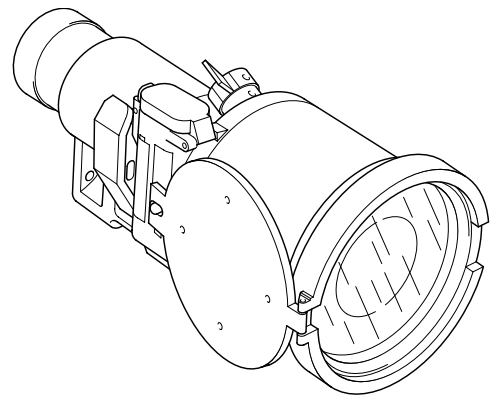
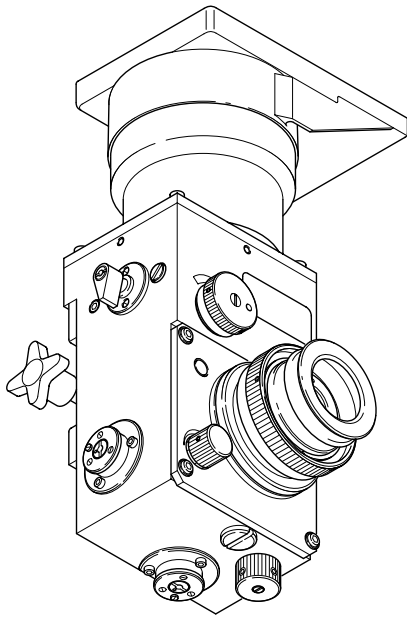


NIGHT VISION MODULES



...you
might be
interested
in.



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With compliments

Subject to design and construction modifications

Carl Zeiss Optronics Wetzlar GmbH
Carl Zeiss Group
Gloelstraße 3-5
35576 Wetzlar

Phone: +49 6441 404-380
Fax: +49 6441 404-322
E-Mail: info.optronik.wetzlar@zeiss.de
Internet: www.zeiss.com/optronics

Image Intensifier Module for PERI-Z16 A1

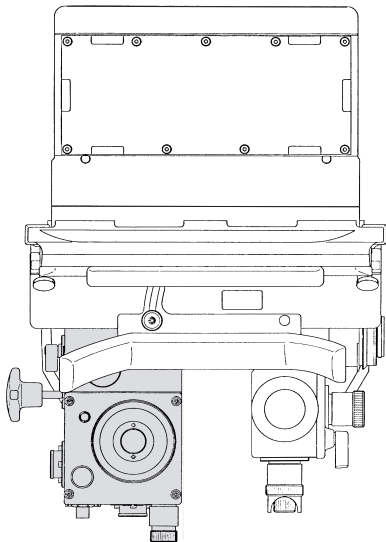
Brief Description

The new I² Module NAE 200 (Night Aiming Elbow) for the sighting periscope PERI-Z16 A1 is a passive night-sight telescope of the newest generation. It represents a reasonably priced alternative within the application spectrum of light armoured vehicles for the infantry.

A high performance optic and the image intensifier tube of the 2nd generation (2+ tube with twister, no blooming, comparable with the performance of the 3rd generation tubes) ensure an optimal image quality and range, as well as an extensive undisturbed environment in the local lightening of the scene.

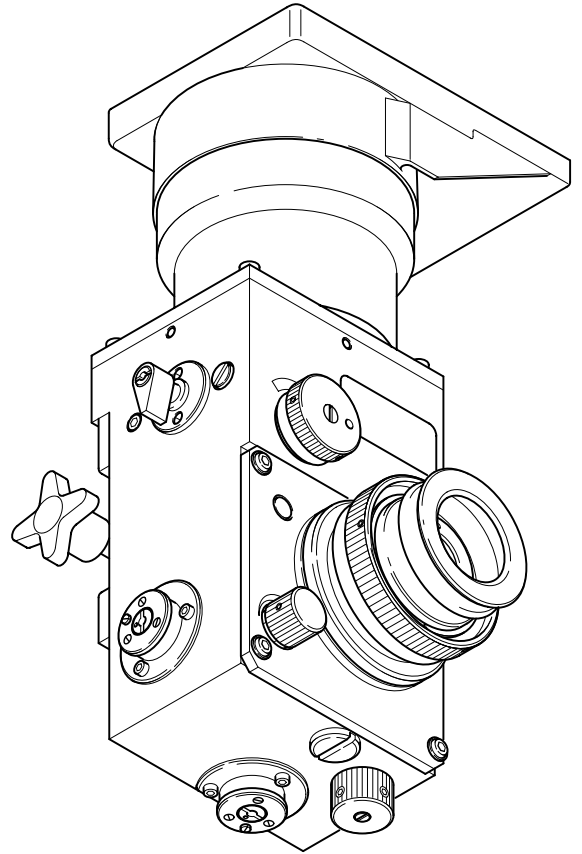
The NAE 200 can be fitted to the modular construction of the PERI-Z16 A1 simply and without further adaptation. The standard interface and the steadiness of the device ensure the high adjustability of the line of sight in rough situations.

