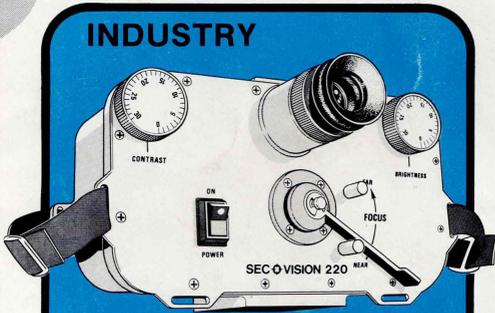


SECO

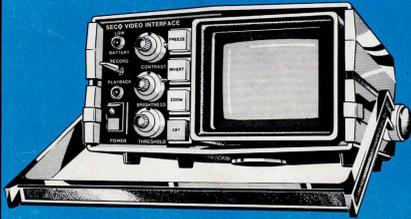
REACHES AHEAD

+ laser targeting

INDUSTRY



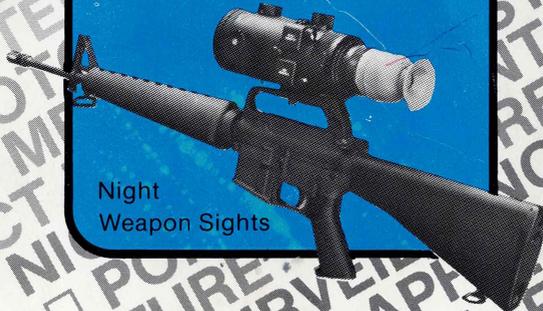
Infrared Imaging System



MILITARY



Long Range Night Observation Devices



Night Weapon Sights

LAW ENFORCEMENT & SECURITY



Night Vision Systems



High Intensity Illuminator

1968-1983



Celebrating its 15th Anniversary



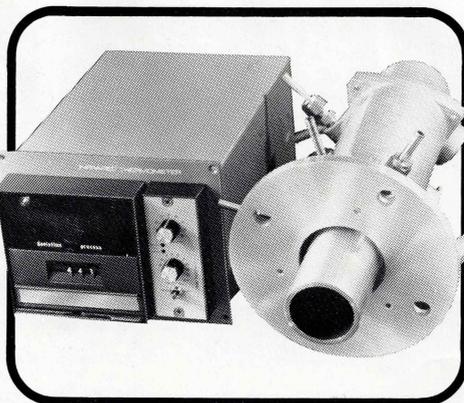
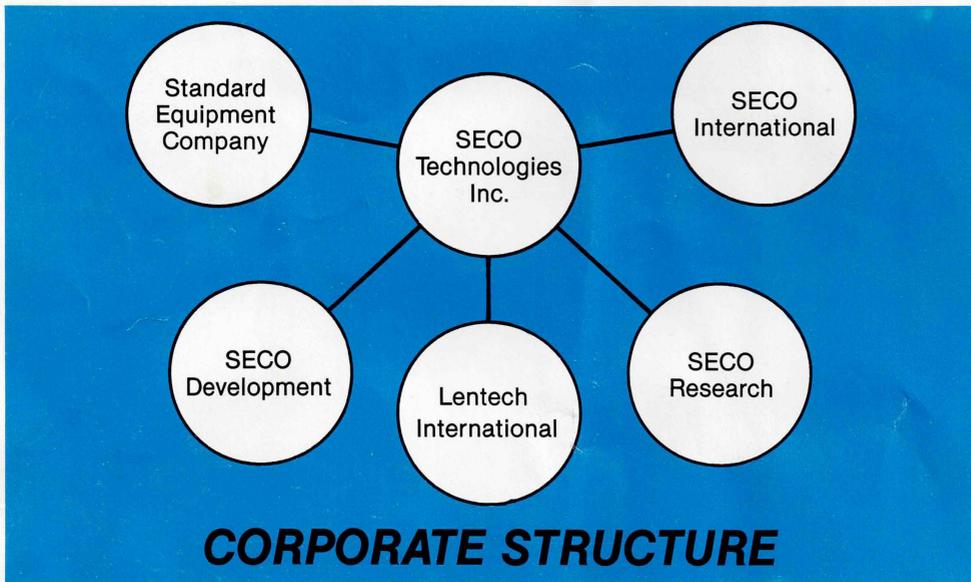
ABOUT THE COMPANY

Founded in 1968, SECO has established itself as a world-leading supplier of "state-of-the-art" electro-optical and temperature measurement and recording equipment. Featured in its product line are such devices as infrared thermometers and imagers, night vision devices and goggles, low light level cameras, thermal imaging processors, infrared video system, a complete line of high resolution extremely fast optics, high intensity illuminators, laser aiming devices, and much more.

SECO's corporate headquarters is located in Milwaukee, Wisconsin, with sales offices in major cities throughout the United States and distributors and dealers located throughout the world.

SECO is a manufacturing and marketing organization. It is constantly researching markets in an attempt to define product needs of an electro-optical nature. After defining a particular need, SECO either develops a new product or modifies an existing product to meet that need. As a result of SECO's firm commitment to continue to bring to the market only "state-of-the-art" equipment, products are continually changing.

SECO feels that its business philosophy of *reaching ahead* for new and better products as well as strong beliefs in personalized services are the main reasons for SECO's present position as a leader in its field. SECO looks forward to working with you. Please let us know if we may be of service.





