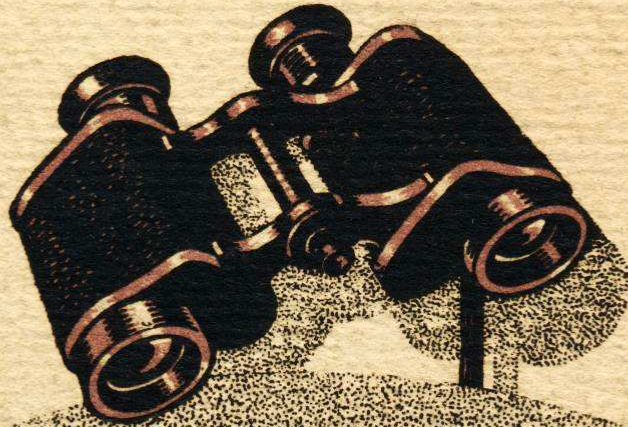


MB



ZEISS

FIELDGLASSES

MAJOR H. ROBB

OPTICIAN

1413 F STREET, N. W.
WASHINGTON, D. C.

Walf. Photoviscop. Bush, Germany
- 42 1/2 + 25 Price \$21.

T 215



CARL ZEISS, JENA, 1920

BERLIN, HAMBURG, WIEN, NEW YORK, BUENOS AIRES,
TOKIO · WORKS AT JENA, VIENNA AND GYOR.

For the exact identification of an instrument the respective
codeword should be quoted.

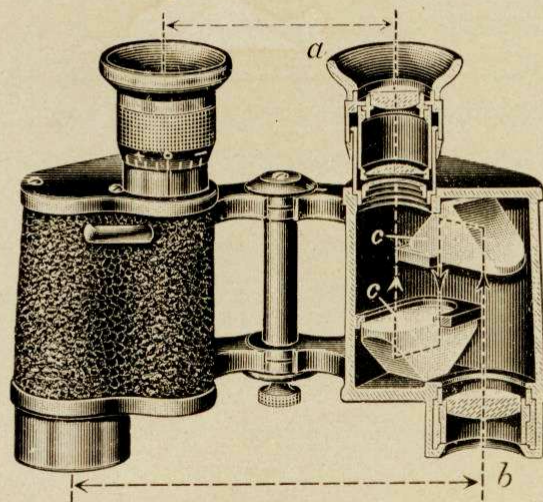


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PREFACE

THE invention of the prismatic reversing system and its application to the telescope, which has resulted in the evolution of the modern field-glass, is the indisputable achievement of ABBE and the Zeiss Works. It matters little that the priority of the idea has since been traced to older sources, notably to PORRO, in that all previous attempts to embody the principle had proved so entirely unsuccessful that the very idea had passed out of men's minds.



Trace of the rays through a Zeiss Field Glass.
a) Eyepiece, b) Objective, c) Prism.

The successful application of this principle enabled us incidentally to endow the field glasses with a new and valuable quality, in that the prisms furnished a means of setting the objectives farther apart than the eyes. The effect thereby obtained is comparable to that which would result from an increase of the distance between the eyes. The enhanced stereoscopic effect obtained by this means is such that even distant objects stand out in solid contours.



The optical performance of the prismatic field-glasses has been materially improved by us by the use of glass of such a high degree of transparency that there is no appreciable falling off in the intensity of the transmitted light. Our new eyepieces mark a further advance by the astonishing clearness and distinctness of the image seen through them. The mechanical design of the modern field-glass was originated by us and developed into its present convenient and elegant form. The scale of diopters appended to the eyepiece mounts, the scale showing the distance between the pupils of the eyes, the vulcanite lining, and the rain guard have all originated at the Zeiss Works. One of the most recent improvements consists in a graduation applied to the twin focussing device, which enables the user to rapidly focus and accurately re-set his glasses.

The general form and design originated at the Zeiss Works has been adopted by the majority of makers who have taken up the manufacture of prism field-glasses. For the Zeiss field glasses it may, however, rightly be claimed that they have maintained the lead and that at the present time they are the most widely used prism field glasses in existence. They have found their way into the armies and fleets of the world.

Our field glasses offer an extensive choice to suit every requirement and predilection likely to arise. The succeeding three sections are intended to assist in the selection of an appropriate glass.



ADVANTAGES OF THE ZEISS FIELD GLASSES

Remarkable Light Transmitting Power. This is a peculiarly significant quality in field-glasses intended for use at night, for hunting in failing light, or for use in artificially lighted places, such as theatres and concert halls. The light transmitting power is primarily dependent upon the cross section of the incident pencil of rays, and this in its turn is governed by the diameter of the objective. The latter, apart from other factors, does not, however, furnish an absolutely reliable measure of the light transmitting power. Field glasses are frequently met with in which part of the light which enters through the objective is cut off in consequence of a faulty position of the stops. This naturally reduces the light transmitting power of a glass. It is therefore only the effective diameter of the objective which determines the intensity of the field of view. In all cases it is therefore the effective diameter which is stated in the succeeding pages.