The hair lines of the reticle is imaged to the screen via a spectral beam splitter and is superimposed on the scene. With the red reticle image, a full contrast and low loss superposition of the scene and the hair lines is ensured.



PERI-Z16 A1

The adjustment is made with an adjustment key. When making adjustments in daylight, a filter is swung into the beam path for the protection of the tube .



The horizontal shield is mechanically depressed and provides the observer with the shielding of the bright but not interesting sky, in order to be able to observe that part of the scene of interest with optimal performance.

When the shield is completely closed, the device is turned off and the shield protects the tube from incident light. A permanent irradiation of the tube in the daytime (also when turned off) does not affect the quality of the tube, and short duration irradiation (accidental) is not detrimental to it.

The NAE 200 is provided with a small electronics section for supplying the voltage for the tube from the vehicle power supply, and there is a brightness control for the hair lines. A power supply independent of the vehicle power supply, via battery or a rechargeable battery, can be offered on customer request.



Technical data

Optical data

Magnification	8 times
Focal length	200 mm
Field of view	5° / 90 mrad
Diameter of the entrance pupil	90 mm
Relative aperture	1:2.2
Aperture of eyepiece (Diameter of correction range for high image quality)	7 mm
Focussing range	50 m to ∞
Adjustment range of reticle (EL and AZ)	± 8 mrad
Diopter adjustment	± 4 dpt.
I ² Image intensifier tube	2nd generation (2+) with twister 18 mm cathode diameter

Electrical data

Power supply voltage	18 V - 32 V DC
Power consumption	< 60 mA
Device is reverse pole protected, also by long term reverse poling.	

Dimensions

	Height	Width	Length
NAE 200	345 mm	200 mm	165 mm

Weight

NAE 200	6.1 kg
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Temperature ranges

Operation	-35 °C to +45 °C
Storage up to 6 months	-40 °C to +50 °C
Long term storage	-35 °C to +35 °C

Environmental conditions

Environmental test	MIL 810 C (in extracts)
Adjustment stability	± 0.2 mrad

Scope of delivery

Article	Part No.
NAE 200	009-251.010-000

Subject to design and construction modifications

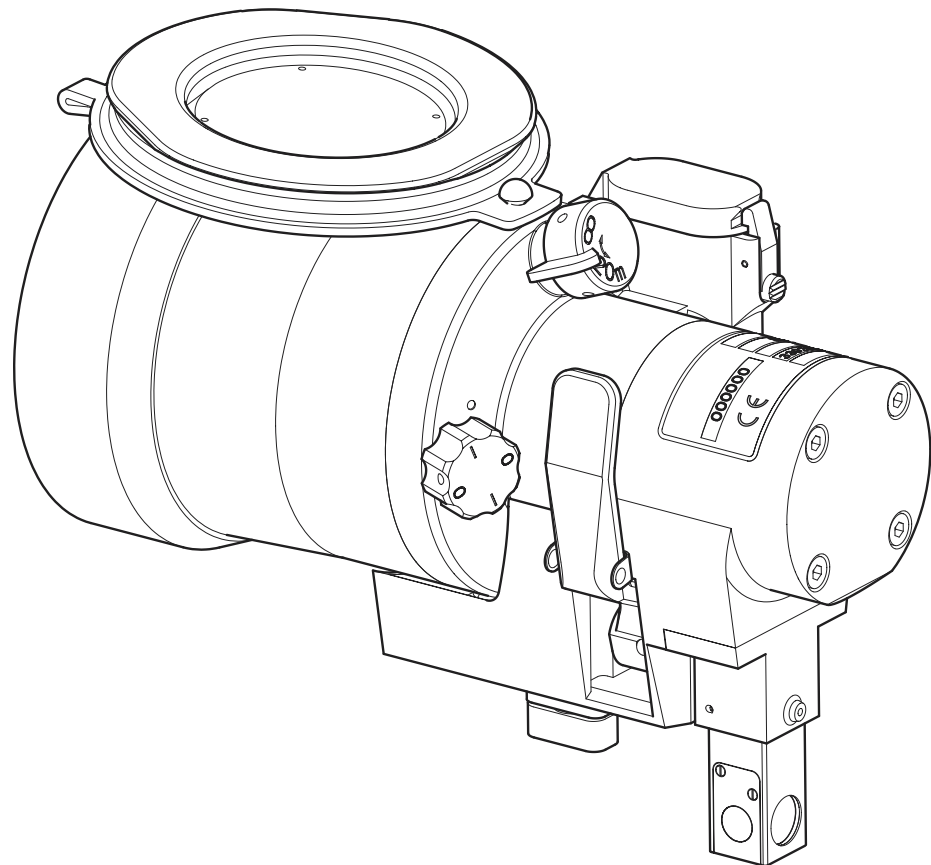
Carl Zeiss Optronics Wetzlar GmbH
Carl Zeiss Group
Gloelstraße 3-5
35576 Wetzlar