ON-SITE DEMONSTRATIONS



AFTER SALES SERVICE



A NASA PHOTO

ABOUT SECO'S SERVICES

- Featuring "state-of-the-art" quality products.
- Maintains a complete inventory of all products and parts for immediate delivery.
- Maintains branch office facilities around the United States as well as a complete International sales network.
- Provides complete training for instruments sold.
- Provides continual training over the years while equipment is in use.
- Maintains a warranty service center for equipment repair.
- Provides loaners at no charge if customer's equipment requires extensive repair time.
- Technicians available for your assistance. Maintains a library of reference material and case histories.
- A company with a proven sales organization to offer worldwide support.
- A company with financial stability and a long history of proven success.
- A national WATS line to the corporate headquarters for immediate service on all requirements.
- Complete quality control on all items sold.
- Provides on-site demonstrations for most products.

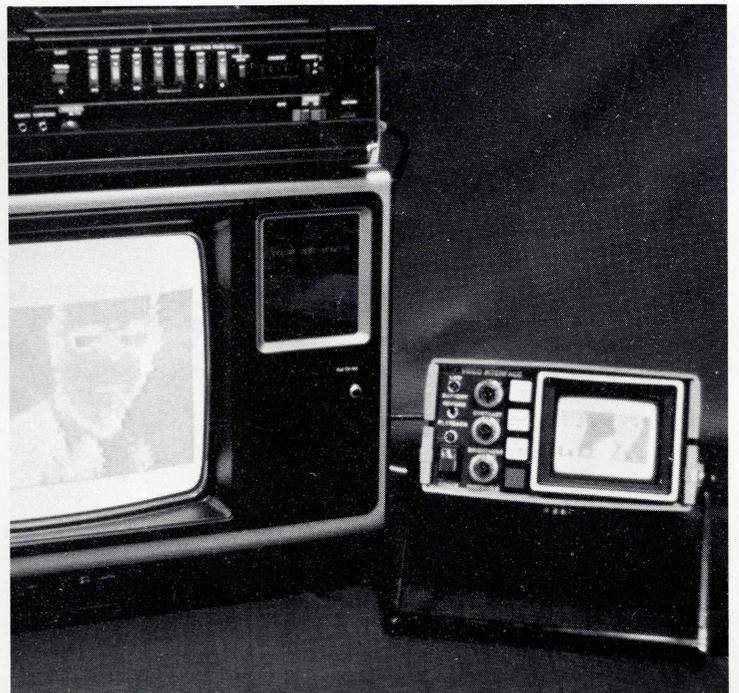
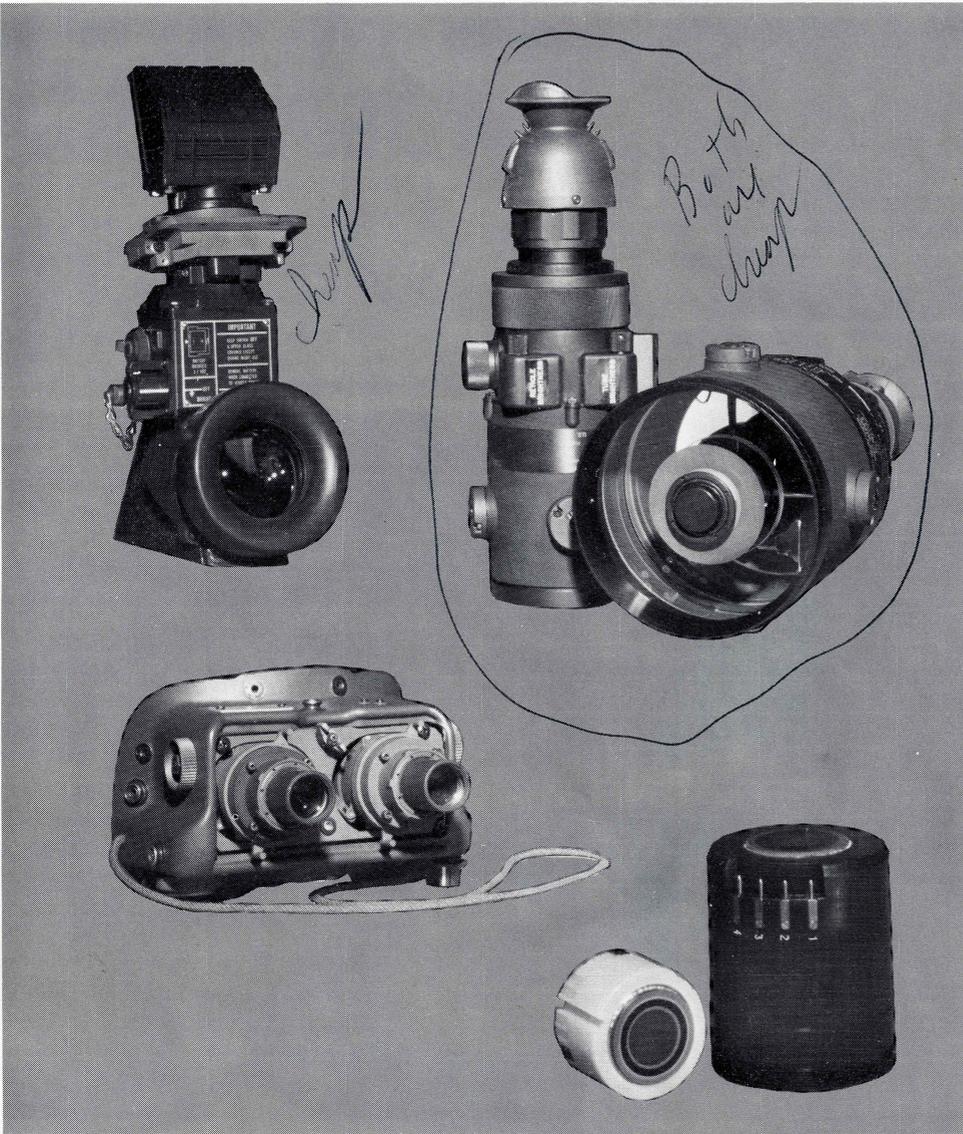
SECO REACHING AHEAD—AROUND THE WORLD

ABOUT THIS PRODUCT GUIDE/CATALOG

This product guide/catalog is designed to introduce you to SECO's unique group of products. Many times, SECO is questioned about how it developed such a varied product line. It is true it touches many markets, however, the technology involved overlaps tremendously from product to product.

