

Using your Video Flex® is as easy 1, 2, 3...

(Instruction for series 4000, 5000 & 6000)

1 UNPACK YOUR NEW VIDEO FLEX

Remove your Video Flex from the shipping container. When removing, note that there are no parts to assemble—it's ready to use. Just point and shoot high-resolution, precision video from any angle, anywhere! Your Video Flex comes standard with the following accessories:

- a - Power Supply
- b - 28mm Microscope Alignment Adapter (the 34.5mm adapter is built right into the C-mount camera lens)
- c - Audio/Video Cable
- d - Instruction Manual

Following inspection, if you note components are damaged or missing, contact your Ken-A-Vision® dealer.

2 CONNECT THE AUDIO/VIDEO CABLE

Connect the yellow Video end of the Audio/Video Cable into the yellow video-out connector on the base of the Video Flex. Connect the other end of the cable into the Video-In connector of the TV/Monitor, VCR, Video Projector, Computer or any other device with a Video-In connection.

Connect the white Audio end of the Audio/Video cable into the white audio-out connector on the base of the Video Flex. Connect the other end of the cable into the Audio-In connector of the TV/Monitor, VCR, Video Projector, Computer or any other device with an Audio-In connection. (Consult your owner's manual when using these components for operating procedures to accept an audio/video signal)

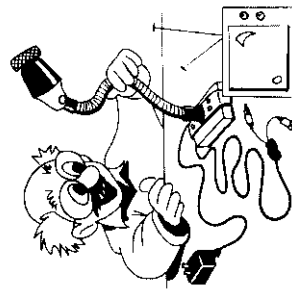
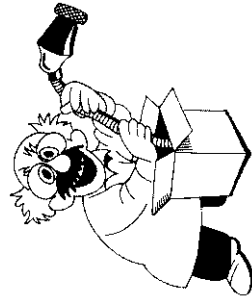
CONNECTING AN OPTIONAL S-VHS CABLE (Video Flex series 4000 & 6000 provide for S-VHS connections) When using S-VHS connections, connect one end of the S-VHS cable into the "S-VHS-Out" connection on the base of the Video Flex. Connect the other end of the S-VHS cable into the "S-VHS-In" connection for the TV/monitor, VCR, video projector or computer. For best results, do not plug in the S-VHS and standard VIDEO cables at the same time—it will diminish picture quality. (Consult your owner's manual when using the TV/Monitor, VCR, Video Projector of computer for operating instructions to accept a S-VHS Video Signal.)

3 CONNECT THE POWER SUPPLY

Simply connect the end of the power supply into the power connection on the base the Video Flex. The other end connects into a 110/220 Volt electrical outlet. Once the power supply is plugged in, you are ready to go. Push the red "On/Off" button to turn the unit on/off. A red light will be illuminated when the power is "ON"

YOU'RE DONE!

Now, just aim, focus and enjoy using your new Video Flex!



Some Helpful Hints From Professor K.T. VISION, PhD

FOCUSING

The Video Flex will focus on objects as close as 1/4" (6mm) out to infinity with our patented QuickFocus™ C-mount lens. The focusing ring is located on the camera head—similar to that of a 35mm camera. The Video Flex can be easily maneuvered and focused by using just one hand. Just 1/4 turn of the focus ring adjusts focus from close-up, to infinity.

CONTRAST ADJUSTMENT (Model 4100 only)

Two buttons located on the top of the Video Flex allow the user to adjust the brightness taking advantage of ambient lighting. Resolution will also be enhanced through this adjustment. Simply switch the Video Flex off, then back on again to reset the adjustment.

POSITIONING (limited only by your imagination!)

- You can use the Video Flex on a table for capturing images from a microscope, stereomicroscope or gensecope.
- Connect it to your computer and capture 3-D images of objects or documents in desktop publishing.
- Position it behind/beside your computer or place it on a conference table for Video-conferencing on Distance Learning applications!
- Take it outdoors with the optional Freedom battery pack for hours of infield discovery!

