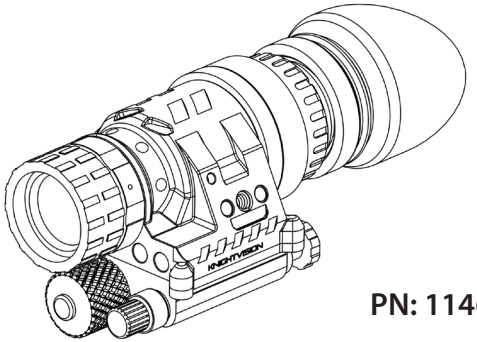
KVC
KNIGHT VISION

NVD-UM-0012

KVC M-14
MONOCULAR NIGHT VISION DEVICE



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OPERATORS MANUAL

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DUNS No. 05-403-8138
TIN: 59-1230657

phone (321) 607-9900
fax (321) 268-1498
701 Columbia Blvd.
Titusville, FL 32780

www.KnightArmCo.com

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WARNING

Do not carry batteries in pockets containing metal objects such as coins, keys, etc. Metal objects can cause the batteries to short circuit and become very hot.

Toxic Material

The image intensifier's phosphor screen contains toxic materials.

- If an image intensifier breaks, be extremely careful to avoid inhaling the phosphor screen material. Do not allow the material to come in contact with the mouth or open wounds on the skin.

- If the phosphor screen material contacts your skin, wash it off immediately with soap and water.

- If you inhale/swallow any phosphor screen material, drink a lot of water, induce vomiting, and seek medical attention as soon as possible.

The IR source is a light that is invisible to the unaided eye for use during conditions of extreme darkness. However, the light from the IR source can be detected by observing personnel with night vision devices.

WARNING

EQUIPMENT LIMITATIONS

- To avoid personal injury and property damage when using the MNVD carefully read and understand the following safety precautions.
- The MNVD requires some ambient light (moonlight, starlight, or artificial light, etc.) to operate. The level of performance depends on the level of light.
- Natural ambient light is reduced by passing cloud cover, while operating under trees, in building shadows, etc.
- The MNVD is less effective viewing into shadows and other darkened areas.
- The MNVD is less effective through rain, fog, sleet, snow, smoke, and other reflective material.
- The MNVD will not "see" through dense smoke.

CAUTION

- The MNVD is a precision optical instrument and must be handled carefully at all times to prevent damage.
- Be careful when leaving the helmet mount in the flipped up position or removing the helmet mount from the helmet as damage can result.
- To protect the image intensifier, keep the objective lens cap on when the monocular is not in use or when using the monocular is exposed in daylight conditions.
- The KVC M14 is not an aiming device, however it can be used in conjunction with a collimated dot sight when placed between the eye and the sight or laser aiming device.

NOTE

It is recommended that the eyecup be replaced with the shuttered eyeguard during firearm mounted use.

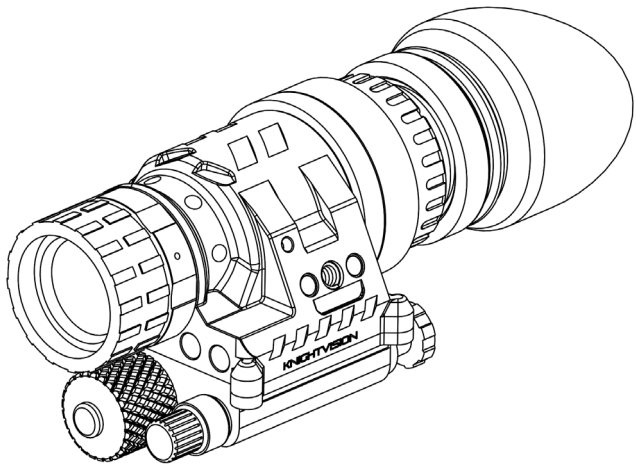
1. INTRODUCTION

1.1 GENERAL

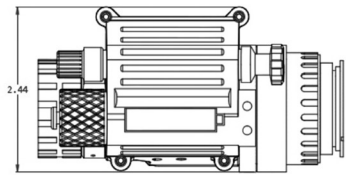
This manual provides operation and field level maintenance instructions for the KVC M-14 Monocular Night Vision Device (MNVD). It also provides specifications and data on the performance of the monocular. To ensure operator safety and the correct operation of the monocular it is recommended that users read this manual carefully.

