Ballistic LaserScope™ User's Guide

The Ballistic LaserScope is the most innovative and effective hunting riflescope in the world. Combining outstanding optics with pinpoint laser rangefinding and precision trajectory compensation with the exact ammunition you choose for your hunt, it eliminates most of the variables and guesswork that often cause hunters to go home empty-handed. In one fast sequence the Ballistic LaserScope determines the distance to your target, factors in your trajectory and illuminates the perfect holdover. It's that simple.

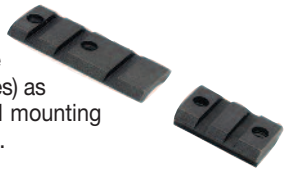
The Ballistic LaserScope significantly extends the range and accuracy of virtually any gun and any load. It is the perfect optic for centerfire and rimfire rifles, muzzleloaders and slug guns. No other riflescope combines this level of quality, technology, accuracy, repeatability and effectiveness. It will greatly increase the distance at which you can make an ethical shot.

Congratulations and thank you for choosing the Ballistic LaserScope by Burris.

Mounting & Sighting-In

Mounting The Ballistic LaserScope™

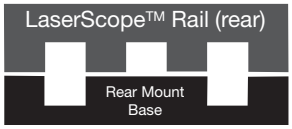
1. Select a Weaver-style or Picatinny-style mounting base. If a two-piece base is selected for a long action bolt rifle, the front base should be a reversible (extension) base which will need to be mounted with the extension directed rearward. We recommend the use of Burris XTB Bases (Xtreme Tactical Bases) as they were also designed with the special mounting considerations of the Ballistic LaserScope.



2. Read the manufacturer's directions regarding the installation of mounts before beginning.

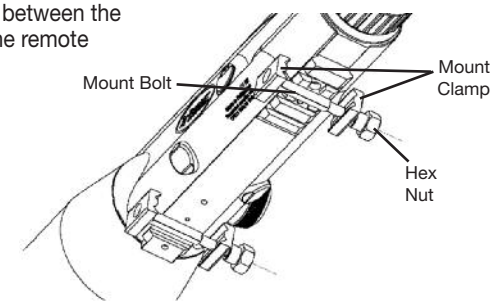
3. Clean the mounting area of the rifle with a chemical that removes grease and oil. Pay special attention to screw holes. Using the same chemical, clean the mounts. Do not allow the cleaning chemical to come in contact with the stock or scope lenses.

4. After installing the base(s), position the scope so it offers the proper eye relief. To do this, shoulder the rifle as you would in the field. Position the scope as far forward as possible while achieving a full field of view.



5. Note the two base slots you will use to attach the scope, and with the mount clamps open fully, place the Mount Bolts into those slots on the base. Now match up the Ballistic LaserScope slots and place over the two mount bolts - rocking the scope side to side until the scope is flush with the base and mount clamps gripping from the lip of the base to the lip of the rail on the underside of the scope. Finger tighten only.

6. In completing step #5, position the hex nuts on the side of the rifle opposite the side you will mount the remote transmitter. There must be clear line of sight between the transmitter and the remote control receiver.



7. With hex nuts slightly loosened, push the scope forward and then firmly tighten both hex nuts to 5.6~8 N-m.

Eyepiece Focusing

1. Aim the Ballistic LaserScope in a safe direction toward the sky or a light colored wall. Glance through the scope and notice if the reticle is sharply focused. Most users will find that no adjustment is necessary. If the reticle is not in sharp focus, rotate the eyepiece focus ring until the reticle appears in sharp focus. Double check your focus by taking quick glances through the scope and make any fine tuning adjustments as necessary.

Sighting In

Do all shooting in a safe, authorized area. Use proper eye and hearing protection and follow all safe shooting rules. Select the ammunition you intend to use in the field and use it to sight in the firearm.

1. Bore sight your scope, OR place a target about .6 meter square at 25 meters. Fire a shot at the bullseye. Make the necessary adjustments to the Windage and Elevation knobs. Remember, a scope with a click adjustment value of .7cm at 100 meters will require four clicks to move the same .7cm distance at 25 meters. Burris scopes have the click value indicated on a label under one of the adjustment caps.

