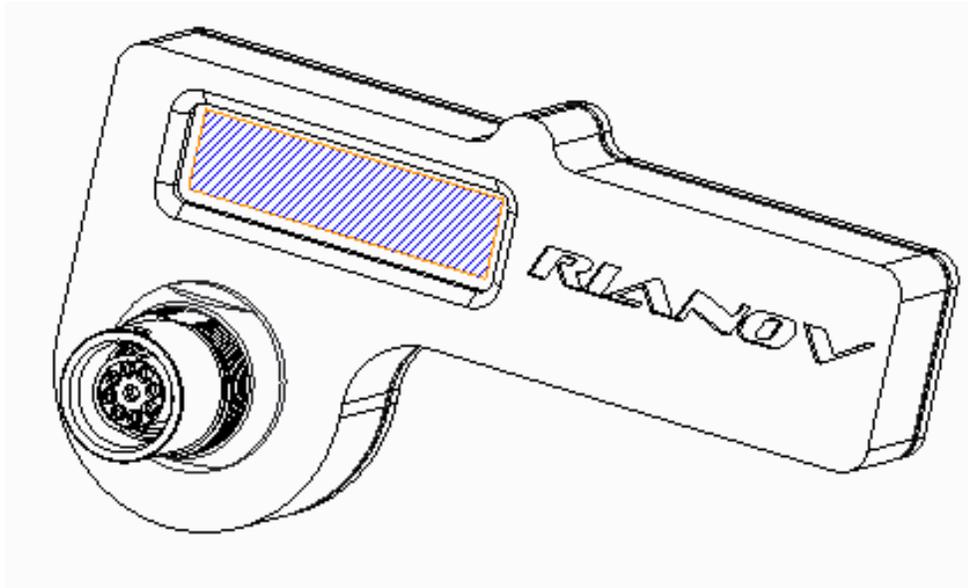


**PT**  
*PRECISION TARGETING*



**RIANOV** <sup>TM</sup>

***EAGLE***

**M111**

Operator's Manual

20 April 2014

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## USE OF THIS MANUAL

Prior to use or installation of the **RIANOV**™ EAGLE, read this manual in its entirety and make sure you are familiar with the use and care requirements. It is important that you, and all users of your **RIANOV**™ EAGLE, understand the principles of its operations. Keep this manual with the **RIANOV**™ EAGLE, and transfer it to any future owner. If you require additional copies of this manual, a copy can be downloaded from our web site.

The **RIANOV**™ EAGLE is not a safety device and normal firearm safety procedures should be maintained during the installation and usage of the **RIANOV**™ EAGLE. Failure to follow safety guidelines may result in bodily injury or death.

## WARRANTY (LIMITED) AND SERVICE

Precision Targeting, LLC, warrants that this product was manufactured free of defects in materials and workmanship and for a period of twelve months from the date of purchase by the original owner, Precision Targeting, LLC agrees to correct any defect for the original purchaser by repair or replacement with the same or comparable model, at the sole discretion of Precision Targeting, LLC. The warranty does not cover abuse, misuse, lost items, batteries, and consequential and incidental damages are not recoverable under this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This written warranty is the only warranty provided and any implied warranty of merchantability or fitness is limited to the same twelve month period.

Technical specifications are subject to change without notice.

If your **RIANOV**™ EAGLE requires service, whether made under warranty or not, please contact Precision Targeting, LLC for instructions on how to have your **RIANOV**™ EAGLE repaired.

Precision Targeting, LLC

P.O. Box 81644

Atlanta, GA 30366

(404) 466-4700

[www.RIANOV.com](http://www.RIANOV.com)

## Technical Specifications

### **RIANOV™ EAGLE**

**Weight:** ~4.8 oz.

**Display (Internal):** LCD with Graphics - 16 Character x 3 Row

**User Interface:** 5 Function Remote Keypad

**Operating Temperature Range:** -40°F to 140°F (-40°C to 60°C)

**Altitude Range:** -1,600ft to 29,600ft (-300m to 9,000m)

**Barometric Pressure Resolution:** 0.01InHg

**Optical Ranging:** >3,000 Yards

**Angular Ranges:** ±85° Slope (Look Angle)

±90° CANT

**Angular Resolution:** <0.1°

**Battery Type:** CR-123

## Product Description

The **RIANOV™ EAGLE** is a ballistic computing device that works in conjunction with your rifle scope.

The **RIANOV™ EAGLE**, which easily mounts to your scope, calculates the Range to your intended target and provides accurate real-time calculated ballistic solutions - based on the JBM Ballistics solver - for Elevation and Windage adjustments with the push of a button and the aiming of your rifle.

The **RIANOV™ EAGLE** internal sensors monitor and compensate for barometric pressure, temperature, CANT and look angle (Slope) in the ballistic solutions provided, allowing the user to remain focused down range and no longer worry about offset charts or calculating adjustment factors.

## Section 2 -

### System Contents

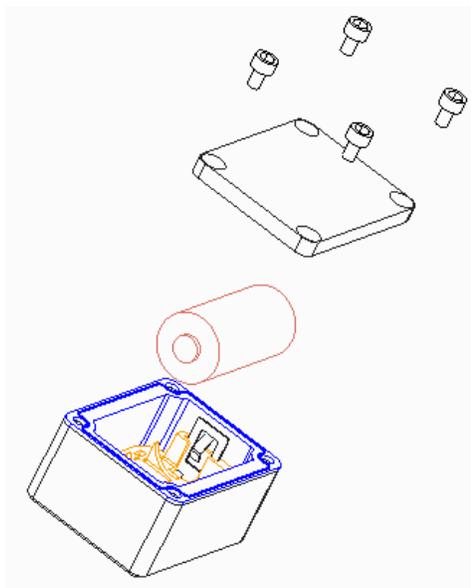
The **RIANOV™** EAGLE Kit contains the following:

- 1 - **RIANOV™** EAGLE with 34mm scope rings (GEN I)
- 1 - **RIANOV™** EAGLE Quick Start Guide
- 1 - Velcro with adhesive (holding the Remote Keypad to the weapon)
- 1 - M2.5 Long Arm Hex Key
- 2 - M3x 5mm Screws (spares)
- 1 - CR123A Lithium Battery (Not installed)



**Section 3 -  
Replacing the batteries**

**PRIOR TO INSTALLING YOUR *RIANOV*™ TO YOUR RIFLE, MAKE CERTAIN THAT IT IS UNLOADED. REFER TO YOUR FIREARM OWNER'S MANUAL TO ENSURE THE FIREARM IS SAFE**

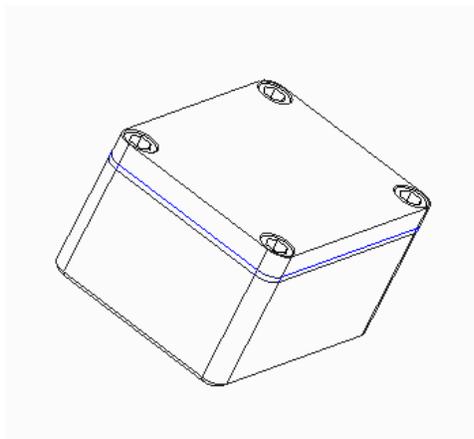


**Figure 3.1**

Remove the 4 M3x5mm screws using the Long Arm Hex Key and the Remote Keypad Cover as shown in Figure 3.1. Remove the old battery, dispose of it properly and replace it with a new CR123A battery. The new battery is to be installed as shown, with the positive terminal pointed towards the bottom of the Remote Keypad.

Align the Remote Keypad Cover with the Remote Keypad Housing and reinstall the 4 M3x5mm screws using the Long Arm Hex Key. Do not over tighten the 4 Remote Keypad Cover screws (the rubber gasket should not bulge out past the metal sides).

Do not attempt to modify the battery contacts. Doing so will void the warranty.



**Figure 3.2**

## Section 4 – Screen Layout & Navigation

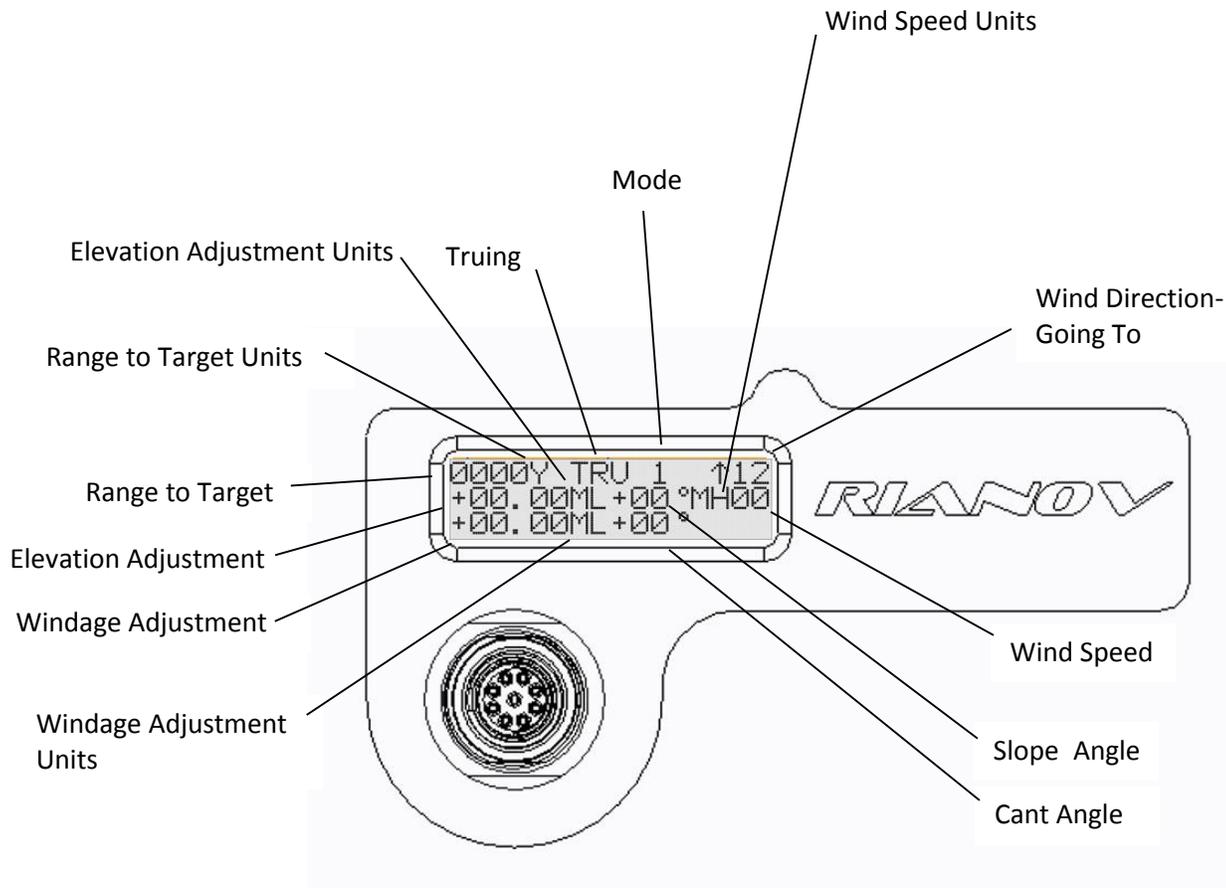
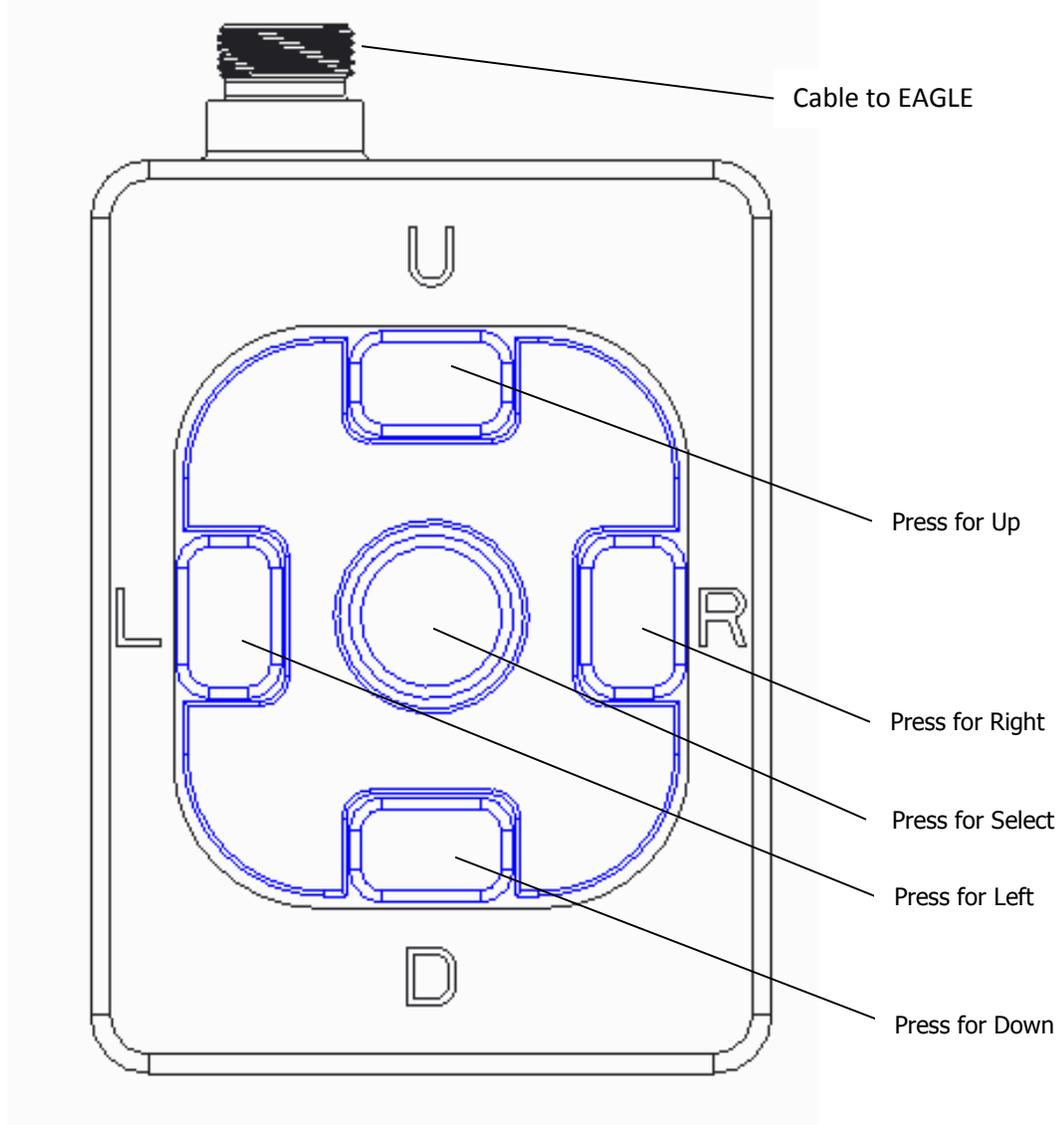