The light transmitting power of a glass is moreover determined by its magnifying power. Given a certain effective diameter of the objective the intensity of the field diminishes in the nature of things as the magnification increases. Conversely, the intensity rises in a measure as the diameter of the objective increases and as the magnification diminishes.

An estimate of the light transmitting power of a field glass may be obtained by measuring the cross section of the so-called exit pupil, i. e. the cross section of the pencil of rays which emerges from the eyepiece. The exit pupil is apparent to the eye as a bright circle when looking on the front of the eyepiece from a distance of about 8 inches, the field glasses being directed upon a bright back ground.



It is desirable that the exit pupil should not be smaller than the pupil of the human eye so as to transmit all the light that the latter is capable of receiving. Since, however, the size of the pupil of the eye is subject to variation according to the intensity of the daylight, being largest in semi-darkness, it is expedient to defer any practical comparisons of the light transmitting qualities of field glasses until dusk. Differences in the light transmitting power will then be particularly marked. The number which denotes the relative light-transmitting power, as given among the optical particulars appended to the subjoined description of each of our field glasses, is expressed by the square of the diameter of the exit pupil measured in millimetres. An exit pupil having a diameter twice as large as another furnishes accordingly a light-transmitting power which is four times as great.

Large Field of View. This is a notable advantage of the Zeiss Prism Glasses over those of the Dutch or Galilean type. The plate on pages 12/13 shows in a striking manner the vast superiority of the prism glasses in this respect.

Remarkably Sharp Definition. This is maintained up to the edge and throughout an evenly illuminated field of view.

A Pronounced Relief Effect, which in the field glasses with distended objectives greatly emphasises the plastic relations of objects at longer and shorter distances from the eyes.

Adjustment to the Distance between the Eyes. The two component halves of the field glasses are mounted about a hinge fitted with a scale giving in any position the corresponding distance between the eyepieces.

Mechanically Perfect Construction.

Dustproof and Dampproof Casing, rendering the glasses well adapted for use in the tropics.

Small Weight combined with solid construction.

Pleasing and Handy Form together with an elegant finish.



ON THE RELATIVE MERITS OF INDEPENDENTLY AND CONJOINTLY FOCUSSING EYEPIECES

The independently focussing eyepieces admit of the bodies of the telescopes being enclosed in a perfectly dustproof and dampproof casing, which has the advantage of rendering them adapted for use under any climatic conditions, notably in the tropics.

The twin focussing mechanism has the advantage of enabling the user of a field glass, when viewing rapidly approaching or receding objects, e. g. on race courses, to quickly re-set the two eyepieces, the latter having been separately set for either eye in the first instance. By this means it is easy to maintain a permanently sharp and clear image. This advantage is, however, obtainable only at the cost of a twofold compromise, viz.

1. The weight of the glasses is slightly increased;
2. It is difficult to mount glasses so fitted in an absolutely dustproof and waterproof casing.

We do not, accordingly, describe field glasses fitted with twin focussing mechanism as absolutely safe for use in the tropics.



Weights and Optical Particulars of the Zeiss Field Glasses.

Page	Linear Magnification	In hard leather case with leather straps	In soft leather pouch	Effective Diameter of the Objectives	Exit Pupil	Light Transmitting Power	Field of View	Weight	of Hard leather case with straps	of soft leather pouch
		Codeword	Codeword	mm. inch.	mm.		In terms of linear measure at a distance of 1000 yds.	oz.	oz.	oz.

Field Glasses with Independently Focussing Eyepieces

15	Travelling Glass	4	Turol	Turolwe	20	0,79	5	25	10,30	182	9 1/2	7 1/2	3 3/8
16	Tourist Glass	6	Turex	Turexwe	21	0,83	3,5	12,25	8,30	145	11	7 1/2	3 3/8
17	Glass for Travelling and Country use	6	Telex	Telexwe	24	0,94	4	16	6,80	120	15 3/4	13 1/2	3 5/8
18	Hunting and Marine Glass	6	Silvamar	Silvamarwe	30	1,18	5	25	8,40	150	22	16	4
19	Night Glass	7	Binocular	—	50	2	7,1	50,4	7,30	128	40 3/4	22	—
20	Sporting and Travelling Glass	8	Turact	Turactwe	24	0,94	3	9	6,30	110	15 3/4	13 1/2	3 5/8
21	Glass for use at night or dusk	8	Deltrintis	Deltrintiswe	30	1,18	3,76	14,1	8,750	154	25 1/2	16	4
22	Universal Glass	8	Telacto	—	40	1,57	5	25	6,30	110	38 3/8	19 1/2	—
23	Special Glass	10	Dekar	—	50	2	5	25	50	87	41 3/4	22	—
24	"	12	Telonar	—	40	1,57	3,3	10,9	4,230	75	38 3/4	17 1/2	—
25	"	16	Telexor	—	40	1,57	2,5	6,25	3,160	55	32 3/8	17 3/4	—
26	"	18	Deifort	—	50	2	2,8	7,84	2,80	49	41 3/4	27	—