The KVC M14 MNVD is a self-contained night vision device that enables improved night vision using ambient light from the night sky; typically the moon, star and/or sky glow. Optically, it is made up of an objective lens, image intensifier and eyepiece lens. The objective lens collects light reflected from the night scene by the moon, stars, or night sky, and then inverts the image and focuses that image on the image intensifier. The image intensifier converts the captured light into a visible image and reinverts the image which can then be viewed through the eyepiece lens.

In situations where there is no light at all the unit can be switched into the infrared (IR) mode. The KVC M14 is equipped with an infrared Light Emitting Diode (LED), enabling the unit to use this invisible light to provide an image. Some of these design features are the eye relief adjustment, diopter adjustment, gain control, and objective focus. Lightweight and versatile, the KVC M14 can be handheld, head-mounted, helmet-mounted, camera/camcorder adapted or mounted in conjunction with a aiming device.


KNIGHTVISION

The KVC M14 Monocular Night Vision Device (MNVD) is a rugged, versatile device for handheld, head mounted, or firearm mounted use. The MNVD has a rugged aluminum housing, machined from billet, and incorporates an innovative D-Collar that permits removal of the Objective Lens without full dis-assembly of the MNVD. The MNVD operates for 36-72 hours on a single AA battery. Battery life is highly influenced by the choice of image intensifier tube, battery type, and temperature. KAC offers a variety of accessory items that enhance the versatility of the MNVD and expand the unit's capability. Two of these MNVD's can be mounted on the KAC Universal Bridge to create a very rugged Binocular Night Vision Device (BNVD). The MNVD is furnished with a carrying case, lens caps, operator manual, cleaning kit, and batteries.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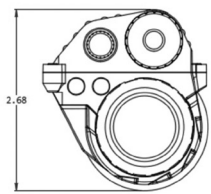
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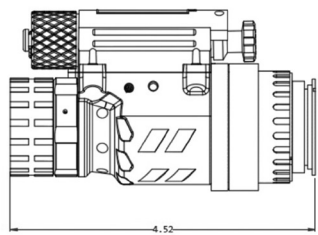
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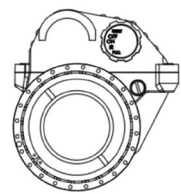

1.2 SYSTEM DESCRIPTION

SPECIFICATIONS	
SIZE	4.52" (115MM) LONG, 2.68" (68 MM) HIGH, 2.44"(62MM) WIDE
WEIGHT	0.78LBS. (0.35 KG)
FINISH	FLAT BLACK MATTE, CORROSION RESISTANT, ALTERNATE FINISHES AVAILABLE
CONTROLS	ON/OFF & BRIGHTNESS CONTROL
POWER	ONE AA SIZE BATTERY
BATTERY LIFE	36 TO 72 HOURS, DEPENDENT UPON TUBE MANUFACTURER
WATERPROOF	3 FT. FOR 4 HOURS
ACCESSORIES	SOFT CARRYING CASE, LENS PAPER, MANUAL, SPARE AA BATTERY, LENS CAP, EYECUP
OPTIONAL ACCESSORIES	UNIVERSAL BRIDGE, HVM SHOES, J-ARM, PICATINNY MOUNT, OBVERSE SHOE SET, 3X MAGNIFIER

