



LEICA BALLISTIC CALCULATOR

Leica

DOWNLOAD TRAJECTORY DATA FOR GEOVID HD-B TO microSD CARD

Profile 1

Store trajectory data

Please note, that only the trajectory data inclusive the air pressure (altitude) information at sighting-in is stored on the microSD card. It is still necessary, to set in the Geovid menu the system of units, the zero-range /sight-in distance and the output format. Leica recommends to test the settings and calculations in comparison to real shooting results in a safe environment (shooting range) before you use the system for hunting.

YOUR PROFILES

PROFILE 1

FACTORY

.22 PPC USA
Sako
Racehead 52 grain (3.4 g)

BULLET PROPERTIES

52.0 grain 0.2474
Bullet weight BC

SIGHT CONDITIONS

50.0 mm 100 m
Sight height Zeroing distance
15 °C 0 m
Temperature Height sea level
1,013.25 hPa
Absolute air pressure

RIFLE SCOPE

None selected

RETICLE

None selected

The Leica Ballistic Calculator allows you to calculate the trajectory path for almost all factory ammunitions and for individual custom loads. You can set many hunting relevant parameters like the zero-range/sight-in distance, line of sight, temperature, altitude and air pressure. For Leica riflescopes with ballistic reticles or with bullet drop compensator you can calculate and print out trajectory and click value tables. Further you can download the ballistic data via a microSD card to your Leica Geovid HD-B.

Important note: Always test the correctness and accuracy of the created ballistic data on a shooting range, before using them in a real hunting situation.



SET UP A NEW CONFIGURATION

The standard name for the first profile is **Profile 1**. The **Profile name** can be changed. Further you can select imperial or metric units. Standard setting is metric units. You can setup a configuration for **FACTORY** ammunition or **CUSTOM** load.

LEICA BALLISTIC CALCULATOR

SETUP A NEW CONFIGURATION

Profile name
 Factory Custom

FACTORY CONFIGURATION

Sight height

Elevation above sea level

Temperature

Zeroing distance

Absolute air pressure

Please note: The accepted decimal mark depends on your internet browser and country. For most countries/browsers the dot is accepted as decimal mark. The correct input is indicated by a blue frame around the input box. Otherwise the input box gets a red frame.

Continue



FACTORY

Select from the database the **CALIBER, MANUFACTURER** and **CARTRIDGE** of your ammunition. The settings for **SIGHT HEIGHT, ZEROING DISTANCE, ELEVATION** and **TEMPERATURE** are prefilled with standard settings and can be changed optionally. Click on **Continue**.

Note: Choose the **CUSTOM** mode, if your ammunition is not listed in the database. The **BULLET WEIGHT, BC** and **PROJECTILE VELOCITY V_0** are listed on your cartridge box or can be noted from the manufacturers website.

SETUP A NEW CONFIGURATION

Profile name Metric units Factory Custom

FACTORY CONFIGURATION

Sight height mm Elevation above sea level m Temperature °C
Zeroing distance m Absolute air pressure hPa

Please note: The accepted decimal mark depends on your internet browser and country. For most countries/browsers the dot is accepted as decimal mark. The correct input is indicated by a blue frame around the input box. Otherwise the input box gets a red frame.

Continue

CUSTOM

Choose the **CUSTOM** mode, if you want to enter custom data (handload) or if your ammunition is not listed in the data base. Your standard input is **BULLET WEIGHT, BC** and **PROJECTILE VELOCITY V_0** . Click on **I WANT TO CALCULATE THE BC**, if you don't have the BC value. Your input is in this case **BULLET WEIGHT, PROJECTILE VELOCITY V_1 , PROJECTILE VELOCITY V_2** inclusive the related **DISTANCES**.

SETUP A NEW CONFIGURATION

Profile name Metric units Factory Custom

BULLET PROPERTIES

Bullet weight g Ballistic coefficient (BC)
 V_0
Projectile velocity m/s
 I want to calculate the BC
 V_1
Projectile velocity m/s measured at m

Sight height mm Elevation above sea level m Temperature °C
Zeroing distance m Absolute air pressure hPa

