

Advanced Thermo

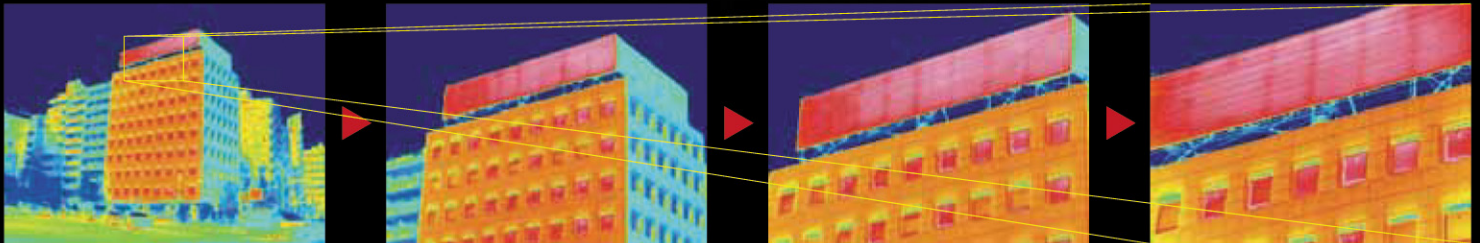
# TVS-500EXZ

Industry breakthrough-thermography with a zoom lens

- Zoom from wide angle to telescope, no lens change is required (4 times optical zoom ratio)
- Up to 16 times telescopic zoom (combined with digital zoom)
- High spatial resolution-higher accuracy (0.59mrad)
- Real time camera control and digital image acquisition via USB interface is included. (Advanced Package)
- Real time (60 frames per second) digital image acquisition with optional onboard memory



Zoom from 10mm to 40mm (Linear image)



f = 10mm

f = 20mm

f = 30mm

f = 40mm

Wide



Telephoto



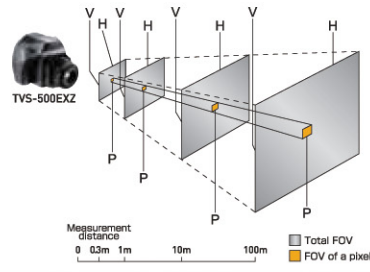
NEC Avio Infrared Technologies Co., Ltd.

# Advanced Thermo TVS-500EXZ

Model	TVS-500EXZ
Measurement range	-40~500°C:Standard ~2,000°C (with optional high temperature filter)
Temperature resolution	0.1°C or less
Frame time	1/60 seconds
Detector	Uncooled FPA 320H(H) x 240(V) Vox microbolometer
Wavelength	8~14μm
FOV	Telescope: 10.8° (H) x 8.1° (V)~ Wide angle: 43.1 (H) x 32.3° (V)
Spatial resolution	0.59mrad~2.35mrad
Measurement distance	30cm (f=10mm)~ ∞
Effective pixels	320(H)x240(V)
Display	3.5" semi-transmissive color LCD monitor Inverted display
Visible camera	640x480
Functions	<ul style="list-style-type: none"> <li>Multi-point temperature display: 5 points</li> <li>Multi-point emissivity correction: 5 points (Back calculation)</li> <li>Mixing image display: Mixing of thermal image and visible image display with sequential ration change</li> <li>Max/min temperature position tracking: Yes</li> <li>Auto temperature tracking: AS (auto sense), AP (auto point), PPM mode, R&amp;D mode, Medical mode</li> <li>Digital zoom: x2, x4 (scroll display, area designation possible)</li> <li>Freeze: On/Off</li> <li>Isotherm function: Yes</li> <li>Grid display: Yes</li> <li>Alarm function: Displayed by temperature setting (single/continuous) <ul style="list-style-type: none"> <li>Signal output: Yes (external output of contact signal)</li> <li>Image recording: Interval recording with alarm as a trigger</li> </ul> </li> <li>Color palette: Rainbow/hot iron/iron bar/white black/black white/contrast</li> <li>Image improvement: Averaging process</li> <li>Other functions: Emissivity correction, day and time display, battery volume, memo, last memory</li> </ul>
CF Card	<ul style="list-style-type: none"> <li>Data storage: Compact flash card:300 frames/64MB. Up to 2GB. Real-time memory (option):400 frames (standard), 1,600 frames (reduced size)※1</li> <li>Mode: CF format, deletion, create directory, file name input, one shot recording, interval recording, one shot playback, gallery display, filename display</li> <li>File format: IRI, BMP (thermal image)/JPEG (visible image)/BMP (mixing image)/LOG. Simultaneous recording of thermal image, visible image and mixing image.</li> <li>Interval recording: 3s~23h59m59s (1/60 sec~when using optional real-time memory:)</li> </ul>
Temperature unit	°C/°F/K
Video output	NTSC or PAL
PC interface	RS-232C, USB, IEEE1394(option) ※1
Power source	Battery (Li-ion), AC adapter, Long life battery (option)
Power consumption	Approx 14W
Battery run time	Approx 2H, approx 4H (when using optional long life battery)
Operational temperature/humidity	-10°C~50°C/RH80% or less (no condensation)
Dimensions	140(H)x140(W) x305(D)mm including protrusions
Environmental protection	IP54
Shock	30G JISC0041/IEC60068-2-27
Vibration	3G JISC0040/IEC60068-2-6