OPTICAL CHARACTERISTICS	
LENS DESIGN	REFRACTIVE LENSES WITH BROAD BAND ANTI-REFLECTIVE COATING
FIELD OF VIEW	40 DEGREES
MAGNIFICATION	UNITY WITH AN OPTIONAL 3X AFOCAL MAGNIFIER
FOCUS RANGE	10 IN (25 CM) TO INFINITY
PERFORMANCE CHARACTERISTICS	
RANGE	RECOGNIZE A STANDING MAN UNDER CLEAR CONDITIONS: >300 M
WITH 3X MAGNIFIER	RECOGNIZE A STANDING MAN UNDER CLEAR CONDITIONS: >900 M
WEAPONS CERTIFICATION	TESTED FOR RECOIL UP TO AND INCLUDING .50 CALIBER RIFLES

1.3 ELECTRONIC CIRCUIT FUNCTION

The electronic circuit regulates the direct current voltage from the battery to the image intensifier and IR source as required. It also monitors the output voltage of the batteries and turns on a low battery indicator when the available battery voltage is 0.9 – 1.1 Vdc.

a. Power Source. The electronic circuit is powered by one AA lithium or alkaline battery.

b. The "OFF-ON-Pull IR" Switch is used to turn the system ON or OFF and to activate the IR illuminator by pulling and turning the switch past the ON position.

c. High Light Cut-Off. The monocular will automatically cut off after 70 ±30 seconds of operation in daylight or bright room light. Individual bright lights (headlights, flashlights, or other concentrated light sources) will not actuate the high light detector located on the front of the monocular. To turn the monocular back ON, turn the power switch to RESET/OFF position and then to ON again.

d. Low Battery Indicator. When blinking it indicates a low battery condition with less than 30 minutes of battery life remaining. It is visible through the eyepiece just outside the intensified field-of-view.

e. IR Source On Indicator. When illuminated it indicates that the IR source is ON. It is visible through the eyepiece just outside the intensified field-of-view.

f. Gain Control. Adjusts the system gain from a minimum value of approximately 25X to a maximum value greater than 3,000X.

WARNING

IR SOURCE OPERATIONS

The IR source is invisible to the naked eye, and is intended for use in extremely dark conditions. However, this light can be detected by other night vision devices.

NOTE

The built-in IR source is intended for viewing at close distances (up to 3 meters) when additional illumination is needed.

1. From the ON position, pull the power switch knob out and rotate it clockwise to the IR position. With the monocular held to the eye, verify that a red light appears in the eyepiece. This indicates that the IR source is operating.

2. For Momentary IR operation, turn the power switch clockwise (without pulling) past the ON position. Observe that a red light appears in the eyepiece. Do not use excess force when turning the switch to this position.

1.4 STANDARD KIT PARTS LIST

The MNVD includes the items shown in Figure 1-1. The major components are the monocular, and the carrying case. The standard KVC M14 kit comes with the items listed in the following table.

DESCRIPTION	PART NUMBER	QUANTITY
KVC M14 MNVD KIT	KAC 114624	1
OBJECTIVE LENS CAP	USG A3144264	1
RUBBER EYECUP	USG A3144422	1
LANYARD	USG A3144306	1
CARRYING BAG	USG A3187392	1
AA BATTERY	KAC 20299	2
LENS CLEANING KIT	KAC 26572	1
D-COLLAR M-14, ASSEMBLY	KAC 113305	1
HEX L-KEY,035"	KAC 113624	1
OPERATOR MANUAL	NVD-UM-0012	1

1.5 STANDARD KIT PARTS ILLUSTRATION

The illustration below is provided for quick identification of the standard parts of the KVC M14 kit.

Carrying Case. The carrying case (Figure 1-1) is provided for transportation and protection of the monocular, batteries and accessories. Two keepers are provided for belt attachment. A drain hole is provided at the bottom of the carrying case.

Monocular . The monocular (see Figure 1-2) consists of various components such as an objective lens, an image intensifier (not shown), an eyepiece lens and a rubber eyecup.

