



# PROMETHEUS PRO

## Thermal Imaging Monocular



## OPERATION AND MAINTENANCE MANUAL

**Important Export Restrictions!** Commodities, products, technologies and services of this manual are controlled by the U.S. Department of State Office of Defense Trade Controls, in accordance with International Traffic in Arms (ITAR), Title 22, Code of Federal Regulations Part 120-130 and/or by the Export Administration Regulations (EAR) of U.S. Department of Commerce. At any time when a license or a written approval of the U.S. Government is applicable to it, it is illegal and strictly forbidden to export, intend to export, transfer in any other manner whatsoever, sell any hardware or technical data, provide any associated service to any non-U.S. resident, beyond or within the United States territory, until the valid license or written approval has been issued by the Departments of the U.S. Government having jurisdiction. Additionally U.S. law prohibits the sale, transfer, or export of items to certain restricted parties, destinations, and embargoed countries, as identified on lists maintained by the U.S. Department of State, the U.S. Department of Commerce, and the U.S. Department of Treasury. It is the responsibility of the Customer to be aware of these lists. The sale, transfer, transportation, or shipment outside of the U.S. of any product prohibited or restricted for export without complying with U.S. export control laws and regulations, including proper export licensing, documentation or authorization, is unlawful and may result in civil and/or criminal penalties and/or constitute a federal crime. Diversion contrary to U.S. law is strictly prohibited.

## SAFETY SUMMARY

Before operating this product, carefully study this Operation and Maintenance Manual.

The Armasight Prometheus PRO Thermal Imaging Monocular is a precision electro-optical instrument and requires careful handling. To avoid physical danger to the user and damage to the equipment, follow all WARNINGS, CAUTIONS, and NOTES.

Below are definitions of the alerts that will appear throughout this Manual:

**WARNING** – Identifies a clear danger to the person operating the equipment.

**CAUTION** – Identifies risk of damage to the equipment.

**NOTE** – Highlights essential procedures, conditions, and statements, or conveys important instructional data to the user.

The information provided in this manual is for familiarization purposes only. The contents may undergo further changes with no commitment by Armasight® to notify customers of any updates.

Armasight® assumes no responsibility for any misprints or other errors that this manual may contain.

© Armasight Inc. 2015

**WARNING:**

**This product contains natural rubber latex, which may cause allergic reactions!** The FDA has reported an increase in the number of deaths that are associated with an apparent sensitivity to natural latex proteins. If you are allergic to latex, it is a good idea to learn which products contain it and strictly avoid exposure to those products.

**CAUTION:**

- Do not dismantle the equipment.
- Keep the equipment clean. Protect it from moisture, dramatic temperature changes, and electrical shocks.
- DO NOT force the equipment controls past their stopping points.
- DO NOT leave the equipment activated during breaks in operation.
- DO NOT store the equipment with the batteries installed.
- Thoroughly clean and dry each item before placing them into the storage case.

**CAUTION:**

To prevent thermal damage to the equipment, never point it, either on or off, directly at the sun or any other source of high intensity light that the unprotected human eye cannot tolerate (such as a welding arc). To prevent inadvertent exposure to these types of sources, never leave the equipment with the objective lens cap off.

**NOTES:**

- To avoid losing unsaved data, DO NOT remove the batteries or disconnect the external power source while the Prometheus PRO is on.
- Inadvertent sun damage is not considered a defect in material or workmanship, and is therefore **not** covered in the product warranty.

# LIST OF CONTENTS

TITLE	PAGE
<b>Safety Summary</b>	2
<b>List of Contents</b>	4
<b>List of Figures</b>	5
<b>List of Tables</b>	6
<b>How to Use This Manual</b>	6
<b>1. INTRODUCTION</b>	<b>7</b>
<b>1.1 General Information</b>	7
1.1.1 Type of Manual	7
1.1.2 Model Number and Equipment Name	7
1.1.3 Purpose of Equipment	8
1.1.4 Reporting Equipment Improvement Recommendations	8
<b>1.2 Warranty Information and Registration</b>	8
1.2.1 Warranty Information	8
1.2.2 Limitation of Liability	9
1.2.3 Product Warranty Registration	9
1.2.4 Obtaining Warranty Service	9
<b>1.3 List of Abbreviations</b>	10
<b>2. DESCRIPTION AND DATA</b>	<b>11</b>
<b>2.1 System Description</b>	11
<b>2.2 Specifications</b>	14
<b>2.3 Standard Components</b>	16
<b>2.4 Optional Equipment</b>	17
<b>2.5 Key Features</b>	18
<b>3. OPERATING INSTRUCTIONS</b>	<b>19</b>
<b>3.1 Installation and Mounting</b>	19
3.1.1 Battery Installation	19
3.1.2 Fastening an Advanced Wireless Remote Control	21
3.1.3 Installing Additional Equipment	21
3.1.4 Connecting an Additional Equipment	21
<b>3.2 Controls and Display Indications</b>	22
3.2.1 Controls	22
3.2.2 Main Menu	24
3.2.3 Display Indications	30
<b>3.3 Operating Procedures</b>	30
3.3.1 Operating	30
3.3.2 Prometheus PRO Shut-Down	33
<b>4. PREVENTIVE MAINTENANCE AND TROUBLESHOOTING</b>	<b>34</b>
<b>4.1 Preventive Maintenance Checks and Services</b>	34
4.1.1 Preventive Maintenance Checks and Services (PMCS)	34
<b>4.2 Operator Troubleshooting</b>	35
<b>4.3 Maintenance</b>	36
4.3.1 General	36
4.3.2 Cleaning Procedures	37

4.3.3 Battery Removal and Replacement	37
<b>4.4 Return Instructions</b>	<b>37</b>
<b>APPENDIX</b>	<b>39</b>
<b>A Product Warranty Registration Card</b>	39
<b>B List of Spare Parts</b>	41

## LIST OF FIGURES

FIGURE	TITLE	PAGE
2-1	Prometheus PRO Thermal Imaging Monoculars Appearance	11
2-2	System Description	13
2-3	Standard Components	16
2-4	Optional Equipment	17
3-1	CR123 Battery Installation	19
3-2	Removing of the Battery Insert	20
3-3	AA Battery Installation	20
3-4	Advanced Wireless Remote Control	21
3-5	Armasight Digital Recorder DT Installation	21
3-6	Video Cable	22
3-7	Controls	22
3-8	Button Control Panel	23
3-9	Main Menu Navigation Buttons	25
3-10	Main Menu	25
3-11	Palette Menu	25
3-12	Reticle Menu	26
3-13	Enhancement Menu	26
3-14	Digital Contrast Correction	26
3-15	Sharpness Correction	27
3-16	Smart Scene Optimization	27
3-17	Linear AGC Correction	27
3-18	"Sky/Sea" Preset	28
3-19	Store Image Menu	28
3-20	Settings Menu	28
3-21	Power Down Menu	29
3-22	Status View	30
3-23	Setting Buttons	31
3-24	Reticle Patterns	32
3-25	Browse Reticle in the Different Zooms	32
4-1	Advanced Wireless Remote Control Battery Installation	37
B-1	Prometheus PRO Spare Parts List	41

## LIST OF TABLES

TABLE	TITLE	PAGE
2-1	System Description	13
2-2	System Data	14
2-3	Optical Data	14
2-4	Electrical Data	15
2-5	Mechanical Data	15
2-6	Environmental Data	15
2-7	Advanced Wireless Remote Control (AWREC) Data	15
2-8	Standard Components	16
2-9	Optional Equipment	17
3-1	Controls and Indicators	23
3-2	Button Controls	24
4-1	Preventive Maintenance Checks and Services	34
4-2	Operator Troubleshooting	36
B-1	Prometheus PRO Spare Parts List	41

## HOW TO USE THIS MANUAL

### USAGE

You must familiarize yourself with the entire manual before operating the equipment. Read the entire maintenance checklist before performing maintenance. Follow all WARNINGS, CAUTIONS, and NOTES.

### MANUAL OVERVIEW

The Manual contains sections on operating and maintaining the Prometheus PRO Thermal Imaging Monocular.

Throughout this Manual, the Prometheus PRO Thermal Imaging Monocular will be referred to as the Prometheus, "the monocular," "the device," or "the equipment."

The Product Warranty Registration Card is in Appendix A.

A List of Spare Parts is in Appendix B.

# INTRODUCTION

## 1.1 GENERAL INFORMATION

### 1.1.1 TYPE OF MANUAL

Operation and Maintenance (including a List of Spare Parts).

### 1.1.2 MODEL NUMBER AND EQUIPMENT NAME

The equipment is available in the following versions that are structurally different in terms of thermal imaging cameras and objective lenses:

**Prometheus-Pro 336 2-8x30 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 30Hz Core, 30mm Lens

**Prometheus-Pro 336 2-8x30 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 60Hz Core, 30mm Lens

**Prometheus-Pro 336 4-16x50 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 30Hz Core, 50mm Lens

**Prometheus-Pro 336 4-16x50 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 60Hz Core, 50mm Lens

**Prometheus-Pro 336 8-32x100 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 30Hz Core, 100mm Lens

**Prometheus-Pro 336 8-32x100 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 336x256 (17μm) 60Hz Core, 100mm Lens

**Prometheus-Pro 640 1-8x30 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 30Hz Core, 30mm Lens

**Prometheus-Pro 640 1-8x30 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 60Hz Core, 30mm Lens

**Prometheus-Pro 640 2-16x50 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 30Hz Core, 50mm Lens

**Prometheus-Pro 640 2-16x50 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 60Hz Core, 50mm Lens

**Prometheus-Pro 640 4-32x100 (30 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 30Hz Core, 100mm Lens

**Prometheus-Pro 640 4-32x100 (60 Hz)**

Thermal Imaging Monocular, FLIR Tau 2 - 640x512 (17μm) 60Hz Core, 100mm Lens

### 1.1.3 PURPOSE OF EQUIPMENT

The Prometheus PRO family of Thermal Imaging Monoculars showcases the best and latest advancements developed by Armasight in the field of uncooled thermal imaging technology for the military, law enforcement, and commercial application.

Displaying the thermal differences in the scene, the high-performance thermal imaging system of the Prometheus PRO provides round-the-clock, all-weather detection and discrimination of heat-generating objects (such as animals), including those that are hidden. The Prometheus PRO series monoculars are effective at close and long ranges irrespective of light and weather conditions, i.e., in total darkness, through smoke, haze, fog, and light rain.

