

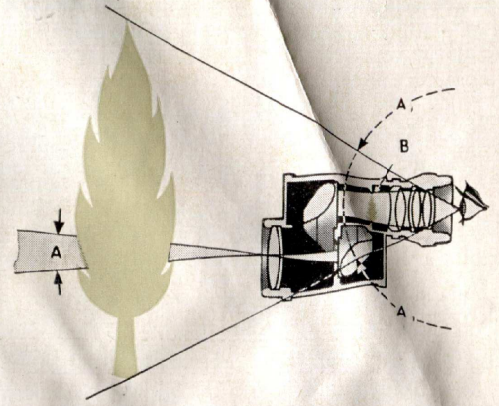
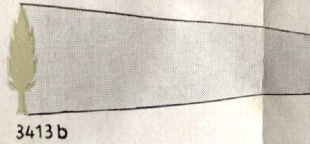
E. LEITZ  
WETZLAR



MB

41-1 a / Engl.



**MB**

This catalogue contains brief specifications of all the LEITZ prism binoculars for hunting, horse racing, sports, touring and for the theatre. The technical data as to magnification, light transmission and field of view are summarised in each instance in clearly arranged tables. In addition, there are illustrations and descriptions of the various models and their respective characteristics.

Every pair of LEITZ prism binoculars represents an outstanding achievement in its own particular class. They are all distinguished by perfect optical correction and mechanical precision, combined with attractive appearance and convenience in handling.

Our customers are always pleasantly surprised at the low weight of the high-power binoculars. This advantage is achieved through the special light alloy which is used for all LEITZ binoculars, and which has the additional properties of high resistance to mechanical damage as well as to corrosion.

A further advantage is the anti-reflection coating which is applied to all uncemented inside surfaces of the lenses and prisms. This coating eliminates reflections within the binoculars, and through increasing the light transmission it gives optimum brilliance, clearness and contrast. The extra efficiency achieved in LEITZ prism binoculars is particularly striking in twilight and with weakly illuminated objects.

#### **Characteristics of good binoculars**

Magnification, field of view, relative brightness, definition, contrast and depth of the image must meet the requirements of the particular purpose for which the binoculars are to be used.

#### **Relative brightness and exit pupil**

At constant magnification, the larger the diameter of the objective, the higher the relative brightness of the prism binoculars; but this brightness cannot be increased without restriction, because a limit is imposed by the pupil of the eye. When observing from an unsteady position, it is advisable to use binoculars with larger exit pupils.

The exit pupil of our prism binoculars appears as a small bright circle on raising the glasses from a normally focused object towards the sky and observing the rear lens of the eyepiece.

The diameter of the exit pupil is calculated by dividing the diameter of the objective by the magnification of the binoculars. For example, with the prism glasses 10x40 (the first figure indicates the magnification, i. e. 10x, and the second figure the objective diameter, i. e. 40 mm), the diameter of the exit pupil would be calculated as follows:

$$\frac{40}{10} = 4 \text{ mm.}$$

The relative brightness of prism binoculars is specified by a figure which is calculated by squaring the diameter of the exit pupil. Thus

in the example given above, the relative brightness of this particular model is  $4^2 = 16$  (the so-called geometric relative brightness). Binoculars are classified according to the purpose for which they are designed as follows: -

#### **Daylight binoculars**

with an exit pupil of 4 mm diameter,

#### **Binoculars of increased twilight capacity**

with an exit pupil of 5 mm,

#### **Binoculars of highest twilight and night efficiency**

with an exit pupil of 6 mm and over.

For observations in deep twilight, however, other physiological factors also play a part, so that the magnification of the image is also involved. The binoculars with the best twilight efficiency are the models 7x50 and 10x60.

#### **Magnification and field of view**

Magnification depends on the ratio between the angle of image (A) and the angle of view of the eye ( $A_1$ ).

The field of view covered by prism binoculars becomes smaller as the magnification is increased. A particularly remarkable achievement in respect of a large image angle is embodied in the models fitted with the wide-angle eyepieces.

The magnification selected depends upon the particular needs of the user. For observations with the binoculars held in the hands without other support, the limit for a steady image is generally about 8-10x magnification. For models giving higher magnification, a support should be used.

