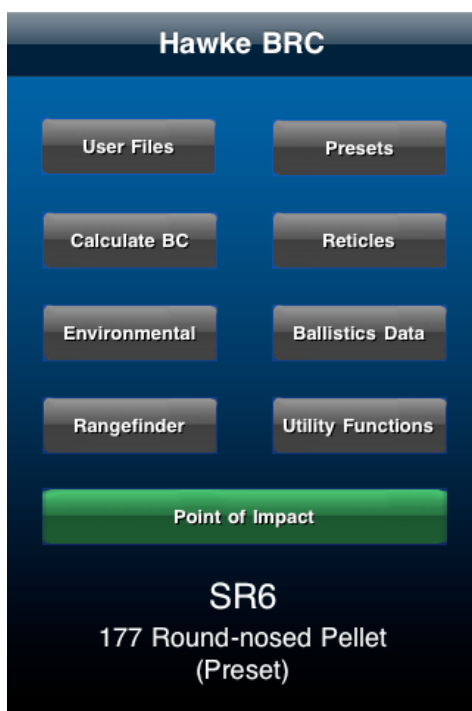


Hawke™ Ballistic Reticle Calculator (BRC) Mobile

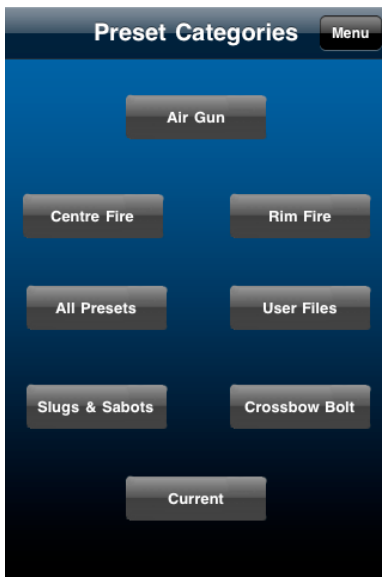
V1.0.0 October 2011

Hawke™ BRC Mobile is a ballistics application for iOS devices - iPod Touch, iPhone and iPad - running iOS 4.0 or higher.

The main view has nine buttons that, when tapped, lead to the various functions and function groups:



- User Files: a view where current set-ups can be saved, existing set-ups loaded or deleted.
- Presets: a list of preset setups from air-guns to centre-fire to crossbows.
- Reticles: choose a reticle from the current Hawke range.
- Ballistics Data: a view where the current ballistics data can be seen and/or edited to suit your particular set-p.
- Calculate BC: a view where the Ballistic Coefficient of your particular set-up can be calculated.
- Environmental: enter the ambient Temperature, Pressure and/or altitude.
- Utility Functions: Help, Web and Feedback: gives access to a Preferences view, this helpfile, the Hawke BRC webpage and a mail client for feedback.
- Point of Impact: view the vertical and horizontal Point of Impact at various wind speeds/angle and inclinations.



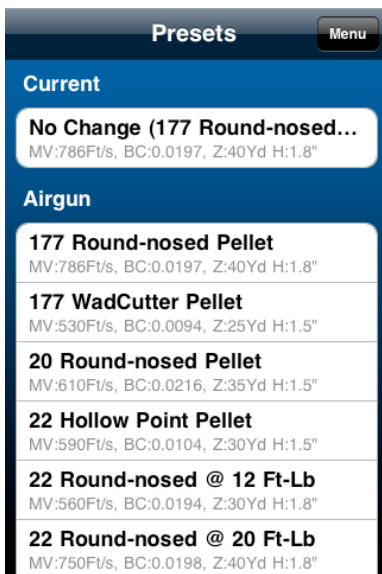
Quick Start guide:

From the Main view, tap on the 'Presets' button. This displays the preset categories available -

- Air Gun,
- Rim Fire,
- Centre Fire,
- Slugs & Sabots or
- Crossbow Bolt.

Tapping any of the above categories displays the appropriate page where a selection can be made.

Tapping 'Current' (or the 'Menu' button) returns to the previous Main view with no changes made, 'All Presets' lists all of the preset setups and 'User Files' shows a list of previously saved setups (if any).

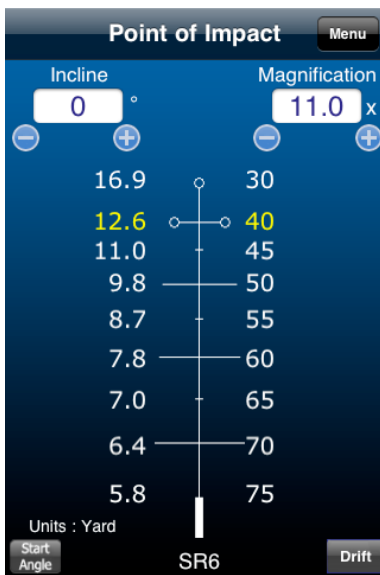


Choose an appropriate preset. If your exact setup is not listed then choose the nearest; the parameters can be adjusted later.