The Prometheus PRO is available in different versions with optical magnifications ranging from 1x to 8x. Prometheus PRO series also provides up to 8x digital zoom for models based on 640x512 cores and up to 4x digital zoom for models based on 336x256 cores.

Armasight has introduced a unique dual battery option for the Prometheus PRO Thermal Imaging Monocular consisting either of four 3.0VDC 123A batteries all oriented in the same direction to prevent confusion in replacement, or four 1.5VDC AA batteries pre-loaded in a cartridge. The Extended Battery Pack or 6VDC/600mA power source can also be used to power the Prometheus PRO.

The Prometheus PRO can be controlled by a wireless remote control.

The Prometheus PRO series monoculars are equipped with a standard NTSC/PAL video input/output function that makes it possible to connect to an external video display or monitor, or to record thermal images for field documentation or training purposes. It also allows the transmission of data from one remote display to that of the Prometheus PRO.

The Prometheus PRO can be used in conjunction with other Armasight equipment such as the Digital Video Recorder, Extended Battery Pack, or Laser Modular Range Finder, which can be mounted onto the Picatinny/Weaver rail of monocular.

Extremely reliable, the Prometheus PRO is the most versatile and sophisticated Armasight product for hunters, SWAT teams, and military personnel.

### 1.1.4 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS

User recommendations for improvements to the device are encouraged.

Mail your comments to:

Armasight Inc.  
815 Dubuque Avenue  
South San Francisco, CA 94080  
USA

Or, send an email to [info@armasight.com](mailto:info@armasight.com)

## 1.2 WARRANTY INFORMATION AND REGISTRATION

### 1.2.1 WARRANTY INFORMATION

This product is guaranteed to be free from manufacturing defects in material and workmanship under normal use for a period of three (3) years from the date of purchase. This warranty does not cover the battery or damage caused by leaking batteries. Nor does it protect against damage due to loss, misuse or mishandling. The uncooled thermal camera sensor is warrantied for a period of ten (10) years from the date of purchase.

In the event a defect that is covered by the warranty occurs during the 3 year period stated above, Armasight, at its option, will either repair or replace the product, and such action on the part of Armasight shall be the full extent of Armasight's liability, and the Customer's sole and exclusive remedy. This warranty does not cover a product (a) used in other than its normal and customary manner; (b) subjected to misuse; (c) subjected to alterations, modifications or repairs by the Customer or by any party other than Armasight without prior written consent of Armasight; (d) special order or "close-out" merchandise or merchandise sold "as-is" by either Armasight or the Armasight dealer; or (e) merchandise that has been discontinued by the manufacturer and either parts or replacement units are not available due



to reasons beyond the control of Armasight. Armasight shall not be responsible for any defects or damage that in, Armasight's opinion, is a result from the mishandling, abuse, misuse, improper storage or improper operation, including use in conjunction with equipment which is electrically or mechanically incompatible with or of inferior quality to the product, as well as failure to maintain the environmental conditions specified by the manufacturer.

This warranty is extended only to the original purchaser. Any breach of this warranty shall be waived unless the customer notifies Armasight at the address noted below within the applicable warranty period.

The customer understands and agrees that except for the foregoing warranty, no other warranties written or oral, statutory, expressed or implied, including any implied warranty of merchantability or fitness for a particular purpose, shall apply to the product. All such implied warranties are hereby and expressly disclaimed.

### **1.2.2 LIMITATION OF LIABILITY**

Armasight will not be liable for any claims, actions, suits, proceedings, costs, expenses, damages or liabilities arising out of the use of this product. Operation and use of the product are the sole responsibility of the Customer. Armasight's sole undertaking is limited to providing the products and services outlined herein in accordance with the terms and conditions of this Agreement. The provision of products sold and services performed by Armasight to the Customer shall not be interpreted, construed, or regarded, either expressly or implied, as being for the benefit of or creating any obligation toward any third party or legal entity outside Armasight and the Customer. Armasight's obligations under this Agreement extend solely to the Customer.

Armasight's liability hereunder for damages, regardless of the form or action, shall not exceed the fees or other charges paid to Armasight by the customer or customer's dealer. Armasight shall not, in any event, be liable for special, indirect, incidental, or consequential damages, including, but not limited to, lost income, lost revenue, or lost profit, whether such damages were foreseeable or not at the time of purchase, and whether or not such damages arise out of a breach of warranty, a breach of agreement, negligence, strict liability or any other theory of liability.

### **1.2.3 PRODUCT WARRANTY REGISTRATION**

In order to validate the warranty on your product, Armasight must receive a completed Product Warranty Registration Card for each unit, or the Customer can complete a warranty registration on our website at [www.armsight.com](http://www.armsight.com). Please complete the included form (Appendix A) and immediately mail it to our Service Center:

Armasight Inc.  
815 Dubuque Avenue  
South San Francisco, CA 94080  
USA

### **1.2.4 OBTAINING WARRANTY SERVICE**

To obtain warranty service on your unit, the End-User must notify the Armasight's service department in order to receive a Return Merchandise Authorization number (RMA#). The customer can do this by sending an email to [service@armsight.com](mailto:service@armsight.com).

When returning any product, please take or send the product, postage paid, with a copy of your sales receipt, to our service center, Armasight Inc. at the address noted above. All merchandise must be fully insured with the correct postage; Armasight will not be responsible for improper postage, or missing or damaged merchandise during shipment.

When sending merchandise back, please write the RMA# clearly on the outside of the shipping box. Please include a letter that indicates your RMA#, Name, Return Address, reason for service return, Contact information (such as a valid telephone number and/or e-mail address), as well as proof of your purchases that will help us to establish the valid start date of the warranty. Product merchandise returns that do not have an RMA listed may be refused or be subject to a significant delay in processing.

Estimated Warranty service time is 10-20 business days. The End-User/Customer is responsible for postage to Armasight for any warranty service. Armasight will cover return postage/shipping to continental

USA End-Users/Customers after warranty repair only if product is covered by the aforementioned warranty. Armasight will return the product after warranty service via domestic ground service and/or domestic mail. The postage and shipping fees for any other requested, required or international shipping methods will be the responsibility of the End-User/Customer.

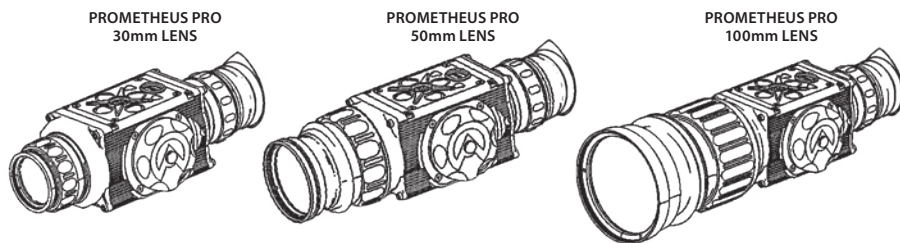
## 1.3 LIST OF ABBREVIATIONS

$\mu\text{m}$	micrometer
AWREC	Advanced Wireless Remote Control
C	Celsius (Centigrade)
CCW	counterclockwise
CW	clockwise
F	Fahrenheit
FL	Focal Length
g	gram
H	Height
hr	hour
in	inch
inf.	infinity
kg	kilogram
L	Length
lbs	pounds
m	meter
mA	milliampere
mil	angular mil
min	minute
mm	millimeter
MOA	Minute of Angle
mrad	milliradian
NO.	Number
NTSC	National Television Standards Committee
NUC	Non-Uniformity Correction
OEM	Original Equipment Manufacturer
oz	ounce
PAL	Phase Alternating Line
PMCS	Preventive Maintenance Checks and Services
RMA#	Return Merchandise Authorization number
sec	second
SEQ	sequence
SOA	Second of Angle
SR	Service Representative
UCMNUC/ FFC	User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction
V	Volt
W	Width

## DESCRIPTION AND DATA

### 2.1 SYSTEM DESCRIPTION

The Prometheus PRO consists of next primary parts: a body, a lens assembly, and an eyepiece assembly. The Figure 2-1 represents three versions of the equipment: with a 30mm focal length objective lens, with a 50mm focal length objective lens, and with a 100mm focal length objective lens.



**FIGURE 2-1. PROMETHEUS PRO THERMAL IMAGING MONOCULARS APPEARANCE**

The Prometheus PRO is a thermosensitive device. The Prometheus PRO senses differences in heat emitted by objects in its field of view, and converts temperature patterns into viewable images that represent the scene in contrasting black and white or color patterns, depending on the user's selected image palette.

#### **NOTE:**

It is important that the Prometheus PRO sensor receive sufficient thermal contrast between the target and background area, or between the different parts of the target. For example, the vast temperature contrast between snow and any heat target (such as an animal) makes it very easy to distinguish the target.

The main optical-electronic components of the Prometheus PRO include: an objective germanium thermal lens, an eyepiece, a thermal-imaging camera, a display, a control card, and a button control panel.

The Prometheus PRO is equipped with manual eyepiece and objective lens focusing. The Prometheus PRO Thermal Imaging Monocular includes simple and intuitive controls, functions, and features, such as direct button adjustments, direct combination button functions, and electronic menu selections.