#### **Stereoscopic effect**

The natural depth of true stereoscopic vision is achieved by adjusting the axes of the object glasses, in relation to the axes of the eyepiece, in a way that preserves the impression of normal sight. In LEITZ prism binoculars, the most favourable conditions for optimum stereoscopic effect are expressly and individually calculated for each of the several models.

#### **Separate eyepiece adjustment or central focusing**

The central focusing mechanism permits rapid fine focusing on objects at varying distances or on quickly moving objects, e. g. at races etc. Any difference in the vision of the left and right eye can be compensated by means of the correction mount of one of the eyepieces.

Separate eyepiece focusing offers the advantage of better protection against dust and moisture, and is therefore preferred for binoculars used by the Services and in the tropics.



# 6 x 24

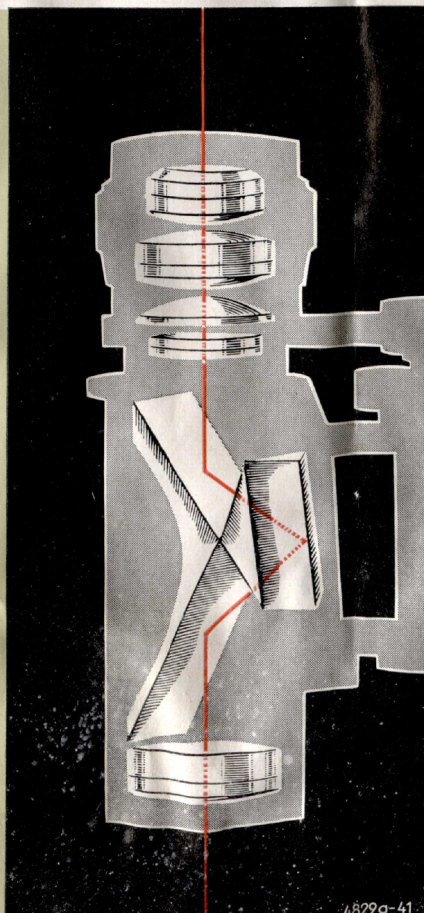


## The new Super Wide-angle Binoculars

General purpose binoculars of outstanding performance — for travel and hiking, particularly in the mountains — for both stadium and out-door sports — for use in the theatre and circus — for large and small auditoriums — for close-up viewing up to less than 3 yards.

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of view in degrees linear at 1000 yards	Weight without Case ozs.	
<b>AMPLIVID</b> <sup>®</sup>	6 x	24	4	16	12	212	12½

Diagram of the path of rays in the 6x24 wide-angle binoculars



The LEITZ wide-angle 6x24 binoculars meet requirements which could hitherto never be envisaged from prism glasses with a 6-times magnification. New advances in optical design have rendered it possible to increase the diameter of the field of view by over 40%, thus enlarging the area covered by 100%. Expressed in optical terminology, this means an increase in the objective angle of vision to 12° from the 8° hitherto customary. The LEITZ 6x24 wide-angle binoculars thus cover a field of view with a diameter of 212 yards. Hitherto a field of view of 150 yards diameter at a distance of 1000 yards has been taken as the basis.

This exceptional increase in the field of view capacity has been achieved by means of a new optical design. The image inversion is effected by a special combination of an angular mirror and a prism, an optical arrangement which permits the use of large field eyepieces and at the same time only requires a minimum of space. The latter aspect is the secret to the pleasantly flat and exceptional handy form of the wide-angle binoculars, and of their surprisingly light weight. The exit pupil of 4 mm diameter, with the light transmitting power 16 and great brilliance of the image, also permits optimum observation in poor light and early twilight. The performance of these glasses is further enhanced by the familiar quality features of all LEITZ products, i. e. flawless optical correction, reliable mechanical precision and practical construction.

® = registered trade mark



# 8 x 30

## *The most popular General Purpose Binoculars with wide-angle eyepieces*

The most important advantages of this extremely popular model with its versatile uses are its large field of view, impressive image effect, and its particularly handy and practical shape combined with low weight.