Twin Focussing Field Glasses

28	Theatre and Tourist Glass	4	Turolm	Turolmwe	20	0,79	5	25	10,30	182	10 5/8	7 1/2	3 3/8
29	Small and light Glass	6	Teletur	Teleturwe	15	0,59	2,5	6,25	7,10	123	7 1/2	5 3/8	2 1/4
30	Tourist Glass	6	Turexm	Turexmwe	21	0,83	3,5	12,25	8,30	145	12 1/2	7 1/2	3 3/8
31	Universal Glass for Travelling and Country use	6	Telexm	Telexmwe	24	0,94	4	16	6,80	120	19	13 1/2	3 5/8
32	Hunting and Marine Glass	6	Silvarex	Silvarexwe	30	1,18	5	25	8,40	150	25 1/2	16 3/4	4
33	Sporting and Travelling Glass	8	Turactem	Turactemwe	24	0,94	3	9	6,30	110	18 1/2	13 1/2	3 5/8
34	Universal Glass	8	Deltrintem	Deltrintemwe	30	1,18	3,76	14,1	8,750	154	26 1/4	16	4
35/37	Theatre Glasses "Teleater"	3	(see page 35)	(see page 35)	13,5	0,51	4,5	20,25	13,30	23 ft. at 100 ft. distance	7 1/4	4	2 1/2

Monocular Field Glasses

38	Universal Glass	6	Simplex	Simplexpo	24	0,94	4	16	6,80	120	7 1/4	7	2 1/2
38	Hunting and Marine Glass	6	Simplex	Simplexpo	30	1,18	5	25	8,40	150	10 3/4	8	2 5/8
38	Sporting and Travelling Glass	7	Noctarmo	—	50	2	7,1	50,4	5,70	100	19 1/2	12 1/2	—
38	Night Glass	8	Simplex	Simplexpo	24	0,94	3	9	6,30	110	9 1/4	8 1/4	2 1/2
38	Special Glass	8	Deltrintmo	—	30	1,18	3,76	14,1	8,750	154	10	10 1/4	—
38	"	8	Telactomo	—	40	1,57	5	25	6,30	110	13 1/2	10 1/4	—
38	"	12	Telonarmo	—	40	1,57	3,3	10,9	4,230	75	18	8 3/4	—
38	"	16	Telexormo	—	40	1,57	2,5	6,25	3,160	55	15	8 3/4	—
38	"	18	Deifortmo	—	50	2	2,8	7,84	2,80	49	20 3/4	14 1/4	—



HINTS ON THE CHOICE OF A ZEISS FIELD GLASS

It is impossible to design field glasses in such a way that they may be equally well adapted for all purposes. The requirements of hunters, tourists and theatre-goers are fundamentally different. We have therefore designed a series of glasses differing in magnifying power, light transmitting capacity, the size of the field, and weight in accordance with the main purposes for which they are intended. These qualities are independent, so that in the nature of things it is not possible to enhance any one of these properties except at the expense of some of the others.

The **Magnification** should therefore be not greater than is needed for the purpose in view. For travelling or hunting a magnification of 4 to 6 diameters is generally ample, though magnifying powers of 7 or 8 diameters may be used with advantage. For the purpose of watching sporting events glasses may be used magnifying up to 8 times if it be required to recognise small details with steadily held glasses. Generally speaking, it is not advisable to exceed a magnifying power of 8 diameters so long as the glasses have to be held in the unsupported hands. In this case the unavoidable tremour of the hands becomes much accentuated in the greatly magnified image as seen in the telescope, so that any advantage which might be expected from the higher magnification is practically rendered abortive. When using field glasses magnifying more than 8 times it is therefore advisable to support the arms or to mount the glasses on a stand.

Light Transmitting Power. This should naturally be as great as possible, whatever the purpose of the glasses. There are, however, as we have already pointed out, certain limits which cannot be exceeded when a certain minimum requirement obtains with respect to the other three properties.



The glasses having a smaller light-transmitting power suffice for travelling and sporting requirements, since in good daylight they furnish as bright a view as those with greater light-gathering power.

For deer stalking preference may be given to our "Silvamar" Hunting Glass, the light-gathering qualities of which render it eminently well adapted for use in failing light and in the dim light of the woods. These glasses are likewise excellent for use at sea, where it is also a matter of great importance to be able to discern distant objects in failing light. For particularly exacting requirements we would recommend our "Binocular" Night Glasses, which of all the glasses made by us have the greatest light-gathering power. The model "Starmor", as described on page 43, is convenient for viewing the heavens and for looking at distant points in the landscape. More exacting requirements are satisfied by our large look-out telescopes and astronomical telescopes.*

The **Field of View** should likewise not fall short of a certain minimum value, as otherwise it becomes inconveniently difficult to fix the object. This applies more particularly to glasses intended for viewing moving objects while hunting, watching sports, &c. The size of the field is of little moment in the case of rigidly mounted look-out telescopes directed upon stationary and easily findable objects.