2. Make adjustments on the scope by turning the adjusting screws the necessary number of clicks. NOTE: The reticle (crosshair) is centered at the factory. This permits adjusting the reticle equally in all directions from the center position. Three shot groups are suggested to determine the actual point of impact.

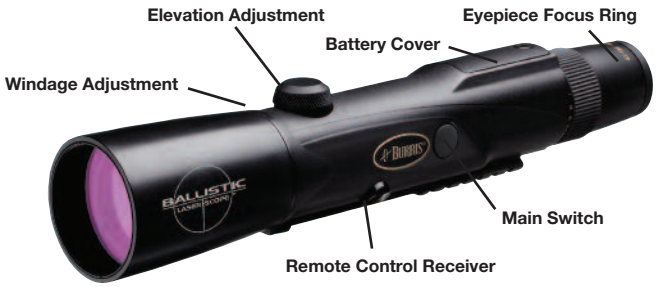
3. After the first group is fired, adjust the scope again. This adjustment should bring the approximate center of the group to coincide with the bullseye. Shoot additional groups as necessary.

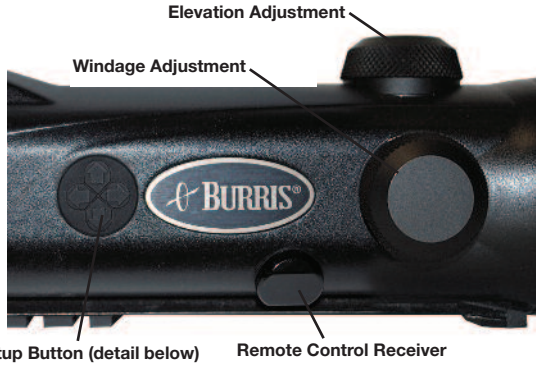
4. Place the target at your desired sight-in distance of 50,100 or 200 meters. Refer to the Cartridge List to determine the proper range(s) for your load or cartridge. Make the necessary adjustments so your group coincides with the bullseye.

5. Align the dial to read "0" without allowing the silver knob to turn.

6. After making the adjustments, replace the adjustment caps. They protect your scope from dust and moisture.

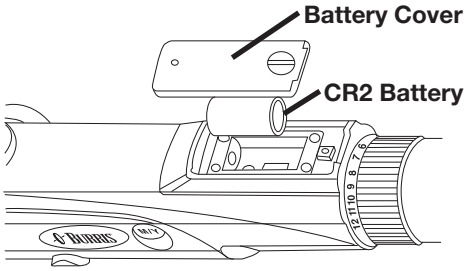
Ballistic LaserScope™ Operation





1. Battery Installation or Replacement

Unload the gun. Use a coin or screwdriver to unscrew the battery cap screw on the top, rear of the scope, just in front of the eye piece. Install a lithium CR2 battery. Reinstall the battery cover. NOTE: A sticker on the underside of the battery contains basic set-up instructions.

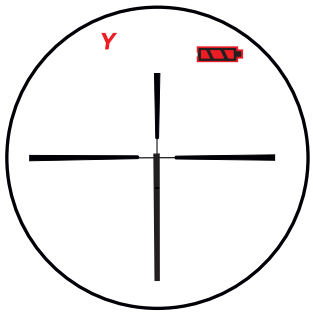


2. LaserScope Battery Life:

Battery life is nominally rated at 5000 cycles. This will vary depending on the quality of the battery and the temperatures at which the unit is operated. Batteries lose a good deal of their power potential in colder temperatures.

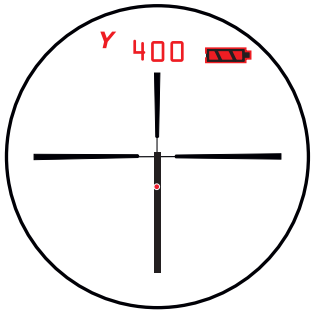
Battery: Full **Battery: Half** Carry a spare **Battery: Low -** Replace the battery

3. Start the electronics



Press the main switch button on the left side of the scope, just behind the Burris logo. Look through the scope. It should show two things: the yards(Y) or meters(M) indication illuminated along with the battery status indicator. The indicators will stay on for 8 seconds.