The list goes and-on-and-on...

POWER SUPPLY

Do not use other power supplies (even if they fit). They could produce improper voltage or reversed polarities. This will seriously damage your Video Flex and will void your warranty. Should you need a replacement power supply, contact your Ken-A-Vision dealer.

When using internationally, be sure to use correct voltage output.

OPTIONAL FREEDOM BATTERY PACK & CHARGER

(Catalog No. VFBAT)

Your optional Battery Pack is a sealed lead acid battery. This means that it does not have a "memory". When you charge the battery, it does not have to be completely drained. It takes approximately four (4) hours to fully charge a drained battery. You do not have to worry about overcharging the battery.

Use only the battery charger supplied. Using any other charging source (even if it will fit the battery connection) could damage the battery and void the warranty.

USING YOUR MICROSCOPE EYEPIECE ADAPTERS (for use with all Video Flex models)

The Microscope Eyepiece Adapters will allow your Video Flex to be coupled with microscopes, stereomicroscopes, gemscopes, telescopes or other objects with an eyepiece. You are provided with two (2) Microscope Eyepiece Adapters—a 28mm and built-in 34.5mm. Other sizes are available through your Ken-A-Vision dealer.

Before installing a Microscope Eyepiece Adapter, simply measure the size of the outside diameter of the eyepiece you are attaching to the Video Flex. (You must first remove the eyepiece cap if one is attached to the eyepiece.) The 28mm adapter included with your Video Flex will fit most compound microscopes and telescopes, and the built-in 34.5mm adapter will fit most stereomicroscopes, telescopes and gemscopes.

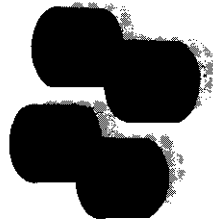
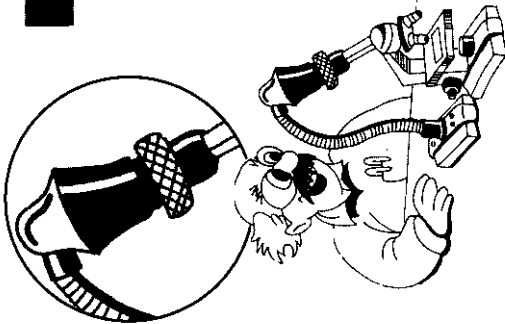
- 1. Fully extend the C-mount lens.** Gently rotate the lens counter-clockwise until it is extended out. This allows for maximum magnification of the viewed objects.
- 2. Attach the Microscope Eyepiece Adapter.** To install the eyepiece adapter, gently slip the adapter over the Microscope eyepiece. If it does not slide on easily, measure to be sure the outside diameter is 28mm or less. Other size adapters are available through your Ken-A-Vision dealer. (see page 7 for optional accessories)
- 3. Attach the Video Flex to the Eyepiece Adapter.** Next, gently slide the Video Flex camera head onto the eyepiece adapter by aligning the groove around the lens on the Video Flex with the rounded edge of the eyepiece adapter.
- 4. Put a slide on the microscope stage and focus** the picture on the TV/Monitor by adjusting the microscope, not the Video Flex.

OPTIONAL POLARIZING ADAPTER

Video Flex polarizing accessories are used for geology, petrology, mineralogy, toxicology, chemistry, pharmaceuticals, medicine, pulp/paper, atmospheric pollution, ceramics technology, forensic medicine, etc.

The Microscope Polarizing Adapter kit (VFAPKO) will turn any microscope into a polarizing microscope for video viewing. Simply place the polarizing eyepiece adapter over the eyepiece of the microscope, slip the polarizing film between the slide and light source, connect the Video Flex to the polarizing eyepiece adapter, rotate the polarizing eyepiece adapter to reveal the polarizing light spectrum.

