



**ACROSS THE COURSE**  
**XTC1-4X34**  
**INSTRUCTIONAL MANUAL**

# XTC14X34



CONGRATULATIONS! You have just purchased our 1-4x34 Across the Course Competition riflescope; one of the best built.

The Hi-Lux XTC14X34 scope was specifically designed for High Power Across the Course Competition. Featuring a 34mm objective lens for optimal light gathering, the XTC14X34 scope additionally has front

objective adjustable parallax. As the stages are set at fixed distances of 200 yds, 300yds and 600yds, having adjustable parallax is critical in minimizing the parallax error. Additionally, fine  $\frac{1}{4}$  MOA click elevation and windage turrets allow for precise adjustment.

The XTC14X34 is built on top of our CMR platform and is loaded with advanced

# RIFLESCOPE MANUAL

design features that truly put it in a class all of its own.

While the lenses of all Hi-Lux scopes feature fully multi-coated air surfaces for optimum light transmission, clarity and sharp target image, we've gone all out to use **High Density Extra Low Dispersion** lenses in the XTC14X34. We know the importance of quickly identifying your target and seeing it clearly, especially in the middle of a heated competition.

The Hi-Lux XTC14X34 scope is built with all of the ruggedness and reliability that has made the CMR line well known for its quality and value.

Other features include tough, wear resistant **Perma-Coat** soft luster black finish, **DiamondTuff14** fully multi-coated lenses polished to photographic quality, **Tri-Center** coil spring tension for positive windage and elevation adjustment, and **Fast Focus Eyepiece Adjustment**. Take your game to the next level with the XTC14X34!

# XTC14X34

## TABLE OF CONTENTS

SECTION 1	: SPECIFICATIONS AND BASIC DEFINITIONS	4
SECTION 2	: EYEPIECE FOCUSING AND RHEOSTAT	6
SECTION 3	: MOUNTING YOUR RIFLESCOPE	7
SECTION 4	: HOW TO RESET YOUR SCOPE TO OPTICAL CENTER	9
SECTION 5	: BORESIGHTING YOUR RIFLESCOPE	11
SECTION 6	: ZEROING YOUR XTC14X34 RIFLESCOPE	13
SECTION 7	: XTC14X34 MOA CROSS RETICLE	15
SECTION 8	: MAINTAINING YOUR RIFLESCOPE	16
SECTION 9	: DIAMONDTUFF GUARANTEE	18

# RIFLESCOPE MANUAL

## SECTION 1

### SPECIFICATIONS AND BASIC DEFINITIONS

#### (1) SPECIFICATIONS:

<b>Model</b>	<b>Power</b>	<b>Obj. (mm)</b>	<b>F.O.V.@ 100 Yds (ft)</b>	<b>Eye Relief (inch)</b>	<b>Length (inch)</b>	<b>Weight (oz.)</b>	<b>Exit Pupil Range (mm)</b>	<b>Tube Diameter (mm)</b>
XTC14X34	1-4X	34	94.8'-26.2'	3"	10.2"	16.5	11.1mm - 6mm	30

All glass lenses are fully multi-coated with DiamondTuff14 to maximize the light transmission. Each click on the elevation or windage turrets equals 1/4 MOA. The total Internal Adjustment Range of the XTC14X34 is 90 MOA in all directions from optical/mechanical center.

# XTC14X34



## (2) BASIC DEFINITIONS:

A) Eyepiece; B) Fast Focus Diopter; C) Rheostat; D) Elevation Turret ; E) Front Objective Adjustment; F) Objective Lens; G) Windage Turret; H) Power Throw Lever;

# RIFLESCOPE MANUAL

## SECTION 2

### EYEPIECE FOCUSING AND RHEOSTAT

Hold the scope about three inches from your eye and look through the eyepiece at a featureless, flatly lit area such as a wall or open sky. To adjust the clarity of the reticle, simply rotate the fast focus eyepiece (4) inwards or outwards until the reticle appears in sharp focus.