To accommodate individual user needs, the Prometheus PRO has a variety of digitally controlled options such as:

- Digital Compass
- Digital Inclinometer
- Digital angle cosine indicator in %
- Display Brightness
- Palette Color Selection
- Digital Zoom
- Reticle ON/OFF Selection
- Reticle Color Selection
- Reticle Type Selection
- User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction (UCMNUC/ FFC)
- Imaging Enhancements
- Custom Settings

All Prometheus PRO series monoculars are based on FLIR Tau 2.7.2 or later cameras that allow for improvements in overall image quality in a wide range of dynamic thermal environments. The Prometheus PRO has employed special user-adjustable imaging tools that include:

- **Active Contrast Enhancement (ACE)** – a digital “Contrast” correction that allows for smart scene optimization based on dynamic adjustments, where a variety of contrast levels occur depending on relative scene temperature.
- **Second Generation Digital Detail Enhancement (DDE)** – a “Sharpness” correction that digitally enhances the picture, significantly sharpens edges, and further reduces image noise.
- **Smart Scene Optimization (SSO)** – a fine-tuning computational correction that significantly improves overall visual acuity for targets that have thermal signatures similar to the surrounding background.
- **Linear Automatic Gain Control (Linear AGC)** – a correction that used to automatically adjust the gain to an appropriate range, the weaker the image signal, the stronger the gain.
- **Information-Based Histogram Equalization (IBHEQ)** – a “Sky/Sea” preset – information-based environment dependent algorithm that automatically adjusts camera gain and excludes pixels determined to not contain critical information. Specifically helpful in scenes with great expanses of visible sky or water.
- **User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction (UCMNUC/ FFC).** There is a mechanical shutter between the camera sensor and the lens. This shutter is used to perform a non-uniformity correction (NUC), also known as flat-field correction (FFC). During FFC, the shutter presents a uniform temperature source to each detector element in the array. While imaging the flat-field source, the camera updates the offset correction coefficients, resulting in a more uniform image after the process is complete. All Helios models allow for user to manually trigger or interrupt scheduled UCMNUC/ FFC function.
- **Silent Shutterless NUC™ (SSN)** – In addition to User-Controlled Manual NUC/ FFC, all Zeus models employ a digital, supplemental, non-mechanical flat-field correction that extends periods between mechanical shutter events and further reduces image noise. SSN is an always ON enhancement.

The Prometheus PRO includes the ballistic drop reticles, electronic compass, and inclinometer for finer range estimation and target orientation. Information on the current operating state (digital compass and inclinometer data, battery status, active function, etc.) is continuously displayed, making field operation simple and convenient.

The Prometheus PRO is manufactured for exceptional durability, with a lightweight and robust aluminum body. A side Picatinny/Weaver rail allows for the installation of an optional Armasight Digital Video Recorder, extended battery pack, laser range-finder, or other equipment.

A standard NTSC/PAL video input/output connector enables an external video display (monitor/ TV) or video recorder to be connected to the Prometheus PRO. The Prometheus PRO is powered by four 3.0VDC 123A batteries, or four 1.5VDC AA batteries, both pre-loaded in a cartridge and facing the same direction.

Figure 2-2 shows the Prometheus PRO with 100mm lens. The ITEM NO. column of Table 2-1 indicates the number used to identify items in Figure 2-2.

**NOTE:**  
The example shown here and below is the Prometheus PRO with 100mm Lens.

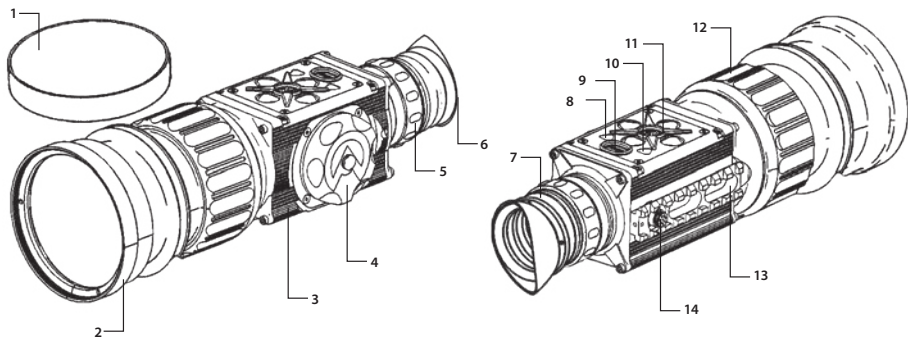


FIGURE 2-2. SYSTEM DESCRIPTION

TABLE 2-1. SYSTEM DESCRIPTION

ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Objective Lens Cap	8	Bluetooth Antenna
2	Objective Lens	9	POWER Button
3	Body	10	GPS Antenna
4	Battery Cap	11	Control Panel
5	Eyepiece Focus Ring	12	Objective Focus Ring
6	Eyecup	13	Side Picatinny/ Weaver Rail
7	Eyepiece	14	Connector

## 2.2 SPECIFICATIONS

**TABLE 2-2. SYSTEM DATA**

ITEM	PROMETHEUS PRO 336 2-8X30	PROMETHEUS PRO 336 4-16X50	PROMETHEUS PRO 336 8-32X100	PROMETHEUS PRO 640 1-8X30	PROMETHEUS PRO 640 2-16X50	PROMETHEUS PRO 640 4-32X100
Magnification	2x / 2.4x	3.3x / 4x	6.7x / 8x	1.1x / 1.3x	1.8x / 2.1x	3.5x / 4.2x
Objective Lens Type	Germanium					
Focal Plane Array	FLIR Tau 2					
Frame Rate	30 Hz or 60 Hz					
Pixel Array Format	336x256			640x512		
Pixel Size	17 µm					
Resolution	0.57 mRad (118 SOA)	0.34 mRad (70 SOA)	0.17 mRad (35 SOA)	0.57 mRad (118 SOA)	0.34 mRad (70 SOA)	0.17 mRad (35 SOA)
Display Type	AMOLED SVGA 060					
Pixel Display Format	800x600					
Display Brightness	Discretely Adjustable to 8 Levels					
Turn-on Time, max	3 sec					
Digital Zoom	up to 4x			up to 8x		
Digital Compass	Yes					
Digital Inclinometer	Yes					
Temperature Imaging Modes (Image Palettes)	White Hot, Black Hot, Sepia, Fusion, Rainbow, and Rain					
User-Adjustable Image Enhancement Tools	•Active Contrast Enhancement (ACE) - “CONTRAST” •Second Generation Digital Detail Enhancement (DDE) – “SHARPNESS” •Smart Scene Optimization (SSO) – “SMART SCENE” • Linear Automatic Gain Control - “LINEAR AGC” •Information-Based Histogram Equalization (IBHEQ) – “SKY/SEA” •User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction (UCMNUC/ FFC) •Silent Shutterless NUC™ (SSN)					
Reticle Type	10-Pattern Digitally Controlled: Dot 4 MOA, Line Dot, Cross Center Dot, Cross, Crosshair, MILBOX, MOA, MIL556, Browe, and TA31F					
Reticle Color	Black, White, Red, Cyan					
Analog Video Input/ Output Format	PAL (768x574 pixels)*/ NTSC (640x480 pixels)					

*\*Default setting (may be altered at the customer's request).*

**TABLE 2-3. OPTICAL DATA**

ITEM	PROMETHEUS PRO 336 2-8X30	PROMETHEUS PRO 336 4-16X50	PROMETHEUS PRO 336 8-32X100	PROMETHEUS PRO 640 1-8X30	PROMETHEUS PRO 640 2-16X50	PROMETHEUS PRO 640 4-32X100
Field of View (X/Y)	10.9° x 8.3°	6.5° x 5°	3.3° x 2.5°	20.8° x 16.6°	12.5° x 10°	6.2° x 5°
Objective Focal Length	30mm	50mm	100mm	30mm	50mm	100mm
Objective F-number	1:1.2	1:1.4	1:1.4	1:1.2	1:1.4	1:1.4
Focus Method	Manual					
Focusing Range	3m to inf.	5m to inf.	10m to inf.	3m to inf.	5m to inf.	10m to inf.

**TABLE 2-3. CONTINUED**

ITEM	PROMETHEUS PRO 336 2-8X30	PROMETHEUS PRO 336 4-16X50	PROMETHEUS PRO 336 8-32X100	PROMETHEUS PRO 640 1-8X30	PROMETHEUS PRO 640 2-16X50	PROMETHEUS PRO 640 4-32X100
Dioptr Adjustment	Manual					
Dioptr Adjustment	±5 diopter					

**TABLE 2-4. ELECTRICAL DATA**

ITEM	DATA
Battery	4 each 123A 3.0VDC or 4 each AA 1.5VDC
Battery Life at 20 °C (68 °F)	Up to 7 hrs
Extended Battery Pack	Two 18650 rechargeable batteries (3.7V), or four CR123 type rechargeable batteries with voltage 3.7V max, or four standard CR123A 3V Lithium batteries
External Power Supply	6 VDC/ 600mA

**TABLE 2-5. MECHANICAL DATA**

ITEM	PROMETHEUS PRO 336 2-8X30 PROMETHEUS PRO 640 1-8X30	PROMETHEUS PRO 336 4-16X50 PROMETHEUS PRO 640 2-16X50	PROMETHEUS PRO 336 8-32X100 PROMETHEUS PRO 640 4-32X100
Overall Dimensions	170x76x76 mm (6.7x3.0x3.0 in)	197x76x76 mm (7.5x3.0x3.0 in)	265x90x100 mm (10.4x3.5x3.9 in)
Weight (w/o Batteries)	0.68 kg (1.5 lbs)	0.95 kg (2.0 lbs)	1.3 kg (2.9 lbs)

**TABLE 2-6. ENVIRONMENTAL DATA**

ITEM	DATA
Operating Temperature	-51 to +57°C (-59 to +134°F)
Storage Temperature	-57 to +85°C (-70 to +185°F)
Recoil Resistance	0.50 BMG weapon shock and recoil
Environmental Rating	Waterproof, 20 meters immersion for 2 hours

**TABLE 2-7. ADVANCED WIRELESS REMOTE CONTROL (AWREC) DATA**

ITEM	DATA
Type	Wireless Remote Control
Working Range	Up to 0.5m
Battery	Single CR2032 Lithium battery (3V)
Battery Life at 20 °C (68 °F)	Approx. 10,000 clicks
Overall Dimensions	48x39x18 mm (1.9"x1.5"x0.7")
Weight (with Battery)	25 g (0.9 oz)
Operating Temperature	-30 to +50°C (-22 to 122°F)
Storage Temperature	-50 to +70°C (-58 to 158°F)
Environmental Rating	Water and Fog-Resistant

## 2.3 STANDARD COMPONENTS

The Prometheus PRO standard components are shown in Figure 2-3 and listed in Table 2-8. The ITEM NO. column indicates the number used to identify items in Figure 2-3.

