Leica BlueTooth rangefinder programming cheat sheet

This cheat sheet assumes you know how to operate a Leica rangefinder's internal programming system and focuses on the knowledge and tricks that make using Leica's *Leica Hunting* app easier and connecting to a Kestrel easier.

** Please note, your rangefinder can only talk to one BlueTooth device at a time, and it must be 'told' what to talk to. Prior to attempting any connection, you must enter the onboard programming menu of your rangefinder & go to the **bt** submenu. You will see 3 options: **OFF**, **APP** or **Lat**. Choose either **APP** to connect with your phone or **LAt** to connect with your Kestrel. You must then press the programming button to ensure the chosen selection goes from flashing to solid in your rangefinder's display. Once the option goes solid, your selection has been saved to the rangefinder's programming memory.*

**Also note, if your device is set to enlarge text for easier reading, this may expand a page or text window in the Leica Hunting App to the point that critical information or options are not visible. You must set your device to display text at the factory default sizing.

***Also note that your phone may have privacy settings that block BlueTooth connection between your phone and your COM rangefinder. You must ensure those settings are disabled. On an iPhone, go to Settings -> Privacy - > BlueTooth, look for Leica Hunting and make sure the toggle switch is on/toggled right (green) -*images of screens provided below*

Confirm that you have the latest version of the app *Leica Hunting* on your smart phone. Once you have installed *Leica Hunting* on your phone, open it and take the following steps:

a) tap the **More** tab at the bottom right of the home screen. This will open a page that allows you to set your preferred language, units of measurement (metric or imperial), and view the app version. The current version is 1.5.11. The app currently does **not** send push notifications to alert you of a new version.

b) Tap the **Start** tab next to the **Start** tab at the bottom left of your screen. You will see one of the three Leica products you can connect to your app, CRF 2800.COM, Geovid 3200.COM or CRF 3500.COM. Swipe left or right until you see the device you need and tap the **Connect** button below the device.

c) Press the range button on your rangefinder to activate it. The BlueTooth symbol ❋ should appear flashing on the right side of your rangefinder's display.

d) Tap the **Connect** button on the app and the BlueTooth symbol on your rangefinder's display should turn solid and your app should display the message *Device is connected*

e) Tap the **Close** button at the bottom of the page on your app

f) Tap the **Settings** tab at the bottom of the app and tap the **Firmware status** button in the middle of the app page. You will get a message stating whether or not you are using the latest version of the app. If not, tap the **Update** button to update the firmware. You will get a message in the app when this step is complete.

g) Once you confirm your rangefinder is running the latest firmware, you can begin programming your rangefinder via your app. Skip to the section titled *Using ballistics programmed from the app* **OR**

h) If you wish to use a Kestrel for ballistics, turn on your Kestrel and confirm that it is running the latest firmware (Kestrel provides instructions for this) and move to the next section

<u>Using ballistics programmed from the App-</u>

Items of note:

1- *Ballistics programmed from the app will be calculated on-board the rangefinder, and therefore there is no need to maintain the BlueTooth connection between your phone connected and your rangefinder once programming has been achieved.*

2- *A cellular or wifi connection to the internet is required build or modify your ballistic library on your phone. Your phone <u>**must**</u> have one of those two signals and a working connection to the internet to build a profile.*

3- *Only a BlueTooth connection between your rangefinder and your phone is required to switch between profiles you've already built.*

4- *You can store multiple profiles in your app, but you can only load one profile into your rangefinder at a time.*

5- *You do not need to connect your phone to your rangefinder for initial app setup or to build your ballistic library. You can do this, as well as choose <u>new internal settings</u> for your rangefinder in the app once you've done the initial internal setup on your rangefinder. Once you have everything as you want it in your app, you can then connect the app and your rangefinder and synch your ballistics and settings choices from your app to your rangefinder.*

Go to the ballistics tab and begin building a bullet profile by tapping *Create new ballistics profile* at the bottom of the page. This will open up a profile builder with various windows where you can enter data.

1- The top window is the name of your profile.