Figure 4.1

Each of the Display Fields above has its own purpose in determining the firing solution and is explained in detail in the sections below

The **RIANOV™** EAGLE unit shown in Figure 4.1 is displaying the HOME Screen. This is the screen that will be displayed during most of the operation of the device. There are several items that can be modified from this screen and you can navigate to the other screens from the HOME Screen. Use the Remote Keypad to move right or left to the value you want to change and use the Remote Keypad up or down to change the value. An alternate version of the HOME Screen, as shown in Figure 4.1B, removes the wind speed and wind direction information. This user selectable feature is explained in Section 6.

## Remote Keypad



Remote Keypad – There are two ways to use the Select button on the Keypad

Press and Release – P/R - Press the button and release in less than 1 second

Press and Hold – P/H - Press the button and hold for more than 1 second

Select:

If the **RIANOV™** EAGLE unit is asleep, P/R this button to turn the device on

If the **RIANOV™** EAGLE is awake, P/R this button to initiate a Ranging operation. You will be prompted for different inputs based on the Ranging Mode of the **RIANOV™** EAGLE unit (see pages 11-12 for more information).

P/H this button to move to the MENU Screen

Remote Keypad navigation:

The up/down/right/left functions of the Remote Keypad are explained in detail in the following sections of this manual. P/H on the up/down/right/left functions will result in a scrolling action for as long as the Keypad is held.

In this manual the screen layouts will be displayed as shown below in the normal 3 rows by 16 character format. The screen layout shown below matches the information as shown in Figure 4.1.

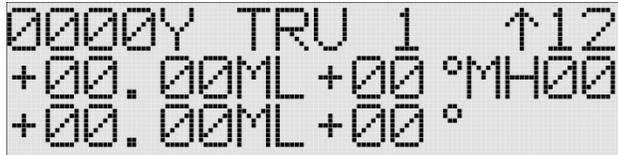


Figure 4.1A

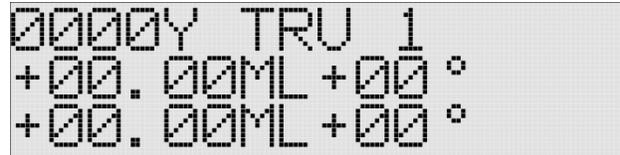


Figure 4.1B

Special characters –

There is one special character that appears on most screens. The “HOME” characters, as shown below in Figure 4.1C.