4. Electronic Basics



Start the electronics and aim at a target. Press either the left side button again or the Remote Activation Switch. The scope will display the horizontal range to your target at the top and also display an illuminated dot on the crosshair.

The range displayed is the horizontal distance to the target. The Ballistic LaserScope has a built-in angle sensor and it converts the actual distance to horizontal distance. The horizontal distance is mostly what affects a bullet's trajectory so no matter what the uphill or downhill angle, the Ballistic LaserScope automatically calculates the distance to use for determining the aiming point.

If the scope fails to get an accurate range reading, it will display a line of three flashing bars.

Remote Transmitter:

The LaserScope comes with a Remote Transmitter to make ranging more convenient. Position the Remote Transmitter on the fore end of a rifle as shown below. It can also be positioned on the Objective Bell of the LaserScope. The LaserScope is Remote-capable for a full 1 1/2 hours every time the Main Switch is depressed.

Remote Transmitter must be located in this area (on either side of the Laser-Scope) within 20 inches of the Remote Receiver and in direct line of sight of the remote control receiver

Remote Transmitter Battery:

Common CR2025 battery. Battery life is nominally rated at 5000 cycles. To change, using a finger nail or small screwdriver, pry the back over off of the Remote. For removal, the battery must be tilted and slid out of the holder. Reverse the process for installation of the new battery and snap the back over onto the Remote.

5. Set Up the Ballistic For Your Specific Cartridge

First decision - What Units do you want to work in, Yards or Meters? Y/M

Second decision - Do you want to zero at 50, 100 or 200 Yards / Meters?

Info Needed - For long-range cartridges: the drop in inches at 500 yards if you zero at 100. For intermediate range loads, you'll need the drop in inches at 200 yards if you zero at 50 yards. This figure will be your Drop Number.

There are several ways to determine your Drop Number:

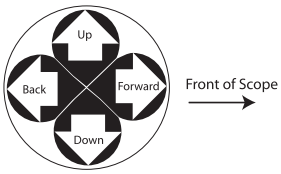
1. For factory loads, the Cartridge List that came with your scope will show the drop number for most of the currently available factory ammo.
2. Factory ammo web sites sometimes provide this information.
3. The drop number may appear on the ammo box.
4. Ballistics Software Programs
5. Measure your actual bullet drop at 200 or 500 yards, when sighted in at 50 or 100 yards, as needed.
6. Use the Cartridge List to estimate your drop number by finding similar loads or cartridges with the same muzzle velocity and BC number.
7. Burris website-www.burrisoptics.com.

Note: the actual correct drop number will be affected by your gun and shooting altitude unless you actually measure your drop. All other methods provide approximate numbers, typically correct ±3 inches at 500Y.

No matter what units you chose to work in (yards or meters) or distance you intend to Zero at, the Cartridge Lists are selected based on drop at either 200 Yards when zeroed at 50 Yards (for intermediate range cartridges) or 500 Yards when zeroed at 100 Yards (for modern long- range cartridges).

Your 3-digit Cartridge List will begin with a “0” if you need to sight-in at 50 Yards/Meters, a “1” for 100 Yards/Meters sight in, or a “2” if you intend to sight-in at 200 Yards/Meters. This number is followed by your Drop Number which will vary between 5 and 90. (See the Cartridge List to determine what zero ranges and drop numbers are available and appropriate for your cartridge.)

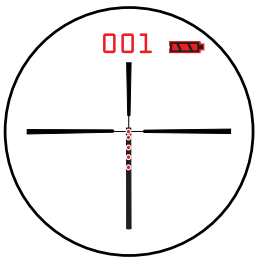
There are four arrows on the Setup button on the right side of the scope. These are used only for programming. They have no function during normal use of the scope.