Figure 1-1, M14 MNVD Kit Parts

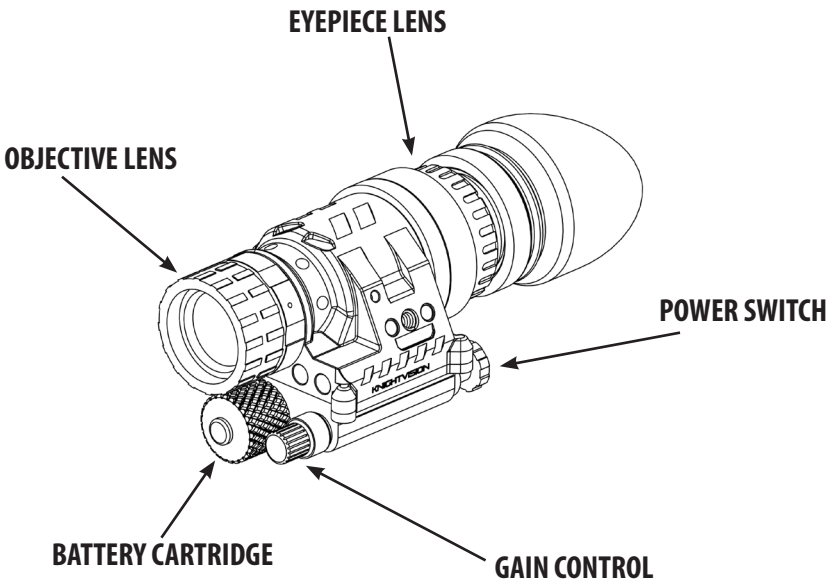

Figure 1-2, Monocular Night Vision Device

1.6 OPTICAL FUNCTIONS

The optical components include the objective lens, image intensifier and eyepiece lens (Figure 1-3). The objective lens collects light from the night scene, illuminated by the moon, stars, or night sky, inverts the image and focuses that image on the image intensifier. The image intensifier converts the captured light into a visible image and reinverts the image which can then be viewed, by the operator, through the eyepiece lens.

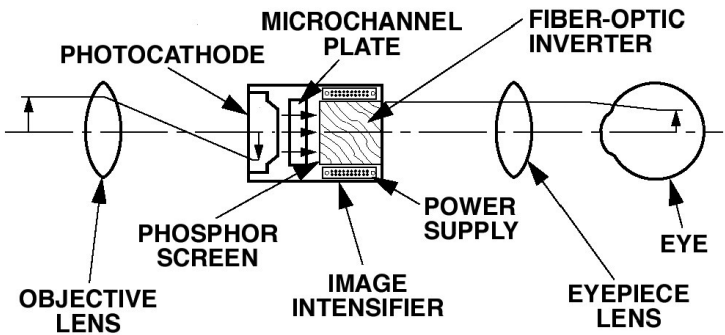

Figure 1-3, Optical Components

OPTICAL PERFORMANCE	
MAGNIFICATION	1.0X (3X WITH 3X MAGNIFIER)
FIELD OF VIEW	40 ° (13° WITH 3X MAGNIFIER)
DIOPTER FOCUS	+2 TO −6 DIOPTERS
OBJECTIVE FOCUS	9.8 IN (25 CM) TO INFINITY
ENVIRONMENTAL PERFORMANCE	
MONOCULAR OPERATING TEMPERATURE	-59.8° F TO 120.2° F (-51°C TO +49°C)
MONOCULAR STORAGE TEMPERATURE	-59.8° F TO 185° F (-51°C TO +85°C)
IMMERSION	3 FEET FOR 30 MINUTES
ILLUMINATION REQUIRED	OVERCAST STARLIGHT TO MOONLIGHT

ESTIMATED BATTERY LIFE

The expected operating time on a single AA battery varies greatly according to the battery type installed. The chart below compares AA Alkaline to AA Lithium L91 batteries, over temperature.