The **Weight** should naturally be as much reduced as possible. It is obvious that a light glass can be held more steadily in the unsupported hands than a heavy glass and will therefore furnish a better view.

The weight and bulk of a field glass inevitably increases with its magnifying power and light transmitting capacity.

The tables on pages 8 and 9 will assist in the selection of a glass. They are, however, not intended to rigidly define the applicability and limitations of the different models of our field glasses. Individual requirements and personal predilection enter into the question and should receive due consideration.

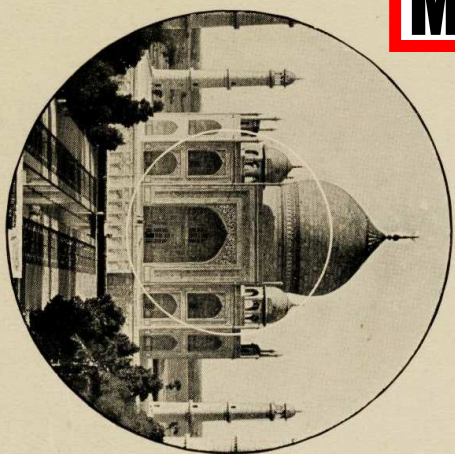
* Prospectuses free on application.

PLATE SHOWING THE FIELDS OF VIEW ENCOMPASSED BY THE VARIOUS TYPES OF FIELD GLASSES

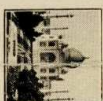
with Independently Focussing Eyepieces as well as those with Twin Focussing Mechanism.

The area within the small inscribed circle represents the field of view of a Galilean glass of equivalent magnification.

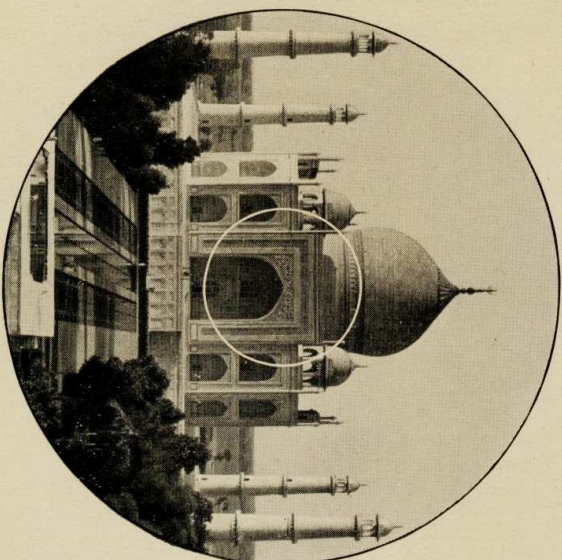
The large circular area represents the field of view of the respective Zeiss Field Glasses as it appears to the eye.



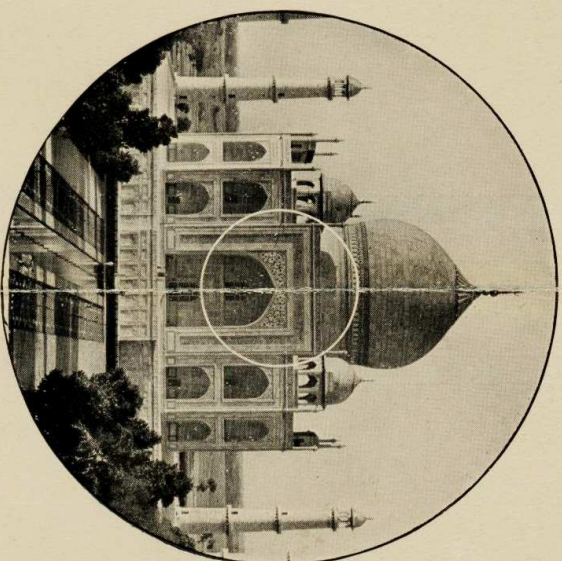
Zeiss "Telex" Field Glasses
Magnifying 6 times.



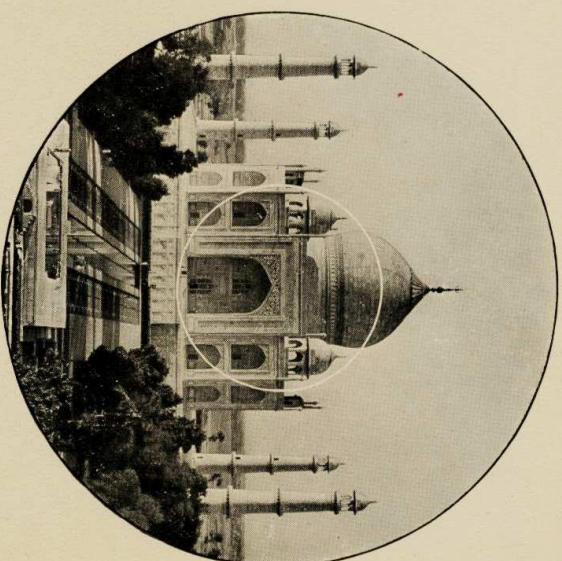
View of the scene as it appears to the naked eye.