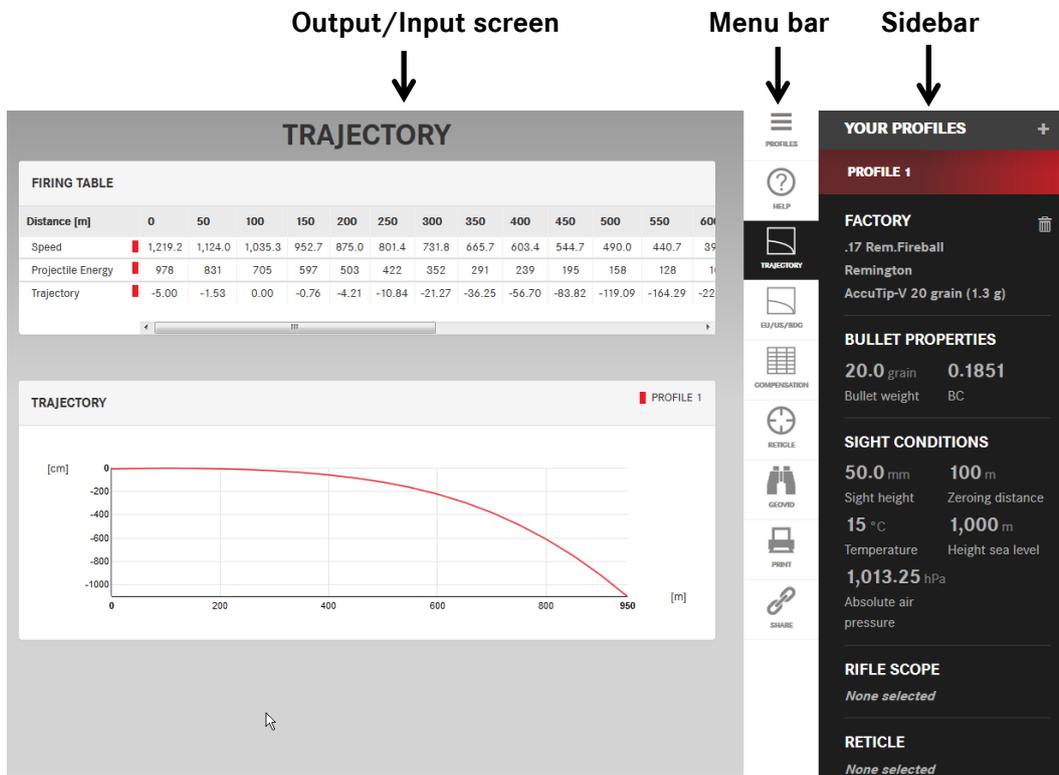
Please note: The accepted decimal mark depends on your internet browser and country. For most countries/browsers the dot is accepted as decimal mark. The correct input is indicated by a blue frame around the input box. Otherwise the input box gets a red frame.

Continue



The Screen

The screen is spitted in 3 parts: On the left side is the **Output**, in the middle is the **Menu bar** and on the right side is the **Sidebar**. Press CTRL+ scroll with the mouse wheel to zoom in and out the display.



The Menu bar

Below you find a description of the functional elements of the menu bar.

PROFILE

The **PROFILE** function fades-out / fades-in the Sidebar.

HELP

The **HELP** function opens the instructions manual window.

TRAJECTORY

The **TRAJECTORY** function shows the firing table inclusive speed, projectile energy and bullet drop data for up to 3 profiles inclusive a graphical drop curve.

EU/US/BDC

The **EU/US/BDC** function calculates the best matching number of the **STANDARD BALLISTIC CURVE [green]** at a shooting distance of approx. 300m / yd. with the slightest deviation from your chosen ammunition.

STANDARD BALLISTIC CURVE: 12 different standard ballistic curves are available on the RANGEMASTER –B models/ GEOVID – B models and as BDC rings for selected Leica riflescope models. This standard curves can be used as best matching replacement function for your real ammunition.



BDC EU/US

FIRING TABLE		0	50	100	150	200	250	300	350	400	450	500	550	600
Speed	■	1,219.2	1,124.0	1,035.3	952.7	875.0	801.4	731.8	665.7	603.4	544.7	490.0	440.7	390.0
Projectile Energy	■	1,150.3	1,084.1	1,021.2	961.4	904.2	849.3	796.7	746.0	697.1	650.2	605.3	562.3	520.0
Trajectory	■	-5.00	-1.53	0.00	-0.76	-4.21	-10.84	-21.27	-36.25	-56.70	-83.82	-119.09	-164.29	-210.00
	■	-5.00	-1.46	0.00	-0.89	-4.44	-10.97	-20.88	-34.64	-52.78	-75.93	-104.83	-140.36	-180.00

TRAJECTORY

PROFILE ■ EU1/US1

The standard ballistics curve (green) shown above fits at a shooting distance of approx. 300m / yd. with the slightest deviation from your chosen ammunition. Note regarding the standard ballistics curve: To accurately determine the impact point correction, the Leica Rangemaster, the Leica Geovid and the riflescopes with BDC rings incorporates the trajectory of the bullet into the calculation. Twelve different standard ballistics curves/rings are available for adaptation to the equipment you are using.