SECO's varied group of products actually evolved from the simplest active infrared systems used for night vision and industrial applications into today's sophisticated passive thermal imaging systems and image intensified night vision devices. Along the way it picked up such items as imaging processors, video thermal imaging systems, infrared thermometers, complete industrial temperature measurement systems, BTU and R/U value meters, second and third generation night vision scopes and goggles. A complete line of high resolution extremely fast optics, high intensity illuminators, laser aiming devices, and other military oriented electro-optical devices.

SECO is extremely proud of its ability to grow and change with the times and feels the very essence of its success lies in its ability to *Reach Ahead* to bring you the finest products money can buy. This catalog is a brief summary of those products.



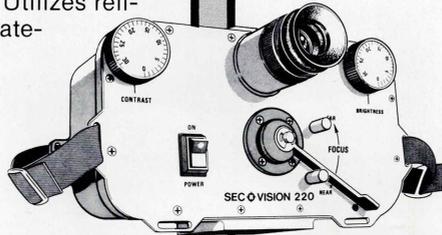
SECOVISION 220 THERMAL IMAGING SYSTEM

SECOVISION 220 ALL-ELECTRIC INFRARED VIEWER

The most advanced portable, hand-held thermal imager available. Incorporates electronics to eliminate image smearing when scanning greatly varying temperatures. Requires no gas coolant. Utilizes reliable, easy to service, maintenance-free "state-of-the-art" electronic components.

The 220 has been engineered for easy handling. All controls can be adjusted while the unit is in the operating position. Hand grips, camera mounts and tripod mounts have been built in to allow for operator comfort.

The 220 offers an extremely wide system spectral band (1.2 — 6 microns). This means increased numbers of useful applications. In addition to this, the 220 thermal viewer is based on a modular design. It is a complete stand alone infrared imager or an integral part of the SECOVISION 220 thermal imaging system.

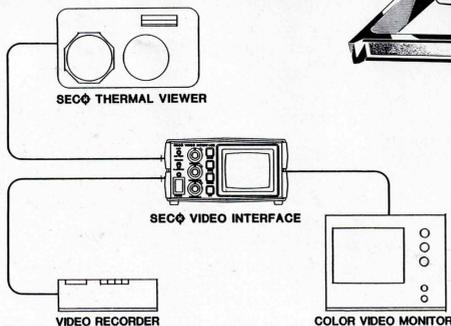
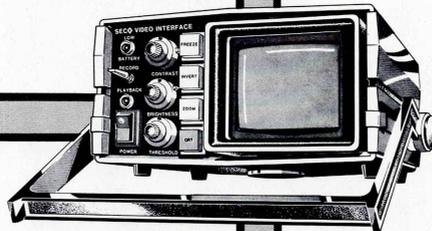


THERMAL VIEWER SPECIFICATION SUMMARY

- | | |
|---------------------------|---|
| 1. Outer Window | Calcium Fluoride, CaF ₂ |
| 2. Scanner Type | Pushbroom, BI-Directional (Parallel) |
| 3. Telescope | 2.5 inch F:1.0 Silicon Doublet, Air-Spaced |
| 4. Field of View | 12° Horizontal x 6° Vertical FOV |
| 5. Minimum Focus | 18 Inches (Nominal) |
| 6. Frame Rate | 30 Frames/Second (BI-Directional Scan) |
| 7. Infrared Detectors | 48-Element Linear Array, TE Cooled to -70° C |
| 8. System Spectral Band | 1.2-6 Microns (Peaks at 4.5μ) |
| 9. Display CRT | 1 Inch P20, 3.8 mil Spot, 10 Ft-Lamberts |
| 10. Vertical Resolution | 48 Resolution Elements |
| 11. Horizontal Resolution | 96 Resolution Elements, 384 Samples |
| 12. Serial Data Rate | 552,960 Samples Per Frame |
| 13. Objective Range | -50° C to 1200° C |
| 14. System Sensitivity | = 0.15° K Noise Equivalent Δ T = 0.5° K Horizontal MRT, 50% P DETN |
| 15. Spatial Resolution | 2 MRAD by 2 MRAD |
| 16. Available Controls | Power, Brightness, Contrast, Focus |
| 17. Power Sources (3) | 6 Volt 4 AMP-Hour NI-CD (3) |
| 18. Imager Current Drain | 1.50 AMPS or Less |
| 19. Battery Chargers (3) | 110 Volt in 7.5 VDC 0.4A Out |
| 20. Imager Dimensions | 24x14x8.4 cm |
| 21. Imager Weight | Less than 3.0 Kg |
| 22. Imager Mounting | Hand-Held or Tripod Mount |
| 23. Recording Interfaces | Camera Mount, Polaroid Output to Video Interface Unit (VIU)
VCR Recording from VIU |

SECOVISION 220 VIDEO INTERFACE

The 220 video interface is the second module of the SECOVISION 220 thermal imaging system. When coupled to the 220 infrared imager, the video interface allows for processing of the thermal image. Features include standard U.S. television format, 2-64 levels of color, 2-256 levels of gray, 525/625 line 60/50 Hz frame rate, freeze frame, electronic zoom, built-in monitor, as well as, compatibility to external monitors. The video interface can be purchased immediately with the 220 infrared imager or added at any later date.