The Discovery Scope Polarizing Filter (VFDCPF) is used with the Discovery Scope Kit turning your Video Flex into a Polarizing Video Microscope! The polarized analyzer is press fitted into the inner ring of the Video Flex C-mount camera lens and the polarizing film is positioned in-between the guides on the discovery scope holder and behind the specimen slide. When the analyzer is rotated, the Video Flex will reveal the polarized spectrum—all without the use of a microscope!



Microscope Eyepiece Adapters come in various sizes to accommodate coupling to Microscopes, Stereomicroscopes, Gemscopes, Telescopes or any other object with an eyepiece!

Microscope Polarizing Adapter Kit (catalog #VFAPKO)



Discovery Scope Polarizing Filter (catalog #VFDCPF)



CHANGING THE CAMERA LENS

ALL Video Flex models come equipped with an 8mm lens. A 4mm (VF4mm), 16mm (V1614W) or 25mm (VF25mm) lenses are available as optional accessories and may be purchased through your local Ken-A-Vision dealer.

To change the lens, simply extend the lens by rotating in a counter-clockwise rotation until fully extended. Apply a small amount of additional force in this same direction to free the lens. Screw on the new lens, apply a small amount of additional force to lock it in place. Rotate the lens back in a counter-clockwise direction to ensure it extends, rather than unscrews. If it unscrews, retighten in a clockwise direction, adding an additional amount of force to lock it in place.

LIGHTING

Never point your Video Flex at direct sunlight. The Video Flex is very light sensitive and requires very little light to operate. Subjecting the Video Flex "eye" to direct sunlight will discolor the filter over the CCD chip and create an adverse picture.

Under certain fluorescent lighting conditions, color can slowly change. When using the Video Flex for viewing through a fluorescent microscope, simply set the disc diaphragm on the smallest diameter hole, or close the iris diaphragm.

CONNECTING TO OTHER DEVICES

TV SET: You will need to use an RF Modulator or a VCR recorder. See owner's manual on RF modulator or VCR for connections and operational procedures.

TV/Monitor: Connect video cable from the Video Out (yellow) connector of the Video Flex to the Video In connector of the TV/monitor. Connect the Audio Out (white) connector to the Audio In connector of the TV/monitor. See owner's manual on TV/Monitor for connection locations and operational procedures.

VCR (Recorder): Connect video cable from the Video Out (yellow) connector of the Video Flex into the Video In connector on the VCR. Connect the Audio Out (white) connector to the Audio In connector of the VCR. See owner's manual on VCR for connection locations and operational procedures.

VIDEO PROJECTOR: Connect video cable from the Video Out (yellow) connector of the Video Flex into the Video In connector on the video projector. Connect the Audio Out (white) connector to the Audio In connector of the video projector. See the owner's manual instructions.

COMPUTERS: (IBM compatible & MAC). Most PowerMACs come equipped with a "Multimedia" package—this provides for video capturing. If you do not have a "Video in" port on the back of your computer, you may contact Apple/Macintosh for upgrades to your system. Some PC based multimedia systems also come equipped with digitizing cards or frame grabbers. If not, you may install an internal PCI digitizing frame grabber card to convert the video signal for the computer. You may also use an external frame grabber which connects to the LPT port on the back of your computer or PC Laptop/Notebook. PCMCIA digitizing cards are also available for laptop/notebook computers. Contact your Ken-A-Vision dealer for more information on these digitizing accessories.

The C-Mount style camera lens provides a quick and easy method of changing from one lens to another. 4mm Wide Angle (VF4mm), 16mm (V1614W) and 25mm (VF25mm) optional lenses are available for use on ALL Video Flex models!



You can use several different devices to project the high-resolution images captured with your Video Flex.

TV/Monitors, VCRs, CAM-corders, Video Projectors, Smart

Presentation Boards, ID Card Printing Systems, Computers (IBM & Apple-Macintosh)—anything that has a "VIDEO IN" connector!

Compatible with CU-SeeMe® Video Chat Software for the Internet & Intranet!