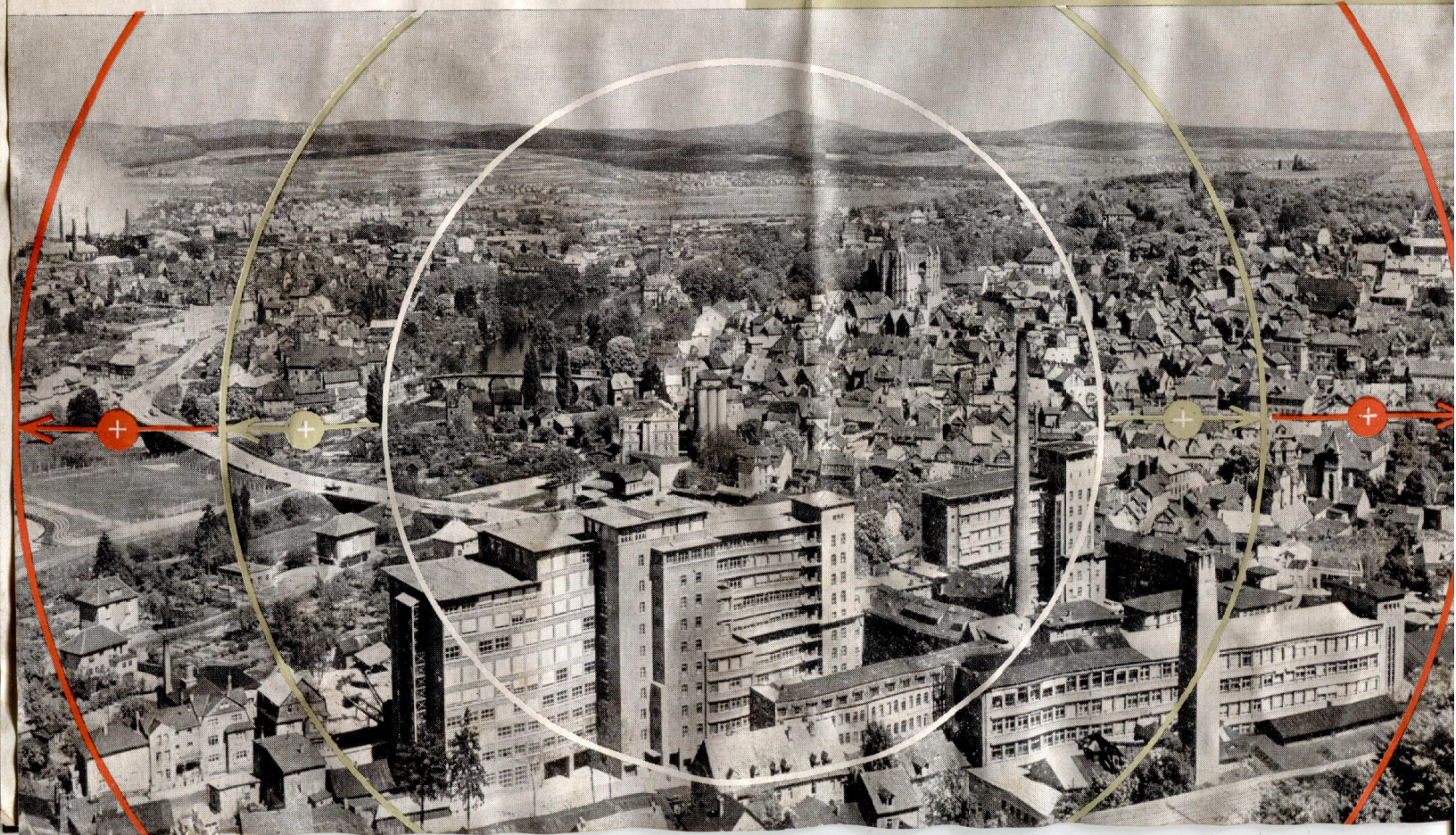
Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>BINUX</b>	8 x	30	3.75	14	8.5	150	17½
<b>BINUXIT</b>	8 x	30	3.75	14	8.5	150	18½

BINUX has separate eyepiece focusing.  
BINUXIT is with central focusing.

Codewords ending in "IT" refer to models with central wheel focusing. If the codeword without this ending is used when ordering, then glasses with separate eyepiece focusing will be supplied.

**MB**

The illustration below shows a view of part of the LEITZ Works in Wetzlar and the gain in the diameter of the field of view through our super wide-angle binoculars 6x24 (red circle) and wide-angle eyepieces (green circle) over ordinary eyepieces (white circle).