Enter Set-Up Mode

1. Push the Main Button to turn on the scope. Push the Main Button once more to get the three dashes display (— — —) in the range area.

2. Push the Forward Arrow (right side of scope) first, then the Main Switch (left side of scope) and hold them both down simultaneously for 6 seconds. Release the two buttons when display changes. This is called “Set-up Mode.” The first number that appears for two seconds is the firmware version. Next, the display shows the currently selected (Y)ards or (M)eters and Cartridge List. On new scopes the reading will be “Y 145” (the factory shipped table). If a table from the Cartridge List has been previously selected, the designation for that table is displayed.



Firmware version

Default setting

Last setting

3. With the currently selected table displayed you have 30 seconds to click the Forward Arrow button to enter the Cartridge List Set-up mode. The “T” (for Table Select) is lit steady; the Unit (Y or M) is flashing when you enter Table Select mode. Press the Up Arrow to select Y (yards) or the Down Arrow to select M (meters). When you have the measurement unit you want flashing, press and release the Forward Arrow button to load your choice.

Select or Change Meters

Select or Change Yards

4. TThe “T” is still on steady, your (Y or M) is on and steady, your first numeric digit is flashing, and the other two are now out. Enter your selected Zero Distance: 0 = 50 Yards/Meters; 1 = 100 Yards/Meters; or 2 = 200 Yards/Meters. Press the Up Arrow to increase the number or the Down Arrow to decrease it. When your selected sight-in distance is displayed (flashing), press and release the Forward Arrow button.

Set Zero Distance (1 or 2)

Complete the Ballistic Table with your Drop Number

5. The last two numbers (Drop Number from the Cartridge List) should be flashing. Press the Up Arrow to increase the number, or the Down Arrow to decrease it. When the Drop Number you want is displayed (flashing), press and release the Back Arrow button to exit the Set-up mode.

6. You are ready to go shooting. Re-zero the gun if necessary at your selected sight-in distance. For optimum accuracy, verify point of impact by actual shooting. Depending on the exact ammo performance, your gun’s barrel length, the elevation, and any extreme temperatures, you might need to increase or decrease your Drop number by a couple of digits for exacting performance.

Your programming is stored in the scope no matter the condition of your battery and the scope will still remember your programming if the battery is removed and reinstalled.

Understanding The Cartridge List Display:

Cartridge List M234 means: (M)eters, 200 Meter Zero, a cartridge with 34 inches of drop at 500 yard when zeroed at 100 yards.

Cartridge List Y157 means: (Y)ards, 100 Yard Zero, a cartridge with 57 inches of drop at 500 yards when zeroed at 100 yards.

Cartridge List Y014 means: (Y)ards, 50 Yard Zero, a load with 14 inches of drop at 200 yards when zeroed at 50 yards.

Verifying your drop number:
For long-range cartridges (All cartridges zeroed at 100 or 200 units). Verify the actual drop at 500 Yards/Meters. If your group is low, increase the Drop Number by the number of inches it is low. If the group is high, decrease the Drop Number. (The change needed will be measured in inches regardless of the units set.)

For most intermediate-range loads. For loads with 50 Yards/Meters zero, verify the drop and adjust drop number at 200 Y/M.

For intermediate-range loads (Drop Numbers from 037-060). These loads with drop numbers equal or greater than M031 or Y036 will reach their range limit at less than 200 Y/M. To confirm your drop, verify at 150 Yards/Meters and adjust your drop number 1" for every ¾" of vertical error.

For slow intermediate-range loads with Meter units (Drop Numbers above M050). These loads with will reach their range limit at less than 150 M. To confirm your drop, verify at 100 Meters and adjust your drop number 1” for every ½” of vertical error.

When verifying your Drop Number, if your group can not be covered by a paper plate, you may wish to re consider your rifle/ammo combination in determining its suitability for long-range shooting at game.