YOUR PROFILES

PROFILE 1

FACTORY

.17 Rem.Fireball
Remington
AccuTip-V 20 grain (1.3 g)

BULLET PROPERTIES

20.0 grain 0.1851
Bullet weight BC

SIGHT CONDITIONS

50.0 mm 100 m
Sight height Zeroing distance
15 °C 1,000 m
Temperature Height sea level
1,013.25 hPa
Absolute air pressure

RIFLE SCOPE

None selected

RETICLE

None selected

COMPENSATION

The **COMPENSATION** function calculates a **HOLDOVER** and **BDC-CLICK** table for your specific riflescope and reticle combination at selected distances. You have to select in the **Profile Cockpit** a riflescope and reticle, before you can use the **COMPENSATION** function. For each distance you receive the related holdover value (in cm or inch) and the BDC click numbers for the Leica BDC (Bullet Drop Compensator) with a scale of 1 click = 1 cm / 100 m. For the ER LRS 6.5 – 26 x 56 the scale is 1 click = 0.5 cm / 100m.

COMPENSATION

Profile: Profile 1

Distance [m]	Min: 100 / Max: 950	Holdover [cm]	BDC Clicks [clicks]
Distance: 1	100	0	0
Distance: 2	200	4	2
Distance: 3	300	21	7
Distance: 4	400	57	14
Distance: 5	500	119	24
Distance: 6	600	221	37
Distance: 7	700	380	54
Distance: 8	800	608	76
Distance: 9	900	916	102
Distance: 10	950	1102	116
Distance: 11			

YOUR PROFILES

PROFILE 1

FACTORY

.17 Rem.Fireball
Remington
AccuTip-V 20 grain (1.3 g)

BULLET PROPERTIES

20.0 grain 0.1851
Bullet weight BC

SIGHT CONDITIONS

50.0 mm 100 m
Sight height Zeroing distance
15 °C 1,000 m
Temperature Height sea level
1,013.25 hPa
Absolute air pressure

RIFLE SCOPE

Leica ER i 3 - 12 x 50

RETICLE

Ballistic ERI

Note [if you work with more than one profile]: Change the displayed profile by selecting it on the sidebar. The active profile is displayed in the top-left corner.



RETICLE

The **RETICLE** function calculates the related distances of the different aiming marks of your ballistic reticle. You can change the active **Profile** and the **Magnification**.

Note: This function only works, if a riflescope inclusive ballistic reticle is selected. The data output works by accuracy and safety reasons only up to a distance limit of approx. 950 meter/yard.

The screenshot displays the 'BALLISTIC RETICLES' section of the app. It features three columns, each representing a different magnification setting. Each column shows a vertical reticle with horizontal aiming marks and their corresponding distances in meters. Below each reticle, there are dropdown menus for 'Profile' and input fields for 'Magnification'.

Magnification	Reticle Mark Distances [m]
1,8	484, 594, 685, 777, 859, 932, 996, 1,124, 1,080
6,9	248, 301, 347, 383, 429, 457, 493, 521, 557
12	201, 228, 265, 292, 319, 347, 374, 393, 420

The right sidebar contains the following sections:

- YOUR PROFILES**: PROFILE 1, PROFILE 2
- FACTORY**: .307 Winchester, Winchester, Power Point 180 grain (11.7 g)
- BULLET PROPERTIES**: 180.0 grain, 0.2755, Bullet weight, BC
- SIGHT CONDITIONS**: 50.0 mm, 100 m, Sight height, Zeroing distance, 15 °C, 0 m, Temperature, Height sea level, 1,013.25 hPa, Absolute air pressure
- RIFLE SCOPE**: Leica Magnus 1.8 - 12 x 50
- RETICLE**: Ballistic



GEOVID

Important Note: The function GEOVID allows you to store the drop data of your specific ammunition on the microSD card for the Geovid. It is still necessary, to set in the Geovid menu the system of units, the zero-range /sight-in distance and the output format. Leica recommends to test the settings and calculations in comparison to real shooting results in a safe environment (shooting range) before you use the system for hunting.