Phone: +49 6441 404-380
Fax: +49 6441 404-322
E- Mail: info.optronik.wetzlar@zeiss.de
Internet: www.zeiss.com/optronics

Night Sight Attachment NSA 80

Brief description

NSA 80 is a night sight attachment featuring the most modern technology. It incorporates the principle of residual light intensification and is an attachment unit suitable for use on various sighting and observation units and the HALEM II Laser Rangefinder. The compact design makes the NSA 80 a light-weight, reliable unit providing high image quality for military and non-military applications. Among other applications it is used together with our Telescopic Sight 3 x 4° on the new automatic rifle G36 of the German Army. Adapters for PzF3 are available.



Technical data

Optical data

Focal length of objective lens	124.5 mm
Magnification	1x
Entrance pupil	85 mm
Exit pupil	10 mm
Field of view	8° (140 m / 1,000 m)
Angular resolution in fov center	≤ 0.25 mrad
Focusing range	20 m to ∞
Range for identification (7 Lp/2.3 m) (NATO-target, luminous intensity 3 mIx)	≥ 500 m at V ≥ 6x magnification

Dimensions

	Length	Width	Height
NSA 80	187 mm	100 mm	146 mm

Weight

NSA 80	1.22 kg including batteries
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Electrical data

Supply Voltage	2.4 V to 3 V
Power supply	2 pieces, 1.5 Mignon Alkaline Manganese or 2 pieces, 1.2 V Mignon NiCd rechargeable battery
Service life	≥ 90 h, with Mignon Alkaline Manganese battery
Service life	≥ 30 h per charge, with Mignon NiCd rechargeable battery

Image intensifier tube

Type	XX1865
Generation	HyperGen, enhanced with automatic brightness control, Gen. 3 on request

Environmental conditions

Operating temperature	-40 °C to +50 °C
Environmental test	MIL-STD-810C (in extracts)

Scope of delivery

Article	NATO Stock No./ Part No.
NSA 80	5855-12-365-4127 330206-9013.000
canvas pouch	8105-12-365-2809 330206-9020.000
Rechargeable battery (4x)	150.435
Optics Cleaning Cloth	6640-12-137-2580
Operating Instructions	001-202.027-000 (150.349)