Ballistic LaserScope Essentials

1. **The trajectory compensation feature is calibrated for use only on 12x magnification.**
2. The center crosshair must be used for ranging.
3. An illuminated aiming dot will remain lit for approximately 90 seconds. If you fail to shoot before the dot goes out, you will need to re-range using the center crosshair.
4. There can be several possible causes that result in the LaserScope’s inability to determine the distance to a target including: Nearby obstacles between the scope and the target such as grass, twigs, or leaves; Rain, snow, mist or other airborne debris; Dirty objective lens; Poor target quality for reflecting the laser back to the scope, coupled with an unsteady hold and long distances; or Low battery.
5. If you have programmed the scope for a particular cartridge, and the range to the target cannot be determined, the scope will display three horizontal lines in the yards/meters area, and (usually) five illuminated dots that serve as a ‘custom’ Ballistic Plex that is **accurately calibrated to your cartridge**..
6. If the LaserScope ever seems to be working improperly, there is a good chance that it needs a new battery. First, simply disconnect the existing battery and reinstall and check for function. If this doesn’t solve the issue, install a new battery.

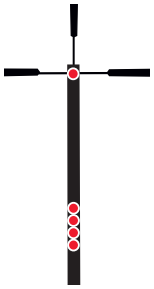
Technical Notes

Fine Tuning and Altitude
Ammo makers generally state their bullet drop numbers at sea level. Very generally, big game hunting bullets drop at 500 yards about ½ inch less for each additional 1000 feet of elevation. If you going to hunt at 6,000 feet elevation and your ammo box indicates 40 inches of drop at 500 yards with a 100 yard zero, then you would select Drop Number 37 instead of 40. Our website www.burrisoptics.com contains charts showing more specific altitude adjustments for each cartridge. Other ballistics software programs can also provide you even more precise information. Depending on the exact ammo performance, your gun’s barrel length, the elevation, and any extreme temperatures, you might need to increase or decrease your Cartridge List by a couple of digits for exacting performance.

Ballistics software programs are of great benefit to get you close, but nothing beats firing five shot groups with the actual ammo at 500 yards to provide you with the most precise information possible in order to perfectly program your Ballistic LaserScope.

Extreme Range Shooting (Beyond 500 yards)
The factors that influence a bullet in flight at extreme range are many and their relationships are complex.

The BC (Ballistic Coefficient) of your bullet is a factor that describes how fast the bullet slows down. The ACTUAL BC of a bullet and the PUBLISHED BC can be different and can affect your bullet drop. In developing the simple-to-use programming, Burris leaned more towards the premium ammunition with premium bullets. For all practical purposes, from 100 to drop number distance, the way the Ballistic LaserScope works, there is very little bullet flight error from one bullet to another. The BC values of most available bullets are on our website and in the Cartridge List. However, going beyond 500 yards, there can be sizable differences in actual point of impact depending on the BC of the bullet you are using. The chart on page 5 lists the actual BC numbers used for each Cartridge List. To take full and simple advantage of The Ballistic LaserScope for shooting beyond 500 yards, one would be wise to use a bullet that closely matches the values we represent in the chart. **Also, when the Ballistic LaserScope gets a distance reading that is beyond the capability of the reticle's drop compensation, the bottom four dots will light up signifying to you that the target is beyond the reticle's capability.**



Specifications

Operating Temperature:
-4° to +122° Fahrenheit
-20° to +50° Celsius

Effective Range:
Deer: 50 yards to 550 yards
Reflective Target: 50 yards to 800 yards

Storage Temperature:
-13° to +158° fahrenheit
-25° to +70° degrees celsius

Ranging Accuracy:
Less than 100 yards: +/-1 yard
100 - 550 yards: +/-2 yards
More than 550 yards: +/-3 yards

Angle Ranging Compensation:
+ 45° / -45°

Table Numbers		"No Range" Display	Dots for ranges of:
Y or M 225 to 263		5 Dots	200, 300, 400, 500, &600 Y/M
Y 125 to 190		5 Dots	100, 200, 300, 400, & 500 Y"
M 125 to 179		5 Dots	100, 200, 300, 400, & 500 M
M 180 to 190		4 Dots	100, 200, 300, & 400 M
Y 005 to 009	& M 005 to 006	4 Dots	Top Dot **50 & 100** Y/M Then 150, 200, & 250 Y/M
Y 010 to Y023	& M 007 to M 019	5 Dots	50, 100, 150, 200, & 250 Y/M
Y 024 to Y035	& M 020 to M 030	4 Dots	50, 100, 150, & 200 Y/M
Y 036 to Y058	& M 031 to M 052	3 Dots	50, 100, & 150 Y/M
Y 059 & Y060	& M 053 to M 060	2 Dots	50, & 100 Y/M