VIDEO INTERFACE UNIT SPECIFICATIONS SUMMARY

- Digital Scan Conversion, Filtering, Colorization, TV Formating
- Composite and RF carrier NTSC, PAL/SECAM Formats
- 525/625 Line 60/50 HZ Frame Rate
- 8-bit processing with freeze frame, 256 gray and 64 color levels
- 3.5 inch diagonal B & W monitor with 1.5x zoom, separate controls
- Processor and monitor separate power switches and controls
- LED power indicator and LED low voltage warning indicator
- Video cassette recorder/playback compatibility
- Processor uses 2.0 amps @ 6V, CRT monitor 0.6 amps @ 6V
- Optional modification for 6V/12V operation
- Separate carrying case, cable, sets, chest and tripod mount
- Size 4 1/2" high, 9 1/2" wide, 9 3/4" long including handle, connectors
- Approximately 5 lbs.

SECO/VideoTherm

VideoTherm IMAGING SYSTEM

The SECO VideoTherm is a hand-held, completely portable, battery-powered thermal imaging television system. The system operates on the US Television standard of 525 lines, 60 fields, 30 frames per second. The system is fully compatible with all video monitors, tape recorders, analysis equipment, etc.

The system produces television images in response to radiation from the 8-14 micron spectral band. This is commonly referred to as "Far Infrared" or, simply, Infrared. The system produces images corresponding to the heat radiated from the scene being viewed. Warm objects produce a white signal whereas cold objects produce a black signal. This system requires no coolant.



SPECIFICATIONS

Size..... 4.20" Wide x 4.20" High x 9.20" Long
(10.67 Cm W x 10.67 Cm H x 22.8 Cm L)

Weight Camera, 2.036 lbs. (924 Gm)
Pistol Grip, .268 lbs. (122 Gm)
Lens, 1.90 lbs. (861.8 Gm) Typical for
50mm f/0.74 Viewfinder, 1.56 lbs. (710 Gm)

Power 4.26 Watts, .358A from a +12V dc source (either from VideoTherm Power Unit, Video Tape Recorder or Battery Belt)

Construction Completely Solid State with CMOS Integrated circuits on glass epoxy boards

Scanning 2:1 Interlaced, 525 Lines, 60 fields, 30 frames per second (US Standard)

Vertical Sweep Rate 60 Hz

Horizontal Sweep Rate 15,750 Hz

Sync & Blanking Waveforms EIA-RS-330, 2:1 Interlaced

Camera Tube Types "Hard" Pyroelectric Vidicons such as Thomson/CSF TH-9851 and TH-9855

Resolution Limited by tube selection. Typically 238 TV Lines with high thermal contrast scene

Scan Size 18x24mm Nominal-fully adjustable

Scan Failure Protection ... Automatic through High Voltage shut down

Low Voltage Power Supply... Fully regulated

High Voltage Power Supply .. Fully regulated for G1, G2, G3 & G4

Beam Current Internally Set from Regulated Power supplies

Video Output .. 1.0V p-p Nominal with 700mv black to white video and 300mv sync into 75 ohms, capacitively coupled video amplifier



INFRARED THERMOMETERS FOR SPECIALIZED APPLICATIONS

The use of non-contact infrared thermometers in industrial applications has grown rapidly in the past decade — due primarily to the development of more sophisticated optical and electronic circuitry. However, some confusion still exists in the selection and use of infrared thermometers. The following information is presented as a general guide to clarify some of this confusion.

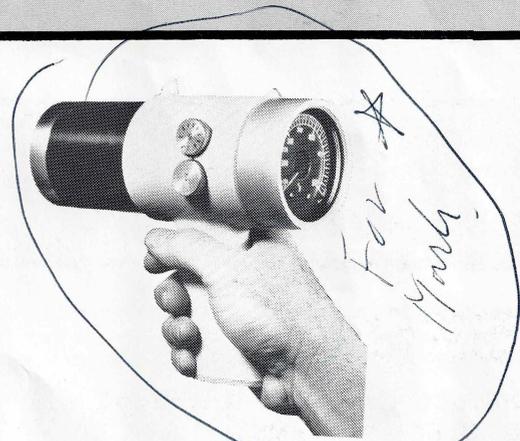
I. Application Area:

Many factors relating to a specific application, besides target and distance and temperature range, affect the choice of instrument. For example, the kind of material surface condition, thickness, background radiation, etc.

However, to simplify the effects of these variables, infrared manufacturers have designated certain classification of application for which specific models have been designed, with optical systems that neutralize the effects of the conditions mentioned above. One need only adjust for emissivity of the surface.

At SECO we have divided the application areas into the following:

1. General Purpose, which covers most industrial applications, except those that fall into the other more specialized categories that follow. Instruments for general purpose applications are usually designed with a spectral response range of 1-20 microns, but may use a more limited bank of 7-20 microns that they reject reflected energy from sunlight and high intensity radiant heating sources or spotlights.
2. Long distance through atmosphere. When temperature measurements are to be taken at long distances the atmosphere itself becomes a "contaminant" because it begins to attenuate infrared energy in proportion to distance. For those applications instruments with an 8-14 micron filter are recommended.
3. High temperature measurement, through quartz windows. A special filter with spectral response of .4-4.2 microns is incorporated in instruments for this type of application. This spectral response allows the viewing of targets through a quartz or other type of window with the same or greater wavelength response "pass" band.
4. Furnace tube temperatures. Instruments for this type of application are equipped with a special optical system to eliminate the effects of the hot gasses and flame.
5. Thin glass surface measurement. Many transparent materials are difficult to measure with standard infrared thermometers. Thin glass is one such material and therefore models for this application have a spectral response of 5-7 microns which falls within the radiation spectrum of glass.