Figure 4.1C

Any screen on which you find this special character will redirect you as follows:

HOME -  - return you to the HOME Screen

You can move to the MENU Screen, as shown in Figure 4.2 Screen by pressing and holding (P/H) the SELECT Button for one (1) second while on any screen. From the MENU Screen you will be able to access the following screens:

NAME WEAPON000 \*  
 WEAPON  
 ENVIRONMENT  
 MODE  
 SYSTEM  
 DOPE  
 ANGLE CAL  
 COMPASS CAL



Figure 4.2

\* - There are 16 unique weapon configurations that can be stored on an EAGLE unit. The names can be changed to assist the user in later selecting the desired weapon system more efficiently. The name field can be edited on the WEAPON Screen. Each Weapon System has its own unique 60 entry DOPE Table for the recording of known good shots. The more data entries the DOPE Table has, the better the EAGLE unit becomes at computing future solutions. Recording known good hits at various ranges, through the effective range of the Weapon System, including into the transonic and subsonic regions of the projectile flight, is equal to adding multiple zero ranges to the computing engine. From there the EAGLE can accurately compute future solutions. See Section 5, on Page 13 for further details.

**Viewing the WEAPON Screen -**

To view the WEAPON Screen on your **RIANOV™** EAGLE unit, navigate to the “WEAPON” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.

NAME	The name of the Weapon System
TWIST RATE	Rate of twist inside the barrel
TWIST DIRECTION	Direction of the twist inside the barrel
CALIBER	Caliber of the weapon
BC	Ballistic Coefficient of the bullet
WEIGHT	Weight of the bullet
LENGTH	Length of the bullet
RETICLE	Type of reticle marking inside the scope
SCPHEIGHT	Distance between the scope centerline and the barrel centerline
SCPOFFSET	Distance the scope is offset (left (-) or right (+)) from the barrel centerline
ELEV*	The number of clicks per MIL ( or MOA) of your elevation turret
WIND*	The number of clicks per MIL (or MOA) of your windage turret
MUZ VEL	The muzzle velocity of your bullet
MVCORR	The amount your muzzle velocity varies with changing temperature
CHRONO DIST	The distance to your chronograph (enter 0 if you are estimating MUZ VEL)
ELEV ADD <sup>‡</sup>	The amount you currently have dialed into your elevation turret
RANGE	The range at which your weapon is zeroed
TEMP	The temperature at which your weapon is zeroed
BP	The barometric pressure at which your weapon is zeroed
HUMD	The humidity at which your weapon is zeroed
BEARING	The bearing at which your weapon is zeroed
LATITUDE	The latitude at which your weapon is zeroed

**Figure 5.1**

To select an option or enter data in one of these fields, navigate to the desired field and P/R the SELECT Button to enter edit mode. Use the Remote Keypad to move right or left to the value you want to change and use the Remote Keypad up or down to change the value. When you have completed making all of the changes in a field P/R the SELECT Button to exit edit mode. Complete these steps for all fields that you want to change and navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

\*- Entered as number of clicks per MIL (for example – a ¼ MIL per Click is entered as 4.000 Clicks / MIL). This is also valid for MOA units.

‡ - ELEV ADD is used to have the required elevation adjustment displayed by the **RIANOV™** EAGLE unit automatically corrected for targets at a given distance. After you have dialed-in a given value on your elevation turret and entered in the same value into the EAGLE, the solution you are provided is now a hold over or hold under. Make sure you set this value to 0.00 if you return your elevation turret to its zero point.

## Viewing the ENVIRONMENT Screen -

To view the ENVIRONMENT Screen on your **RIANOV™** EAGLE unit, navigate to the “ENVIRONMENT” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.

HUMIDITY	The current Relative humidity
TEMP	The current temperature
BP	The current barometric pressure
BEARING	Your current bearing (direction the barrel is pointed – towards the target)
LATITUDE	Your current latitude
LONGITUDE	Your current longitude

Figure 5.2

To select an option or enter data in one of these fields, navigate to the desired field and P/R the SELECT Button to enter edit mode. Use the Remote Keypad to move right or left to the value you want to change and use the Remote Keypad up or down to change the value. When you have completed making all of the changes in a field P/R the SELECT Button to exit edit mode. Complete these steps for all fields that you want to change and navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

## Viewing the MODE Screen -

To view the MODE Screen on your **RIANOV™** EAGLE unit, navigate to the “MODE” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.

From the MODE Screen, you will be able to select from one of five modes of data entry:

1 - LASER - In Mode 1 the **RIANOV™** EAGLE unit will automatically enter into measuring the Slope and Cant angles when you initiate a ranging operation. Once the **RIANOV™** EAGLE unit has determined the Slope and Cant angles you will be shown the results of the laser ranging operation. Based on the option you have selected in the LASER setup, you may be presented with different range values to select from. Once the range is selected, the **RIANOV™** EAGLE unit will compute and display the solution.

2 - MEAS SLP + MILS - In Mode 2 the **RIANOV™** EAGLE unit will automatically enter into measuring the Slope and Cant angles when you initiate a ranging operation. Once the **RIANOV™** EAGLE unit has determined the Slope and Cant angles you will be prompted to enter the two variables require for MILDOT ranging (MILS and SOT). MILS is the measurement of the target inside your scope and SOT is the Size of Target (actual size of target).

The MILS measurement is valid at a single magnification, unless you have a First Focal Plane reticle (FFP) scope. If you do not have an FFP reticle, you must use the scope manufacturers ranging magnification.

3 - MEAS SLP + DTT - In Mode 3 the **RIANOV™** EAGLE unit will automatically enter into measuring the Slope and Cant angles when you initiate a ranging operation. Once the **RIANOV™** EAGLE unit has determined the Slope and Cant angles you will be prompted to enter the Distance to Target (DTT).

4 - ENTER SLP + MILS - In Mode 4 the **RIANOV™** EAGLE unit you will be prompted to enter the Slope angle and the two variables require for MILDOT ranging (MILS and SOT).

The MILS measurement is valid at a single magnification, unless you have a First Focal Plane reticle (FFP) scope. If you do not have an FFP reticle, you must use the scope manufacturers ranging magnification.

