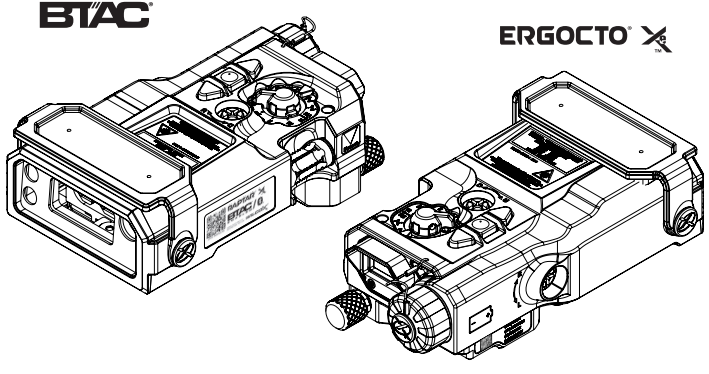
QUICK REFERENCE GUIDE
FOR THE

WILCOX®

RAPTAR Xe™

Rapid Targeting & Ranging Module Xe

PN: 68500G01 - High Power, Red Laser



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This manual and product contains technical data as defined in the International Traffic in Arms Regulations ITAR 22 CFR 120.10. Export of this material is restricted by the Arms Export Control Act 22 U.S.C. 2751 et seq. and may not be exported to foreign persons without written approval from the U.S. Department of State.

SAFETY WARNINGS

▲ *WARNING* ▲

- **Lasers are activated during the *RAPTAR Xe* system test. Follow safety precautions for laser eye safety and operation of the cover.**

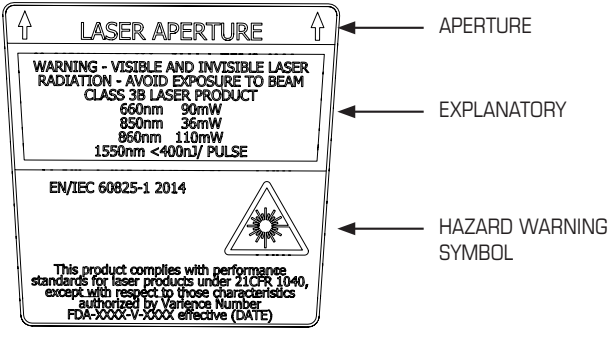
- **You are required to thoroughly read all instructions and product safety information in the *RAPTAR Xe* Operator's and Maintainer's Manual before using this product. FAILURE TO COMPLY WITH PROPER INSTRUCTIONS COULD RESULT IN PROPERTY DAMAGE, INJURY, AND/OR DEATH. Wilcox is not responsible for damage resulting from improper use and/or maintenance.**

STORAGE

When storing or transporting the ***RAPTAR Xe***, remove the batteries and store separately with the laser cover secured.

LASER SPECIFICATIONS

Refer to the ***RAPTAR Xe*** Operator's and Maintainer's Manual for a complete listing of laser safety specifications.



G01 Model (Red HP Laser) Laser Safety Label

ACCESSING SETTINGS AND BALLISTICS MENUS

TO ACCESS THE MENUS

Step 1.) Turn Mode Selection Knob to "M" (Main Menu)

Step 2.) Push the **Menu/Down** or **Laser/Up** buttons to select from the Menu Options.

Step 3.) Push the **Fire/Range/Enter** button to display the desired Submenu option.

Step 4.) Push the **Menu/Down** or **Laser/Up** buttons to select from the Menu Options.

Step 5.) Push the **Fire/Range/Enter** button to Save.