Back at the Main view, tap the 'Reticles' button and choose the appropriate Hawke reticle from the list.

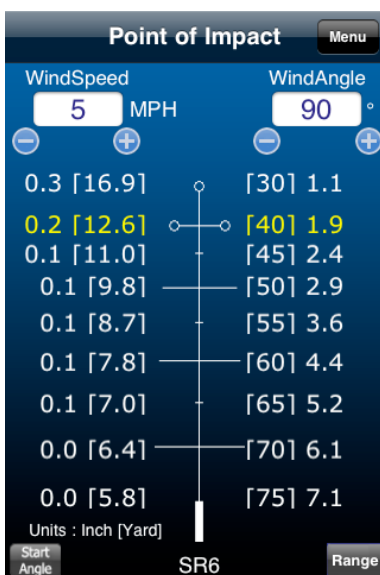
Tapping the 'Menu' button or selecting the 'No Change' item returns to the Main view with no changes made.



At the Main view, tap the 'Point of Impact' button to view the trajectory intersection ranges. Tapping the 'Menu' button returns to the Main view. The magnification can be adjusted (within the limits of the reticles maximum and minimum values) by entering a value into the 'Magnification' field or by tapping the '+' or '-' buttons (increases/decreases magnification by 0.5x per tap). Similarly, the inclination angle can be adjusted by either entering the angle into the 'Incline' field or by tapping on the '+' or '-' buttons. Tapping on the 'Incline' field resets the angle to zero.



If the inclination angle is unknown then tapping on the 'Start Angle' button in the bottom left-hand corner will start the inclinometer view. Line the cross-hairs up on the target and tap the image to use the inclination angle or tap on the '[Cancel]' button to reset the angle to zero.



Back at the 'Point of Impact' view, tap on the 'Drift' button (bottom right-hand corner) to show wind-drift effects on POI at various ranges. Tapping on the 'Menu' button returns to the Main view whilst a tap on the 'Range' button returns to the Ranges POI view. The windspeed and angle (relative to the shooter) can be adjusted by either entering a value into the respective field or by tapping the respective '+' and '-' buttons.

Range (yard)	POI (in)	POI (moa)	Drift (in)	Drift (moa)
0	-1.80	Inf	0.00	0.00
5	-0.97	-18.24	0.03	0.50
10	-0.30	-2.82	0.11	1.03
15	0.22	1.37	0.25	1.57
20	0.56	2.67	0.44	2.11
25	0.72	2.75	0.70	2.67
30	0.69	2.20	1.02	3.25
35	0.46	1.24	1.41	3.83
40	0.00	0.00	1.86	4.43
45	-0.69	-1.46	2.38	5.04
50	-1.62	-3.10	2.97	5.66

While still in the Point of Impact view, rotating the iOS device (in either direction) displays a ballistics table.

The left-hand segmented control allows the 'step-size' of the table to be changed (the default - as shown - is 5 Yards/m) whereas the right-hand control selects the table type.

Range (yard)	1/4 moa (click)	1/8 moa (click)	1/2 moa (click)	1/10 mrad (click)
0	Inf	Inf	Inf	Inf
5	72	145	36	53
10	11	22	5	8
15	-5	-10	-2	-3
20	-10	-21	-5	-7
25	-11	-22	-5	-8
30	-8	-17	-4	-6
35	-4	-9	-2	-3
40	0	0	0	0
45	5	11	2	4
50	12	24	6	9

'POI': shows the Point of Impact in inches (or cm) and moa together with the lateral wind-drift in the same units.

'Clicks': shows a table of elevation zero adjustment clicks for 1/4 moa, 1/8 moa, 1/2 moa and 1/10 milli-radian scopes and the ...

Range (yard)	Velocity (ft/s)	Velocity (%)	Energy (%)	Time (sec)
0	786.0	100.0	100.0	0.0000
5	761.5	96.9	93.9	0.0200
10	737.7	93.9	88.1	0.0420
15	714.6	90.9	82.7	0.0661
20	692.3	88.1	77.6	0.0924
25	670.7	85.3	72.8	0.1212
30	649.8	82.7	68.3	0.1526
35	629.5	80.1	64.1	0.1868
40	609.8	77.6	60.2	0.2240
45	590.8	75.2	56.5	0.2645
50	572.3	72.8	53.0	0.3084

'Etc.' selection displays Velocity, Energy (%) and Elapsed Time columns.

Rotate the device back to the portrait orientation to return to the Point of Impact view.