Storage:
As with any electronic device, it is always a good idea to remove the battery when storing for a long period of time. During storage or transportation, be sure that the Main Switch on the LaserScope and the button on the Remote Transmitter are not inadvertently depressed thereby running the battery down when not in use.

Scope Use, Service, & Care
Your Burris scope will provide a lifetime of service if given the reasonable care and treatment it deserves. The only maintenance required is occasional cleaning of the outside of the scope and the exterior lenses.

All moving assemblies are permanently lubricated. Use lens covers to protect the scope from dirt, dust, lint, and moisture. The adjustment system is waterproof even without the turret caps in place, but keep these caps tight to keep dust and dirt out of the mechanical system. Before cleaning the lenses, brush them with a photographer's brush or blow them clean, ideally with "canned air". This removes large particles which can scratch the surface if wiped under pressure. Never disassemble your scope. Disassembly by anyone other than our factory will void the warranty.

Checklist before returning a scope
A significant number of scopes are returned to Burris each year that are found to function perfectly. To avoid unnecessary delay and expense we encourage you to check for the following conditions.

Insufficient windage adjustment
1. Base mounting holes drilled out of alignment with center of bore
2. Barrel threaded into receiver at an angle

Insufficient elevation adjustment
1. Receiver diameter out of specification
2. Barrel threaded in at an angle

Grouping or accuracy
1. Barrel or chamber throat erosion
2. Stock warpage
3. Stock Bedding problem
4. Loose mount
5. Heavy trigger pull Solution - Consult with a gunsmith

Focus or image not clear
1. Object too close
2. Eyepiece out of focus

When returning the scope be sure to include:
1. Include a copy of the original purchase receipt.
2. Make yourself a note of your scope's serial number for use when calling to check on your in-service scope.
3. Complete name and full address.
4. A short note describing the nature of the problem as accurately as possible.
5. Ship the scope prepaid and Insured. Burris can't be responsible for your scope until we physically receive it. Burris pays for shipping back to you.
6. Insure the shipment against loss.

Send the scope to your country service dealer
You can contact the dealer where you originally purchased the item, or 'Find a Dealer' in that section of the website. The Dealer for your area will help you solve the problem to your satisfaction.