Video Flex® Magnification Chart

Monitor Size	Magnification	Distance from object	Field of View	Depth of View
13" (33cm)	10X	1-7/8" (48mm)	1-5/16" x 1-5/16" (33mm x 33mm)	1/8" (3mm)
13" (33cm)	20X	7/8" (22mm)	5/8" x 5/8" (16mm x 16mm)	1/16" (2mm)
13" (33cm)	30X	27/32" (21mm)	2" x 2" (51mm x 51mm)	5/8" (16mm)
13" (33cm)	40X	1-1/2" (38mm)	1" x 1" (25mm x 25mm)	3/8" (9mm)
20" (51cm)	10X	1-7/8" (48mm)	1-5/16" x 1-5/16" (33mm x 33mm)	1/8" (3mm)
20" (51cm)	20X	7/8" (22mm)	5/8" x 5/8" (16mm x 16mm)	1/16" (2mm)
20" (51cm)	30X	27/32" (21mm)	2" x 2" (51mm x 51mm)	5/8" (16mm)
20" (51cm)	40X	1-1/2" (38mm)	1" x 1" (25mm x 25mm)	3/8" (9mm)
27" (69cm)	10X	1-7/8" (48mm)	1-5/16" x 1-5/16" (33mm x 33mm)	1/8" (3mm)
27" (69cm)	20X	7/8" (22mm)	5/8" x 5/8" (16mm x 16mm)	1/16" (2mm)
27" (69cm)	30X	27/32" (21mm)	2" x 2" (51mm x 51mm)	5/8" (16mm)
27" (69cm)	40X	1-1/2" (38mm)	1" x 1" (25mm x 25mm)	3/8" (9mm)

As the size of the monitor or video projected image is increased, the magnification will increase proportionately

Video Microscope Specifications:

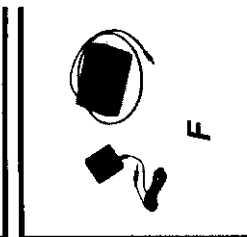
	MODEL 4050	MODEL 4100	MODEL 6100
Weight:	5.92 lbs. (2.69kg)	5.92 lbs. (2.69kg)	5.88 lbs. (2.67kg)
Footprint:	5.5 x 7.5" (14 x 19cm)	5.5 x 7.5" (14 x 19cm)	7 x 7 x 7" (18x18x18cm)
Base Material:	Metal-Alloy	Metal-Alloy	PolyCarbonate
Neck:	(L) 25" (65cm), (dia) 5/8" (15.37mm)	(L) 25" (65cm), (dia) 5/8" (15.37mm)	(L) 25" (65cm), (dia) 5/8" (15.37mm)
Head:	Ball & Socket	Ball & Socket	Ball & Socket
QuickFocus™ C-Mount:	1/4 turn	1/4 turn	1/4 turn
Output Signals:	Composite & S-VHS	Composite & S-VHS	Composite & S-VHS
Focal Distance:	1/4" (6mm) to ∞	1/4" (6mm) to ∞	1/4" (6mm) to ∞
Resolution:	400 lines	400+ lines	400 lines
Exposure:	Fixed Contrast	Adjustable Contrast	Fixed Contrast
TV System:	NTSC/PAL	NTSC/PAL	NTSC/PAL
Microscope Adapter:	28mm & built-in 34.5mm	28mm & built-in 34.5mm	28mm & built-in 34.5mm

QuickFocus™ C-Mount:
(permits interchangeable lenses)

	MODEL 5100	MODEL 5150
Weight:	5.88 lbs. (2.67kg)	5.88 lbs. (2.67kg)
Footprint:	7 x 7 x 7" (18x18x18cm)	7 x 7 x 7" (18x18x18cm)
Base Material:	PolyCarbonate	PolyCarbonate
Neck:	(L) 25" (65cm), (dia) 5/8" (15.37mm)	(L) 25" (65cm), (dia) 5/8" (15.37mm)
Head:	Straight Fixed	90° Fixed Angle
QuickFocus™ C-Mount:	1/4 turn	1/4 turn
Output Signals:	Composite	Composite
Focal Distance:	1/4" (6mm) to ∞	1/4" (6mm) to ∞
Resolution:	380 lines	380 lines
Exposure:	Fixed Contrast	Fixed Contrast
TV System:	NTSC/PAL	NTSC/PAL
Microscope Adapter:	28mm & built-in 34.5mm	28mm & built-in 34.5mm