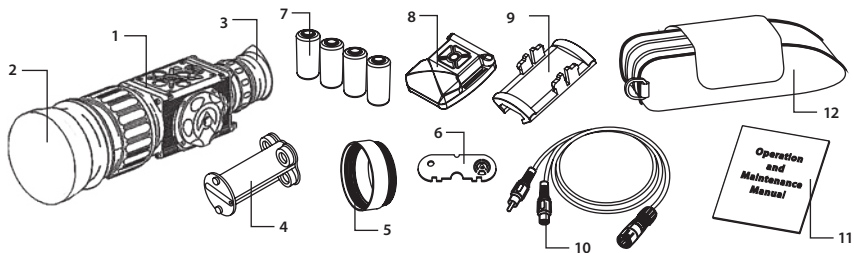


FIGURE 2-3. STANDARD COMPONENTS

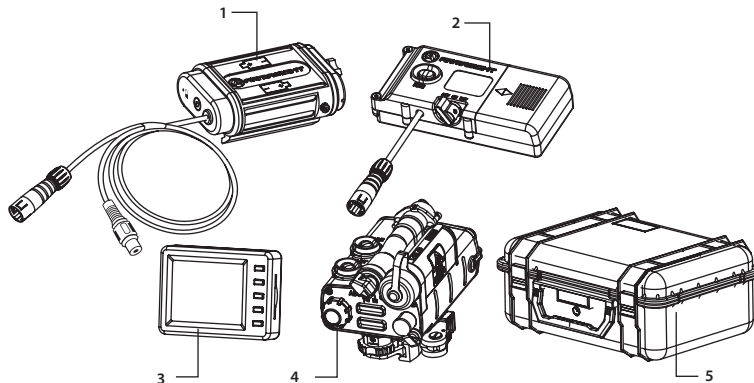
TABLE 2-8. STANDARD COMPONENTS

ITEM NO.	DESCRIPTION	QUANTITY
1	<b>Armasight Prometheus PRO Thermal Imaging Monocular</b>	1
2	<b>Objective Lens Cap</b> Securely protects the objective lens from dirt and mechanical damage, and provides thermal protection. Comes attached to the objective lens.	1
3	<b>Eyecup</b> A specially designed latex eyecup that reduces the amount of light that escapes from the eyepiece and prevents illumination of the user's face, minimizing the risk of detection. Comes attached to the eyepiece.	1
4	<b>Battery Cartridge</b> Intended for the installation of four AA batteries in the battery compartment.	1
5	<b>Battery Box Extender Ring</b> Extends the battery box for the installation of the battery cartridge with AA batteries.	1
6	<b>Armasight Key</b> A special key used to remove the battery cap insert.	1
7	<b>CR123A Lithium Battery</b> Four CR123A batteries, used to power the Prometheus PRO.	4
8	<b>Advanced Wireless Remote Control (AWREC)</b> Duplicates the functions of the control panel buttons. Comes with CR2032 (3V) battery installed.	1
9	<b>Picatinny Adapter for Advanced Wireless Remote Control</b> Allows the advanced wireless remote control to be installed on a Picatinny/Weaver rail.	1
10	<b>Video Cable</b> A cable used to connect the analog video input/output of the Prometheus PRO to external display devices (monitor/ TV) or power sources.	1
11	<b>Operation and Maintenance Manual</b> Provides safety information, equipment description, mounting procedures, operating instructions, and preventive maintenance checks and services.	1



# 2.4 OPTIONAL EQUIPMENT

Optional items are shown in Figure 2-4 and listed in Table 2-9.



**FIGURE 2-4. OPTIONAL EQUIPMENT**

The ITEM NO. column indicates the number used to identify items in Figure 2-4.  
The PART NO. column indicates the primary number used by the manufacturer, to identify an item.

**TABLE 2-9. OPTIONAL EQUIPMENT**

ITEM NO.	DESCRIPTION	PART NO.
1	<b>Extended Battery Pack</b> A power source for extended operational time. Takes four CR123A Lithium batteries (3V), CR123 rechargeable batteries (3.2V or 3.7V), or two 18650 rechargeable batteries (3.7V).	ATAM000008
2	<b>Digital Video Recorder DT</b> A compact digital system used for video recording, storage, and playback. Can also serve as an external power source. Equipped with a remote control.	ATAM000004
3	<b>HD DVR Digital Video Recorder</b> A compact digital system used for High Definition video recording, storage, and playback.	ATAM000005
4	<b>AMRF2200 Advanced Modular Range Finder</b> Module of a rangefinder is designed to determine the exact distance between the observer and the target. The measurement results are shown on the displays of module and in the device's FOV.	IALA00AMRF22001
5	<b>Hard Shipping/ Storage Case</b> A protective case used for the shipping/storage of the Prometheus PRO and its accessories.	ANH0000001

## 2.5 KEY FEATURES

- Multiple versions with optical magnifications ranging from 1x to 8x
- 24/7 Operation in presence of environmental obscurants (smoke, dust, haze, fog)
- Rugged MIL-STD-810 compliant performance
- Operates on 123A or AA batteries
- Objective Germanium Lens Options
- TAU-2 17µm Pitch Thermal Sensor
- SVGA 800x600 OLED Display
- Digital Compass
- Digital Inclinometer
- Digital Angle Cosine Indicator
- Battery Status Indicator
- Multiple User Selectable Ballistic and Quick Acquisition Reticules
- Selectable Reticule Color
- Selectable Palettes: White Hot/ Black Hot/ Sepia/ OEM Custom/ Other Color Variants
- Imaging Filter Algorithms:
  - Active Contrast Enhancement™ (ACE)
  - Smart Scene Optimization™ (SSO)
  - Information Based Histogram Equalization™ (IBHEQ)
  - Second Generation Digital Detail Enhancement™ (DDE)
  - Silent Shutterless Non-uniformity Correction™ (SSN)
- Wireless 5-button Remote
- Tracking Digital e-Zoom: 2x/ 4x/ 8x (640x512 only)
- Still Picture and Video Recording Capabilities (mounted DVR option)
- Analog video input and output (NTSC/PAL)
- Power input capability
- Serviceability under severe conditions
- Filled with dry nitrogen to prevent internal fogging
- Resistant to shock and recoil
- Waterproof
- Limited 3-year warranty
- 10-year warranty on FLIR detector
- Made in the USA

# OPERATING INSTRUCTIONS

## 3.1 INSTALLATION AND MOUNTING

### 3.1.1 BATTERY INSTALLATION

**CAUTION:**

Verify that the equipment is off before installing batteries.

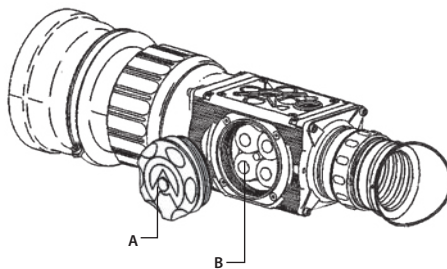
The Prometheus PRO is capable of operating on either four (4) CR123A 3.0VDC format lithium batteries OR four (4) AA 1.5VDC format batteries. Using the four (4) CR123A 3.0VDC batteries, the operator can expect approximately 6½ hours of continuous operation, contingent upon the quality and freshness of the batteries installed. Using the four (4) AA 1.5VDC batteries, the operator can expect approximately 3 hours of continuous operation, contingent upon the quality and freshness of the batteries installed.

**Please note** that regardless of installing CR123 or AA format batteries, the battery polarity orientation is ALWAYS the same for all of the batteries – positive terminal outboard (+ terminal toward the battery cap).

**INSTALLATION OF CR123A 3.0VDC BATTERIES:**

To install four (4) CR123A batteries, do the following (refer to Figure 3-1):

1. Unscrew the battery cap (A).
2. Insert the batteries (B) directly into the battery case with ALL positive terminals facing upward (or in the direction of the battery cap)
3. Replace the battery cap.



**FIGURE 3-1. CR123 BATTERIES INSTALLATION**

**NOTE:**

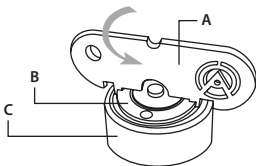
In a situation where fewer than four (4) CR123A batteries are available, the Prometheus PRO can operate, for a very limited time, on as few as one (1) CR123A battery installed in any of the battery slots.

## INSTALLATION OF AA 1.5VDC BATTERIES:

Install four (4) AA batteries as follows (refer to Figure 3-3):

In order to use four (4) AA batteries in the Prometheus PRO, it will be necessary to make a few minor adjustments and to use an AA cartridge device to hold the batteries in place. All of the necessary adapters, tools and equipment are included as standard kit items to perform this function.

1. Unscrew the battery cap.
2. Using the ARMASIGHT key (A, Figure 3-2), remove the battery cap insert (B, Figure 3-2) from the battery cap (C, Figure 3-2).



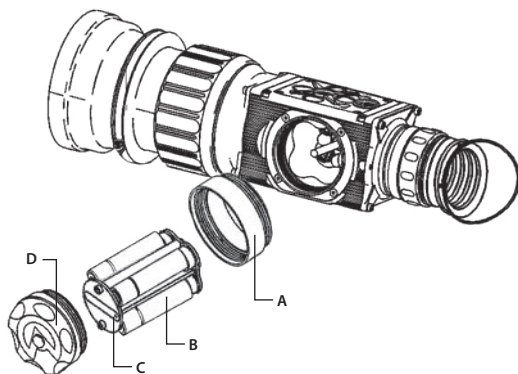
**FIGURE 3-2. REMOVING OF THE BATTERY INSERT**

3. Install battery box extender ring (A, Figure 3-3):
4. Insert four (4) AA batteries (B) into the battery cartridge (C) with all of the batteries oriented in the same direction. The negative (-) terminals should be against the cartridge springs.
5. Insert battery cartridge into the battery box.

### NOTE:

The cartridge will only fit in one orientation.

6. Replace the battery cap (D) by threading it into the battery case extender.



**FIGURE 3-3. AA BATTERIES INSTALLATION**

### NOTE:

In a situation where fewer than four (4) AA batteries are available, the Prometheus PRO can operate for a very limited time on as few as three (3) AA batteries installed in any of the battery cartridge slots.



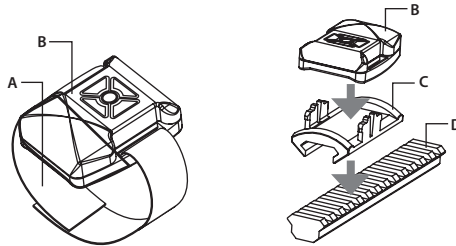
### WARNING:

Pay close attention to the AA battery orientation when installing them into the battery cartridge. Failure to do so will result in batteries overheating and possible damage to the cartridge.