TABLE 1 - SETTINGS MENU OPTIONS

OPTION	DESCRIPTION
Battery	Displays the currently remaining battery percentage
Brightness	Display Brightness ("Persist" mode allows brightness adjustments to persist when power cycling) **Auto *[Default]* (Levels M2 through M8 only. M1 must be manually selected.)** **"M1 I"** (Dimmest) through **"M8IIIIIIII"** (Brightest) ***[Default]*** **"Persist"/"Use Default"** (Toggle Between Default or Persistent Operation as Set by the Operator or mid-level brightness when powered up)
LaserBlink	Selects the Laser ID (Blink) Pattern **"No Blink OFF" *[Default]*** **"Fast Blink 1"**, **"Fast Blink 2"**, **"Slow Blink 3"**, **"Slow Blink 4"**, **"Fast Triple 5"**, **"Slow Double 6"**
Range Gate	Selects the Range Gate **"10" *[Default]*** **"0"** to **"1000"** Meters in 10 Meter Increments
Ballistics	Set Ballistic Mode **Bal:MRAD *[Default]* (or MOA or Inches, as Set by Output Options in the Ballistics Menu)** - Elevation / Windage Holds **Rng: Meters** - Only Range in Meters **Rng: Yards** - Only Range in Yards
Bluetooth	Set Bluetooth On or Off **Enable *[Default]*** - Powers on the Bluetooth Board **Disable** - Powers off the Bluetooth Board for Stealth operation
CompassCal	Perform Compass Calibration
DisplayDir	Rotates Display for Left, Top, or Right Side Mounting **Left** - Left Side Mounting (9 O'Clock Position) **Top** - Top Rail Mounting (12 O'Clock Position) **Right** - Right Side Mounting (3 O'Clock Position)
ScreenSavr	Sets the Duration of Inactivity Before ***RAPTAR Xe*** Goes into Screen Saver Mode **Off *[Default]*** - Screen Saver Deactivated **1.5 Seconds** to **10 Seconds** - Duration to Screen Saver Activation (in 0.5 second increments). Pushing any Button Reactivates the ***RAPTAR Xe***.
Self Test	Perform Unit Self Test Operations
Set Default	Set Factory Defaults
Event Log	Display events logged since the system was powered on
About…	Displays software version, hardware configuration
Depot Menu	Allows for power output through the Control Activation Pad Port **Power Out** - Enable or Disable ***[Default]***
Exit	Allows the Operator to exit the Settings Menu

TABLE 2 - BALLISTICS MENU TREE

OPTION	DESCRIPTION
Gun Select	Allows the operator to choose from up to 30 custom user gun profiles and numerous additional preconfigured profiles and to change configuration settings (see Table 3.1-2b). **UserGun01** **UserGun02** **...** **UserGun30** **Exit** * **">"** in front of a Gun Profile Name indicates the selected gun profile, while **"*"** indicates that the Gun Profile has been modified.
Environmnt	Allows the operator to review and manually adjust environmental variables. These include: **TP** - Air Temperature (C or F) **PR** - Air Pressure - (mbar or inHg) **HM** - Humidity (%) **WS** - Wind Speed (m/s or mph) **WD** - Wind Direction **Exit**
Target	Allows the operator to adjust determined target values, including: **Rng** - Range to Target **Inc** - Inclination **DoF** - Direction of Fire **Lat** - Latitude **Exit**
Options	Allows the operator to set the displayed format for Ballistic parameters. **In** - Input Units (English, Mixed ***[Default]***, or Metric) **Out** - Output Units (MILS ***[Default]***, Inches, or MOA) **Exit**
ManageGuns	Allows the operator to send or receive gun configurations between the ***RAPTAR Xe*** and Kestrel devices. **Send All** - ***RAPTAR Xe*** to the Kestrel **Recv All** - Kestrel to ***RAPTAR Xe*** **Exit**

GUN SELECTION / EDIT SCREEN ITEM DESCRIPTIONS

OPTION	DESCRIPTION
MV	Muzzle Velocity
DC	Drag Curve Custom
BC	Ballistic Coefficient. Auto or provided by manufacturers.
BD	Bullet Diameter
BL	Bullet Length
BW	Bullet Weight (grams)
ZR	Zero Range (BZO)
BH	Bore Height. Measured from center of bore to center of optic.
ZH	Zero Height. Vertical difference between point of aim and point of impact.
ZO	Zero Offset. Horizontal difference between point of aim and point of impact.
RT	Rifle Twist
RTd	Rifle Twist Direction
MV-Temp	Holds the Muzzle Velocity to temp table.
Cal MV	Field expedient way to find MV when unknown.
Cal DSF	Drop Scale Factor. Same procedure as MV True but advanced for longer range shooting.
View DSF	View the Drop Scale Factor.
Clear DSF	Clear the Drop Scale Factor.
Reset Gun	Restores the program; setup numbers in the gun profile.
Exit	Returns to the Select Gun options screen.