Place the microSD card in a card reader. Click on **Store trajectory data** and then on **Save > Save under > Open** and follow the explorer directory to the location of your microSD card.

Note: Please check, that the filename is exactly “**drop.hex**”. Some operating systems rename the file automatically, if you store the drop.hex file for example more than one time in the same folder.

Note: Some operating systems don't have the **Save > Save under > Open** folder routine. In this case you might have to copy the drop.hex file manually on your microSD card.

Note: This function works only for the active **Profile**.

The screenshot displays the 'DOWNLOAD TRAJECTORY DATA FOR GEOVID HD-B TO microSD CARD' screen. It features a central image of binoculars. Below the image is a dropdown menu set to 'Profile 2' and a 'Store trajectory data' button. A small note below the button states: 'Please note, that only the trajectory data inclusive the air pressure (altitude) information at sighting-in is stored on the microSD card. It is still necessary, to set in the Geovid menu the system of units, the zero-range /sight-in distance and the output format. Leica recommends to test the settings and calculations in comparison to real shooting results in a safe environment (shooting range) before you use the system for hunting.'

On the right side, a sidebar menu shows various settings: PROFILES, HELP, TRAJECTORY, EXPORT/JSON, COMPENSATION, RETICLE, GEOVID, PRINT, and SHARE. The 'GEOVID' section is expanded, showing the following settings:

- YOUR PROFILES**: PROFILE 1, PROFILE 2
- FACTORY**: .307 Winchester, Winchester, Power Point 180 grain (11.7 g)
- BULLET PROPERTIES**: 180.0 grain, 0.2755, Bullet weight, BC
- SIGHT CONDITIONS**: 50.0 mm, 100 m, Sight height, Zeroing distance, 15 °C, 0 m, Temperature, Height sea level, 1,013.25 hPa, Absolute air pressure
- RIFLE SCOPE**: Leica Magnus 1.8 - 12 x 50
- RETICLE**: Ballistic

PRINT/PDF

This **PRINT** function allows you to print your configuration inclusive setup information, firing table, compensation table and reticle charts. The **DOWNLOAD** function allows you to download a PDF file instead of the direct print.

Note: This function works only for the active **Profile**.

The screenshot shows the 'PRINT / PDF' screen. It features a dropdown menu set to 'Profile 2'. Below the menu are two buttons: 'Print' and 'Download'. The 'Print' button has the text 'Print the selected profile to your local printer.' and the 'Download' button has the text 'Download the selected profile as PDF-file.'



SHARE

This function allows you to share your **Profile** with others. Click on **Lock all profiles** to protect them from later editing.

Note: You can also use this function to send a link to yourself, if you want to use your profile in another session once again.

The Sidebar

The **Sidebar** allows you to change the **Setup parameters** like **BULLET PROPERTIES** and **SIGHT CONDITIONS**. Further you can choose your **RIFLESCOPE** and **RETICLE** to create holdover tables, click value tables (for BDC models) and aiming mark tables (for ballistic reticles).

Change BULLET PROPERTIES for FACTORY/CUSTOM ammunition

Click on the related pull down menu to change the **FACTORY** or **CUSTOM** ammunition parameters. The updating will be displayed immediate after the value input. In **FACTORY** mode you can change the **CALIBER**, **MANUFACTURER** or **CARTRIDGE**. The **BULLET PROPERTIES** bullet weight and **BC** are fixed for **FACTORY** ammunitions. In **CUSTOM** mode you can change the parameters **BULLET WEIGHT**, **BC** and **VELOCITY**. If you want to change the V2 parameter, you need to set up a new profile.

Note: You can Setup up to 3 Profiles, if you want to compare different settings. See under **New Profiles**

TRAJECTORY

FIRING TABLE												
Distance [m]	0	50	100	150	200	250	300	350	400	450	500	550
Speed	1,219.2	1,124.0	1,035.3	952.7	875.0	801.4	731.8	665.7	603.4	544.7	490.0	440.7
	765.1	713.3	663.7	616.2	570.8	527.6	486.8	449.3	414.9	384.7	358.7	337.8
Projectile Energy	978	831	705	597	503	422	352	291	239	195	158	128
	3,412	2,965	2,567	2,213	1,899	1,622	1,381	1,177	1,003	863	750	665
Trajectory	-5.00	-1.53	0.00	-0.76	-4.21	-10.84	-21.27	-36.25	-56.70	-83.82	-119.09	-164.29
	-5.00	-0.09	0.00	-5.49	-17.44	-36.91	-65.17	-103.68	-154.08	-218.20	-297.81	-394.56

