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Find the *FJW Optical Systems 84499A* at our website: ***Click HERE***

84499 Series July_02_2007

WARRANTY

FJW OPTICAL SYSTEMS INC. warrants the FIND-R-SCOPE® (exclusive of batteries) to be free from defects in workmanship and material. This obligation shall be limited to the repair and/or replacement (at FJW OPTICAL SYSTEMS, INC. option) of articles or parts for which notice of defect is given in writing by the purchaser to FJW OPTICAL SYSTEMS, INC. within ninety (90) days from the date of shipment to the purchaser. FJW Optical Systems, INC obtains it's image converter tubes used in the FIND-R-SCOPE® from a variety of sources including new manufacture and surplus government stores. Additionally, FJW OPTICAL SYSTEMS, INC. warrants the Infrared Image Converter Tube and FIND-R-SCOPE® Power Supply and optics (excluding Tube breakage) to be free from defects for a period of 18 months. This additional obligation Is limited to the repair and/or replacement (at FJW OPTICAL SYSTEMS, INC. option) of these items. The notice of defect must be given in writing by the purchaser to FJW OPTICAL SYSTEMS, INC. within 18 months from the date of shipment to the customer. This warranty is in lieu of all other warranties and expresses the sole liability of FJW OPTICAL SYSTEMS, INC. with respect to the product.

Other FIND-R-SCOPE® Product Lines:

FIND-**R**-SCOPE®	Infrared viewer with IR light source
FIND-**R**-SCOPE®	1800 & 2200 camera/viewers
FIND-**R**-SCOPE®	Infrared video system & monitor
FIND-**R**-SCOPE®	Helmet & microscope units
FIND-**R**-SCOPE®	UV viewers
FIND-**R**-SCOPE®	Electronic infrared viewer
FIND-**R**-SCOPE®	Thermal infrared viewer/camera
and	The Speckle Buster®.

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Palatine, Illinois 60067
Tel: 847-358-2500
Fax: 847-358-2533
E-mail: irsales@findrscope.com
Web: www.findrscope.com

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FIND-R-SCOPE®

USER'S MANUAL

Applicable to the following models:
FJW #84499(A).....1350 nm
FJW #84499(A)-5.....1550 nm

Note: The optional "A" after #84499 signifies use of the #61896 tube.

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INTRODUCTION

Your new FIND-R-SCOPE® is a wide angle, monocular, near-infrared viewer with a focal range from six (4) inches to infinity. It is fabricated of rugged polycarbonate with aluminum housed precision ground optics eyepiece and objective lenses, and consists of several major components which are listed on the following page. Preassembled, tested, and ready for use, the FIND-R-SCOPE® infrared viewer should provide many years of trouble-free operation.

OPERATING PROCEDURE

To view any object, it must emit, or be illuminated by, some quantity of visible or infrared light. Incandescent lights and daylight are both acceptable for checking instrument operation. **CAUTION: .Viewing excessively high powered light may damage the FIND-R-SCOPE® image tube.**

1. Unscrew the End Cap Assembly and insert enclosed “C” cell battery ***(+ side down)****;* re-assemble.

2. Remove the lens cap.

3. Turn the viewer switch on. ON is located in the upper position, OFF is located in the lower position.

4. Pre-focus the eyepiece lens by rotating the rubber portion to clarify the phosphor screen “grain” of the image tube.
   CAUTION: Rotating the eyepiece beyond the point of easy movement may damage the image tube.

5. Direct the viewer towards the illuminated object and look through the eyepiece lens.

6. Focus the objective lens by rotating the lens to obtain the clearest and sharpest image possible.

7. Repeat STEP 4 to fine-focus and maximize image clarity.

8. Be sure to turn viewer switch OFF (lower position) when not in use.

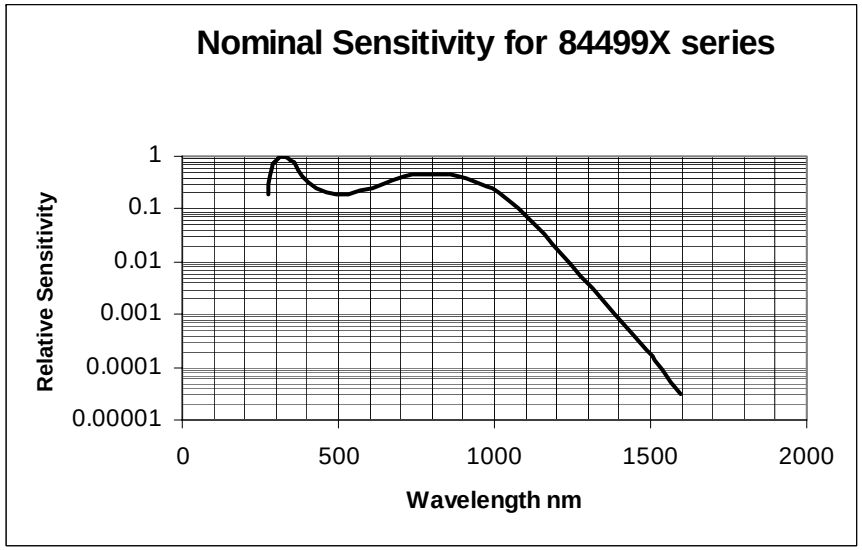
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FIND-R-SCOPE® IR VIEWER PARTS LIST