### 3.1.2 FASTENING AN ADVANCED WIRELESS REMOTE CONTROL

Using the supplied Velcro tape (A, Figure 3-4), fasten the remote control (B) to an easily accessible place.

If your rifle has a Picatinny/ Weaver rail on the front end, you can use the Picatinny adaptor for the Advanced Wireless Remote (C). Install the adaptor onto the rail (D). Insert the remote control unit into the adaptor.



**FIGURE 3-4. ADVANCED WIRELESS REMOTE CONTROL**

### 3.1.3 INSTALLING ADDITIONAL EQUIPMENT

Use the side Picatinny/ Weaver rail to install any additional equipment, such as the Digital Video Recorder, a rangefinder, or the Extended Battery Pack.

### 3.1.4 CONNECTING AN ADDITIONAL EQUIPMENT

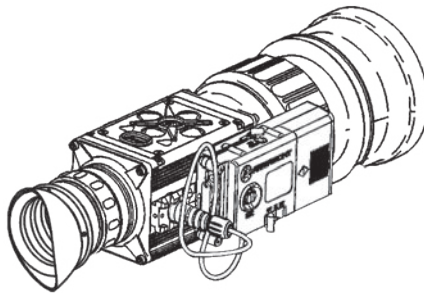
**CAUTION:**

Turn off the Prometheus PRO before you begin connecting/disconnecting any external equipment, and before removing the batteries.

Remove the protective cap from the connector.

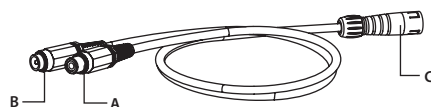
Connect the digital video recorder cable (Figure 3-5) or the Extended Battery Pack to the Prometheus PRO connector.

Use plug A (Figure 3-6) of the video cable to connect an external video recorder/ monitor/ TV to the Prometheus PRO. Connect plug C of the video cable to the Prometheus PRO connector.



**FIGURE 3-5. ARMASIGHT DIGITAL RECORDER DT INSTALLATION**

Use plug B of the video cable to connect an external power source (6VDC/ 600mA) to the Prometheus PRO. Connect plug C of the video cable to the Prometheus PRO connector.



**FIGURE 3-6. VIDEO CABLE**

**NOTE:**

The external power supply must have a standard, OD double-pole socket with a positive center contact.

**CAUTION:**

After removing the cable, replace the protective cap over the connector.

## 3.2 CONTROLS AND DISPLAY INDICATIONS

### 3.2.1 CONTROLS

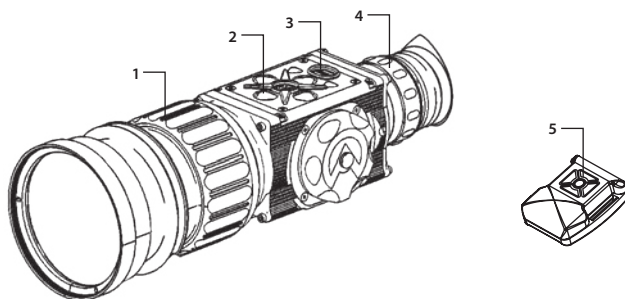
**CAUTION:**

DO NOT force the equipment controls past their stopping points.

The Prometheus PRO controls are shown in Figures 3-7 and 3-8 and are defined in Tables 3-1 and 3-2. The ITEM NO. columns of the tables indicate the numbers used to identify items in the figures.

**NOTE:**

Various display symbols indicating the current operating state of the Prometheus PRO can be displayed permanently, may appear momentarily, or can be set to appear only when a certain function is activated.



**FIGURE 3-7. CONTROLS**

**TABLE 3-1. CONTROLS AND INDICATORS**

ITEM NO.	CONTROL/INDICATOR	FUNCTION
1	Objective Focus Ring	Focuses the objective lens. Adjusts for the sharpest view of the scene. The total focus range is covered within 3/4 turns of the focus ring. Focus range is dependent on system magnification.
2	Control Panel Buttons	Configures operational settings. See Table 3-2 for button functions.
3	POWER Button	Turns equipment PRO ON when pushed, or turns the equipment OFF when held down for more than 3 consecutive seconds.  When the Prometheus PRO is operational, a single, quick push will take a still image.
4	Eyepiece Focus Ring	Adjusts the eyepiece diopter. The total diopter adjustment range is covered within 2 turns of the ring. The diopter range is -5 to +5 diopters.
5	Remote Control Buttons	A five-button wireless remote switch is included to operate and modify settings, in order to optimize the image. Duplicates the functions of the control panel buttons.
—	Battery Status Indicator (Battery icon in the top right corner of the display)	The color filled (green/ yellow/ red) bar in the battery icon indicates the current power level of the internal battery, or remaining battery life.  A fully shaded battery icon indicates a charged battery.  A flashing, transparent battery icon indicates low battery life and impending battery failure.

The Prometheus PRO button control panel is shown in Figures 3-8.

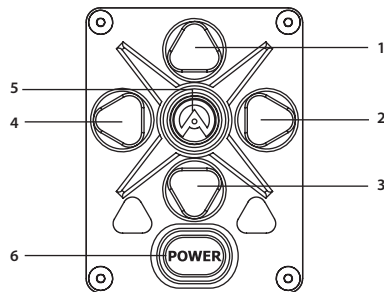
**FIGURE 3-8. BUTTON CONTROL PANEL**

Table 3-2 contains the button functions and their descriptions. The ITEM NO. column of the table indicates the number used to identify buttons in Figure 3-8.

**NOTE:**

Each button is responsible for different functions, which can be executed in one of three ways: a single push, holding the button down for 3+ seconds, or using a combination of two buttons. Pushing a button for 3+ seconds is considered holding it down.

**TABLE 3-2. BUTTON CONTROLS**

ITEM NO.	FUNCTION	DESCRIPTION
1, 3	DISPLAY BRIGHTNESS CONTROL	Push button (1) once to increase the screen brightness, or push button (3) once to decrease the screen brightness.
	IMAGE PALETTE CONTROL	To scroll up through the available palettes, hold down button (1) or (3) to scroll down or up respectively. There are 6 palettes available: White Hot, Black Hot, Sepia, Fusion, Rainbow, and Rain.
	USER-CONTROLLED MANUAL NON-UNIFORMITY CORRECTION/ FLAT-FIELD CORRECTION (UCMNUC/FFC)	Hold down buttons (1) and (3) simultaneously to use the User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction (UCMNUC/ FFC).
	UP, DOWN	Use the UP (1) and DOWN (3) buttons to navigate through the items in the menu.
2	DIGITAL ZOOM CONTROL	To change the zoom gradually, push button (2).
	RETICLE ON/ OFF	Hold down button (2) to turn the reticle ON or OFF.
4	RETICLE COLOR CONTROL	To change the reticle color, push button (4). There are four colors available: black, white, red, and cyan.
	RETICLE PATTERN CONTROL	To scroll through the reticle types, hold down button (4). There are variety of patterns of quick target acquisition and ballistic drop reticles.
	RETICLE POSITION ZEROING	Push down buttons (2) and (4) simultaneously to fully center the reticle.
2, 4	LEFT, RIGHT	Use the LEFT (4) and RIGHT (2) buttons to navigate through items in the menu.
	SELECTION	Push the SELECTION button (5) to view settings available for the item selected.
5	MAIN MENU	Holding down button (5) will bring up the Main Menu. The menu includes the following functions: Palette, Reticle, Enhancement, Store Image, Settings, and Power Down.
	UCMNUC/ FFC PROCESS INTERRUPTION	Pushing button (5) when the countdown is on the screen will cancel the UCMNUC/ FFC, and the shutter will not interrupt viewing.
6	TAKE IMAGE	Push POWER to turn the equipment on.
	POWER OFF	Holding down the POWER button down for 3+ seconds will turn off the equipment.

### 3.2.2 MAIN MENU

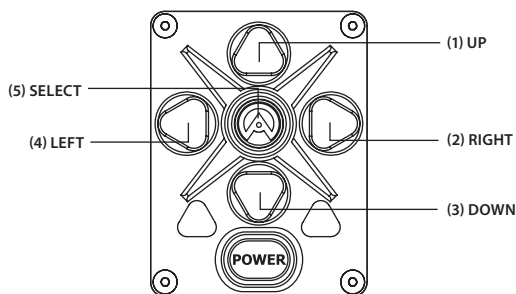
Most setup options can be accessed from the MAIN MENU.

To display the MAIN MENU, hold down the MENU button (5) on the control panel (Figure 3-9).

Once the MAIN MENU is displayed (Figure 3-10), use the UP(1) and DOWN (2) buttons (Figure 3-11) to navigate through the items on the menu.

Push the SELECT button to view the settings available for the item selected.





**FIGURE 3-9. MAIN MENU NAVIGATION BUTTONS**

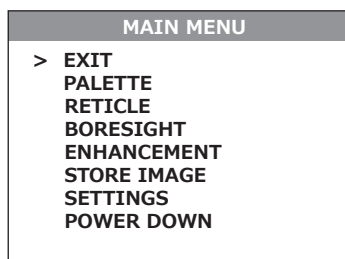
**NOTES:**

Navigate through submenu items by pushing UP (1) and DOWN (3), except where otherwise expressly indicated.

The LEFT (4) and RIGHT (2) buttons are only available when specified on the menu screen with < > symbols.

After a menu item is selected with an arrow pointer, push SELECT (5) to activate the selected function.

Select EXIT and then push SELECT (5) to return to the MAIN MENU.



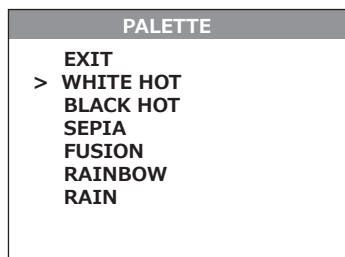
**FIGURE 3-10. MAIN MENU**

**Palette Menu**

The PALETTE menu (Figure 3-11) allows you to select from a choice of temperature imaging modes: White Hot, Black Hot, Sepia, Fusion, Rainbow, and Rain.

The palettes act as color templates for visualization of temperature changes in the scene.