5 - ENTER SLP + DTT - In Mode 5 the **RIANOV™** EAGLE unit you will be prompted to enter the Slope angle and Distance to Target (DTT).

To select the Mode of data entry, navigate to the current Mode and P/R the SELECT the Remote Keypad up or down functions to change the value to the desired Mode. When completed, P/R the SELECT Button to indicate your selection. The current Mode is shown on Line 1 of the HOME Screen as shown in Figure 4.2.

### Viewing the SYSTEM Screen -

To view the SYSTEM Screen on your **RIANOV™** EAGLE unit, navigate to the “SYSTEM” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.

AUTO OFF	Time in seconds to turn the unit off after the last key press
DELAY TMR	Time in seconds for the delay before starting a Slope / Cant measurement
BACKGROUND	Color of the background
BRIGHTNESS	Screen brightness level
AUTO LAT/LONG	Enable/Disable automated GPS data
AUTO TEMP	Enable/Disable automated temperature data
AUTO BP	Enable/Disable automated barometric pressure data
AUTO BEARING	Enable/Disable automated bearing data
DISPLAY	Select the Internal or External display
DISPLAY WIND	On/Off selector for the wind conditions shown on the HOME Screen
SERNUM	Unit serial number - non-editable
VER	Current Version of the EAGLE software - non-editable

Figure 5.3

To select an option or enter data in one of these fields, navigate to the desired field and P/R the SELECT Button to enter edit mode. Use the Remote Keypad to move right or left to the value you want to change and use the Remote Keypad up or down to change the value. When you have completed making all of the changes in a field P/R the SELECT Button to exit edit mode. Complete these steps for all fields that you want to change and navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

-- NOTE -- The longer the Display remains on after each button press will reduce the battery life of the **RIANOV™** EAGLE unit.

### Viewing the ANGLE CAL Screen -

To view the ANGLE CAL Screen on your **RIANOV™** EAGLE unit, navigate to the “ANGLE CAL” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.



Figure 5.4

To establish the level position between the EAGLE and your weapon system, place the weapon system with the EAGLE installed, on a level surface, in both Slope (uphill/downhill) and Cant. Navigate to the INITIATE field and P/R the SELECT Button. The EAGLE will begin to measure the current position of the weapon system. These values will be stored and used by the EAGLE in determining the position of the weapon system for future ballistic computations. When you have completed the calibration process, navigate to the EXIT field and P/R the SELECT Button. This will return you to the MENU Screen or navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

## Viewing the DOPE Screen -

To view the DOPE Screen on your **RIANOV™** EAGLE unit, navigate to the “DOPE” field on the MENU Screen (see Figure 4.2) and P/R the SELECT Button. You will be shown the current option for entering data.



```
DOPE WEAPON0000  (H)
RANGE           - - - - Y
DROP            - - - - - ML
SLOPE           - - - - °
TEMP            - - - - °F
HUMD            - - - - %R
BP              - - - - - HG
LATITUDE        - - . - °N
BEARING         - - - - °
ENTRY           01/60
NEW
DELETE
```

Figure 5.5

Truing the weapon system – To TRU your weapon system you can add a Dope Table entry from the HOME Screen (See Figure 4.1A or 4.1B) by navigating to the TRU field on the first line of the display and P/R the SELECT Button. This will bring you to the DOPE Screen. It will also complete all of the data fields on the DOPE Screen. To change any of the data fields, simply navigate to the data field and P/R the SELECT Button on the Keypad. Complete these steps for all fields that you want to change and navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

—NOTE – It is not necessary to save entries to the Dope Table for solutions where the Drop provided by the EAGLE matches the Drop recorded by the shooter to hit the intended target.

To add a new Dope Table entry for a specific weapon system, make sure you have that weapon system as the active weapon system (the active weapon system is shown second line of the MENU Screen, as shown in Figure 4.2). Once on the DOPE Screen, navigate to the NEW field, as shown in Figure 5.5, and P/R the SELECT Button. This will populate all of the data fields on the DOPE Screen. You will now need to edit each field to match the data you want recorded as your DOPE. To change the data fields, simply navigate to the each data field and P/R the SELECT Button on the Keypad. Complete these steps for all fields and navigate to the “HOME Icon” on the top line of the screen, P/R the SELECT Button to return to the HOME Screen.

Section 6 - Use of the **RIANOV™** -

The **RIANOV™** EAGLE unit can be used in five modes of operation:

Mode 2) - Measure Slope + Enter MILS

The **RIANOV™** EAGLE unit automatically measures the Slope (and Cant) angle and the user enters the known Size of Target and MILS (Also works with MOA)

Mode 3) - Measure Slope + Enter DTT (Distance to Target)

The **RIANOV™** EAGLE unit automatically measures the Slope (and Cant) angle and the user enters the known Distance to Target