(call for current prices)

PART	ITEM	DESCRIPTION
		IR VIEWERS
84499A	FIND-R-SCOPE® 1350 nm	Hand-held, monocular near-IR viewer sensitive from 350 to 1350 nm, *f*:1.0 lens,1x mag., 18 mo. ltd. Warranty
84499A-5	FIND-R-SCOPE® 1550 nm	Hand-held, monocular near-IR viewer sensitive from 350 to 1550 nm, *f*/1.0 lens, 1x mag., 18 month limited warranty
85268A	Laser Pkg.	84499A viewer, visible blocking filter, & iris, save $$
85300	UV Scope	Viewer with a special image converter and UV quartz lens, 180 to 1350 nm
85300-5	UV Scope	Viewer with a special image converter and UV quartz lens, 180 to 1550 nm
		IR VIEWER ACCESSORIES
70000	Special Filters	Special order filters, prices vary
80115	Infrared Filter	830 nm longpass visible blocking filter
80380	Neck Strap	Neck strap to screw into 84499A handles
80385	Wrist Strap	Wrist strap to screw into 84499A handles
80389	Close-up Lens	Attachment lens for viewing within 2” of target
80451	Variable Iris	Attachment to increase depth of field
81850-1	Volt Converter	Converter & adapter to operate from wall outlet
85204	Zoom Lens	12.5 to 75 mm C-mount zoom lens
85225	25 mm Lens	25 mm C-mount camera lens
85206	16 mm Lens	16 mm C-mount camera lens
85255	8 mm Lens	8 mm C-mount camera lens
85299	C-mount Adapter	Allows 84499 to use C-mount lenses
		REPLACEMENT PARTS
61883	Eyeshield	Rubber eyepiece eyeshield
61897	Power Supply	12,000V power supply
80000	Eyepiece Lens	Eyepiece lens
80657	Objective Lens	Objective lens
80064	Power Switch	On/Off switch
82359	I350 nm Tube	IR image converter tube for 84499, to 1350 nm
82359-5	1550 nm Tube	84499 hand-selected tube sensitive to 1550 nm
61896	I350 nm Tube	IR image converter tube for 84499A, to 1350 nm
61896-5	1550 nm Tube	84499A hand-selected tube sensitive to 1550 nm
84501	Eyepiece Plate	Eyepiece backplate
85086	“C” cell Endcap	Converts older units to “C” cell usage
85173	Housing Body	Main 84499 housing body
80283	Housing Body	Main 84499A housing body
85282	Carrying Case	Polypropylene case w/ die-cut interior

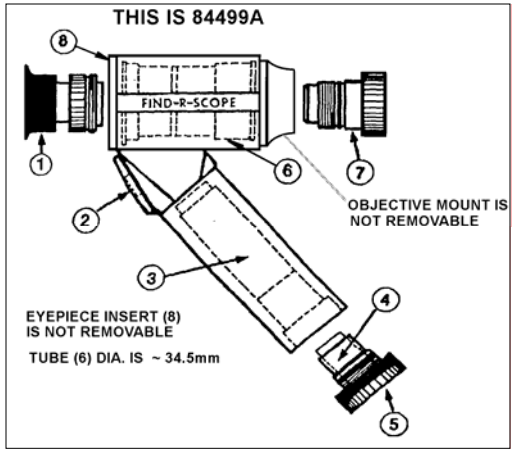
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SPECIFICATIONS

Standard Sensitivity.....	350 to 1350 nm
Optional Sensitivity	350 or 1550 nm
Peak Sensitivity.....	350 & 800 nm
Field of View.....	40º
Magnification.....	1:1
Focal Range.....	4" to infinity
Dimensions.....	6 x 2 1/8 x 7 in.
.....	15.25 x 5.4 x 17.8 cm.
Weight.....	22 oz./ 625g
Tube Resolution.....	70 lines/mm (min)
Power Supply Life.....	2500 hours
Battery Life.....	250 hours (intermittent)
.....	350 hours (continuous)
Body Material.....	Polycarbonate
Operating Temp.....	-25ºF to 115ºF
.....	-32ºC to 46ºC