QuickFocus™ C-Mount:
(permits interchangeable lenses)

OPTIONAL ACCESS:

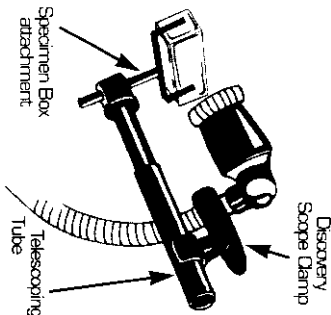


PLACE
STAMP
HERE



Ken-A-Vision Mfg., Co., Inc.
5615 Raytown Road
Kansas City MO 64133-3388

For more information call 800-334-8407 or visit a



Try the Discovery Scope Kit™—you'll be amazed at all of the different uses—capture images from 35mm slides, specimens from a petri dish or the bugboxes.

Kit includes Clamp, Zoom Bar, Tweezers Clamp, Plastic Box Holder, two (2) "Bug" Boxes and four (4) Bio-bags.

USING THE OPTIONAL DISCOVERY SCOPE KIT

Step 1 - Attach the Discovery Scope Clamp onto the neck of the Video Flex, spaced approximately 1/2" down from the camera head. The force of the clamp itself will hold it in place.

Step 2 - Attach the Telescoping Tube to the other clamp opening as shown to the left.

Step 3 - Select which attachment you would like to use: either the tweezers clamp for 35mm slides and other grippable items, or the specimen "Bug" box holder. Slide the attachment shaft through the opening located at the opposite end of the telescoping tube.

Step 4 - Adjust the telescoping tube attachment holders to position the object directly in front of the Video Flex camera lens. That's it! You can quickly and easily interchange the attachment holders to suit your needs.

You are only limited by your imagination!

Camera complies with Class A and B, part 15 of the FCC Rules.

Use only Ken-A-Vision Video Flex parts: "Power Supply, Charger," they are made exclusively for the Video Flex. Failure due to use of non-Video Flex parts will void your warranty.

INFORMATION TO THE USER Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna, and/or increase the separation distance between the equipment and the receiver, and/or Connect equipment into an outlet on a circuit different from that which the receiver is connected, and/or Consult your dealer or an experienced radio/TV technician for help.

Learn more about the complete line of Video Flex® multi-purpose flexible

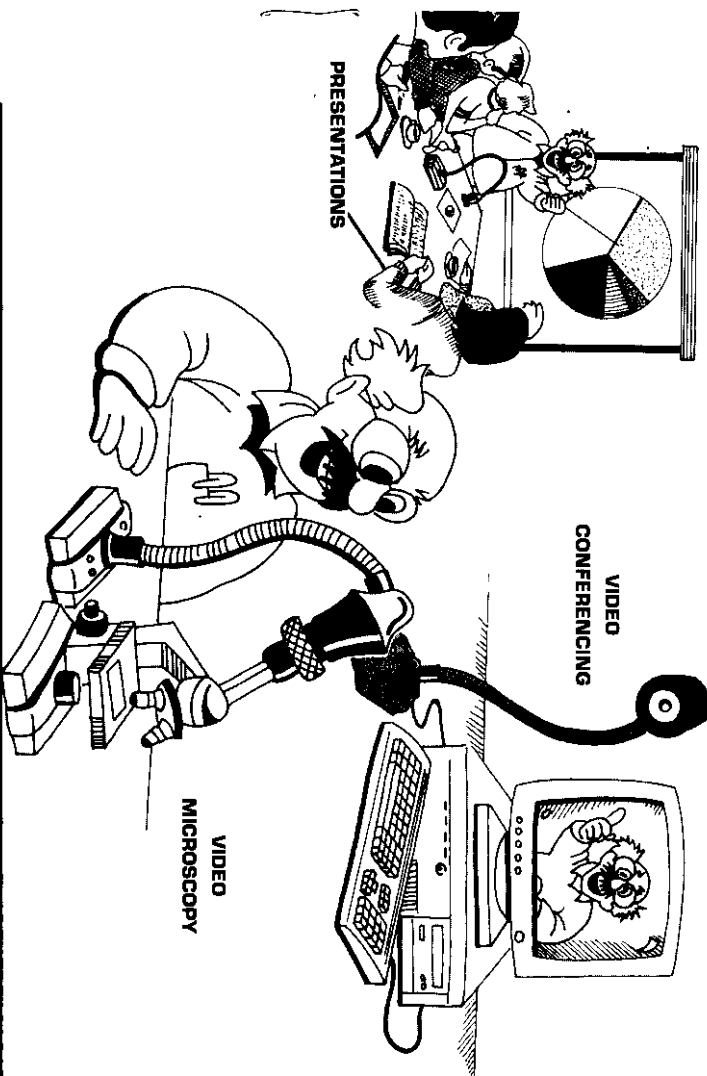
video cameras and Ken-A-Vision® video microscope solutions—call 1-800-334-8407.