To navigate through the items on the PALETTE menu, press the UP/DOWN buttons.



**FIGURE 3-11. PALETTE MENU**

**NOTE:**

The most popular palettes are White Hot and Black Hot, usually known as inversion. White Hot is best for spotting targets, and Black Hot is most useful for situational reading.

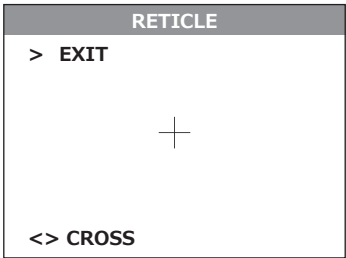
**NOTE:**

Training and experience are required to quickly and properly interpret thermal images.

**Reticle Menu**

The RETICLE menu (Figure 3-12) allows you to select a reticle from a variety of patterns: "Dot 4 MOA," "Line Dot," "Cross Center Dot," "Cross," "Crosshair," and ballistic drop reticles.

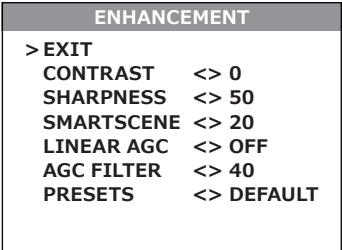
To navigate through items on the RETICLE menu, hold down the LEFT/RIGHT button.



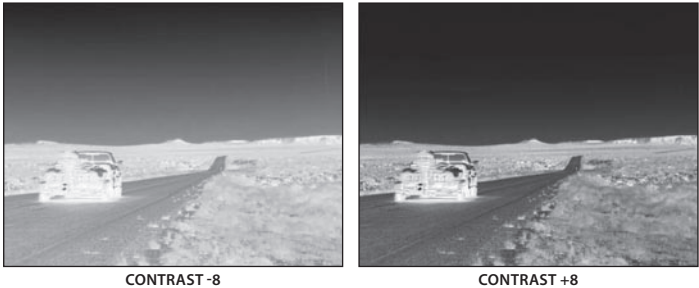
**FIGURE 3-12. RETICLE MENU**

**Enhancement Menu**

The ENHANCEMENT menu (Figure 3-13) settings allow the user to take advantage of advanced signal processing algorithms, and improve the quality of the image under a variety of different thermal environments.



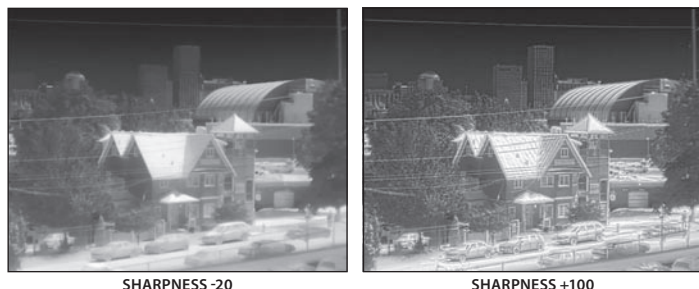
**FIGURE 3-13. ENHANCEMENT MENU**



**FIGURE 3-14. DIGITAL CONTRAST CORRECTION**

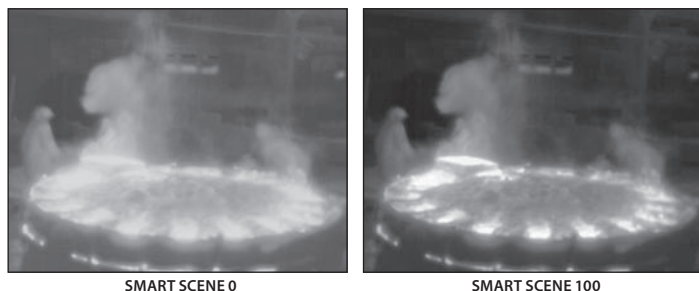
**CONTRAST** – Active Contrast Enhancement (ACE) – a digital contrast correction that allows for a smart scene optimization based on dynamic adjustments, where a variety of contrast levels occur. The adjustment range is from -8 to +8 with a default value of 0. Lower values will cause hotter objects to have greater contrast, and higher values will cause colder objects to have greater contrast.

**SHARPNESS** – Second Generation Digital Detail Enhancement (DDE) – a sharpness correction that digitally enhances the picture, significantly improving edge sharpening and further reducing image noise. The adjustment range is from -20 to +100, with a default value of 50. Lower values will create an image with softer edges. Higher values will make objects sharper, enhance details, and increase the signal-to-noise ratio.



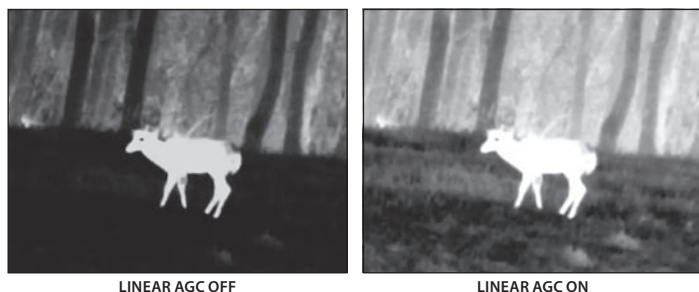
**FIGURE 3-15. SHARPNESS CORRECTION**

**SMART SCENE** – Smart Scene Optimization (SSO) – a fine-tuning computational correction that significantly improves overall visual acuity for targets with thermal signatures similar to the surrounding background. Higher values provide a more linear automatic gain control, and objects with similar, but not identical temperatures can be differentiated with greater accuracy. The adjustment range is from 0 to 100 with a default value of 20.



**FIGURE 3-16. SMART SCENE OPTIMIZATION**

**LINEAR AGC** – Linear Automatic Gain Control (LAGC) – a correction that used to automatically adjust the gain to an appropriate range, the weaker the image signal, the stronger the gain.



**FIGURE 3-17. LINEAR AGC CORRECTION**

**AGC FILTER** – Automatic Gain Control Filter (AGCF) – parameter that allows user to control the level of impact of AGC. A higher value corresponds to a more profound influence of the automatic gain control. The adjustment range is from 0 to 128 with a default value of 40..

**PRESETS** – a group of default settings for various environmental conditions that are optimized toward best camera performance: Default, Sky/Sea, Indoors, Outdoors, and Face.

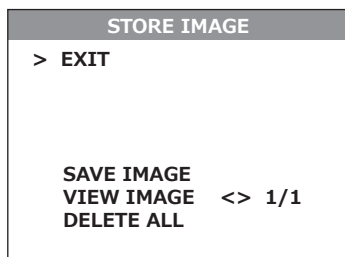
For example, turning the “Sky/Sea” preset will improve contrast, but at the possible loss of some scene content. This is especially helpful in scenes with great expanses of visible sky or water (Figure 3-18).



**FIGURE 3-18. “SKY/SEA” PRESET**

### Store Image Menu

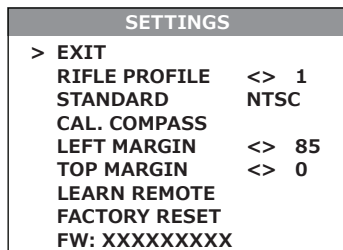
The STORE IMAGE menu (Figure 3-19) allows the operator to take, review, and delete all images in the camera. When previewing images, the image counter will show the current number of still images versus the total number of images in the camera.



**FIGURE 3-19. STORE IMAGE MENU**

### Settings Menu

The SETTINGS menu (Figure 3-20) allows you to change the contrast, brightness, video standard, compass calibration, and temperature scale settings (in certain models), as well as to restore the settings to their factory defaults. The Firmware (FW) revision number is listed at the bottom of the menu display.



**FIGURE 3-20. SETTINGS MENU**

#### RIFLE PROFILE

Supports 3 profiles with individual reticle and palette settings.

#### STANDARD

Changes the video output standard between NTSC and PAL.

#### CALIBRATE COMPASS

Select to calibrate the compass. When selected, rotate the camera in all directions for best calibration results.

#### LEFT MARGIN

Shifts the screen left to right.

#### TOP MARGIN

Shifts the screen up and down.

#### LEARN REMOTE

Learns the remote channel and encryption. Select this to pair a new remote with the camera. When pushed, the phrase PUSH ANY REMOTE KEY will appear. Push any button on the remote. When calibration is successful, the phrase LEARN SUCCESSFUL will appear.

#### FACTORY RESET

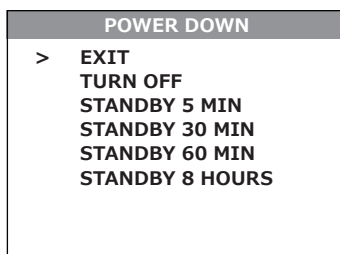
Resets the camera to factory defaults.

#### SOFTWARE VERSION

Software release versions are shown in alphanumeric format. To view, push SELECT.

### **Power Down Menu**

The POWER DOWN menu (Figure 3-21) allows the user to turn the camera off or to set it in standby mode so it can be activated from the wireless remote.



**FIGURE 3-21. POWER DOWN MENU**

#### **NOTE:**

To exit after completing the configuration, highlight EXIT on the MAIN MENU and push SELECT. All settings will be saved.

### 3.2.3 DISPLAY INDICATIONS

The screen status view (Figure 3-22) shows the status messages on the screen.

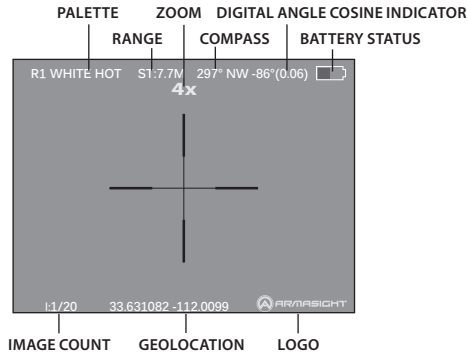


FIGURE 3-22. STATUS VIEW

## 3.3 OPERATING PROCEDURES

### 3.3.1 OPERATING

#### CAUTION:

DO NOT force the equipment controls past their stopping points.

#### CAUTION:

To prevent thermal damage to the equipment, never point it, either powered or not, directly at the sun or any other source of high intensity light that the unprotected human eye cannot tolerate (such as a welding arc). To prevent inadvertent exposure to these sources, never leave the equipment without the objective lens cap secured.