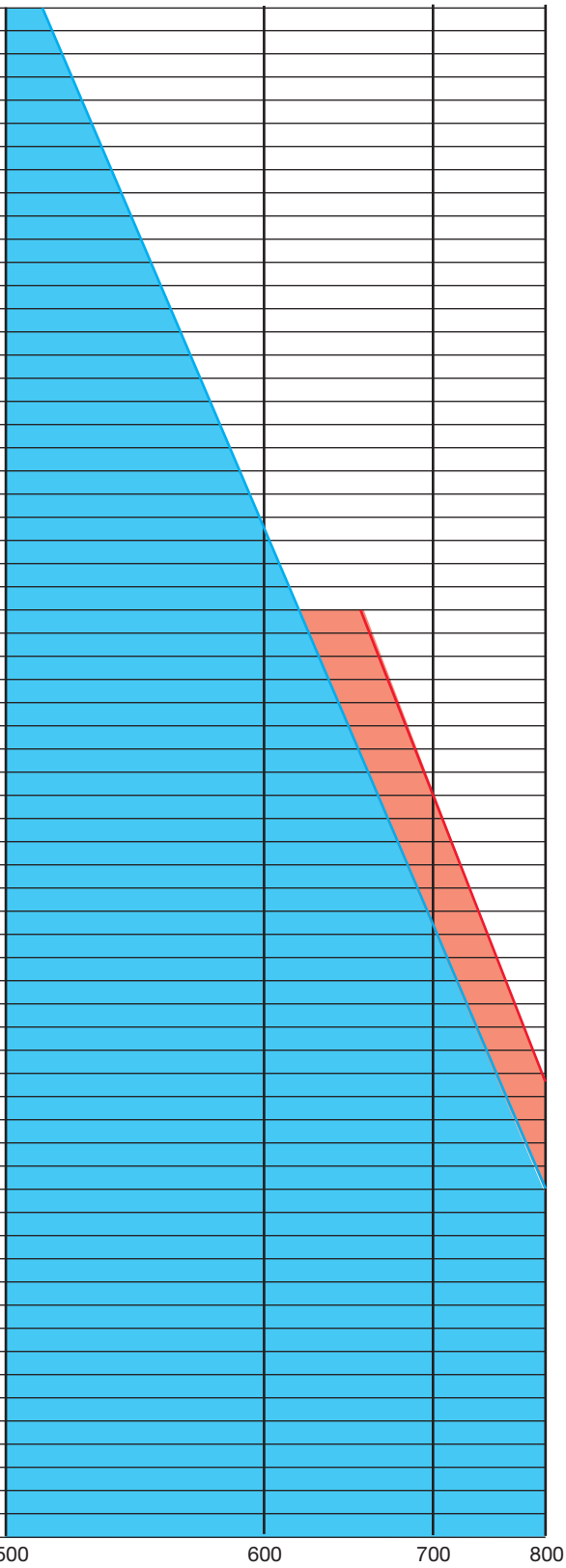
Burris Warranty
The Ballistic LaserScope has a 10 year optical and 3 year electronic warranty. If your LaserScope's optics or mechanical systems are found to have defects in materials or workmanship, Burris will, at our option, repair or replace it at no charge. The ranging system and electronics are warranted for 3 years from the date of purchase. If a repair is needed, send the product to your country service dealer.

Shipping charges to the Dealer must be prepaid by the owner. Insure the shipment. Burris can't be responsible for your product until we receive it. There are no other warranties, either expressed or implied, contained herein except for such that may arise under country specific laws. In that event, said implied warranties are limited in scope and duration to the terms of this warranty. Burris is not liable for incidental or consequential damages including but not limited to lost profits or other economic or commercial losses. This warranty gives the owner certain legal rights, and possibly other rights which may vary from country to country. This is considered a limited warranty.

For long range cartridges (1xx and 2xx tables)

Ballistic Reticle Holdover Capability based on the chosen Ballistic Table

Ballistic Table	Muzzle Vel. m/s	Muzzle Vel. f/s	BC Used
90	719	2360	.350
89	721	2365	.354
88	723	2372	.357
87	725	2377	.361
86	727	2384	.364
85	728	2390	.368
84	730	2396	.372
83	733	2404	.375
82	735	2411	.379
81	737	2419	.382
80	740	2427	.386
79	742	2434	.390
78	745	2443	.393
77	747	2451	.397
76	750	2461	.400
75	753	2470	.404
74	756	2480	.407
73	759	2489	.411
72	762	2500	.415
71	765	2510	.418
70	768	2520	.422
69	772	2532	.425
68	775	2542	.429
67	778	2554	.433
66	782	2566	.436
65	786	2578	.440
64	790	2591	.443
63	808	2650	.447
62	813	2668	.447
61	819	2687	.447
60	825	2706	.447
59	831	2725	.447
58	837	2745	.447
57	843	2765	.447
56	849	2786	.447
55	856	2807	.447
54	862	2829	.447
53	869	2851	.447
52	876	2874	.447
51	883	2897	.447
50	890	2921	.447
49	898	2946	.447
48	906	2971	.447
47	913	2997	.447
46	922	3024	.447
45	930	3052	.447
44	942	3090	.447
43	948	3110	.447
42	972	3190	.407
41	982	3221	.407
40	992	3254	.407
39	1002	3288	.407
38	1013	3322	.407
37	1064	3490	.334
36	1076	3530	.334
35	1088	3570	.334
34	1101	3612	.334
33	1114	3655	.334
32	1180	3870	.276
31	1195	3920	.276
30	1210	3970	.276
29	1227	4025	.276
28	1244	4080	.276
27	1250	4100	.276
26	-	-	.276
25	-	-	.276