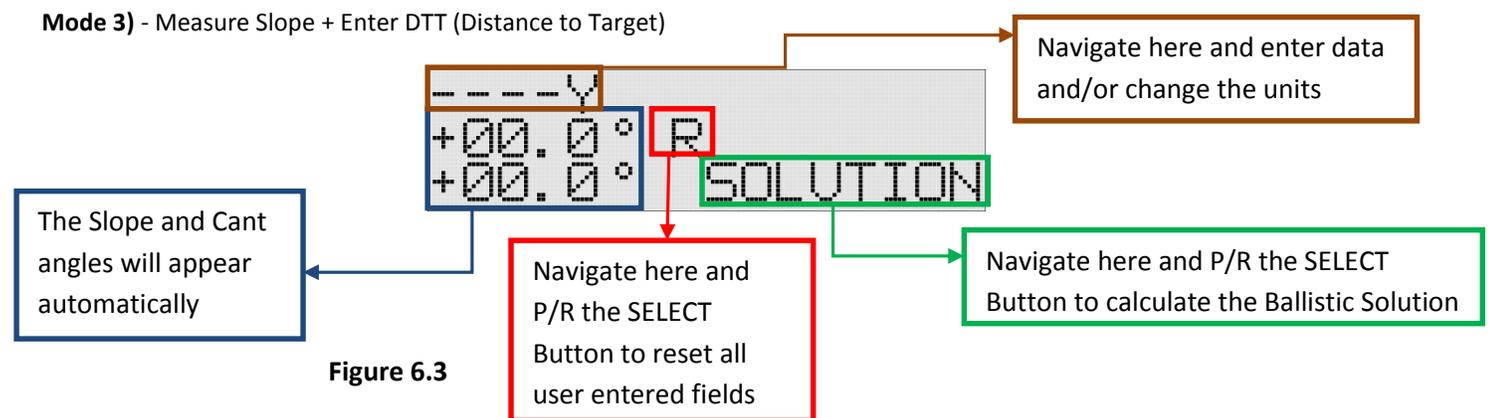
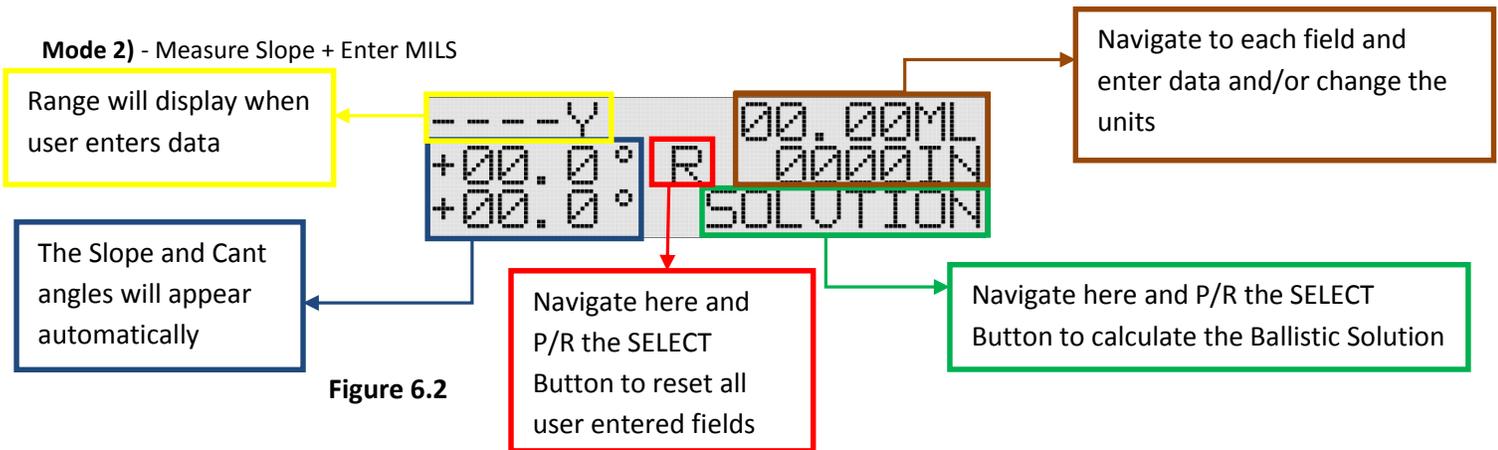
Mode 4) - Enter Slope + Enter MILS

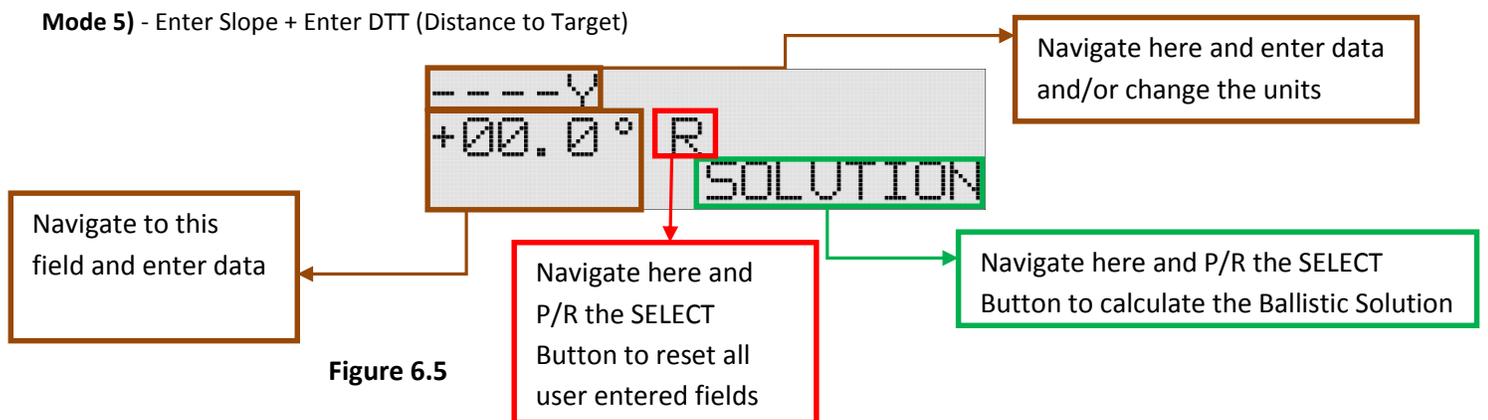
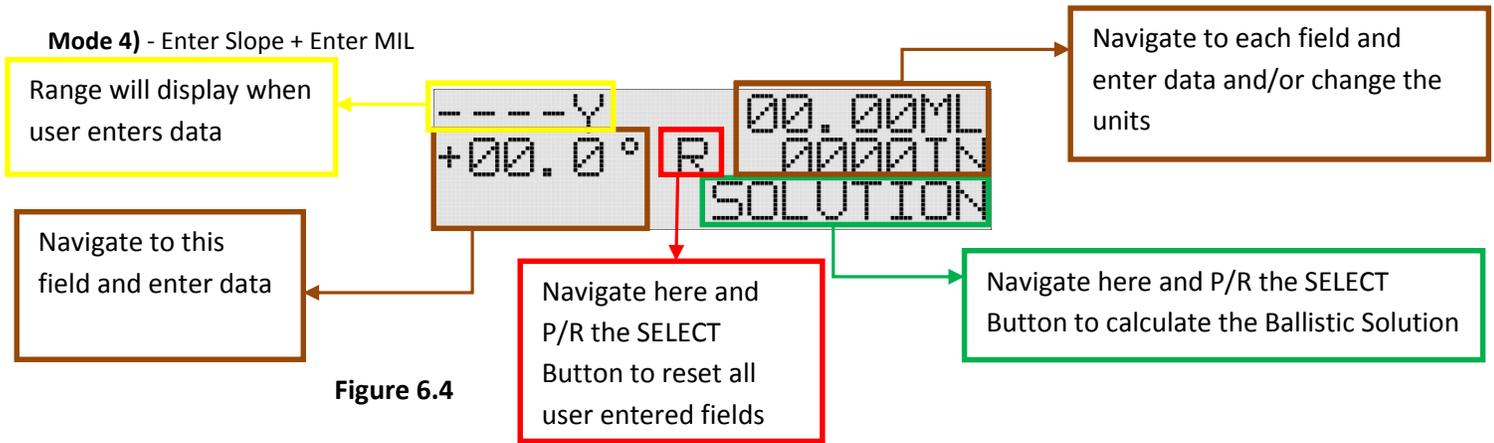
The user enters Slope angle and the known Size of Target and MILS (Also works with MOA/IPHY and custom defined **RIANOV™**)