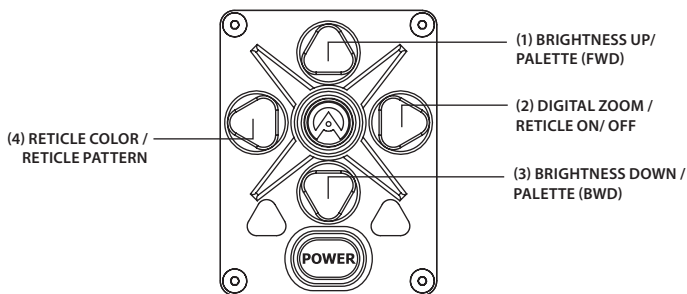
Operating procedures are as follows:

1. Remove the Prometheus PRO from the carrying case.
2. Remove the objective lens cap.
4. Point the equipment at an object.
5. Activate the Prometheus PRO by pressing POWER button. After approximately 3 sec, video of the thermal scene should appear.
6. Adjust the Prometheus PRO for your eyesight by turning the eyepiece focus ring CW up to the stop, and then CCW until the display and symbols (such as the reticle) are as clear as possible. Bring the object into focus by turning the objective focus ring (CW for far focus, CCW for near focus).

#### NOTE:

The total diopter adjustment range is covered with 2 turns of the eyepiece focus ring.  
The total focus range is covered with 3/4 turn of the objective focus ring.

8. Using the buttons on the control panel (Figure 3-23), configure the Prometheus PRO to adapt it to your situation.



**FIGURE 3-23. SETTING BUTTONS**

For more information on operational setting procedures, see Part 3.2 (Controls and Display Indications).

A. Adjust the brightness of the display for your comfort.

Push the brightness adjustment buttons to increase (1)/ decrease (3) the display brightness by one level at a time until you reach your desired brightness level.

B. Use the UCMNUC/FFC (User-Controlled Manual Non-Uniformity Correction/Flat-Field Correction) function to improve image quality. As the camera heats up during use, the detector pixels will drift. The pixels do not drift uniformly. The camera software compensates for the drift up to an accurate position point, but when the limit is reached the UCMNUC/FFC function is triggered. A uniform mechanical shutter is briefly placed between the lens and the detector and the signal is processed.

Hold down the two brightness control buttons (1 and 3) simultaneously to manually trigger a User-Controlled Manual Non-Uniformity Correction/ Flat-Field Correction.

If necessary, interrupt the automatic UCMNUC/FFC process by pushing the central button (5) on the control panel during the 5-second countdown, which appears at the bottom of the display.

C. Adjust the necessary adjustment using the MAIN MENU. See Part 3.2.2 (Using the MAIN MENU).

**NOTE:**

To exit after completing the configuration, highlight EXIT on the MAIN MENU and push SELECT. All settings will be saved.

D. Turns reticle ON/ OFF.

Hold down button (2) to turn reticle ON or OFF.

E. Select the color of the reticle.

Push the reticle color control button (4) to select among black, white, red, and cyan.

F. Select a reticle pattern.

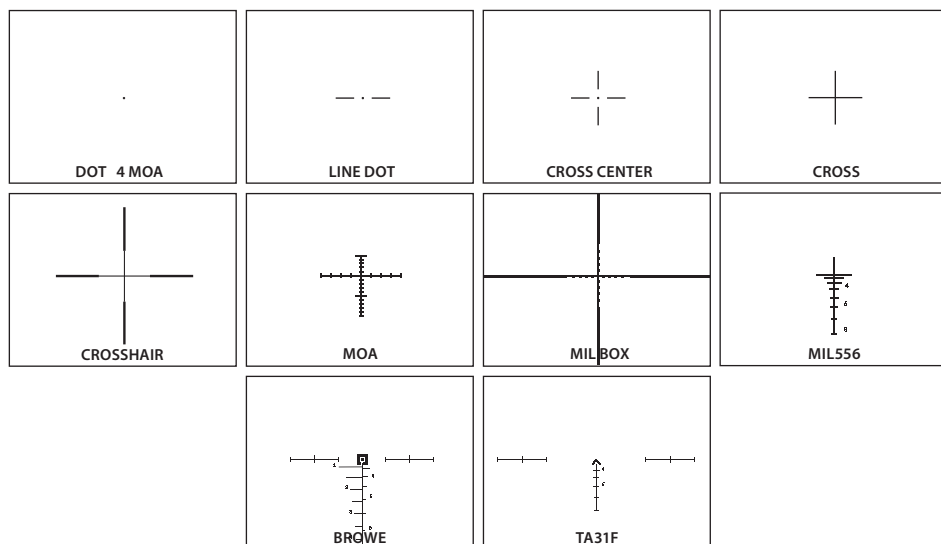
Hold down button (4) to select from a choice of reticle patterns (Figure 3-24).

**NOTE:**

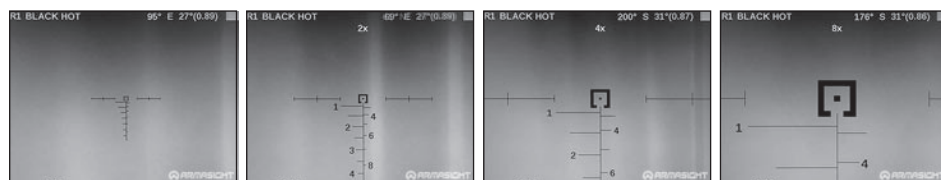
The reticles appear in the most recently saved position on the display.

G. Use digital zoom to magnify the central area of the displayed scene.

Push the zoom control button (2) to slowly magnify the displayed scene. The X2, X4, X8 symbols will appear in the top part of the display. Symbol X1 is not displayed. Maximum zoom factor is dependent on the equipment model.



**FIGURE 3-24. RETICLE PATTERNS**



**FIGURE 3-25. BROWE RETICLE IN THE DIFFERENT ZOOMS**

#### NOTES:

- Digital zoom and reticle color control help target detection and discrimination.
- Digital zoom allows distant objects to appear larger; however, the resolution will be compromised.
- The reticles will appear differently in the different zooms. The more detailed reticle will be presented in the maximal zoom. With lower zoom some of the components will downgrade.

#### NOTE:

The Prometheus PRO has a built-in GPS receiver and Bluetooth® wireless capability, and can directly interface with most Smartphones. GPS and Bluetooth® are activated automatically when the device is turned on.

#### CAUTION:

DO NOT leave the equipment activated when not in use.



### 3.3.2 PROMETHEUS PRO SHUT-DOWN

**NOTE:**

Shut down the Prometheus PRO properly to avoid losing unsaved settings and data.

Shut-down the Prometheus PRO as follows:

1. Be sure to save your settings and data.
2. Turn off the Prometheus PRO.
3. Replace the cap on the objective lens.
4. Disconnect the cable (if applicable).
5. Place the cap on the connector.
6. Remove the batteries.

**CAUTION:**

Do not store the Prometheus PRO with the batteries installed.

7. Store the Prometheus PRO and all accessories in the carrying case.

# PREVENTIVE MAINTENANCE AND TROUBLESHOOTING

## 4.1 PREVENTIVE MAINTENANCE CHECKS AND SERVICES

### 4.1.1 PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

Table 4-1 Preventive Maintenance Checks and Services (PMCS), has been provided so that you can keep your equipment in good operating condition.

Perform functional tests in the order listed in Table 4-1.

Operating procedures are detailed in Chapter 3.

#### Explanation of Table Entries:

**SEQ NO. column.** Sequence numbers are for reference and appear in the order required to perform checks and services.

**LOCATION OF ITEM TO CHECK/ SERVICE column.** Indicates the location and the item to be checked or serviced.

**PROCEDURE column.** Details the check/ service procedure.

**NOT FULLY MISSION CAPABLE IF... column.** Indicates what faults will prevent your equipment from operating successfully.

**TABLE 4-1. PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

SEQ NO.	LOCATION OF ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF...
PRE-OPERATIONAL CHECKS			
1	Completeness	Open storage/carrying case and inventory items by comparing with the data specified in this manual.	Missing items.
2	Soft Carrying Case	Shake out loose dirt or foreign material. Inspect for tears, cuts, excess wear or damage.	
3	Body	Inspect for cracks or damage. Scratches and gouges are OK if operation is not affected. Inspect for missing parts. Clean as required.	Cracked or damaged. Missing parts.
4	Objective Lens Cap	Inspect for cuts, tears and dirt. Clean as required.	Cap is torn or cut. Cap is not secured to the housing of the lens.
5	Eyecup	Inspect for cuts, tears and dirt. Inspect for torn, bent or improperly fitting eyecup. Clean as required.	Cup is torn or cut.

TABLE 4-1. CONTINUED

SEQ NO.	LOCATION OF ITEM TO CHECK/ SERVICE	PROCEDURE	NOT FULLY MISSION CAPABLE IF...
6	Battery Compartment and Cap	Inspect for corrosion, moisture, and corroded or defective contacts. Inspect for cap damage or retainer breaks. Inspect rubber gasket for damage.	Contacts are damaged or corroded. Retainer is broken. Cap or rubber gasket is damaged.
7	Lenses	Inspect for cleanliness, scratches, chips or cracks. Clean as required.	Chipped or cracked. Scratches hinder vision through the equipment.
8	Objective Focus Ring	Rotate objective focus ring to ensure it is not too tight or too loose. Range is approximately 3/4 turns.	Ring gets stuck, is too loose, or adversely affects the user's ability to properly focus the objective lens.
9	Eyepiece Focus Ring	Rotate eyepiece focus ring to ensure the ring is not too tight or too loose. Range is approximately 2 turns.	Ring gets stuck, is too loose, or adversely affects the user's ability to properly adjust the diopter.
10	Connector	Inspect for corrosion, moisture, and corroded or defective contacts. Inspect for cap damaged or retainer breaks.	Contacts are damaged or corroded. Cap is damaged. Retainer is broken.
11	Remote Control Unit	Check for damage and missing parts. Check Velcro tape for wear.	Damaged. Missing parts.
12	Video Cable	Inspect for damage. Inspect the cable connector for corrosion, moisture, and corroded or defective contacts. Clean as required.	Damaged.