TRAJECTORY
PROFILE 1 PROFILE 2

YOUR PROFILES

PROFILE 1

PROFILE 2

FACTORY

.307 Winchester
Winchester
Power Point 180 grain (11.7 g)

BULLET PROPERTIES

180.0 grain 0.2755
Bullet weight BC

SIGHT CONDITIONS

50.0 mm 100 m
Sight height Zeroing distance
15 °C 0 m
Temperature Height sea level
1,013.25 hPa
Absolute air pressure

RIFLE SCOPE

Leica Magnus 1.8 - 12 x 50

RETICLE

Ballistic



Change SIGHT-IN CONDITIONS

Click on the related pull down menu to change the **SIGHT-IN CONDITIONS** of your selected configuration. The updating will be displayed immediate after the value input.

Important note: The selected or pre-set parameters for the **SIGHT-IN CONDITIONS** are used by the program for the simulations **TRAJECTORY**, **COMPENSATION** and **RETICLE** as sight-in condition and shooting condition. If you download the data to the **GEOVID** only the pure drop data for the active ammunition are downloaded to the Geovid, because the GEOVID measures the shooting conditions air pressure and temperature himself. The height sea level information is downloaded to the Geovid as **SIGHT-IN** height sea level. The sight-height is in the GEOVID a fixed pre-set value of 50mm/2 inch and the sight-in temperature is a fixed pre-set value of 15°C/59°F. The sight-in distance has to be selected in the GEOVID menu.

NOTE [only for SIGHT-IN at high altitudes]: Please choose the same SIGHT-IN distances in the Ballistic Program and in the Geovid, if you SIGHT-IN at high altitudes as the correction depends on the SIGHT-IN distance.

Select a RIFLESCOPE and RETICLE

For the Leica riflescopes and reticles the Ballistic Calculator provides very useful **COMPENSATION** and **RETICLE** calculation functions. See under **COMPENSATION** and **RETICLE** function for more information.

Note: To use the functions **COMPENSATION** and **RETICLE** you need to select a Leica rifle scope and reticle. For the **RETICLE** function you need to choose a ballistic reticle.

Additional profiles

The **Sidebar** displays the configuration of the active profile. At least one profile needs to be configured, when you start the program. Further profiles can be configured by a click on the “+” symbol in the top-right corner. This is very useful to compare for example the trajectory of different ammunitions or settings. A profile can be deleted by a click on the basket symbol . Up to 3 profiles can be loaded simultaneous. The **TRAJECTORY** function displays the **Profiles** simultaneous. For the **COMPENSATION**, **RETICLE**, **GEOVID** and **PRINT/PDF** function only the active **Profile** is displayed.

Note: The **Sidebar** displays only the configuration for one configuration at a time. By clicking on the **Profile name** you get the selected configured displayed in the cockpit.

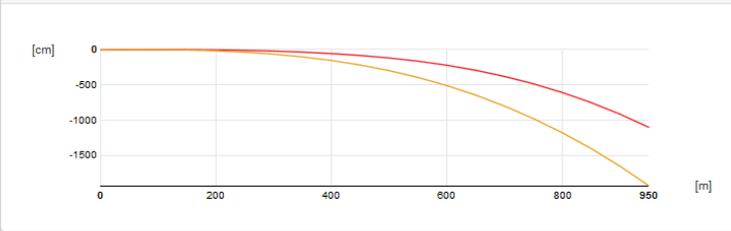


TRAJECTORY

FIRING TABLE

Distance [m]	0	50	100	150	200	250	300	350	400	450	500	550
Speed	1,219.2	1,124.0	1,035.3	952.7	875.0	801.4	731.8	665.7	603.4	544.7	490.0	440.7
Projectile Energy	978	831	705	597	503	422	352	291	239	195	158	128
Trajectory	-5.00	-1.53	0.00	-0.76	-4.21	-10.84	-21.27	-36.25	-56.70	-83.82	-119.09	-164.29

TRAJECTORY



PROFILES

HELP

TRAJECTORY

SI/US/BC

COMPENSATION

RETICLE

GENVD

PRINT

SHARE

YOUR PROFILES

PROFILE 1

PROFILE 2

FACTORY

.307 Winchester
Winchester
Power Point 180 grain (11.7 g)

BULLET PROPERTIES

180.0 grain 0.2755
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SIGHT CONDITIONS

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RIFLE SCOPE

Leica Magnus 1.8 - 12 x 50

RETICLE

Ballistic