The rheostat is used to change the brightness settings for reticle illumination. For the best results in low light situations, we recommend that you set the brightness as low as possible while you are still able to see the reticle clearly. The "Nv1," "Nv2," and "Nv3" positions are designed for night vision use. The setting 4 and 5 are the low brightness settings. Settings 6 to 9 are the intermediate brightness settings. The



## XTC14X34

Max position is the brightest setting. There are two "Off" positions that are located at 0 and in between 5 and 6. There is a protruded rib at the main "0" off position. This is to make it easier to locate the main off position in the dark. The rheostat is located at 45 degrees left of the vertical in relation to the top of the eyepiece. The battery, which is included with the scope, is a coin style CR2032 3V lithium battery. The battery can be replaced by first removing the battery compartment cover (1) located on top of the rheostat adjustment (2). Remove the old battery, insert a new battery with "+" side facing up and retighten the cover (1).

## SECTION 3

### MOUNTING YOUR RIFLESCOPE

To achieve the best accuracy from your rifle, the scope must be mounted properly. You should use a high-quality mount with bases designed to fit your particular rifle. To mount the scope:

- A. The scope should be mounted as low as possible without touching either



# RIFLESCOPE MANUAL

the barrel or the receiver.

B. Before tightening the mount rings, look through the scope in your normal shooting position. Adjust the scope (either forward or backward) until you find the farthest point forward (to ensure maximum eye relief) that allows you to see a full field of view.

C. Rotate the scope in the rings until the reticle pattern is perpendicular to the bore and the elevation turret is on top.

D. Then tighten the mounting screws.

**WARNING: AVOID OVER-TIGHTENING THE RINGS. THIS CAN DAMAGE THE SCOPE, AFFECTING PERFORMANCE OR RENDERING IT INOPERABLE. THERE SHOULD BE A SLIGHT EVEN GAP BETWEEN THE SHOULDERS OF THE RING HALVES. BE SURE THAT THE SCOPE IS MOUNTED FAR ENOUGH FORWARD. ITS REARWARD MOTION MAY INJURE THE SHOOTER WHEN THE RIFLE RECOILS.**

# XTC14X34

## SECTION 4

### HOW TO RESET YOUR SCOPE TO OPTICAL CENTER

The elevation and windage adjustments on the Hi-Lux XTC14X34 are preset to the optical/mechanical center at the factory. For all new scopes, you do not need to reset the erector unit to optical/mechanical center for the scope. However, if you are mounting a scope that was previously zeroed on another rifle, you should reset the scope's internal adjustment prior to zeroing on the new rifle. Centering the Elevation and Windage adjustments to optical center will maximize the total range of internal adjustment. If the erector unit inside the scope is not centered, the Elevation and Windage adjustments will not give equal travel in all directions. To regain the full adjustment range, you need to recenter the adjustments as following:

- (1) First loosen the set screws on the elevation and windage turrets.
- (2) Turn the Windage adjustment all the way counter-clockwise until the turret stops turning. **DO NOT FORCE ANY CLICKS!**

## RIFLESCOPE MANUAL

- (3) Turn the Elevation adjustment all the way counter-clockwise until the turret stops turning. **DO NOT FORCE ANY CLICKS**
- (4) Turn the Windage adjustment all the way back clockwise until you cannot turn the turret anymore. Count the total number of clicks while you are turning the adjustment turret. Remember the total number of clicks.
- (5) Adjust the Windage turret to the Left with half the amount of the clicks counted in the previous step. Now the Windage adjustment is at optical center.
- (6) Repeat the steps (3) and (4) to reset Elevation to optical and physical center.
- (7) Now the scope is in optical center. At optical center, there is about 180 MOA (90 MOA each direction) of total adjustment for elevation and windage.

## SECTION 5

### BORESIGHTING YOUR RIFLESCOPE

Pre-zero sighting can be done either manually, or with a bore-sighting device. To bore sight manually,

- A. It is necessary to be able to see through the bore from the breech end. In the case of a bolt action, this usually means removing the bolt.
- B. If your scope has parallax adjustment, set it for the distance to the target.
- C. Set the variable-power scope to low power.
- D. With the firearm in a rested position, remove the caps from the windage and elevation screws.
- E. Look through the bore and center the target in the bore and adjust the windage and elevation screws to position the reticle on the center of the target.
- F. To adjust windage, turn the windage adjustment turret clockwise to move the point of impact right and counterclockwise to move the point of impact left.
- G. In the same manner, adjust the elevation by turning the elevation

# RIFLESCOPE MANUAL

adjustment screw clockwise to lower the point of impact and counterclockwise to raise the point of the impact. \*\*If a large amount of adjustment is required to align the reticle, make approximately one-half of the windage correction, then approximately one-half of the required elevation correction.