## OPERATIONAL CHECKS

**NOTE:**

For a complete operational check, it is necessary to connect a video monitor to the Prometheus PRO.

13	Power Button	Install the batteries. Remove the objective lens cap. Point the equipment at an object. Turn the equipment on. Look for a thermal image on the display. Look for a flashing battery icon in the eyepiece viewing area.	No thermal image. Battery icon is flashing (indicates a low battery).
14	Control Board	Ensure the monocular is responsive to control buttons.	Unresponsive buttons.
15	Remote Control	Ensure the monocular is responsive to remote control buttons.	Unresponsive buttons.
16	Video Cable	Connect an external monitor to the monocular. Point the equipment on an object. Turn the equipment on. Look for an image on the monitor. Turn off the monocular. Disconnect the monitor.	No image.

## POST-CHECK PROCEDURES

Turn off the equipment.

Replace the objective lens cap.

Remove the batteries.

Return the equipment and all accessories to the carrying case.

## 4.2 OPERATOR TROUBLESHOOTING

The purpose of troubleshooting is to identify the most frequent equipment malfunctions, probable causes, and corrective actions required.

Table 4-2 lists the common malfunctions that may be found during the operation or maintenance of the Prometheus PRO. Perform the tests/inspections and corrective actions in the order listed.

**This table does not list all of the malfunctions that may occur with your device, or all of the tests and corrective actions that may be necessary.** If you experience an equipment malfunction that is not listed, or is not fixed by the corrective actions listed in the table, please contact Armasight's Customer Service center.

**TABLE 4-2. OPERATOR TROUBLESHOOTING**

MALFUNCTION	PROBABLE CAUSE/ TEST/INSPECTION	CORRECTIVE ACTION
The monocular fails to activate.	Batteries are missing or improperly installed.	Insert batteries or install correctly.
	Batteries are dead.	Replace the batteries.
	Batteries, surfaces or contacts are dirty or corroded.	Clean the contact surfaces with a pencil eraser and/or alcohol and cotton swabs.
	Remote control unit is damaged.	Please contact Customer Support.
	Remote control battery is dead.	Replace the battery as per Part 4.3.4.
The monocular is not responsive to control buttons.	The equipment is damaged.	Please contact Customer Support.
Remote control does not work.	Battery is missing or improperly installed.	Insert battery or install correctly.
	Battery is dead.	Replace the battery.
	Battery surfaces or contacts are dirty or corroded.	Clean the contact surfaces with a pencil eraser and/or alcohol and cotton swabs.
	Remote control unit is damaged.	Please contact Customer Support.
Poor image quality.	Check objective lens and eyepiece focus.	Refocus.
	Check for fogging or dirt on objective lens and eyepiece.	Clean the lenses as detailed in Part 4.3.2.
	The equipment is damaged.	Please contact Customer Support.
No image on an external monitor.	Video cable is damaged.	Replace the video cable with a new one. Please contact Customer Support.
	The equipment is damaged.	Please contact Customer Support.
Hindered rotation of the battery cap.	Dirty cap thread.	Clean the thread.
	Damaged cap thread.	Replace the cap with a new one. Please contact Customer Support.
Light is visible around eyecup.	Check eyecup resilience.	If the eyecup is defective, please contact Customer Support.

## 4.3 MAINTENANCE

### 4.3.1 GENERAL

The Prometheus PRO operator maintenance consists of operational tests, inspections for unit serviceability, cleaning and mounting procedures, corrective actions (troubleshooting and replacement of a limited number of parts). Maintenance instructions covered elsewhere in this manual (PMCS, troubleshooting, etc.) are not repeated in this section.

#### CAUTION:

The Prometheus PRO is a precision electro-optical instrument and must be handled carefully at all times to prevent damage.

#### CAUTION:

DO NOT dismantle the equipment.

### 4.3.2 CLEANING PROCEDURES

Clean the Prometheus PRO and optional items as follows:

1. Gently brush off any dirt from the equipment using only a clean, soft cloth.
2. Moisten the cloth with fresh water and gently wipe the external surfaces (except for optical surfaces).
3. Dry any wet surfaces (except for optical surfaces) with another clean, dry soft cloth.
4. Using a lens brush, carefully remove all loose dirt from optical surfaces (objective lens and eyepiece).
5. Dampen a cotton swab with ethanol. Gently and slowly wipe the optical surface. Clean the optical surface using circular movements from the center to the edge, not touching the lens holder and changing the cotton swab after each circular stroke. Repeat until the optical surface is clean.
6. Clean the battery contact surfaces and contact springs with a pencil eraser and/or alcohol and cotton swabs.

#### CAUTION:

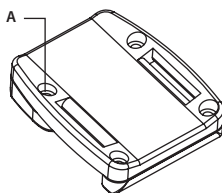
Thoroughly dry each item before replacing into the storage/carrying case.

### 4.3.3 BATTERY REMOVAL AND REPLACEMENT

Refer to Part 3.1.1 for battery installation procedures.

Replace the remote control battery as follows:

1. Using a screwdriver, unscrew the four screws (A, Figure 4-1) that secure the cover to the bottom of the unit. Remove the cover.



**FIGURE 4-1. ADVANCED WIRELESS REMOTE CONTROL BATTERY INSTALLATION**

2. Replace the battery with new one (CR2032, 3V). Install the battery, aligning their polarity markings (+/-) with those embossed on the compartment.
3. Replace the cover and tighten the screws (A).

## 4.4 RETURN INSTRUCTIONS

For service, repair or replacement, please email [service@armasight.com](mailto:service@armasight.com).

To assist the Service Representative (SR) with determining if the item is repairable, please provide the following information:

1. Serial Number of the defective item (engraved on bottom of the equipment).
2. Thorough description of the malfunction, defect or damage.
3. An explanation of how the malfunction, defect or damage occurred, if known.

If the SR determines that the item is under warranty or should be returned for repair, a Return Material Authorization number (RMA#) will be provided.

When returning the Prometheus PRO for service or repair, the following procedures should be followed to prevent any additional damage:

1. Make sure the monocular is free of all contaminants such as dirt or any other foreign material.
2. Remove the batteries.
3. Place the cap over the objective lens.
4. Place the monocular and accessories in the carrying case.

Place the monocular and a copy of the test report or detailed description of the failure in a suitable packing/shipping container. Mark the package with the RMA#. Ship the fastest, traceable, prepaid means to:

Armasight Inc.  
815 Dubuque Avenue  
South San Francisco  
CA 94080  
USA

## A. PRODUCT WARRANTY REGISTRATION CARD

In order to validate the warranty on your product, Armasight must receive a completed Product Warranty Registration Card for each unit, or the user must complete warranty registration on our website ([www.armsight.com](http://www.armsight.com)). Please complete the included form and immediately mail it to our Service Center:

Armasight Inc.  
815 Dubuque Avenue  
South San Francisco, CA 94080  
USA

### ARMASIGHT PRODUCT WARRANTY REGISTRATION CARD

#### PRODUCT INFORMATION

Product Name \_\_\_\_\_ Purchased From \_\_\_\_\_

Purchase Date \_\_\_\_\_ Product Serial # \_\_\_\_\_

#### CUSTOMER INFORMATION

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Country \_\_\_\_\_ Zip \_\_\_\_\_

Day Phone # \_\_\_\_\_ Home Phone # \_\_\_\_\_

E-mail address \_\_\_\_\_

.....  
Customer Signature Required

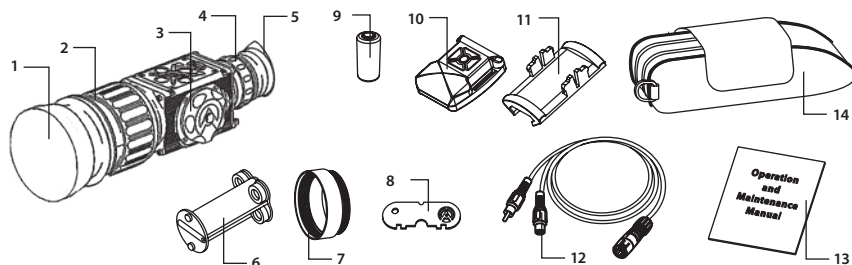




## B. LIST OF SPARE PARTS

The parts authorized by this list of spare parts are required for operator maintenance. The list includes parts that must be removed before replacing authorized parts.

The PART NO. column indicates the primary number used by the manufacturer, which controls the design and characteristics of the item in terms of its engineering drawings, specifications, standards, and inspection requirement, to identify an item.



**FIGURE B-1. PROMETHEUS PRO SPARE PARTS LIST**

**TABLE B-1. PROMETHEUS PRO SPARE PARTS LIST**

ITEM NO.	DESCRIPTION	PART NO.
1	30mm Objective Lens Cap	APRMPROLC30
-	50mm Objective Lens Cap	APRMPROLC50
-	100mm Objective Lens Cap	APRMPROLC100
2	30mm Objective Lens Assembly	APRMPROLA30
-	50mm Objective Lens Assembly	APRMPROLA50
-	100mm Objective Lens Assembly	APRMPROLA100
3	Battery Cap	APRMPRBC
4	Eyepiece Assembly	APRMPREPA
5	Eyecup	APRMPREC
6	Battery Cartridge	APRMPRBTCTR
7	Battery Box Extender Ring	APRMPRBBER
8	Armasight Key	APRMPRASK
9	CR123A Lithium Battery	ALT
10	Advanced Wireless Remote Control	ANVR000001
11	Picatinny Adapter for Advanced Wireless Remote Control	ANRA000002
12	Video Cable	APRMPRVCB
13	Operation and Maintenance Manual	APRMPROMM
14	Carrying Case	AGSC000009
15	Side Picatinny/Weaver Rail (not shown)	APRMPRRRL
16	Connector Cap (not shown)	APRMPRCNCP







Armasight Inc.

815 Dubuque Avenue  
South San Francisco  
CA 94080, USA

Phone: (888)959-2259

Fax: (888)959-2260

Intl Phone/Fax: (650)492-7755

[info@armasight.com](mailto:info@armasight.com)



**WARNING!**

**This product contains natural rubber latex which may cause allergic reactions!** The FDA has reported an increase in the number of deaths that are associated with an apparent sensitivity to natural latex proteins. If you are allergic to latex, it is a good idea to learn which products contain it and strictly avoid exposure to those products.

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