Subject to design and construction modifications

Carl Zeiss Optronics Wetzlar GmbH
Carl Zeiss Group
Gloelstraße 3-5
35576 Wetzlar

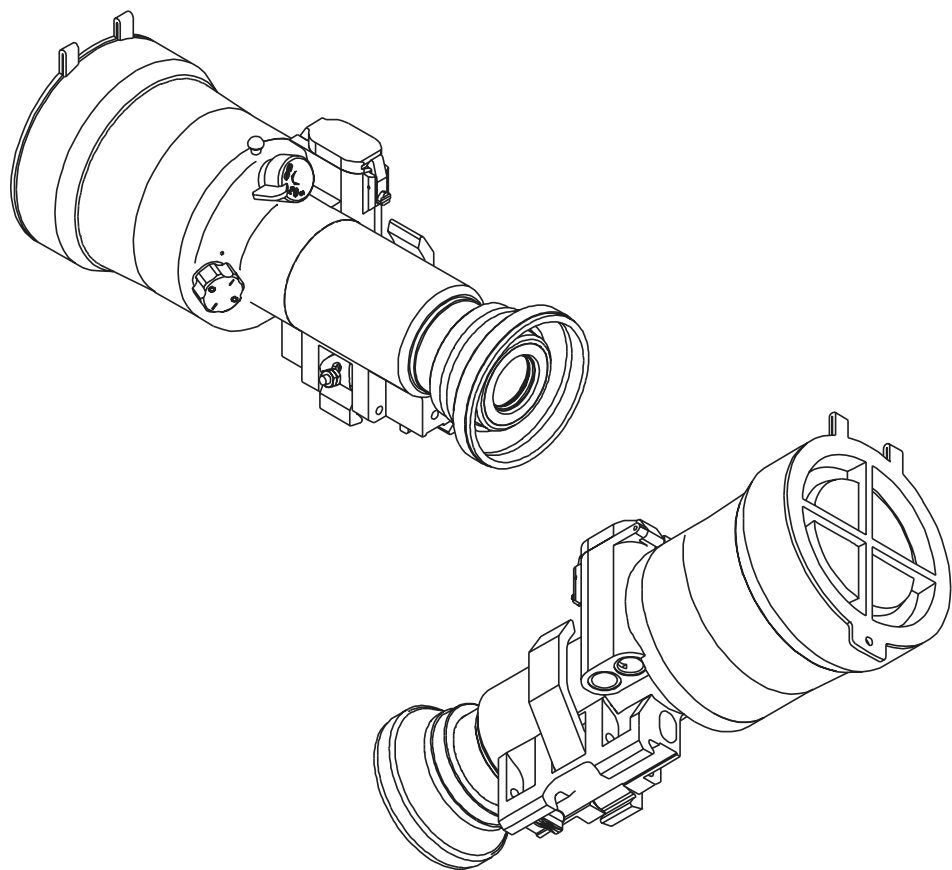
Phone: +49 6441 404-380
Fax: +49 6441 404-322
E- Mail: info.optronik.wetzlar@zeiss.de
Internet: www.zeiss.com/optronics

Night Sight Attachment NSV 80

Brief description

NSV 80 is a night sight attachment featuring the most modern technology. It incorporates the principle of residual light intensification and is an attachment unit suitable for use on various sighting and observation units. Its compact design makes the NSV 80 a light-weight, reliable unit providing high image quality for military and non-military applications.

Among other applications it is used together with our precision Telescopic Sight 3-12 x 56 on the new sniper rifle G22 and G23 of the German Army.



Technical data

Optical data

Focal length of objective lens	124.5 mm
Magnification	1x
Entrance pupil	85 mm
Exit pupil	24 mm
Field of view	8° (140 m / 1,000 m)
Angular resolution in fov center	≤ 0.25 mrad
Focusing range	20 m to ∞
Range for identification (7 Lp/2.3 m) (NATO-target, luminous intensity 3 mLux)	≥ 600 m at V ≥ 6x magnification

Dimensions

	Length	Width	Height
NSV 80	268 mm	98 mm	115 mm
Interface	Weaver rail (MIL-STD 1913)		

Weight

NSV 80	1.29 kg including batteries
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Electrical data

Supply Voltage	2.4 V to 3 V
Power supply	2 pieces, 1.5 Mignon Alkaline Manganese or 2 pieces, 1.2 V Mignon NiCd rechargeable battery
Service life	≥ 90 h, with Mignon Alkaline Manganese
Service life	≥ 30 h per charge, with Mignon NiCd rechargeable battery

Image intensifier tube

Type	XX1865
Generation	HyperGen, enhanced with automatic brightness control, Gen. 3 on request

Environmental conditions

Operating temperature	-40 °C to +50 °C
Environmental test	MIL-STD-810C (in extracts)

Scope of delivery

Article	NATO Stock No./ Part No.
NSV 80	5855-12-365-6963 330205-9904.000
canvas pouch	8105-12-367-0092 330205-9020.000
Rechargeable battery (4x)	150.435
Optics Cleaning Cloth	6640-12-137-2580 001-202.027-000 (150.349)
Operating Instructions	