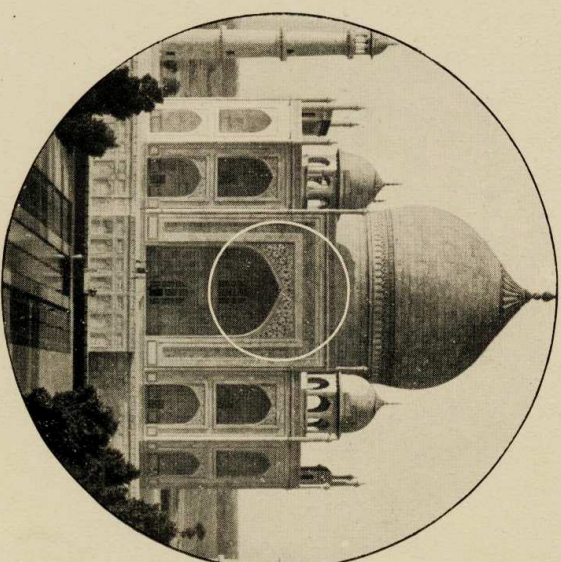
Zeiss "Binocular" Field Glasses
Magnifying 7 times.



Zeiss "Turact" Field Glasses
Magnifying 8 times.



Zeiss "Silvamar" Hunting and Marine
Glasses Magnifying 6 times.



Zeiss "Dekar" Field Glasses
Magnifying 10 times



FIELD GLASSES WITH INDEPENDENTLY FOCUSSED EYEPIECES

These field glasses are exceedingly convenient in practical use. They can be rapidly set to the user's sight, which frequently differs in the two eyes, with the aid of the scale of diopters and index with which the eyepieces are provided. There is then no need to change the adjustment after the glasses have been once sharply focussed for a distant object.





TUROL

Magnifying 4 times

Small Travelling Glasses



1/2 Full Size.

Great Light Transmitting Power. Large Field of View.

Small Weight and Bulk

In black hard leather case with shoulder strap . Codeword: Turol

In brown hard leather case with shoulder strap . Codeword: Turolba

In suède leather pouch Codeword: Turolwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight		
			mm.	in.	in angu- lar mea- sure		of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
4 times	25	5	20	0.79	10.3 ⁰	182	9 1/2	7 1/2	3 3/8



TUREX

Magnifying 6 times

Tourist Glasses.



1/2 Full Size.

Small Bulk and Weight,
combined with fine optical qualities.

In black hard leather case with shoulder strap . Codeword: Turex

In brown hard leather case with shoulder strap . Codeword: Turexba

In suède pouch Codeword: Turexwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight		
			mm.	in.	in angu- lar mea- sure		of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	12.25	3.5	21	.83	8.3°	145	11	7 1/2	3 3/8



TELEX

Magnifying 6 times

Universal Glasses for Travelling and for Use in the Country.



1/2 Full Size.

Small Weight.

Good Light Transmitting Power.

In black hard leather case with shoulder strap . Codeword: Telex

In brown hard leather case with shoulder strap Codeword: Telexba

In suède pouch Codeword: Telexwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.	weight		
			mm.	in.		of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	16	4	24	.94	6.8° 120	15 3/4	13 1/2	3 5/8



SILVAMAR

Magnifying 6 times

Hunting and Marine Glasses.



1/2 Full Size.

Great Light Gathering Power. Extensive Field of View.
Special Glass for Use in Failing Light.

In black hard leather case with shoulder strap Codeword: Silvamar

In brown hard leather case with shoulder strap Codeword: Silvamarba

In suède pouch Codeword: Silvamarwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective mm. in		Field of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
						of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	25	5	30	1.18	8.4° 150	22	16	4



BINOCTAR

Magnifying 7 times

Night Glasses.



$\frac{1}{2}$ Full Size.
Prism
Glasses of
Highest Light
Gathering
Power

In black hard leather case with shoulder strap Codeword: Binoctar

In brown hard leather case with shoulder strap Codeword: Binoctarba

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective mm. in.		Field of View in terms of yds. at a dis- tance of 1000 yds in angu- lar mea- sure		Weight of Field Glass oz. of Hard leather Case oz.	
7 times	50.4	7.1	50	2	7.3°	128	40 $\frac{3}{4}$	22



TURACT

Magnifying 8 times

Sporting and Travelling Glasses.



1/2 Full Size.

A High Power Glass with Fine Optical Properties.
Enabling small details to be recognised at great distances.