Mode 5) - Enter Slope + Enter DTT (Distance to Target)

The user enters Slope angle and the known Distance to Target

Based on the Mode select by the user, the **RIANOV™** EAGLE unit will display a different data entry screen when the ranging function is initiated by the user. The information below will explain the information presented to the user by the **RIANOV™** EAGLE unit when a ballistic solution is requested:



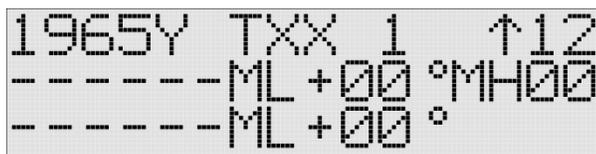


**—NOTE—THE EAGLE WILL NOT AUTOMATICALLY POWER OFF IF LEFT ON ANY OF THE RANGING SCREENS. TO CONSERVE BATTERY POWER, DO NOT LEAVE THE EAGLE ON THE RANGING SCREENS WHEN YOU ARE NOT PLANNING TO RANGE A TARGET**

### Error Screen

If during the usage of your **RIANOV™** EAGLE unit, you range a target that is outside of the effective range of your defined Weapon System at the current environmental conditions, such that the velocity of the round goes below 0.2\*SoS (Speed of Sound) before reaching the target, the Home Screen will appear as shown in Figure 6.6.

This screen may also appear if you have yet to complete adding all of the parameters required to fully define a Weapon System or if you measure or input an invalid Slope or Cant angle. Please see Page 19 for the complete list of information required.



**Figure 6.6**

## Inputting Wind Conditions

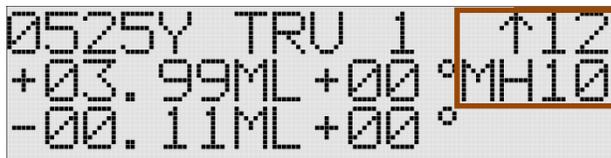
To input the current wind conditions navigate to either the Wind Speed or Wind Direction field on the HOME Screen using the Left Arrow or Right Arrow Button. Once on the field you wish to change, use the Up Arrow or Down Arrow Button to change the value shown. The Direction field is selected by numerical values ranging from 1 to 12, where each value represents the numbers on an analog clock and is the direction the wind is going to. The Wind Speed field is where you indicate the magnitude of the wind with unit options of MH (Miles Per hour), MS (Meter Per Second) and FS (Feet Per Second).

The **RIANOV™** user interface takes into consideration the requirements of shooting in real world conditions and is designed to allow inputs to be added and results displayed with sufficient time remaining to allow the user to make the adjustments necessary and take the shot before the conditions change.

From this screen, as shown in Figure 6.7, you will be able to quickly input the changing wind conditions and have the results displayed with enough time remaining to make the adjustments before the wind changes.

The Windage adjustment shown is the combined Windage adjustment from all sources (Spin Drift, Coriolis Effect, Wind, etc).

You may also see changes in the Elevation Adjustment as you change the Wind Speed and Wind Direction. This change is due to the impact of Aerodynamic Jump which is a function of Wind Speed and Wind Direction.



```
0525Y TRU 1 ↑12
+03.99ML +00° MH10
-00.11ML +00°
```

Figure 6.7

Navigate here and enter data and/or change the value. \*

\* - On the HOME Screen, navigation is with the Right Arrow and Left Arrow. To change the value, use the Up Arrow and Down Arrow.

## Changing Units/Setting

**Table 6.1**

List of Terms	
Term	Definition
CK	Clicks
CM	Centimeters
FC	Feet Per Second/°C
FF	Feet Per Second/°F
FT	Feet
FS	Feet Per Second
GM	Grams
GR	Grains
HUMD	Humidity
IN	Inches
HG	Inches Mercury
KP	Kilopascals
LT	Left
M	Meters
MA	Minutes of Angle*
MB	Millibars
MC	Meter Per Second/°C
MF	Meter Per Second/°F
ML	Miliradians
MH	Miles Per Hour
MS	Meter Per Second
N	North
RT	Right
S	South
SEC	Seconds
Y	Yards
°C	Celsius
°F	Fahrenheit

The **RIANOV™** EAGLE unit is highly versatile in many ways. It can be used with any caliber rifle and many scope type. Additionally, the **RIANOV™** EAGLE unit can display its input and output values in many different units to meet the needs of the individual shooter (See Table 6.1). Below is a table of parameters and their associated unit options (See Table 6.2). The units can be easily changed by navigating to the units' field and P/R the SELECT Button. With the use the Remote Keypad up or down, you can page through the options available for the units' field you have selected to modify. As you page through the unit options the value associated with the units' field will be converted to show the new value with the new units. When you have reached the units you would like to show on the display for this units' field, simply P/R the SELECT Button.