BATTERY LIFE	TEMPERATURE	NEGLIGIBLE IR SOURCE USAGE	IR SOURCE USAGE 10% OF THE TIME
AA ALKALINE	70° F (21° C)	60 HRS	55 HRS
AA LITHIUM L91	70° F (21° C)	70 HRS	65 HRS
AA ALKALINE	-4° F (-20° C)	12 HRS	10 HRS
AA LITHIUM L91	-4° F (-20° C)	60 HRS	55 HRS
AT OPERATING TEMPERATURES BELOW -20°C (-4°F), ALKALINE BATTERIES ARE NOT RECOMMENDED, AS OPERATING LIFE WILL BE SEVERELY REDUCED. LITHIUM-IRON DISULFIDE L91 1.5V AA BATTERIES SHOULD BE USED BELOW -20°C (-4°F)			

2. OPERATING INSTRUCTIONS

The MNVD is a precision electro-optical instrument, so handle it carefully. If the equipment fails to operate, refer to the Troubleshooting Procedures.

2.1 BATTERY INSTALLATION

Remove the Battery Cap by twisting in a counter-clockwise direction. Install a single AA size battery noting the position of the "+" terminal. Replace the Battery Cap, and tighten securely.

2.2 OPERATOR CONTROLS AND INDICATORS

The MNVD is designed to adjust for different users and corrects for most differences in eyesight. The controls and indicators for the MNVD are described in Table 2-1.

TABLE 2-1. MONOCULAR CONTROLS AND INDICATORS

CONTROLS AND INDICATORS	FUNCTIONS
POWER SWITCH	CONTROLS MONOCULAR AND IR SOURCE, ON AND OFF.
RESET/OFF	SAME AS SYSTEM OFF. ALSO RESETS MONOCULAR AFTER HIGH LIGHT CUT OFF.
ON	MONOCULAR ACTIVATED
IR/PULL	TURN THE KNOB CLOCKWISE TO MOMENTARILY ACTIVATE THE IR SOURCE. PULL AND TURN THE KNOB CLOCKWISE FROM THE ON POSITION TO CONTINUOUSLY ACTIVATE THE IR SOURCE.
IR SOURCE ON INDICATOR	WHEN ILLUMINATED IT INDICATES THAT THE IR SOURCE IS ON. IT IS VISIBLE THROUGH INTENSIFIED FIELD-OF-VIEW.
GAIN CONTROL	ADJUSTS THE SYSTEM GAIN FROM A MINIMUM VALUE OF APPROXIMATELY 25 TO A MAXIMUM VALUE GREATER THAN 3,000.
OBJECTIVE FOCUS	FOCUSES OBJECTIVE LENS. ADJUSTS FOR SHARPEST IMAGE OF VIEWED OBJECT.
DIOPTER ADJUSTMENT	FOCUSES EYEPIECE LENS FOR USE WITHOUT THE NEED FOR GLASSES. ADJUSTS FOR SHARPEST IMAGE OF INTENSIFIER SCREEN.
EYE RELIEF ADJUSTMENT	ADJUSTS THE DISTANCE BETWEEN YOUR EYE AND THE MONOCULAR.

Do not use excessive force to place the power switch into the momentary IR position.

2.3 PREPARATION FOR STORAGE

1. Perform the following to shut down the monocular.
    a. Turn the monocular OFF.
    b. Detach the monocular from the mount.

Do not carry batteries in pockets containing metal objects such as coins, keys, etc. Metal objects can cause the batteries to short circuit and become very hot when inserted into the device.

2. Packaging After Use.
    a. Remove the battery cap and battery.
    b. Inspect the battery housing for corrosion or moisture. Clean and dry if necessary.
    c. Replace the battery cap.
    d. If installed, remove the demist shield or sacrificial window. Replace the objective lens cap.