Ballistics Data Menu

Muzzle Velocity: Ft/s

Ballistic Coefficient:

Far Zero: Yard

Scope Height: Inch

Trajectory:

Near Zero: 12.7 Yard

Peak: 0.7 Inch @ 27 Yard

Far Zero: 40 Yard

Reticle Range: (3.0x - 32.0x) 132 - 54 Yard

Max. Range: 401 Yard

SR6
177 Round-nosed Pellet
(Custom)

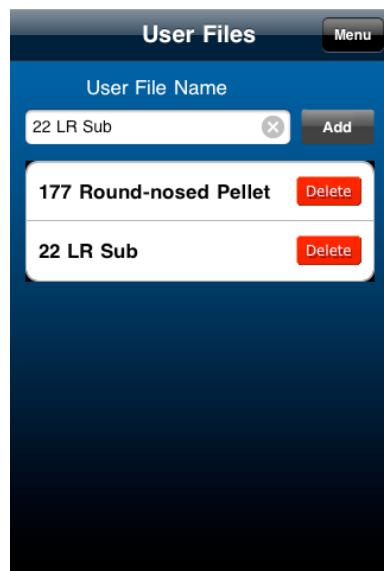
Back at the 'Main View', tap on the 'Ballistics Data' button to edit the Preset's data - Muzzle Velocity, Ballistic Coefficient, Far Zero and Scope Height - if necessary. The Data Panel on the right-hand side displays the relevant trajectory features of the new data.

If the Ballistic Coefficient needs adjustment then, from the 'Main View', Tap the 'Calculate BC' button ...

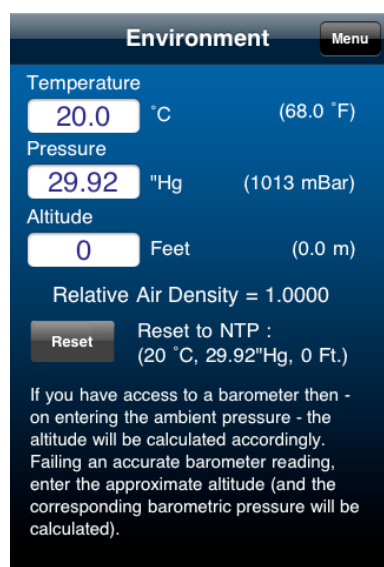


Initially, the view will present the existing Muzzle Velocity, Zero Range and Scope Height from the 'Ballistics Data' view but these can be adjusted to suit. As per the instructions, enter the Test Range and the measured Point of Impact at that range. The new Ballistic Coefficient value will be calculated according to those criteria. If you're confident that the entries are correct then tap the Accept button to accept the new BC value and return to the Main View.

Tapping the 'Reset' button re-enters the original data while tapping the Menu button returns to the Main View.



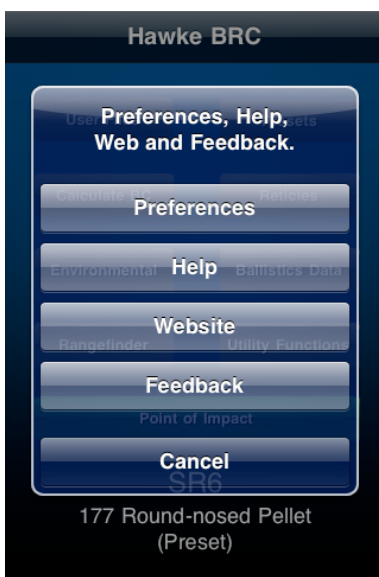
Tap the 'User Files' button to save the current setup to the device for future use. The 'User File Name' text field will contain the name of the current user file or Preset. Tap the 'Add' button to save the file. If the filename already exists then you will be prompted to overwrite the file with the new data or cancel the save. In the latter case - and provided that the original data is to be preserved - simply edit the User File Name and tap the 'Add' button again. The 'Delete' button alongside every file record enables the user to delete the particular file (after confirmation). As always, the 'Menu' return to the Main View again.



From the Main View, tapping the 'Environment' button enables the user to enter the local Ambient Temperature, Pressure and/or Altitude. Accurate Ambient Pressure measurements are always preferred but, as per the instructions, a good estimate can be gleaned from the current altitude (if available).



Depending of the Reticle selected, tapping the 'Rangefinder' button will present a bracketing rangefinder particular to that reticule. i.e., the rangefinder shown is applicable to the Hawke SR6 and SR12 reticles.



Tapping the 'Utility Functions' button displays the utility menu from where the user can:

- 1) Change the app's operation and appearance,
- 2) display this help file,
- 3) Visit the app's website (if an Internet connection is available) or
- 4) Send feedback to the developers (if the iOS device supports email and an Internet connection is available)



Basic parameters of the HawkeBRC.app can be changed via the 'Preferences' view; namely:

- 1) the selection of Metric or Imperial units,
- 2) if the device should vibrate on alert,
- 3) if the user can shake the device instead of tapping the 'Menu' button,
- 4) Choose the view transition type or
- 5) Choose a background gradient to suit personal preference or ambient lighting conditions.