Differences Between the 84499A & the 84499 FIND-R-SCOPE®



The 84499A FIND-R-SCOPE®

I. The objective mount is not removable from the instrument housing.

II. The eyepiece insert is gray in color and is not removable from the instrument.

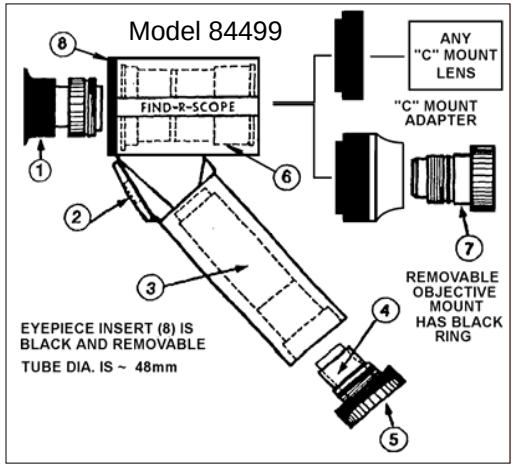
III. The image converter tube (6) diameter at the front is approx. 34.5 mm, or 1.36" P/N 61896.

IV. Other objectives can not be readily mounted on this unit.

Part Names Common to Both Models

1. Eyepiece with rubber shield
2. Master ON/OFF power switch
3. High voltage power supply
5. Battery end cap assembly
6. Image converter tube
7. Objective lens assembly

The 84499 FIND-R-SCOPE®



I. The objective mount is removable from the instrument housing, and a portion of it is black.

II. The eyepiece insert (8) is black in color, is attached with screws and is removable from the instrument housing.

III. The image converter tube (6) diameter at the front is approx. 48 mm, or 1.89" P/N 82359.

IV. Any "C-mount" objectives can be used with this viewer via the optional "C-mount" adapter, including zoom lenses.

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COMPONENT REPLACEMENT

The FIND-R-SCOPE® is designed for ease of service. The following list contains specific details:

1. LENSES - The eyepiece and objective lenses are retained by threads on their tubular housings.

   a) TO REMOVE THE LENSES - Grasp the instrument in one hand such that the lens to be removed faces up. With the other hand, rotate the lens counterclockwise two or three revolutions until free.

   b) TO REPLACE THE LENSES - Engage screw threads and rotate clockwise two or three revolutions until snug. DO NOT FORCE OR OVER-TIGHTEN THE LENSES AS DAMAGE TO THE TUBE MAY RESULT. Care should be exercised in engaging and disengaging lenses in order to protect the precision thread quality necessary for proper visual alignment.

2. SPRINGS - The unit has coil springs located behind the eyepiece assembly and in the battery end cap.

3. BATTERY - The unit has one "C" cell battery located in the battery end cap.

   a) TO REMOVE THE BATTERY - Grasp the instrument securely and rotate the battery cap counterclockwise until the cap comes off. Battery is free to be removed.

   b) TO REPLACE THE BATTERY - Place the “C” cell battery *(+ side down)* into the end cap. Place this end cap assembly and battery into the handle. Rotate the assembly clockwise to engage the screw threads.
   CAUTION: DO NOT FORCE OR OVER-TIGHTEN THE END CAP ASSEMBLY.

4. POWER SUPPLY - A high voltage power supply is located behind *(above)* the battery end cap assembly. **CAUTION:**
To avoid electrical shock, DO NOT REMOVE THE POWER SUPPLY unless the power switch has been turned off for at least five (5) minutes.

   a) TO REMOVE THE POWER SUPPLY - Remove the battery cap and battery per instruction 3a. Grasp the viewer housing such that the opening faces downward. Bump the open end against the palm of the hand to dislodge the power supply.

   b) TO REPLACE THE POWER SUPPLY - Insert the smaller cylindrical diameter end first and press firmly into place. Replace the battery and battery end cap per instruction 3b.

5. INFRARED IMAGE TUBE - The image tube is located behind the eyepiece lens. CAUTION: This is a fragile glass tube - **DO NOT DROP!**

   a) TO REMOVE THE IMAGE TUBE - Remove the eyepiece lens per instruction 1 a. If the part into which the eyepiece is threaded is gray, then tilt housing downward keeping one hand under the opening. The image tube should slide partially out. If not, tap the housing lightly in your palm. Grasp the tube and pull it free. A gentle tilting or rocking motion while pulling away may be helpful. If the part into which the eyepiece is threaded is black then remove the four (4) screws and the part into which the eyepiece is threaded and remove the tube as described before.

   NOTE: For maximum performance, all external surfaces of the image tube must be free of fingerprints and other dirt or high voltage arcing and image degradation may occur. Before replacing the image tube, clean it with a lens paper or soft dry cloth.

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