NOTE

Prior to placing the KVC M14 into the carrying case, verify that the KVC M14 and the case are both free of dirt, dust, and moisture. The monocular and helmet mount should not be left on the helmet when the helmet is removed.

e. Refer to Figure 2-1 for proper placement of the demist shield, battery, carrying case strap, lens paper, sacrificial window, manual, browpads, headmount, helmet mount, headmount/ helmet mount adapter and weapon mount.

f. Place the monocular into the shallow pocket of the carrying case.

g. Place the carrying case into the shipping and storage case; close and latch the case.

h. Return the case to the storage area.

2.4 OPERATION UNDER UNUSUAL CONDITIONS

OPERATION IN DUSTY OR SANDY AREAS

Operation in dusty or sandy areas can gouge and scratch the optical elements, and damage the mechanical components, unless the below precautions are observed.

1. Verify that the sacrificial window is in place.
2. Avoid pointing the monocular into the wind unless it is absolutely necessary.
3. Keep the carrying case closed unless removing or replacing items.
4. Ensure that all dust and sand is removed from the KVC M14 and carrying case after operation.

OPERATION IN RAINY OR HUMID CONDITIONS

Operation in rainy or humid conditions can cause corrosion and deterioration of the M14, unless the below precautions are observed.

1. Install the demist shield.
2. Keep the carrying case and the shipping and storage case closed unless removing or replacing items.
3. Dry the monocular, mounts, and accessories after exposure to rain or high humidity, and always before storage to prevent mildew from forming in the case.
4. Do not store the monocular in a wet carrying case or in a wet shipping and storage case.

OPERATION IN SALT WATER AREAS
After exposure to salt water, rinse the unit and accessories with fresh water.

3. TROUBLESHOOTING

Troubleshooting Procedures: This table lists common malfunctions which may occur with this equipment. Perform the tests, inspections, and corrective actions in the order they appear in table 3-1.

This table cannot list all the malfunctions that may occur, all the tests and inspections needed to find the fault, or all the corrective actions needed to correct the fault. If the equipment malfunction is not listed or actions listed do not correct the fault, notify your maintenance personnel.

TABLE 3-1. TROUBLESHOOTING

MALFUNCTION	TEST FOR INSPECTION	CORRECTIVE ACTION
MONOCULAR FAILS TO ACTIVATE	VISUAL. CHECK FOR DEFECTIVE, MISSING, OR IMPROPERLY INSTALLED BATTERY.	TURN SWITCH TO RESET/OFF POSITION AND THEN ON. REPLACE BATTERY OR INSTALL CORRECTLY.
IR SOURCE FAILS TO ACTIVATE	IN A DARK LOCATION WITH SYSTEM TURNED ON, ACTIVATE IR SOURCE. VISUALLY CHECK IR SOURCE OPERATION; SCENE SHOULD BRIGHTEN.	IF KVC M14 STILL FAILS TO ACTIVATE, REFER TO HIGHER LEVEL MAINTENANCE.
IR SOURCE INDICATOR FAILS TO ACTIVATE	VISUAL	REFER TO HIGHER LEVEL MAINTENANCE.
POOR IMAGE QUALITY	CHECK OBJECTIVE LENS OR EYEPIECE. CHECK FOR FOGGING OR DIRT ON OBJECTIVE LENS. CHECK EYE RELIEF DISTANCE.	REFOCUS. CLEAN LENS SURFACE READJUST FOR PROPER EYE RELIEF DISTANCE.
LIGHT VISIBLE AROUND EYECUP	CHECK EYECUP FOR RESILIENCY.	IF EYECUP IS DEFECTIVE REFER TO HIGH LEVEL MAINTENANCE FOR REPLACEMENT.
DIOPTER ADJUSTMENT CANNOT BE MADE.	CHECK TO SEE IF THE DIOPTER ADJUSTMENT IS BENT OR BROKEN.	IF DAMAGED, REFER TO HIGHER LEVEL MAINTENANCE.