6. Thin film plastic measurement. For this application the instrument is designed with a very specific narrow spectral response which corresponds to the wavelength region where the material is non-transmissive and therefore opaque to the instrument. For polyester and several other popular plastics, this wavelength is 7.9 microns.
7. Heat loss measurement and life science applications. These are low or ambient temperature applications, such as measuring heat loss through building walls or taking body temperature of animals. After determining the area of application one then defines the size and distance of the target.

II. Target Size & Distance

For an average size target (12 in.) at an average distance (0-20 ft.), an instrument with an open bead and groove sighting system is satisfactory.

For a small target (less than 1 in.) at close range (0-10 in.) the instrument should be equipped with a light beam targeting feature to assure you of accurate aiming.

III. Temperature Range & Scale

The third factor to be considered is the temperature range and temperature units (°F or °C). Instruments come in several ranges. It is best to select a range so that the most important temperature readings for your application will fall within the upper third of the scale.

IV. Digital or Analog Readout

SECO offers both digital and analog indicating instruments to choose from. Digital instruments are increasing in popularity since most users find them easier to read. However, dial or analog indicators are more useful in temperature scanning since the movement of the dial is easier to follow than are the changes in digits.

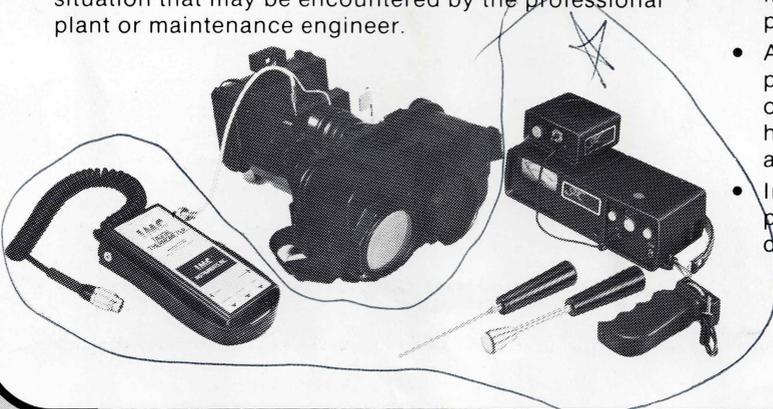
SECO/ITM INDUSTRIAL MEASUREMENT SYSTEM

FOR PLANT AND MAINTENANCE ENGINEERS

For over a decade, SECO engineers have virtually "grown up" with the expanding technology of thermal imaging and sophisticated temperature sensing and recording. The culmination of this period of analyzing, testing, applying and evaluating a myriad of designs, prototypes and initial market introductions, is the establishment of a practical, dependable ITM System being offered in a SECO "package" for the handling of virtually every temperature monitoring or measurement situation that may be encountered by the professional plant or maintenance engineer.

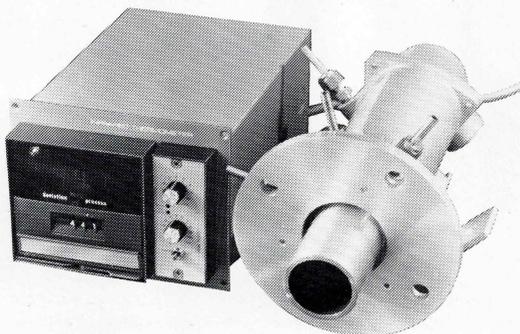
Among the components of the SECO System are:

- An infrared viewing system . . . to convert radiated energy into a viewable or photographic image. A versatile, portable unit for general scanning and isolating specified heat or energy loss situations.
- A wide-range digital thermometer, equipped with precision-matched thermocouple probes, for measurement of surfaces, liquids, gases and penetration of semi-solids.
- A highly directional non-contact pyrometer . . . particularly suitable for measuring the temperature of objects that are remote, moving, dangerous or in hostile environments. Offers combination visual and audible detection.
- Integrity protection of all system components is proved through a custom-fabricated storage and carrying case.



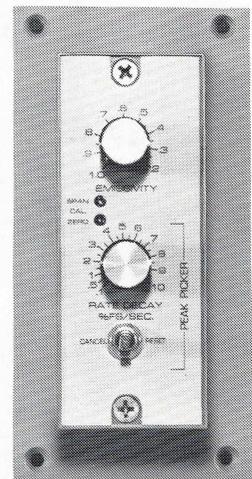
NON-CONTACT MEASUREMENT AND CONTROL SYSTEMS

The SECO infrared temperature measurement and control system combines the latest technologies in infrared detection and electronic signal processing to provide a versatile, accurate and convenient method of measuring and controlling product or process responses offered to satisfy the most demanding requirements.



IR PROCESSOR

SECO's IR Processor is a basic "no frills" electronic module designed to support SECO's sensor head in those installations where the only electronic requisite is a simple interface with existing control or recording instrumentation. By eliminating redundant or unnecessary signal outputs, costs are appreciably reduced. A variety of analog and digital temperature indicators are available accessories with temperatures ranging from 0 to 3200°F (0 to 1700°C).