MODE SELECTION OPTIONS

KNOB POSITION	OLED DISPLAY	LOCKOUT AVAILABLE	MODE / FUNCTION DESCRIPTION
O	**n/a**	NO	Power Off
M	**Main Menu**	NO	Menu Access for Settings and Ballistics
R	**RNG**	NO	Range Only Mode
IR AL	**AL I**	NO	IR Aiming Laser (Low Power)
IR DL	**DL I**	NO	IR Aiming Laser and IR Illuminator Laser (Low Power)
IR AH *	**AH I**	YES	IR Aiming Laser (High Power)
IR IH *	**IH I**	YES	IR Illuminator Laser (High Power Flood)
IR DH *	**DH I**	YES	IR Aiming Laser and IR Illuminator Laser (High Power Flood)
VIS AH *	**AL V**	YES	Visible Aiming Laser (High Power)
VIS AL	**AH V**	NO	Visible Aiming Laser (Low Power)

*High Power Options Inaccessible when Blue Screw Lockout is in Place.

KEY DISPLAY INDICATORS

KEY	DESCRIPTION
	Battery Indicator: Four bars = 80%-100%, in 20% increments, with no bars indicating less than 20% power.
	Full Battery Indicator with Bluetooth Device Connected.
	Full Battery Indicator with Kestrel Bluetooth Connected and Streaming.

MOUNTING THE RAPTAR Xe

The ***RAPTAR Xe*** mounts to the 9, 12, and 3 O'Clock positions on the weapon rail using a MIL-STD-1913 Rail Mount by means of two (2) Thumbnuts and a rail grabber. When mounting, make sure the Thumbnuts are secured to 30 in-lb.

PERFORMING RAPTAR Xe SETUP

Step 1.) Power on the ***RAPTAR Xe***. If the display brightness is too bright or dim, adjust the display brightness setting by accessing the Brightness option on the Settings Menu.

Step 2.) Check battery life and replace batteries if necessary.

Step 3.) Check the Bluetooth setting:

SETTINGS MENU > BLUETOOTH

Step 4.) Zero Weapon to Optic(s), if not already zeroed.

Step 5.) Set Latitude for Geographical Area:

BALLISTICS MENU > TARGET > (LAT)

Step 6.) Select Ballistics Ranging Option:

SETTINGS MENU > BALLISTICS >
(BAL)/RNG:METERS/RNG YARDS)

Step 7.) Select Gun Profile from the pre-loaded menu or select a User Gun and input Custom Gun Profile data manually. The (>) indicates this is the profile currently selected.

BALLISTICS MENU > GUN SELECT

Step 8.) Attach the ***RAPTAR Xe*** to the weapon platform and position of choice. 9, 12, and 3 O'Clock, or top of optic is acceptable.

Step 9.) Perform Compass Calibration (see "To Perform a Compass Calibration on the ***RAPTAR Xe***").

Step 10.) The ***RAPTAR Xe*** auto senses the outside air temperature (OAT), pressure, and humidity. These may be verified and manually adjusted using data from other sources such as a weather meter.

BALLISTICS MENU > ENVIRONMNT

Step 11.) Manually enter wind speed and direction. Alternatively, a Kestrel weather meter may be used to stream live wind and other environmental data. If using a Kestrel weather meter, make sure the Kestrel and ***RAPTAR Xe*** are connected.

BALLISTICS MENU > ENVIRONMNT

Step 12.) Co-Align system to Optic at BZO dialed, then at 100 m, 800 m, and 1000 m using "Co-Aligning the ***RAPTAR Xe*** with a Weapon Optic".

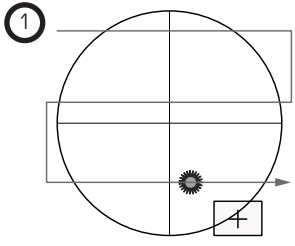
CO-ALIGNING THE RAPTAR Xe WITH A WEAPON OPTIC

CO-ALIGNMENT PROCESS

Step 1.) Make sure the ***RAPTAR Xe*** is securely mounted to the weapon and that weapon is properly zeroed.

Step 2.) Place the target at approximately 100 meters.

Step 3.) Turn on the red laser pointer.