In black hard leather case with shoulder strap . Codeword: Turact

In brown hard leather case with shoulder strap Codeword: Turactba

In suède pouch Codeword: Turactwe

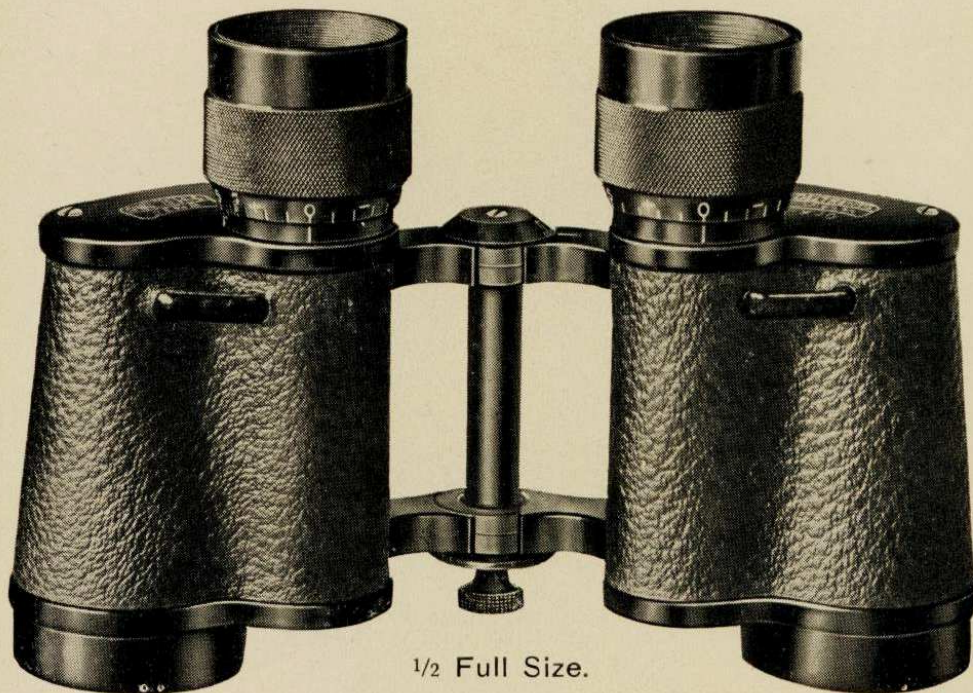
For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field in angu- lar mea- sure	of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
			mm.	in.			of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
8 times	9	3	24	.94	6.3°	110	15 ³ / ₄	13 ¹ / ₂	3 ⁵ / ₈



DELTRENTIS

Magnifying 8 times



1/2 Full Size.

An excellent Glass of high magnifying power with a relatively very large field of view.

In black hard leather case with shoulder strap Codeword: Deltrentis

In brown hard leather case with shoulder strap Codeword: Deltrentisba

In suède pouch Codeword: Deltrentiswe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective mm. in.		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight		
							of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
8 times	14.1	3.76	30	1.18	8.75°	154	25 1/2	16	4



TELAUTO

Magnifying 8 times



1/3 Full Size.

A Powerful Glass of Exceptional Light Gathering Power.

In black hard leather case with shoulder strap Codeword: Telauto

In brown hard leather case with shoulder strap Codeword: Telactoba

For Prices see Price Slip.

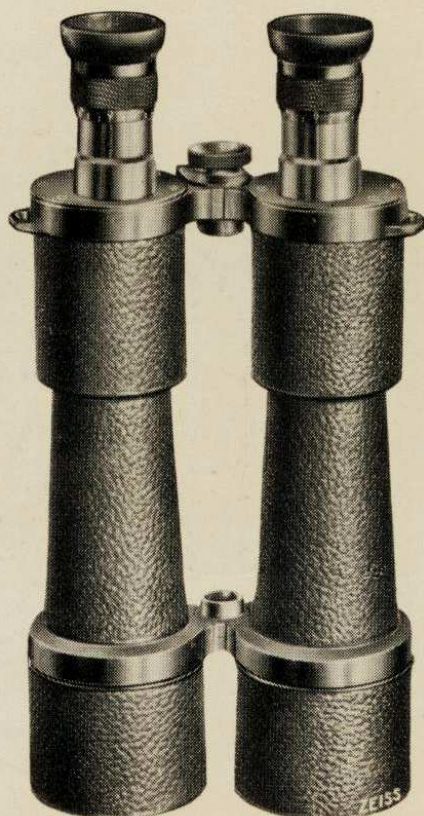
Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight	
			mm.	in.	in angu- lare mea- sure		of Field Glass oz.	of Hard leather Case oz.
8 times	25	5	40	1.57	6.3°	110	38 ³ / ₈	19 ¹ / ₂



DEKAR

Magnifying 10 times

Special
Glasses.



1/4 Full Size.

High Power Glasses with Great Light Transmitting Capacity,
Requiring a steady support.