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ORION 80 B II

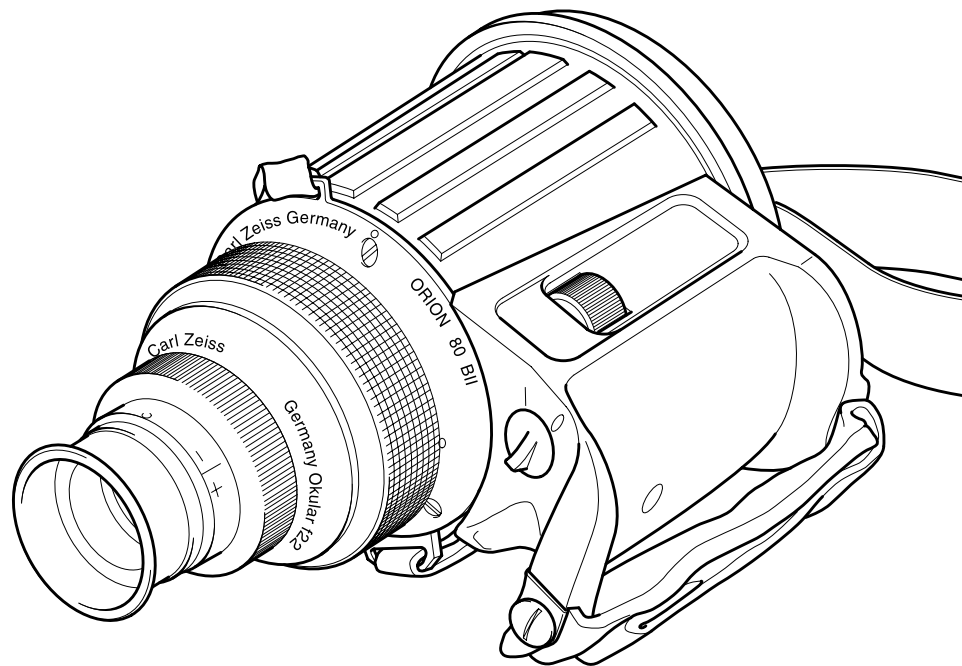
Image Intensifier Sight

Brief description

The ORION 80 B II is an image intensifier unit of the second generation with an intensification of 20,000X. It is used for passive observation in twilight and at night when the sensitivity of the human eye is no longer sufficient to recognize details.

The design of the first-generation ORION (manufactured quantity approx. 10,000) has been utilized as a basis for the ORION 80 B II which now features a second-generation image intensifier tube which is more compact and less sensitive to high-intensity light. Automatic gain control of the image intensifier tube ensures adaptation to the different brightness levels present in twilight and at night.

An ORIOGON relay lens is available as an accessory for photographic documentation using a reflex camera.



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Technical data

Optical data

Total magnification	5.5x
Field of view	8° (140 m / 1,000 m)
Effective f-number	1.7
Focusing	10 m to ∞
Angular resolution in center	≤ 0.25 mrad
Dioptic compensation	
- 0-position	± 0.5 dpt
- Adjustment range	± 5 dpt
Focal length (objective lens)	125 mm
Exit pupil diameter	≤ 6 mm
Eye relief	≤ 20 mm

Dimensions

	Length	Width	Height
ORION 80 B II	212 mm	144 mm	102 mm

Electrical data

Supply voltage	2.4 V to 3 V
Power supply	2 rechargeable NiCl batteries or 2 batteries, size AA
Tube	Image intensifier tube 2+ gen. XX 1610

Weight

ORION 80 B II	1.5 kg
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Environmental conditions

Environmental test	MIL-STD-810C (in extracts)
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Scope of delivery

Article	Part No.
ORION 80 B II	330213-9001.000
Case	539243-000.000
Batteries (2x)	180.243
Dust Brush	150.489
Optics Cleaning Cloth	150.349
Operating Instructions	OpIn 330213-0000.000

Subject to design and construction modifications

Carl Zeiss Optronics Wetzlar GmbH
Carl Zeiss Group
Gloelstraße 3-5
35576 Wetzlar

Phone: +49 6441 404-380
Fax: +49 6441 404-322
E- Mail: info.optronik.wetzlar@zeiss.de
Internet: www.zeiss.com/optronics

