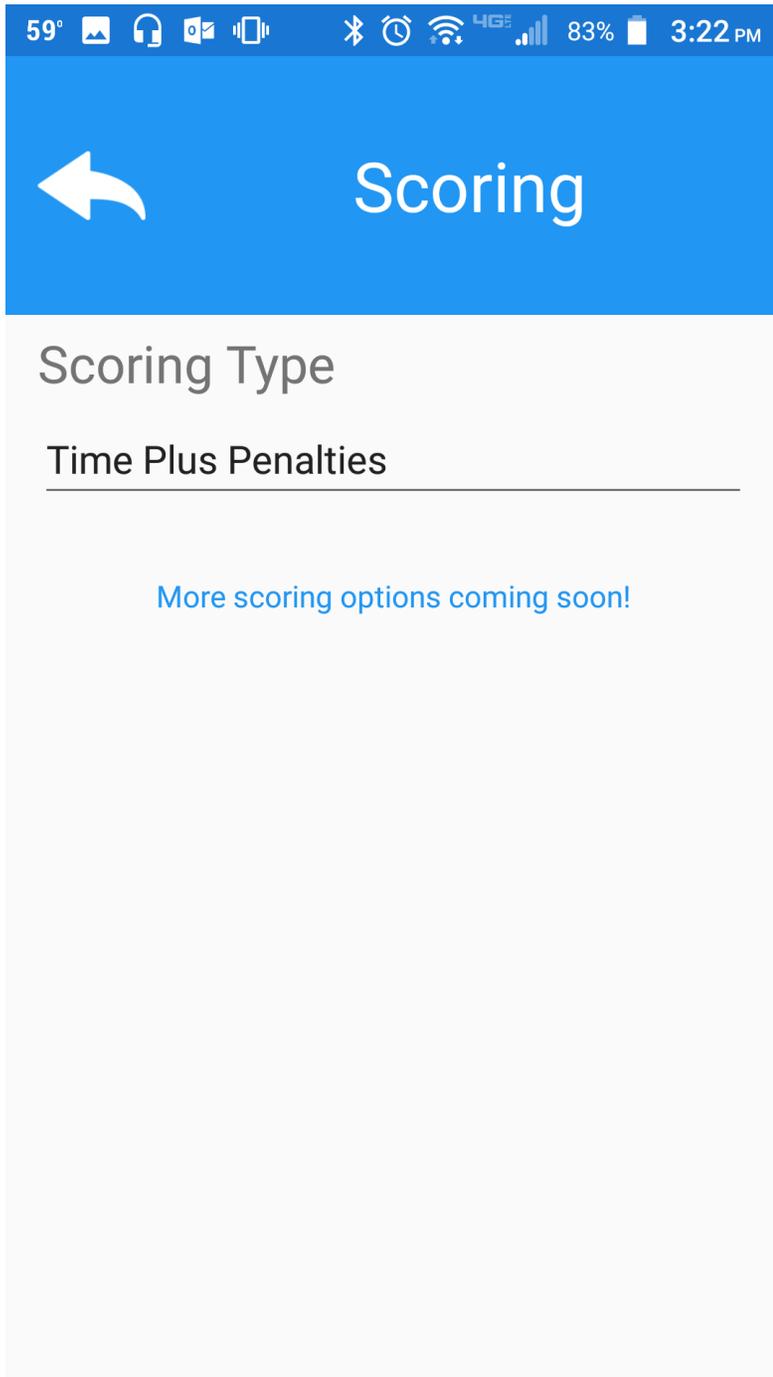
Scoring Settings

This area is a bit of a placeholder at the moment for advanced scoring options in the future.

"None": Uses raw total shot time only. This is the default, requires no user input, and cannot be disabled, but can be ignored.

"Time Plus Penalties": Adds time penalties to the raw total shot time, such as for IDPA, Steel Challenge, or 3-gun.

"Points with Hit Factor": Uses the points number you input to calculate the hit factor, or points per second. This is commonly used for USPSA, IPSC, Multi-gun, and Pro-Am

Feedback and Support (Settings)

This button will take you to a contact form on our website where you can contact us with suggestions, issues, or if you need help with something.