- | | |
|---|--------------------|
| In black hard leather case with shoulder strap | Codeword: Dekar |
| In brown hard leather case with shoulder strap | Codeword: Dekarba |
| Stand with case (see page 41) | Codeword: Dekarsta |
| Stockhead for the stand (see page 41) | Codeword: Dekaraf |

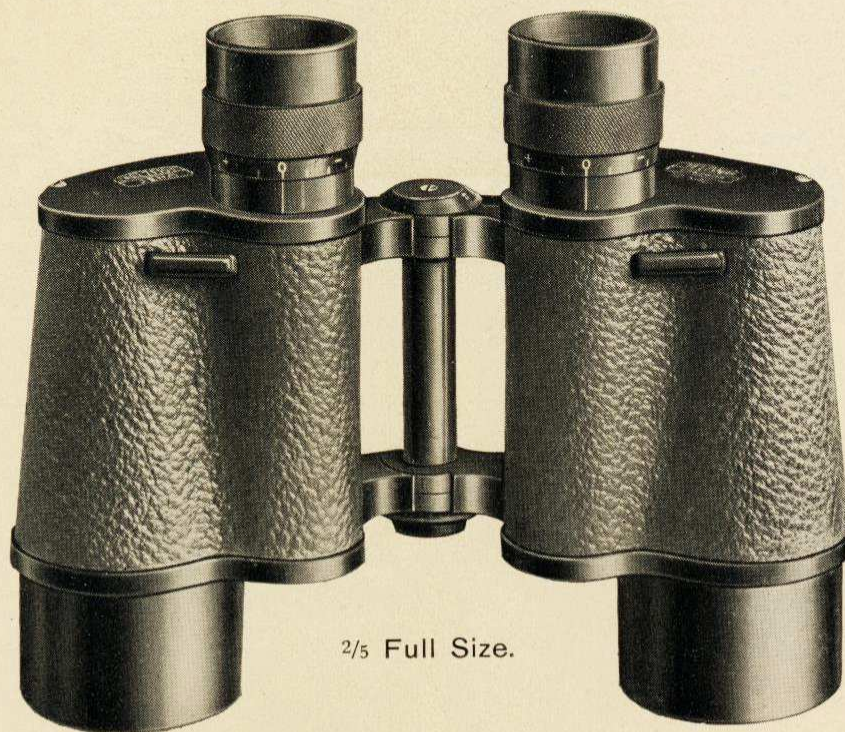
For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective mm. in.		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight of Field Glass oz. of Hard leather Case oz.	
					in angu- lare mea- sure			
10 times	25	5	50	2	5°	87	41 ³ / ₄	22



TELONAR

Magnifying 12 times



$\frac{2}{5}$ Full Size.

High Power Glasses for Observing Far Distant Objects.

These glasses require a stationary support.

In black hard leather case with shoulder strap Codeword: Telonar

In brown hard leather case with shoulder strap Codeword: Telonarba

Stand with case (see page 41) Codeword: Telonarsta

Stockhead for the stand (see page 41) Codeword: Telonaraf

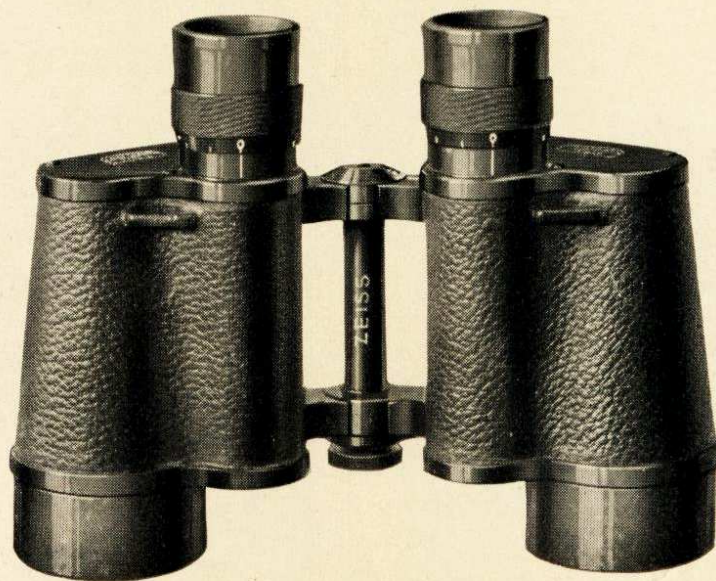
For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight	
			mm.	in.	in angu- lare mea- sure		of Field Glass oz.	of Hard leather Case oz.
12 times	10.9	3.3	40	1.57	4.23	75	38 $\frac{3}{4}$	17 $\frac{1}{2}$



TELSEXOR

Magnifying 16 times



1/3 Full Size.

For great distances, when mounted on a steady support.