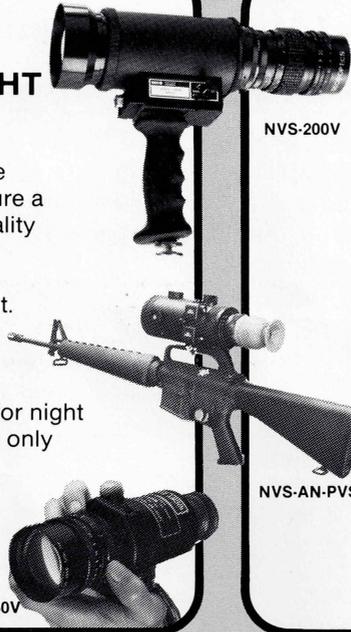


SECO

SECOND GENERATION NIGHT VISION SYSTEM

Designed to meet military standards, these second generation image intensifiers feature a micro-channel plate design permitting quality operation in the presence of outside light interference as well as a distortion factor so reduced the human eye cannot detect it. One model is for surveillance and photographic/CCTV applications . . . another for hand-held operation . . . and a third for weapon-mounting. Unparalleled for night photography or for aiming weapons using only ambient light.

NVS-80V



NVS-200V

NVS-AN-PVS-4

SPECIFICATIONS

	NVS-200V	NVS-AN-PVS-4	NVS-80V
Objective Lens Focal Length	50mm-1200mm	95mm-155mm	75mm-1200mm
Biocular	Nominal 3x magnification	Nominal 3x magnification	Nominal 3x magnification
Monocular	Nominal 7x magnification	Nominal 7x magnification	Nominal 7x magnification
Relay Lens	f/1.2 reversible for 35mm and 16mm imaging	SAME	SAME
Weight	2½ lbs.	4¾ lbs.	2¼ lbs.
Length	6½ inches	11.5 inches	8 inches
Diameter	3¾ inches	3.5 inches	3 inches
Tube Type	2nd Generation	2nd Generation	2nd Generation
Photocathode Type	S25 Extended Red	SAME	SAME
Luminance Gain	35,000 min.	SAME	SAME
Resolution	30/LP/mm min.	SAME	SAME
Distortion	Less than 5%	SAME	SAME
Storage Temp.	-54°C+55°C	SAME	SAME
Operational Temperature	-20°C+55°C	SAME	SAME
Battery Type	AA	AA	AAA

SECO OPTICS

. . . represents an exciting breakthrough in telephoto lens design. It is no longer necessary to compromise weight, apertures or resolution for the desired results and performance characteristics. SECO Lenses feature:

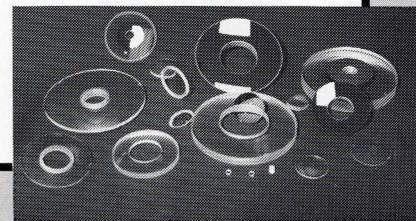
- **High Resolution** — Minimum of 80-100 LPM (line pairs per millimeter) for extreme image sharpness and quality
- **Extremely Fast Apertures** — Ideal for low level light situations
- **Extra Long Range Capabilities** — for viewing subjects at a distance
- **Lightweight** — 25% less weight than comparable systems
- **Portable** — Smaller physical size
- **Made in U.S.A.** — For convenient and dependable parts availability



Focal Length	Maximum Aperture	Minimum Close Focus	Mounting System	Image Size	Weight	Size
230mm	f/2.8	20 ft.	T2	44mm	2 lb. 8 oz.	3.5" O.D. x 11.63" Length
300mm	f/4.2	15 ft.	T2	44mm	1 lb. 5 oz.	2.88" O.D. x 10.75" Length
300mm	f/3.2	20 ft.	T2	44mm	2 lb. 7 oz.	3.5" O.D. x 12.63" Length
385mm	f/4.5	20 ft.	T2	44mm	2 lb. 9 oz.	3.5" O.D. x 16.63" Length
500mm	f/4.5	30 ft.	T2	44mm	5 lb. 5 oz.	4.5" O.D. x 17.75" Length
500mm	f/3.8	75 ft.	T2	44mm	7 lb. 2 oz.	5.31" O.D. x 22.5" Length
600mm	f/4.5	75 ft.	T2	44mm	7 lb. 2 oz.	5.31" O.D. x 22.5" Length
800mm	f/6.0	75 ft.	T2	44mm	7 lb. 6 oz.	5.31" O.D. x 24" Length
800mm	f/4.7	60 ft.	T2	44mm	14 lb.	7" O.D. x 38" Length
1000mm	f/5.6	125 ft.	T2	44mm	14 lb. 6 oz.	7" O.D. x 42" Length
1200mm	f/6.8	60 ft.	T2	44mm	14 lb. 8 oz.	7" O.D. x 40" Length

SECO "CAT" LENSES CATADIOPTRIC OBJECTIVES

Recognizing the need for highly specialized, lightweight, and high-speed optics for use with its various lines of sophisticated equipment . . . plus other potential applications . . . SECO developed its exclusive line of catadioptric objective lenses. The technology and manufacturing expertise of independent U.S. suppliers are combined to offer new performance standards for this type optic. Featured in this line are:



Focal Length	Format Size	Back Focal Length	Field of View	T#	Weight	Diameter	Length
68mm	18mm	1.45mm	15.08°	1.7	10 oz.	2-11/16"	2-7/16"
80mm	25mm	8.0mm	17.76°	1.6	1.25 lbs.	3-3/4"	3-5/16"
95mm	22mm	25mm	13.2°	1.6	1.50 lbs.	3-21/32"	3"
92mm	25mm	4.8mm	14.7°	1.8	1.25 lbs.	3-3/16"	4-15/16"
125mm	22mm	9mm	10.06°	1.7	2.50 lbs.	4-9/16"	5-3/8"
130mm	25mm	10mm	11°	1.2	7 lbs.	6-1/8"	7-3/32"
180mm	26mm	7mm	8.26°	2.0	5 lbs.	5-15/16"	4-15/16"
238mm	25mm	10mm	6°	1.8	15 lbs.	9"	12-19/32"
250mm	40mm	45mm	9.15°	2.9	4 lbs. 5 oz.	6"	8-13/16"
300mm	25mm	18mm	4.77°	2.0	15 lbs. 7 oz.	9-1/8"	8-13/16"
400mm	25mm	18mm	3.58°	2.0	30 lbs.	10-15/16"	13-9/16"
600mm	25mm	105.4mm	2.39°	2.0	200 lbs.	18-1/2"	13-9/32"
600mm	40mm	14mm	3.82°	4.0	14 lbs. 1 oz.	8-1/2"	15-13/16"
750mm	25mm	138mm	1.91°	2.0	300 lbs.	21-7/16"	17"
955mm	25mm	19.73mm	1.5°	5.0	52 lbs. 12 oz.	10-3/4"	26-3/16"

TYPICAL APPLICATIONS

- Low Light Level TV
- Night Observation Devices
- General Photography with 35mm Cameras
- Long Range Surveillance
- Sports Photography
- Weapon Sights
- And More



LENSES FOR INFRARED AND OTHER SPECIALIZED APPLICATIONS

SECO offers a complete line of infrared spectrum optics. We can provide various mounts to couple to your existing infrared equipment. Featured in our line are:

- 3 1/2° x 3 1/2° Field of View
- 7° x 7° Field of View
- 20° x 20° Field of View
- 18mm f/0.7 60° F.O.V.
- 25mm f/0.75 36° F.O.V.
- 30mm f/0.74 30° F.O.V.
- 50mm f/0.74 18° F.O.V.
- 75mm f/0.62 12° F.O.V.
- 100mm f/0.68 9° F.O.V.



Other lenses available in accordance with your particular needs.

**SECO-SHARP RAY S-8
TARGET-ILLUMINATOR IDENTIFIER**

SHARP RAY S-8 is a visible or infrared illuminator for quick aiming of weapons by spotting the target.



SHARP RAY is a self-powered designator which is mounted on the weapon, being aligned together with it.

The SHARP RAY is mounted and bore-sighted on rifles, sub-machine guns and shotguns by means of elevation and deflection drums. The small spot size and high light intensity enables a marksman to aim at a man size target at ranges of up to 150 meters under right conditions, scoring deadly hits.

**SEC-AN/TVS-5 NIGHT VISION SIGHT
FOR CREW SERVED WEAPONS**

General Description:

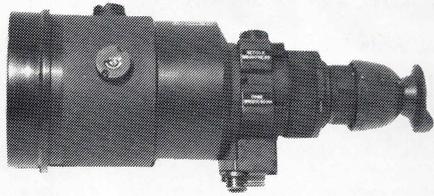
Light weight passive device which permits effective surveillance as well as accurate aiming and firing at night of crew served weapons with daylight efficiency.

Major Components:

Objective Lens Assy — 155mm, 6 element w/reticle projector
Image Intensifier Tube Assy — 2nd Generation
Eyepiece Lens Assy — 8 element lens w/eyeguard assy

Operation:

Using ambient, but low level, light from the night sky, the objective lens focuses object onto face (cathode) of the image intensifier tube, which transmits and amplifies the signal (approximately 20,000 times) for display on the tube's phosphor screen (anode). The eyepiece lens assembly magnifies and focuses the displayed image to the naked eye.



**SECO MINI DESIGNATOR
AIM-1 INFRARED LASER LIGHT**

The smallest and lightest laser designator available; development based on real battlefield experience.

SPECIFICATIONS:

Designator radiated power (average) 8 milliwatt
Beam shape vertical line
Beam divergence 7 x 0.2 milliradians
Laser source power 10 mW average, 160 mW peak power
Peak wavelength 850 nm
Battery 2 standard lithium, AA "size" 3.4V each cell
Operating time 10 hours
Dimming range 1:15
Dimensions in mm 42W x 53H x 35L
Weight (incl. Batteries) 264 gr.
Operating Temperatures -25°C to +55°C



**AD/NDV-2 NIGHT VISION DRIVER'S
VIEWER FOR COMBAT VEHICLES**

General Description:

"Passive" device which permits effective, closed-hatch operation and observation in combat vehicles under nighttime conditions.

Major Components:

Objective Lens Assembly: 9 elements with entrance window and mirror
Image Intensifier Tube: Second Generation, 25mm
Eyepiece Lens Assembly: 5-element biocular lens with large-diameter display

Operation:

Using ambient, low level light from the night sky, the objective lens focuses object onto face (cathode) of the image intensifier tube, which transmits and amplifies the signal (approximately 40,000 times) for presentation by the biocular eyepiece.



**MILITARY
PRODUCTS**

**SECO HAND-HELD LASER RANGEFINDER
MODEL LRF-1**

6,000-meter range
5-meter resolution
Small and lightweight
Rugged and reliable



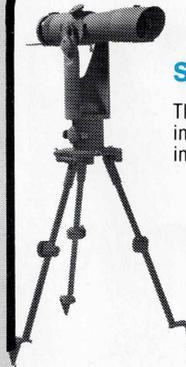
Range:

Maximum 6,000 meters
Minimum 100 meters
Range Resolution 5 meters
Range Rate 1 per 3 seconds (20 per minute)
Range Display In sighting optics, variable intensity for day/night use.
Sighting Optics Greater than 6 power
Display Range in meters, battery status and multiple targets. Intensity is variable.

SECO COLLIMATOR

The M1A1 Collimator is used by artillery gunners as an infinity aiming reference. The M1A1 replaces the M1 Collimator or aiming posts in U.S. Army artillery batteries.