***High-efficiency Prism Binoculars  
for hunting, field sports, touring  
and general use.***



**7 x 50**



***The Standard Glasses for Hunting***

These binoculars are by far the most popular for hunting. The image quality is equally outstanding during daylight, in twilight and at night. The exit pupil is over 7 mm and gives an exceptionally high efficiency at night, which is only excelled by that of the high-power models 8x60 and 10x60 (see page 6). Because of the large exit pupil, the object can be easily held in view even from unsteady positions, such as ships, cars, shooting brakes etc.

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>MARSEPT</b>	7 x	50	7.14	51	7.3	128	33
<b>MARSEPTIT</b>	7 x	50	7.14	51	7.3	128	34

MARSEPT has separate eyepiece focusing.  
MARSEPTIT is with central focusing.



# 10 x 40

## Wide-angle Binoculars with High Magnification

These wide-angle daylight binoculars with 10x magnification are valued particularly highly in the mountains and on the coast. Their outstanding optical qualities satisfy the highest requirements.

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>CAMPAR</b>	10 x	40	4	16	6.9	120	29
<b>CAMPARIT</b>	10 x	40	4	16	6.9	120	30

CAMPAR has separate eyepiece focusing.

CAMPARIT is with central focusing.



**MB**

# 8 x 60 10 x 60

## Unexcelled in Twilight and at Night

Outstanding models with optically ideal combination of magnification and relative brightness. Excellent general correction, thus ensuring optimum observation during dwindling light down to complete darkness. But the brilliance of the image during daylight observation is also most attractive.

Owing to the large exit pupil of 7.5 mm diameter, the model 8x60 is to be particularly recommended for observations from unsteady positions.

With separate eyepiece focusing:

**MAROCTO**  
**DECIMAR**

With central focusing:

**MAROCTIT**  
**DECIMARIT**

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>MAROCTO</b>	8 x	60	7.5	56.3	6	107	43
<b>MAROCTIT</b>	8 x	60	7.5	56.3	6	107	44
<b>DECIMAR</b>	10 x	60	6	36	5.7	100	42½
<b>DECIMARIT</b>	10 x	60	6	36	5.7	100	43







## 10 x 50

Daylight binoculars with high twilight efficiency designed to meet high requirements; despite the high magnification, this model is still light and convenient.

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>MARDIX</b>	10 x	50	5	25	5	87.5	32½
<b>MARDIXIT</b>	10 x	50	5	25	5	87.5	33½

MARDIX has separate eyepiece focusing.

MARDIXIT is with central focusing.

**MB**

## 12 x 60 15 x 60

*Special binoculars with high magnifying power*

These models are preferred for observation at very long distances. The high magnification which they give is combined with excellent brilliance and clarity.

With separate eyepiece focusing:  
**MARDOCE**  
**CAMPOFORT**

With central focusing:  
**MARDOCIT**  
**CAMPOFORTIT**

Model and Codeword	Magnification	Diameter of Objectives mm	Diameter of Exit Pupil mm	Light-transmitting Power	Field of View		Weight without Case ozs.
					in degrees	linear at 1000 yards	
<b>MARDOCE</b>	12 x	60	5	25	4.3	75	42½
<b>MARDOCIT</b>	12 x	60	5	25	4.3	75	43
<b>CAMPOFORT</b>	15 x	60	4	16	4.6	81	44
<b>CAMPOFORTIT</b>	15 x	60	4	16	4.6	81	45

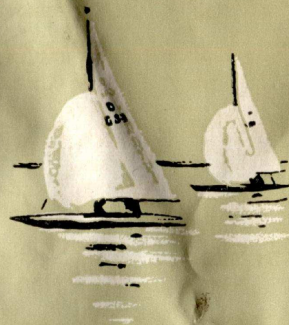
Small binocular models, monoculars and accessories are listed in the separate price sheet.





ERNST LEITZ GMBH WETZLAR

**MB**



**For**

- **sport**
- **hiking**
- **touring**
- **hunting**
- **the theatre**

**there is always  
a pair of suitable  
LEITZ Binoculars**

**You can inspect and try out  
LEITZ BINOCULARS at:**

GERMANY

Branch Works: Ernst Leitz (Canada) Ltd., Midland, Ontario

List **41-1a/Engl.**

Printed in Germany  
VIII/58/FY/L.