or explore our WEB site at: <http://www.ken-a-vision.com>

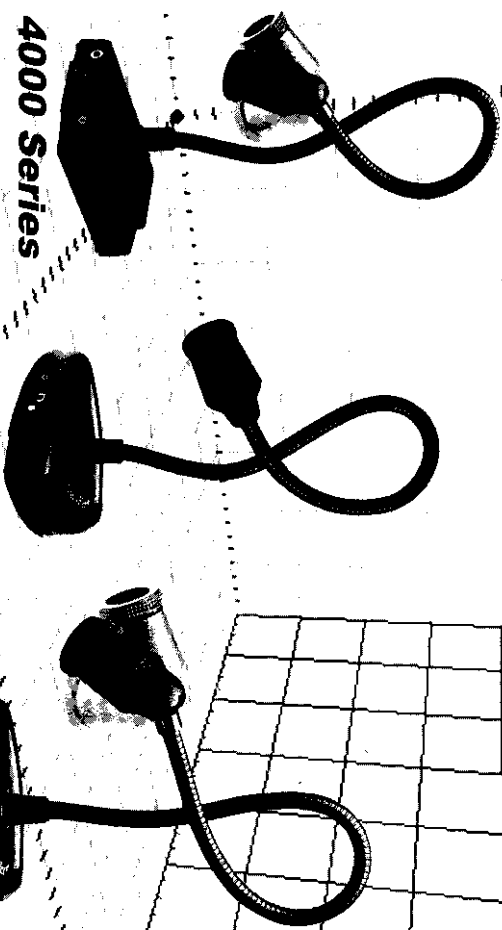


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Video Flex® USER'S MANUAL



4000 Series

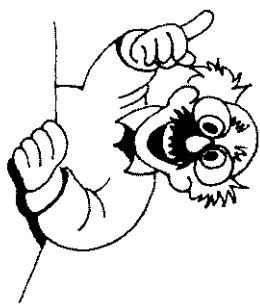
5000 Series

6000 Series

Made in the U.S.A. by
Ken-A-Vision Manufacturing Co., Inc.

Copyright 1994-1998

WARRANTY



To activate your 5 year limited warranty on your new Video Flex, simply fill out the attached warranty card and mail it to Ken-A-Vision Mfg. Co. Failure to return your warranty card within 30 days of purchase date will limit your Video Flex warranty to 90 days. Should your Video Flex fail during the warranty period, contact your Ken-A-Vision Dealer to arrange shipment to the factory for evaluation. The warranty will not apply if your Video Flex serial number has been removed or if the product has been tampered with, disassembled or damaged by misuse, accident, modification or unauthorized repair. To contact Ken-A-Vision direct, please call 1-800-627-1953.