The M1A1 contains a "Tritium" illumination source which eliminates the batteries used on the earlier M1 version of this device. With the new M1A1 Collimator, it is no longer necessary for a soldier to expose himself to enemy fire to turn on the battery powered light source in the M1 Collimator, or on the aiming posts.



NVC-G150 NIGHT VISION GOGGLES/NVC-CYC CYCLOPS

Starlight Operation
Light Weight — 30 oz.
Objective Focus
Plane, Bifocal
Diopter Adjustment
40° Field
Unity Magnification
Uses universally available batteries
Mil. Spec. Quality
(Equivalent to AN/PVS-5A)

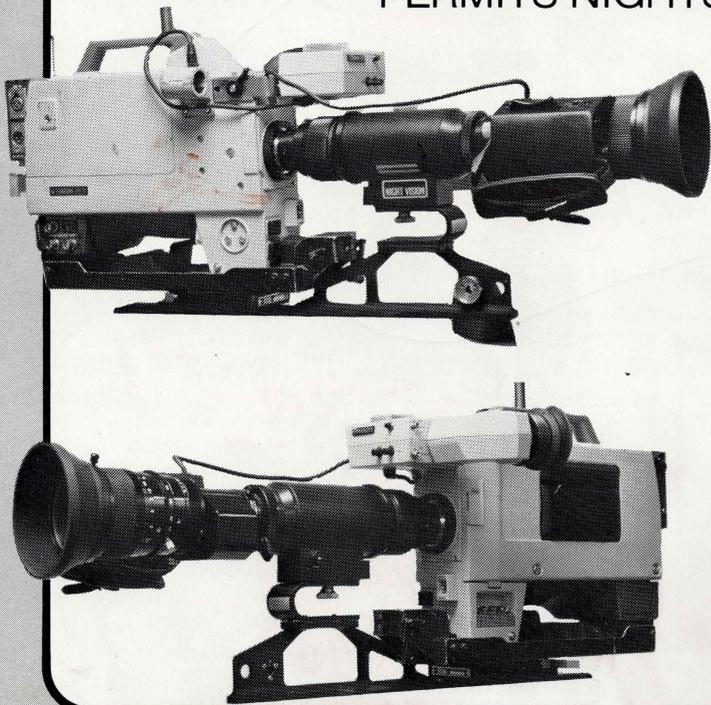


Powered by a pair of readily available batteries, the NVC-G150 Night Vision Goggles are a self-contained night viewing system to provide passive vision using available light from the night sky (through starlight or moonlight). Two second generation image intensifier tubes, matched with superior optics, are combined in a fully adjustable face mask to provide for completely hands free operation for such nighttime tasks as driving, mobile equipment operation, patrol, surveillance, reading and other general purpose viewing including pilot and crew use in helicopters and low-speed aircraft.

Individual diopter adjustment for each eye is provided. Bifocal and plane focus versions are available. A built-in low-level infrared source provides supplemental illumination for map reading and other short range tasks.

SECO TV MINI-CAM 'SCOOP SCOPE'

PERMITS NIGHTSHOOTING WITH AVAILABLE LIGHT



"By the light of the moon" Mini-Cam operation for TV broadcast news gathering or investigative reporting teams is now a reality with the introduction of the SECO "Scoop Scope" by Standard Equipment Co. of Milwaukee, Wis. This new accessory permits filming of on-the-spot news at night, utilizing only available light . . . where conventional flood lighting is impossible or impractical. This design breakthrough utilizes exclusive black and white phosphors instead of traditional green phosphors for superior contrast resolution.

The design evolved from extensive research among television station news teams and national network technical staffs, combining the superior features of a 25mm format and high-gain (2nd generation) image intensification in a compact package that could be easily handled by the camera person. The Scoop Scope is fully compatible with Ikegami, Sony, Thomson and RCA cameras by selecting the appropriate adaptor.

Ruggedly built of aluminum alloy and weighing only 2.5 kg — 5½ lbs., the Scoop Scope is positioned between the objective lens and the camera. Monochromatic black and white image is spectrally peaked at 550 nm . . . resolution exceeds 250 TV lines. The relay lens has full range of focal plane and back focus adjustment. Scope power is furnished by two AA penlight batteries.

The unit provides excellent signal-to-noise ratio with average-to-low street lighting conditions (10^{-3} lux). It will also provide an intelligible image to 10^{-5} lux which is comparable to an overcast starlit night with almost no moon. Scoop Scope circuitry virtually eliminates "blooming", "comet tailing" or image smear and is not disabled by high contrast lighting or bursts.

SECO NVS-IP-80V AND 200V

INSTANT PROCESS PHOTOGRAPHY AT NIGHT

The most significant nighttime photography advancement in a decade. SECO's Instant Process Night Vision Photography Systems are the result of years of night vision photography experience. Photography is an art and a science rolled into one. Night or low light level photography adds many complex problems to an already difficult procedure. Often valuable evidence or other information is lost simply because the photographer didn't know

what he had committed to film until he got it back to the processing lab. SECO's Instant Process Night Vision Photography Systems have changed that.

The NVS-IP-80V and 200V systems are comprised of a series of SECO developed optics, a conventional camera, and a polaroid film carrier. The NVS-IP-80V utilizes mainly the standard Polaroid film and the 600 ASA rated

film. The NVS-IP-200V also allows for use of the standard film and the 600 ASA film. It, however, offers the added feature of allowing for use of extremely high speed films such as Polaroid's 3000 or even 20,000 ASA rated films. The results are not only as good as conventional 35mm methods. They are far better, far simpler and instantly processed.



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