2- The next window is the ballistics format you wish to use. Standard is shown in the window but is one of 4 formats. Tap *Standard* or the arrow to the right of it and you will enter a page with options for *Standard*, *Database*, *Own* or *Kestrel*.
   a) *Standard*- one of the 12 preset curves also offered in the on-board menu of your rangefinder. We will assume you don't want to use this option.
   b) *Database*- this option allows you to select a factory profile from our library of loads
   c) *Own*- this option allows you to build your own profile using a G1 Ballistic Coefficient and velocity data you provide

d) *Kestrel*- We will also assume you don't want to use Kestrel as we've already shown how to connect with one

3- Select the format you want. We will discuss *Database* and *Own*

4- Selecting *Database* will take you back to the profile builder where you will tap the *Calibre* window or arrow and you will be shown a list of calibers. Choose one (imperial bullet diameters beginning with .204 are first, followed by metric diameters in mm) and you will be brought back to the profile builder

   a) Next tap *Manufacturer* and select your load's manufacturer
   b) Next tap *Bullet* to select the exact bullet used in the load
   c) *Bullet weight* and *Velocity* will automatically be entered in those windows
   d) Tap *Zeroing range* and select 100, 200 or 300
   e) *Tap Mean* sea level and enter 0/zero. *Air pressure* will automatically be calculated and entered into that window
   f) Tap compute and save data. This saves the profile data to the library on your app, **NOT** the profile to your rangefinder

5- Selecting *Own* will take you back to the profile builder where you will tap the *Weight* window and your phone's keyboard will appear

   a) Enter your bullet's weight and press enter or return on your keyboard
   b) Tap *V1 Bullet Velocity* and enter your velocity data
   c) Tap *Ballistic Coefficient* and enter your bullet's BC in the following (G1 only) format, *X.XXX*, such as 0.495
   d) Do **NOT** tap the down arrow. This will open an option that allows you to compute BC if you don't have this data
   e) *Tap Mean* sea level and enter 0/zero.
   f) **SKIP** *Absolute barometric pressure*, which is also known as *station pressure*, NOT the barometric pressure your weather station gives you
   g) Tap *Zeroing range* and choose from the options
   h) Tap *Temperature,* enter that data and press return/enter on your keyboard, *Absolute barometric pressure* will auto-populate
   i) Tap *Height above line of sight* to enter your scope's height over bore. If you can't get this information, use 1.5" for a small objective lens, low-mounted scope, 1.75" for a medium to large objective lens scope mounted low, 2" for a high-mounted, large scope and 2.25" or 2.5" for a scope mounted over a full length rail, depending on size of scope
   j) Press compute and save data. This saves the profile data to the library on your app, **NOT** the profile to your rangefinder

6- Now tap the *Devices* tab and follow the instructions for connecting your rangefinder to your phone.

7- Once your devices are connected, tap the Settings tab on your app and begin entering your programming information. Tap each setting and enter the preferred choice even though some of these items may already have been done on the rangefinder itself.
   a) Choose US to make your rangefinder read in yards, EU for meters
   b) Tap *bALL*, scroll to the bottom of the page and choose "*Customized*"
   c) Tap *SId* to choose your Sight In Distance of 100, 200 or 300 yards
   d) Tap *ABC* to choose your preferred ballistic output, "*EHR*" gives dial-to/shoot-to distance, "*1-1*" give MOA to the 1/10 Minute, and "*10*" gives MILs to 1/10 MIL but with no decimal point (77 means 7.7 MILs)
   e) Select your preferred Brightness level
   f) When you've made all your selections, go to the bottom of the *Settings* page and tap *Transfer settings*
   g) Go **BACK** to the *Ballistics* tab and swipe left on the profile you want to use
   h) Tap *Ballistics table*, scroll to the bottom of the table when it is displayed and tap *Transfer to device and save*
   i) Once done, you will see *File transfer complete*, press *ok* and the table will reappear
   j) Your rangefinder is now reprogrammed for that profile

Switching ballistics output modes quickly (for rifle to archery use, etc.)