※1. USB, IEEE and real-time memory are exclusive to each other.

## Measurement distance and FOV (f=10mm,20mm,30mm,40mm)



Focal distance	Distance	H (m)	V (m)	P (mm)
10mm	0.3m	0.225	0.167	0.704
	1m	0.75	0.57	2.36
	10m	7.53	5.65	23.55
	100m	75.3m	56.5	235.5
20mm	0.3m	NA	NA	NA
	1m	0.38	0.28	1.18
	10m	3.76	2.83	11.78
30mm	0.3m	NA	NA	NA
	1m	0.25	0.19	0.79
	10m	2.51	1.88	7.85
	100m	25.1	18.8	78.5
40mm	0.3m	NA	NA	NA
	2m	0.38	0.28	1.18
	10m	1.88	1.41	5.89
	100m	18.8	14.1	58.9

## USB link software, "Advanced Package"

Advanced Package enables real-time measurement of thermal image and visible image of TVS-500EXZ using a USB interface equipped on PC as standard.

Simply connecting a USB cable, the software boots up.

Real-time display and recording at 1/60 seconds.



Thermal images can be displayed & recorded at maximum 1/60 seconds and visible images at maximum 1/20 seconds. Other functions, such as point temperature display and temperature trend display, are also available. ▲ Trend graph display

※When the USB interface of TVS-500EXZ is changed to IEEE1394 interface, this software cannot be used.

## Standard configuration

- Camera main body ————— 1 ea
- AC adapter ————— 1 ea
- Battery pack ————— 1 ea
- Battery charger ————— 1 ea
- CF card ————— 1 ea
- Card adapter ————— 1 ea
- Neck strap ————— 1 ea
- RS-232C cable ————— 1 ea
- Operational Manual ————— 1 copy
- Pointer and light ————— 1 ea
- USB cable ————— 1 ea
- Application software
- Installation CD ————— 1 set

## ⚠ Precautions for use of this product.

- Please make sure to read the instruction manual carefully before use so that the equipment can be used safely.
- Do not leave equipment in a place where there is water, moisture, steam, smoke, etc. It may cause fire, electric shock or failure of the equipment.
- This company shall not be liable for any incidental damages (loss of business profit, change or loss of data, etc.) caused by the use or non-availability of this product.
- This company shall not be liable for any damages caused by malfunctions due to connection with other equipment or with equipment containing software developed by others.
- This company shall not be liable for any damages caused by using the product in a way other than those explained in the operation manual.
- The specifications and functions described in this brochure may be changed without notice for improvement.
- Company names and product names appearing in this brochures are trade names and trademarks of those companies.
- Windows is a trademark of Microsoft Corporation of the USA registered in the USA and other countries.

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**CAUTION FOR SAFETY**

Please read "WARNING" & "CAUTION" in the operation manual attached to the product carefully for proper operation before using the product.

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