APPENDIX A: OPTIONAL ACCESSORIES

KVC UNIVERSAL BRIDGE ASSEMBLY, PN: 111793

The Universal Bridge is a lightweight (96g), highly adaptive interface component for use with a variety of image intensified, DVO, or digital systems. Adaptable to a wide range of legacy electro-optic devices via common shoe-type interface, or modification adapter (PVS 14/MUM/MINI-NSEAS) hardware. Designed for a multitude of devices and mission options, single bridge allows use with the PVS-14, MUM, and monocular thermal systems. Convert to various devices in seconds, via adaptive shoe-type components. Exceeds all present manufacturer's inter-pupillary adjustment, weight, and modularity at lower cost than competing systems. Adjusts for helmet standoff, inter-pupillary distance, helmet mount drop, and helmet interface wobble adjustment.

KVC JAMR ASSEMBLY, PN: 111789

The JAMR is a lightweight, bilateral, highly adaptive interface device which optimizes use of various image intensified, DVO, or digital systems. Compatible/adaptive to an expanding range of legacy electro-optic devices to include the PVS-14, MUM and various digital formats. Manufactured with materials to capitalize on weight/performance, to include titanium, 7075AL and polymers optimizing strength and reliability. The JAMR provides one-handed adjustments for multi-axis adjustments without typical eye-box position limitations. The JAMR extends adjustability, modularity, and utility beyond currently offered OEM products for both analog and digital imaging products.

KVC OBVERSE SHOE SET KIT, PN: 111782

The OSS (Obverse Shoe Set kit) is a two-part user level modular upgrade for the PVS-14 format monocular. No modifications to the legacy monocular, special tools or training are required for an OSS upgrade which takes minutes. The OSS upgrade maximizes interface options for virtually any standard dovetail receiver allowing matrix level interchangeability between optics and components. Included in the kit are both a top oriented helmet shoe which secures via a patented collar system and a bottom-oriented weapon shoe which affixes directly to the resident 1/4"- 20 standard receiver. Either or both shoes may be used for obverse mounting on a single monocular or the kit may be split between separate monoculars. The matched height/offset of the shoes allows adaptability in several configurations.

PARASITIC WEAPON MOUNT-STATIC, PN:111785

The PWM-S (Parasitic Weapon Mount-Static) Provides a modular addition to the OEM/ legacy PVS-14 weapon mount (P/N A3256348), the PWM-S conversion is a fast-attach/ detach enhancement allowing shoe-based transitions from head-weapon needs. When partnered with dovetail type helmet/head-borne optics, the PWM-S enables various monoculars, magnifiers and imaging devices to transition without a screw-in decouple burden. The PWM-S positions supporting optics to the typical above-rail operational height for cooperative alignment while maintaining modular alignment. A reversible design allows various non-standard application and further use options.

HVM SHOE SET, PN: 111787

HVM is a two-shoe kit that supports various non-OEM chassis systems as well as the KVC M14 modular monocular housing as a multi-sided dovetail interface. The top/helmet shoe affixes securely via anchor hardware for head-borne use, while the bottom/weapon shoe adapts to the legacy thread station. The kit may be divided between two separate monoculars. The HVM is not for use with typical/ legacy upper monocular housings. See KVC OSS for adaptation options for legacy monocular devices.

K-CLIP SHOE SET, PN: 113309

K-Clips are intended for open source/universal type adaptation in which conversion from a legacy style MUM type interface plate is converted to a modern more versatile dovetail style receiver. The K-Clip adapts in seconds with no modification to the optical device. The use of a standard single point hex set screw secures the K-Clip firmly. Highly adaptive, the K-Clip set can be used individually as an opposing pair aboard one monocular, or as a set split between two monocular devices for side by side use. K-Clip sets include two (2) individual dovetail adapters, one offset left/one offset right. The K-Clips are designed as head borne adapter components. Although the K-Clips may absorb significant weapon shock the host optic anchor points may not suffice for such duties. Ensure your optic manufacturer has rated both your optic and interface point on your optic specific to your needs before use.