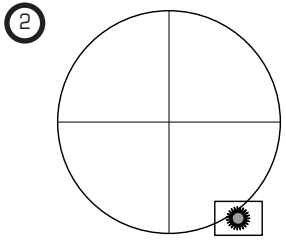
CO-ALIGNING THE RAPTAR Xe WITH A WEAPON OPTIC (CONTINUED)

COARSE ALIGNMENT PROCESS

Step 1.) Scan the weapon near the target until the laser spot is visible on the target.

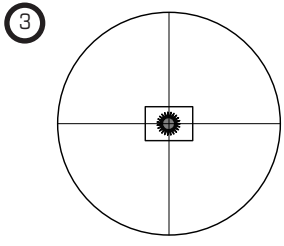
Step 2.) Note the offset between the laser spot and the scope's markings.

Step 3.) Use the ***RAPTAR Xe*** Top and Side Adjustment Knobs to move the laser until it aligns with the scope's crosshairs.



FINE ALIGNMENT PROCESS

Step 1.) Repeat steps 1-3 of the Coarse Alignment Process at a range of greater than 800 meters.



CALIBRATING THE RAPTAR Xe

The ***RAPTAR Xe*** is calibrated both for compass direction and orientation angle. Compass calibration is more accurate when performed while the ***RAPTAR Xe*** is mounted to the weapon in its fully configured form.

TO PERFORM A COMPASS CALIBRATION ON THE *RAPTAR Xe*

Step 1.) Access the **"CompassCal"** option on the Settings Menu.

Step 2.) Slowly turn the weapon 360° horizontally, vertically, and longitudinally, as illustrated, for at least 25 seconds.

360º Horizontal

360º Vertical

360º Longitudinal

- If the procedure is performed in a weak magnetic field, or insufficiently rotated, the message **"-2"** will display to indicate a magnetic value at the end of a range, or an extreme magnetic value.
- If the procedure is performed in a strong magnetic field, the message **"-5"** will display to indicate the presence of a weak or strong magnetic field.
- If the procedure is performed in an excessively strong magnetic field, the message **"-7"** will display to indicate that the unit was not sufficiently rotated.

Step 3.) Push the Fire/Range/Enter button to stop calibration, then validate the calibration to known headings.

TURNING OFF THE BLUETOOTH TRANSMITTER

Step 1.) Access the Settings Menu.

Step 2.) Use the **Laser/Up** and **Menu/Down** buttons to access the "Bluetooth" option.

Step 3.) Push the **Fire/Range/Enter** button to enter the "Bluetooth" menu.

Step 4.) Use the **Laser/Up** and **Menu/Down** buttons to select the menu option of your choice.

Step 5.) Press the **Fire/Range/Enter** button to disable the menu item.

Step 6.) Turn the ***RAPTAR Xe*** off then back on to update system settings.

NOTE

With the Bluetooth function turned off, the *RAPTAR Xe* will no longer be able to receive environmental/wind/ballistic information from a Kestrel.

To turn the Bluetooth transmitter on, follow steps 1-5 and select "Enable".

ADJUSTING THE RAPTAR Xe DISPLAY BRIGHTNESS

The display brightness is set to **"Auto"** by default. If changed to **"M1 I"** (dimmest) through **"M8IIIIIIIII"** (brightest), the display will maintain a consistent brightness based on the set value. To adjust the display brightness setting, access the Brightness option on the Setting Menu. To maintain the brightness level after power cycling, "Persist" mode must be enabled.

ADJUSTING THE LASER INTENSITY FOR THE ACTIVE LASER POWER MODE

Step 1.) From any laser mode, push the **Laser/Up** button twice to turn on the selected laser(s).

Step 2.) Push the **Menu/Down** button to enable Adjust Mode.

Step 3.) Push the **Menu/Down** button to access the laser power setting for the selected laser (e.g., the Aiming Laser - Visible (AL V) when in the Visible Aiming Laser (V L) setting).

Step 4.) Push the **Fire/Range/Enter** button, then use the **Menu/Down** and **Laser/Up** buttons to adjust the value between 1 and 4 (Low Power Mode) or 1 and 9 (High Power Mode). Once the desired value is selected, push the **Fire/Range/Enter** button.