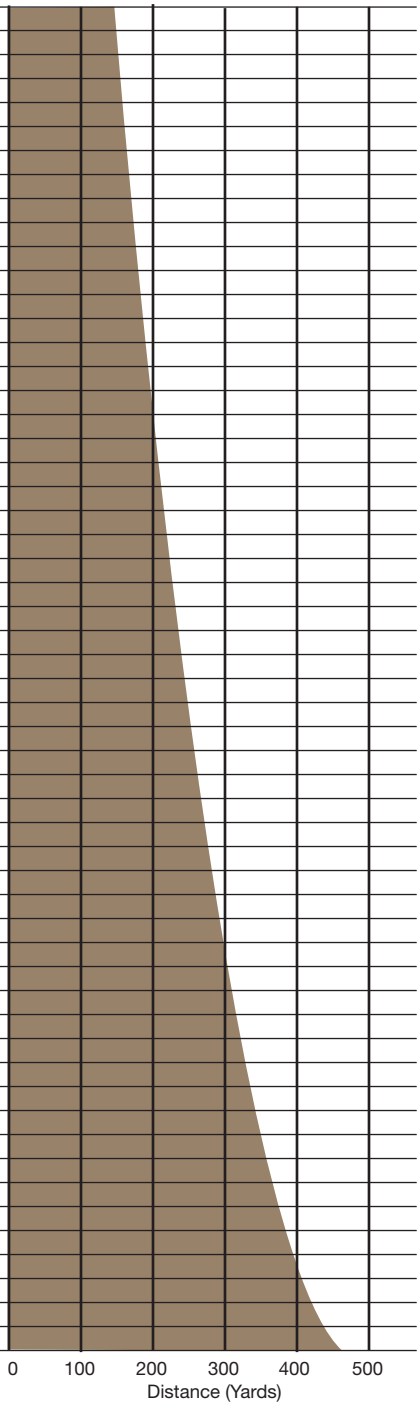
Maximum Reticle Distance with 100 yard zero

Maximum Reticle Distance with 200 yard zero

For intermediate range cartridges (0xx tables)

Intermediate Cartridge Range Limits

Ballistic Table	Muzzle Vel. f/s	Muzzle Vel. m/s	BC Used
060	997	304	0.125
059	1006	307	0.126
058	1015	309	0.127
057	1025	312	0.128
056	1035	315	0.129
055	1045	319	0.13
054	1056	322	0.131
053	1067	325	0.132
052	1079	329	0.133
051	1091	333	0.134
050	1103	336	0.135
049	1117	340	0.136
048	1130	344	0.137
047	1145	349	0.138
046	1160	354	0.139
045	1175	358	0.14
044	1192	363	0.141
043	1203	367	0.142
042	1220	372	0.143
041	1238	377	0.144
040	1257	383	0.145
039	1275	389	0.146
038	1293	394	0.147
037	1313	400	0.148
036	1333	406	0.149
035	1353	412	0.15
034	1373	418	0.151
033	1395	425	0.152
032	1416	432	0.153
031	1438	438	0.154
030	1460	445	0.155
029	1485	453	0.156
028	1508	460	0.157
027	1532	467	0.158
026	1557	475	0.159
025	1582	482	0.16
024	1608	490	0.161
023	1635	498	0.162
022	1663	507	0.163
021	1693	516	0.164
020	1725	526	0.165
019	1758	536	0.166
018	1790	546	0.167
017	1825	556	0.168
016	1865	568	0.169
015	1905	581	0.17
014	1930	588	0.178
013	1960	597	0.186
012	1995	608	0.194
011	2035	620	0.202
010	2080	634	0.210
009	2130	649	0.218
008	2190	668	0.266
007	2255	687	0.234
006	2340	713	0.242
005	2415	736	0.250



Maximum Reticle Distance with 50 yard zero