H. Finish by applying the remaining windage and elevation adjustment.

If you can't see through the bore then it will be necessary to use some type of bore-sighting device. When using a bore-sighting device, follow the instructions provided with the device.

OPTIONAL: If your mounting system allows for adjustment of the scope, the gross adjustments should be made in the mount and then the final adjustments made with the scope's internal adjustment system.

**WARNING: ALL SHOOTING SHOULD BE DONE AT AN APPROVED RANGE, OR SAFE AREA. EYE AND EAR PROTECTION IS RECOMMENDED.**

# XTC14X34

## SECTION 6

### ZEROING YOUR XTC14X34 RIFLESCOPE

**DANGER: IF A BORE SIGHTING COLLIMATOR OR ANY OTHER BORE OBSTRUCTING DEVICE WAS USED; IT MUST BE REMOVED BEFORE PROCEEDING. AN OBSTRUCTION CAN CAUSE SERIOUS DAMAGE TO THE GUN AND POSSIBLE PERSONAL INJURY TO YOU AND OTHERS NEARBY.**

The zero range will depend on your shooting needs and range conditions.

- A. In general, we recommend that you zero the XTC14X34 at 200 yards.
- B. Set the power to 4X.
- C. From a rested position, fire three rounds at the target.
- D. Observe the center of the points of impact on the target and adjust the Windage and Elevation screws as needed to bring the point of aim to the desired relationship to the points of impact. The point of impact moves in the direction indicated on the adjustment turrets and by the amount indicated.

# RIFLESCOPE MANUAL

- E. Repeat as necessary.
- F. Once the zeroing of the scope is completed, you can replace the scope turret caps to prevent any accidental adjustment.

The XTC14x34 adjustments are calibrated in MOA. Each click of the adjustment moves bullet impact at 100 yards by the amount 0.25", which is indicated on the windage and elevation knobs. 1 MOA is equivalent to 1" at 100 yards. To calculate the click value at distances other than 100 yards, use the following formula: Divide the Distance to the target (yards) by 100. Then multiply this number by the click value 1/4 MOA. This will return the actual click value of the scope at that distance.

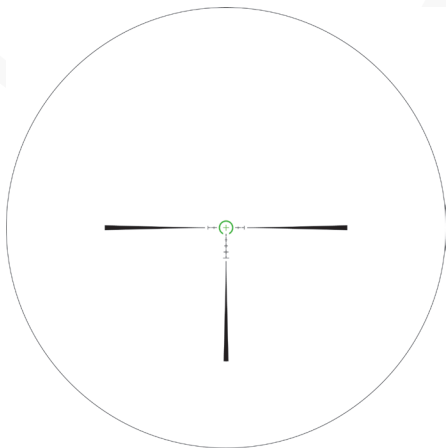
For Example: your range to the target is 500 yards. Divide 500 by 100, which returns 5. Multiply 1/4 MOA/click by 5. Thus, the adjustment value per click at 500 yards is 1.25 inches. For 400 yards, you would multiply 1/4 MOA, the "click value," by 4. At 400 yards, each click moves the point of impact by 1" and so on.

**WARNING: ALL SHOOTING SHOULD BE DONE AT AN APPROVED RANGE, OR SAFE AREA. EYE AND EAR PROTECTION IS RECOMMENDED.**

# XTC14X34

## SECTION 7

### XTC14X34 MOA CROSS RETICLE GUIDE





## RIFLESCOPE MANUAL

The MOA Cross reticle is characterized by the 10 MOA (inside diameter) horseshoe and 5 MOA by 5 MOA cross in the center of the reticle.

The opening of the horseshoe measures 4 MOA.

Each hash mark on the vertical and horizontal axes represent multiples of 5 MOA. Additionally, there are small 0.2 MOA spaces to indicate multiples of 2.5 MOA.

The first hash mark on the vertical and horizontal axes is 1 MOA in length. The next hash mark on that axis is 2 MOA. Each subsequent hashmark is 1 MOA longer than the previous hashmark.