ORION 80 II

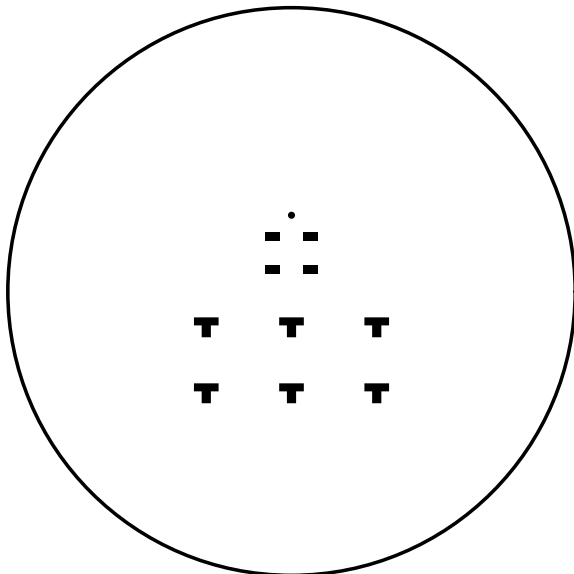
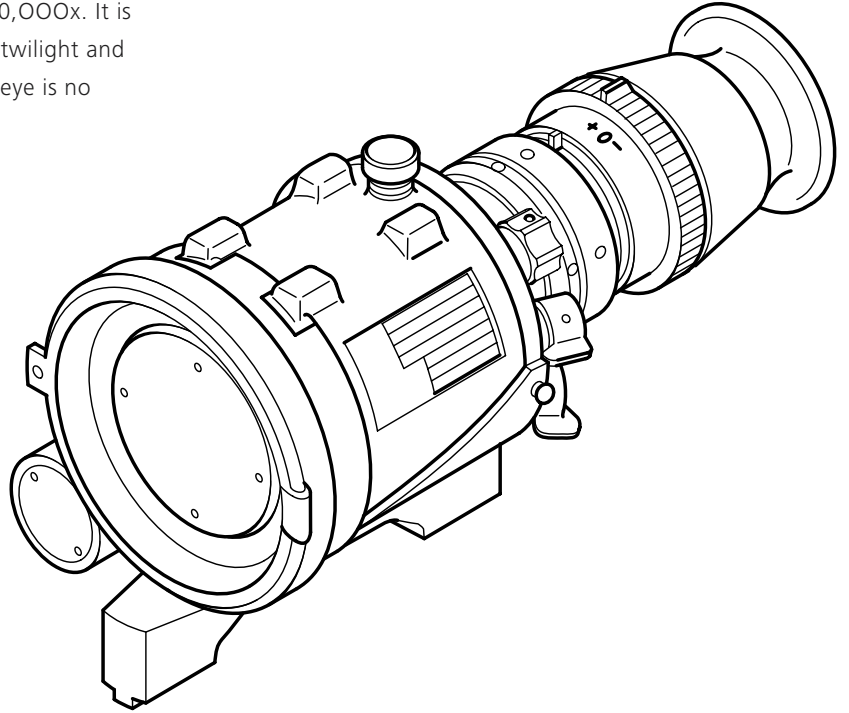
Image Intensifier Sight

Standardized connection dimensions allow easy mounting of the ORION 80 II on different weapons.

Brief description

The ORION 80 II is an image intensifier sight of the second generation with an intensification of 20,000x. It is used for passive observation and aiming in twilight and at night when the sensitivity of the human eye is no longer sufficient to recognize details.

The design of the first-generation ORION, approximately 10,000 of which are used by the German Army, has been utilized as a basis for the ORION 80 II which now features a second generation image intensifier tube which is more compact and less sensitive to high-intensity light. Automatic gain control of the image intensifier tube ensures adaptation to the different brightness levels present in twilight and at night.



Reticle



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Technical data

Optical data

Total magnification	5.5x
Field of view	8° (140m / 1000m)
Effective f-number	1.7
Focusing	20 m to ∞
Resolution	≤ 0.25 mrad
Dioptric adjustment	± 4 D
Entrance pupil dia.	85 mm
Exit pupil dia.	≥ 6 mm
Focal length	125 mm
Range for identification (7 Lp/2.3 m) (NATO target, illumination 3 mLx)	≥ 500 m
Reticle adjustment range (windage / elevation)	± 5'
Smallest increment of reticle adjustment	0.5'

Dimensions

	Length	Width
ORION 80 II	208 mm*	Ø 110 mm

*(without eyecup)

Electrical data

Supply voltage	2.4 V to 3 V
Power supply	2 rechargeable NiCl batteries or 2 batteries, size C
Operating life at medium reticle illumination and 20°C	≥ 30 h
Tube	Image intensifier tube XX 1440 CJ-Dep or XX 1610 SP-Philips

Weight

ORION 80 II	1.75 kg
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Environmental conditions

Environmental test	MIL-STD-810C (in extracts)
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Scope of delivery

Article	Part No.
ORION 80 II	330202-9901.000
Case	-/-
Rechargeable NiCd batteries size C (2x)	00000-0180.013
Allan key, hexagon socket, size 4 mm	000000-0015.248
Dust Brush	000000-0026.834
Optics Cleaning Cloth	000000-0150.349

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Carl Zeiss Group
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35576 Wetzlar

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