APPENDIX B: GLOSSARY

BLACK SPOTS: These are cosmetic blemishes in the image intensifier of the MNVD or dirt or debris between the lenses.

BRIGHT SPOTS: These defects can appear in the image area of the MNVD. This condition is caused by a flaw in the film on the microchannel plate. A bright spot is a small, nonuniform, bright area that may flicker or appear constant. Bright spots usually go away when the light is blocked out and are cosmetic blemishes that are signal induced.

CAUTION: Condition, practices, or procedures that must be observed to avoid damage to equipment, destruction of equipment, or a long-term health hazard.

CHICKEN WIRE: An irregular pattern of dark thin lines in the field-of-view either throughout the image area or in parts of the image area. Under the worst case condition, these lines will form hexagonal or square-wave shaped lines.

DARK (OR DARK AREA): A place in which there is very little light. It does not mean total darkness. Generally, this means conditions similar to a quarter-moon or starlit night. Overhead foliage can create this condition.

DARK-ADAPTED: Having ones eye adjusted to the monocular's output under low light conditions. This takes at least 10 minutes. However, if you have just been exposed to bright sunlight, dark adaptation will take longer.

DIOPTER: A unit of measure used to define eye correction. Adjustments to the diopter adjustment will provide a clearer image in each eye.

EDGE GLOW: This is a defect in the image area of the monocular. Edge glow is a bright area (sometimes sparkling) in the outer portion of the viewing area.

EMISSION POINT: A steady or fluctuating pinpoint of bright light in the image area and does not go away when all light is blocked from the objective lens of the monocular. The position of an emission point within the image area of the monocular does not move. An emission point should not be confused with a point light source in the distance.

FIXED-PATTERN NOISE: This is a cosmetic blemish in the image area characterized by a faint hexagonal (honeycomb) pattern throughout the viewing area that most often occurs at high light levels or when viewing very bright lights. Fixed-pattern noise is inherent in the structure of the fiber optics and can be seen in every image intensifier if the light level is high enough.

FLASHING: This is a defect in the image area of the monocular. The image appears to flicker or flash. If there is more than one flicker, check for loose wires, loose cap, or weak batteries.
FLICKERING. See "flashing."

GAIN: This is the number of times a night vision device amplifies light input.

IMAGE INTENSIFIER: An electro-optical device that detects and amplifies ambient light to produce a visual image. It consists of a photocathode, microchannel plate, phosphor screen optic, and integral power supply.

INFINITY FOCUS: Adjustment of the objective lens so that a distant object, such as a star or the point light on a distant tower, forms the sharpest image.

INTERMITTENT OPERATION: This is a defect in the image area of the monocular. See "flashing".

IR SOURCE: This is an IR Light Emitting Diode (LED). When turned on, the IR source provides additional illumination to enhance existing light conditions used only for performing nearby tasks. This illumination is visible to other night vision devices.

MICROCHANNEL PLATE: A current-multiplying optical disk that intensifies the electron image produced by the photocathode.

NOTE: Essential information of special importance, interest, or aid in job performance.

OBJECTIVE LENS: This consists of an objective lens cell and an objective focus ring. It attaches to the front of the monocular and adjusts for variations in distance to the viewed area or object.

PHOTOCATHODE: The input optic of an image intensifier that absorbs light energy and in turn releases electrical energy in the form of an electron image.

SCINTILLATION: A faint, random, sparkling effect throughout the image area. Scintillation is a normal characteristic of the image intensifier and should not be confused with emission points. Scintillation is more pronounced under low light conditions. Also called "video noise".

SHADING: The viewed image should be a full circle. If shading is present, you will not see a fully circular image. Shading is indicative of a dying photocathode and is caused by a defective vacuum seal of the image intensifier. Shading is very dark and you cannot see an image through it.

WARNING: Conditions, practices, or procedures that must be observed to avoid personal injury or loss of life.

KVC

KNIGHT VISION

ITAR

International Traffic in Arm Regulations

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