## SECTION 8

### MAINTAINING YOUR RIFLESCOPE

Your riflescope, though amazingly tough, is a precision instrument that deserves reasonable and cautious care.

## XTC14X34

For normal maintenance:

- A. Do not attempt to disassemble or clean the riflescope internally.
- B. First remove any dust or sand from the lens surfaces before wiping. Use a can of pressurized air, a soft camel hair brush, or acrylic optical brush.
- C. The external optical surfaces should occasionally be wiped with the microfiber lens cloth provided or an optical/non-abrasive lens wipe. **NEVER USE FACIAL TISSUE, HEAVY COTTON, OR FLANNEL CLOTH ON LENSES. THESE MATERIALS WILL SCRATCH AND DAMAGE THE LENSES.**
- D. Keep the protective lens covers in place when the riflescope are not in use.
- E. Wipe the rubberbody with a damp cloth, followed by a dry cloth.
- F. Store the riflescope in a moisture-free environment.
- G. Avoid storing the riflescope in a hot place, such as the passenger compartment of a vehicle on hot days. The high temperatures could adversely affect the lubricants and sealants. A vehicle's trunk, a cabinet or a closet are the preferred storage locations.
- H. Never leave your riflescope where direct sunlight can enter either the objective

# RIFLESCOPE MANUAL

or the eyepiece lens. Damage may result from the concentration of the sun's rays (burning glass effect).

**WARNING: UNNECESSARY RUBBING OR USE OF A COARSE CLOTH MAY CAUSE PERMANENT DAMAGE TO LENS COATINGS.**

## SECTION 9

### DIAMONDTUFF GUARANTEE

Hi-Lux, Inc. warrants its products against defects arising from faulty workmanship or materials, for the lifetime of the product. Normal wear and tear, accidental or intentional misuse, and theft are not covered under this warranty policy. After one year, optical components may need to be serviced as part of general optic care. Such services are not warrantable. Any attempt to alter, dismantle or change the standard specifications of the products, will make this warranty null and void. This warranty is made to the original purchaser of the goods, and applies only to the products purchased in the United States. The warranty is transferable.

## **XTC14X34**

Warranty obligation is limited to the repair or replacement of any product returned to Hi-Lux, Inc. that is determined by the manufacturer to have defects arising from faulty workmanship or materials that adversely affect the satisfactory operation of the product. It should be noted that on items containing an etched glass reticle, which the occasional appearance of some small particles is common and not a warrantable repair. Hi-Lux provides a two-year warranty for the electronic components that are contained on the products.

Hi-Lux, Inc. reserves the right to request proof of purchase and purchase date. Hi Lux assumes no liability for any incidental or consequential damages, theft, or incidental expenses. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply. No warranties are made, or are authorized to be made, other than those expressly contained herein.

To file a claim under this warranty, please contact the Customer Service Department of Hi-Lux, Inc. at (310)257-8142 to obtain a Return Authorization number (RA number). After receiving your RA number, please mark the number on the outside of the package; enclose the defective item with a brief explanation of the problem.

# RIFLESCOPE MANUAL

Please be sure to include your name, address and phone number. Failure to obtain a RA number may result in either refusal upon delivery, or lengthy delays for warranty repairs and service required for the item returned to us. All returns are to be shipped prepaid direct to Hi-Lux, Inc. including a check or money order in the amount of \$21 to cover postage and handling. Additional fees will be applied to all returns from outside the continental United States.

Attn.: Warranty & Service Dept.  
Hi-Lux, Inc.  
3135 Kashiwa Street  
Torrance, CA 90505  
Tel: (310) 257-8142, Fax: (310) 257-8096  
E-Mail: [techservice@hi-luxoptics.com](mailto:techservice@hi-luxoptics.com)  
[www.hi-luxoptics.com](http://www.hi-luxoptics.com)

In the event of a non-warranty repair, you will receive an estimate prior to any work being done. This warranty gives you specific legal rights and you may have other rights, which vary from state to state. As defined by federal law, this is a limited warranty.



*Leatherwood*



@LEATHERWOODOPTICS



/LEATHERWOODHILUXOPTICS



@HILUXOPTICS



HI-LUXOPTICS.COM