There are times when you may want to quickly reprogram your rangefinder so that it will give you EHR (Equivalent Horizontal Range) instead of MOA or MILs corrections. You can easily switch to EHR output from ballistic output and you don't need to change anything in your ballistics profiles themselves, sight in distance, etc.

   a) Enter the rangefinder's programming menu by pressing and releasing the range button to wake the unit (take note of whether or not the BlueTooth symbol is displayed along with the aiming reticle) and then press and hold the program button until the display shows EU.US
   b) If the BlueTooth symbol was **not** displayed, press and release the program button repeatedly until you see ABC flashing. If the Bluetooth symbol is displayed, skip to step e)
   c) Press the range button once and you should see EHR flashing
   d) Press the program button once and EHR will go from flashing to solid. Let the unit turn off (don't press any more buttons). Confirm EHR is displayed after the first (line of sight) distance is displayed when you activate the rangefinder and range a target. The angle symbol will appear next to the displayed range when EHR is given.
   e) Press the program button once tand the unit will display BT flashing
   f) Press the range button once and OFF will flash.
   g) Press the program button and OFF will go from flashing to solid. After a few seconds, the display will automatically advance and display BALL.
   h) When BALL is flashing, press and release the program button repeatedly until ABC flashes

i) When ABC is flashing, press the range button once and EHR will flash
j) Press the program button once and EHR will go from flashing to solid. Let the unit turn off (don't press any more buttons). Confirm EHR is displayed after the first (line of sight) distance is displayed when you activate the rangefinder and range a target. The angle symbol will appear next to the displayed range when EHR is given.

Switching back from EHR to your preferred rifle ballistics output mode (MOA or MILs) is easily achieved by following the above steps but choosing 1-1 for MOA output or 10 for MILs output.

Using ballistics calculated by a Kestrel

Hopefully, you are familiar with the setup of your Kestrel. If not, Kestrel provides instructions on how to do so. Programming a Kestrel is not within the scope of this document.

Ballistic data provided by a Kestrel is calculated by the Kestrel based on the following 3 factors measured by your rangefinder and transmitted to the Kestrel via BlueTooth: distance, angle of incline, and DoF (direction of fire). Once the Kestrel receives this information, it runs the ballistic calculation and sends the corrections back to be displayed on your rangefinder's display. -The corrections are also displayed on the Kestrel's screen as well.

Once your rangefinder has been programmed to pair with a Kestrel and you have confirmed that your rangefinder is running the latest firmware, it is simply a matter of linking the two units via BlueTooth, then ranging a target with the rangefinder and waiting on the firing solution to be displayed in your rangefinder's display. The process for linking the two is as follows:

a) turn your Kestrel on, press the menu mutton in the upper left-hand of your Kestrel's key pad, scroll down one place to BlueTooth & press the enter button in the pad's center
b) you will see "Conct" in the upper left of screen (highlighted in black) & either "Device" or "PC/Mobile" in upper right, press right arrow button until "Device" is displayed.
c) Press range button on rangefinder to awaken it, look for flashing BlueTooth symbol ✳ (right side of display).
d) Press the down arrow button to highlight "Device Connect" and press the enter button
e) Look through the rangefinder display for the BlueTooth symbol to go solid. This indicates connection. Once connected, the two units should reconnect quickly if connection is lost due to time out or too much distance between the units.

Troubleshooting erroneous firing solutions in the COM rangefinders & connectivity problems with Kestrel Link.

Sometimes, you may encounter an issue where you get ballistic corrections that differ in what is displayed within your Kestrel's screen and your rangefinder's, with the correction in the rangefinder making no sense.

1) Do a Kestrel device soft reset (remove the battery and hold power for 30 seconds)
2) Restore kestrel to "default settings" (save rifle profiles to phone ap first)
3) Remove zero offsets (this can cause malfunctions in communicating)
4) Connect the rangefinder & Kestrel, select & "lock" the BT connection from the BT submenu.
5) Set "Device Refresh Rate" on the kestrel device to 2 seconds from the original kestrel weather ap, (not kestrel ballistic ap). *-You'll need to set the Bluetooth on Kestrel to pc/Mobil first. The original kestrel weather AP is a white icon with a blue bird. This AP, when connected to the kestrel, will allow you to change the device refresh rate making for a more solid connection. The default setting is 5 seconds, which is not fast enough for the Leica BT rangefinders. See Kestrel weather ap screen shots below.*