Step 5.) The menu display with automatically clear after 5 seconds, or you can push the **Menu/Down** button to Exit.

Step 6.) Push the **Laser/Up** button to turn the selected laser(s) off.

RANGING A TARGET (RANGE ONLY MODE)

Step 1.) To initiate a range, acquire a target and push the **Fire/Range/Enter** button. Hold to change ranging precision. Ranging starts one release of the of the **Fire/Range/Enter** button.

Step 2.) If one or more valid range is found, the values are displayed in the configured units (meters or yards).

Step 3.) If no valid range is found, **No Targets** is displayed.

Step 4.) If the range finder times out and doesn't respond, **RANGING TIMEOUT** may be displayed. If **RANGING TIMEOUT** is observed repeatedly, check battery level and replace as needed. Select desired **Laser / Range Mode** position (laser activation not required).

RANGING A TARGET (FULL BALLISTIC SOLUTION MODE)

Step 1.) To initiate ranging, acquire a target and push the **Fire/Range/Enter** button. Ranging starts on **RELEASE** of the range button.

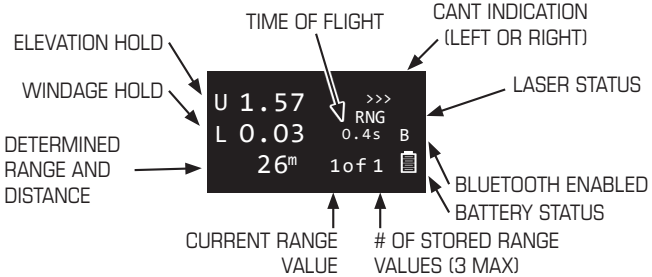
Step 2.) Range Precision Modes include:

- Short **Fire/Range/Enter** button hold for **FAST** ranging with a 0.5 second measurement time.
- Long **Fire/Range/Enter** button hold for **PRECISE** ranging with a 1.0 second measurement time.

Step 3.) If a range is found, the **BALLISTIC SOLUTION** display is shown. If no valid range is found, **No Targets** is displayed. If the range finder times out and doesn't respond, **RANGING TIMEOUT** may be displayed.

Step 4.) The **Laser/Up** button is used to turn the current laser on and off when not in the ballistic solution display.

Step 5.) To range another target simply push the **Fire/Range/Enter** button.



Ballistics Solution Display

OPERATING WITH THE KESTREL CONNECTED

BLUETOOTH PAIRING WITH THE KESTREL 5700

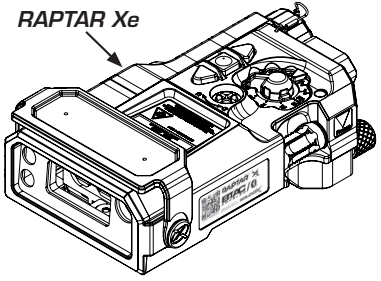
Step 1.) Follow the Kestrel 5700 Operator's Manual for pairing with the ***RAPTAR Xe***. During pairing, turn on the ***RAPTAR Xe***. The Kestrel 5700 will display a list of devices to which it can pair. Select the ***RAPTAR Xe*** with the same serial number as displayed on the ***RAPTAR Xe*** label. Note: The Bluetooth connection may take 10 seconds or longer to pair.

Step 2.) When Bluetooth pairs, a "B" will first appear displayed above the battery icon to indicate Bluetooth is connected. A "K" will be displayed above the battery icon when the Kestrel is streaming data to the ***RAPTAR Xe***.

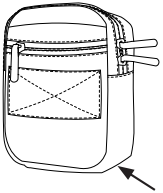
LOCAL BALLISTICS

Step 1.) With any other gun selected in the Gun Select Menu, the Kestrel streams environmental data, including wind speed, and direction to the ***RAPTAR Xe***. The ***RAPTAR Xe*** performs the ballistic calculations using environmental data from the Kestrel.