**\* - Also known as Minutes of Arc**

Definition of Terms –

**Caliber** – Diameter of the bullet in Inches or CM

**Bullet Weight** – Weight of bullet in Grains or Grams

**Bullet Length** – Length of bullet in Inches or CM

**Drag Function** – A drag function (or G function) provides the forces on a standard bullet for which the drag function was derived. A bullet's ballistic coefficient then relates the drag on any bullet to that of the standard bullet.

**Ballistic Coefficient** – The ballistic coefficient represents the ratio of the drag of the standard (e.g. G1 standard bullet) bullet to that of the bullet you are shooting. A ballistic coefficient of 0.100 means that your bullet has 10 times the drag of the standard bullet.

**Zero Range** – The range at which you wish the bullet to cross the line of sight.

**Zero BP** – The Barometric Pressure when the Zero was set.

**Zero Temp** – The temperature when the Zero was set.

**Zero Humd** – The humidity when the Zero was set.

**Zero Bearing** – The bearing when the Zero was set.

**Zero Latitude** – The when the Zero was set.

**Distance to Chronograph** – The distance from the muzzle of the firearm to the chronograph used for muzzle velocity measurements. If the muzzle velocity is estimated, leave the 000 for this value.

**Muzzle Velocity** – The velocity of the bullet as either (1) measured at some distance from the muzzle or (2) as estimated from reloading data in FPS, MPH or MPS. The **RIANOV™** EAGLE unit can correct for the distance to chronograph. (The velocity lost traveling to the chronograph.)

**Chronograph** – A device used to measure the velocity of a bullet.

**Table 6.2**

	Default Units	Optional Units/Settings							
Barometric Pressure	HG	MB	KP						
Barrel Twist Direction	RT (RIGHT)	LT (LEFT)							
Barrel Twist Rate	IN/TWIST	CM/TWIST							
Bearing	° (Degrees)								
Bullet Caliber	IN	CM	MM						
Bullet Length	IN	CM	MM						
Bullet Weight	GR	GM							
CANT	° (Degrees)								
Clicks - Elevation	CK / MA	CK / ML							
Clicks - Windage	CK / MA	CK / ML							
Distance to Chronograph	FT	Y	M						
Drag Function	G1	G2	G5	G6	G7	G8	GI	GL	RA
Drop	MA (MOA)	ML (MIL)	CK	IN					
Elevation Adjustment	MA (MOA)	ML (MIL)	CK	IN					
Humidity	1-30%	30-40%	40-60%	60-70%	70-99%				
Latitude	° (Degrees)								
Latitude Magnitude	N	S							
Longitude	° (Degrees)								
Longitude Magnitude	W	E							
Muzzle Velocity	FS	MS	MH						
Range	Y	M							
Reticle Type	ML (Milliradians)	MA (MOA)							
Scope Height	IN	CM							
Scope Offset	IN	CM							
Size of Target (SoT)	IN	FT	Y	CM	M				
Slope	° (Degrees)								
Temperature	°F	°C							
Wind Speed	MH	FS	MS						
Zero Range	Y	M							
Zero Barometric Pressure	HG	MB	KP						
Zero Temperature	°F	°C							

### Changing Numerical Values

To change numeric values on any screen (except the HOME Screen) on your **RIANOV™** EAGLE unit, navigate to the field you want to change and P/R the SELECT Button. Use the Remote Keypad up or down to change the value. When you have reached the desired numeric value in one place and you want to move to a different place, use the Remote Keypad to move right or left until you reach the desired place. Complete these steps until all places have the desired values. P/R the SELECT Button to exit editing in this field. Depending on the field changed, this may initiate a recalculation of the Range and Ballistic solution.

## Ballistics Calculations

The **RIANOV™** EAGLE unit has an internal Ballistics Computer, utilizing the JBM Ballistics solver, for the determination of a ballistics solutions based on rifle, scope and ammunition parameters entered and selected by the user. If you are in need of certain parameters to complete the required fields for the **RIANOV™** EAGLE unit, specifically ammunition parameters (including bullet length), review the information at [www.jbmballistics.com](http://www.jbmballistics.com) for your selected ammunition type. There is a large library of bullet types to select from and all required information is available there.

The program will run, and display the ballistic solution, when the minimum fields are completed. A ballistic solution will be displayed solely from calculated values from the user entries. The user assumes all risk for the data entered.

The **RIANOV™** EAGLE unit offers you the levels of data input needed to give you the confidence that your Ballistic Solution is as accurate as you need it to be.

The **RIANOV™** EAGLE unit requires the following data fields to be completed in order to generate a ballistic solution:

### WEAPON Screen:

- Twist Rate – Barrel Twist Rate
- Twist Dir – Barrel Twist Direction
- Caliber
- BC – Ballistic Coefficient
- Drag Function
- Weight – Bullet Weight
- Length – Bullet Length
- Reticle – Reticle Type
- SCPHeight – Scope Height
- SCPOffset – Scope Offset
- Elev - Clicks per Unit of measure, Elevation turret
- Wind - Clicks per Unit of measure, Windage turret
- Muz Vel – Muzzle Velocity
- MV Corr – Muzzle Velocity Correction Factor (the muzzle velocity temperature correction factor for your ammunition)
- Distance to Chronograph
- Elev Add –Set this to zero initially
- Range – Zero Range
- Temp – Zero Temperature
- BP – Zero Barometric Pressure
- Humd – Zero Humidity
- Bearing – Zero Bearing (the direction your rifle was pointed when you zeroed)
- Latitude – Zero Latitude (your position north or south of the equator when you zeroed)

### ENVIRONMENT Screen:

- Bearing – the direction your rifle is pointed
- Latitude – our position north or south of the equator

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