PRODUCT IDENTIFICATION



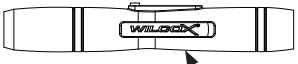
THREE BUTTON
PRESSURE PAD, 20",
FISCHER CONNECTOR



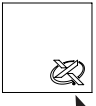
STORAGE POUCH

Xe UTILITY TOOL

CLEANING KIT

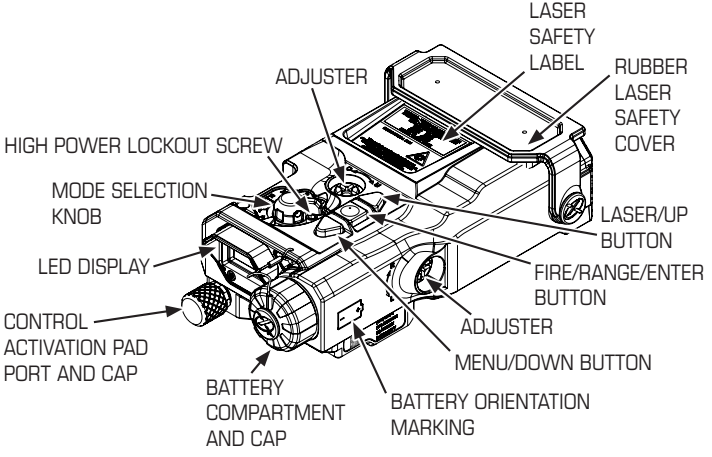


LENS PEN

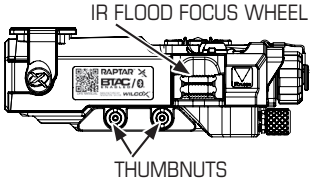


CLEANING CLOTH

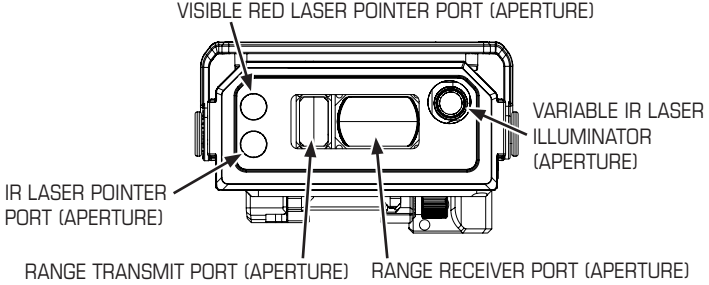
FEATURE IDENTIFICATION



Side / Front View



Lens Cover Stowed



Lens Cover Operational

CARE AND MAINTENANCE

Dismount the ***RAPTAR Xe*** from the weapon rail and inspect the unit for dirt, rust, and corrosion. Make sure the Battery Compartment Cover and O-ring are tightly sealed and that the area is free of sand and dirt particles. Replace the unit if a lens is broken or cloudy internally. Replace the Battery Compartment Cover O-ring if cut, nicked, or torn.

Dirt and other residue, like exposure to salt water, may impede the mechanical operation of the ***RAPTAR Xe***. Do not use high pressure air to blow away dirt or debris while cleaning. Flush the exterior with fresh water to remove any debris. Gently blow any debris away from the lenses or display, then brush any residual dirt or dust free with the Lens Pen. This should be done on a regular basis.

After flushing and cleaning with fresh water to remove debris, if further lens cleaning is necessary, use the clean Lens Cloth provided with a small amount of Isopropyl (Rubbing) Alcohol.

Always keep the Lens Cover and Battery Cap fully installed when not in use to prevent the entry of foreign debris, protect the port from corrosion, and prevent scratching of the lenses.

WARRANTY CLAIM AND SERVICE INFORMATION

For warranty claim or service work, WX must be contacted in the United States at (603) 431-1331 or Customer Service through our online support page at wilcoxind.com/contact to obtain a **Return Merchandise Authorization (RMA)/Service Call Number (SC)** prior to returning your Wilcox product.

After an RMA/SC number is issued, WX will accept your package at the address indicated below, clearly marked with the RMA/SC number:

Wilcox Industries Corp.
RMA/SC # _____
One Wilcox Way
Newington, NH 03801 USA

The Wilcox product must be securely packaged to prevent damage, accompanied by your name, address, daytime phone number to contact you, and a description of the problem or work you wish to be performed.

Manufactured by:

Wilcox Industries Corp.
One Wilcox Way
Newington, NH 03801 USA

Phone: +1 603-431-1331
Fax: +1 603-431-1221

WWW.WILCOXIND.COM

For troubleshooting service questions, contact Wilcox between 8am and 5pm EST.