In black hard leather case with shoulder strap Codeword: Telsexor
In brown hard leather case with shoulder strap Codeword: Telsexorba
Stand with case (see page 41) Codeword: Telsexorsta
Stockhead for stand (see page 41) Codeword: Telsexoraf

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight	
			mm.	in.	in angu- lar mea- sure	of Field Glass oz	of Hard leather Case oz.	
16 times	6.25	2.5	40	1.57	3.16°	55	32 ³ / ₈	17 ³ / ₄

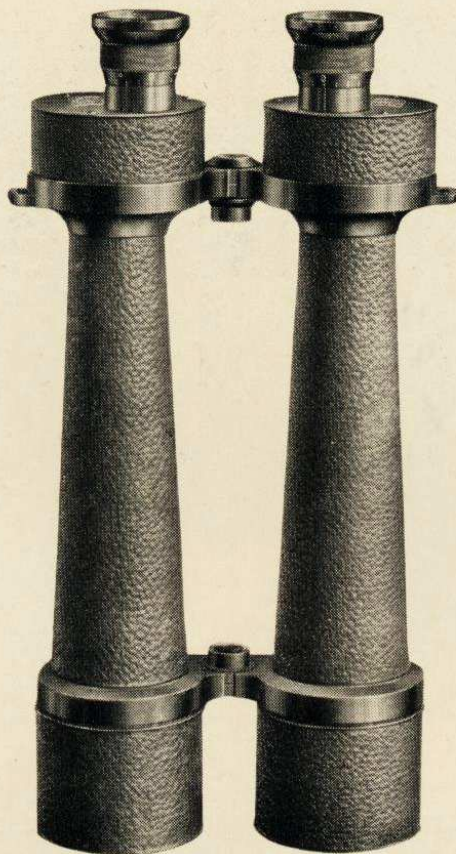


DELFORT

Magnifying 18 times

Look-out
Telescope.

1/4 Full Size.

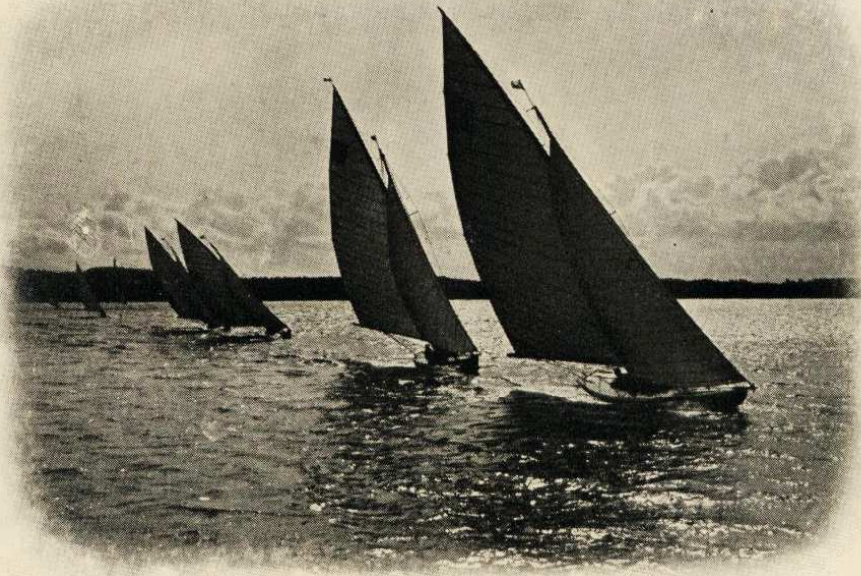


High Power Binocular.

In black hard leather case with shoulder strap Codeword: Delfort
Stand with case (see page 41) Codeword: Delfortsta
Stockhead for stand (see page 41) Codeword: Delfortaf

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight	
			mm	in.	in angu- lar mea- sure		of Field Glass oz.	of Hard leather Case oz.
18 times	7.84	2.8	50	2	2.8°	49	41 ³ / ₄	27



TWIN FOCUSSED FIELD GLASSES

The optical properties of these glasses are identical with those of the glasses fitted with independently focussing eyepieces, as described on the preceding pages 14—25. Their choice is therefore subject to the same considerations as explained above.

To facilitate focussing or accurate re-setting the twin focussing device is provided with a scale and index.

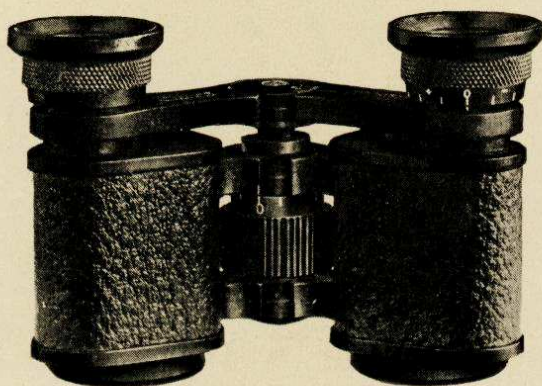




TUROLEM

Magnifying 4 times

Theatre and Travelling Glasses.



1/2 Full Size.

Great Light Transmitting Power. Large Field of View.

Small in Bulk and Light in Weight.

In black hard leather case with shoulder strap Codeword: Turolemb

In brown hard leather case with shoulder strap Codeword: Turolemba

In suède leather pouch Codeword: Turolembwe

For Prices see Price Slip.

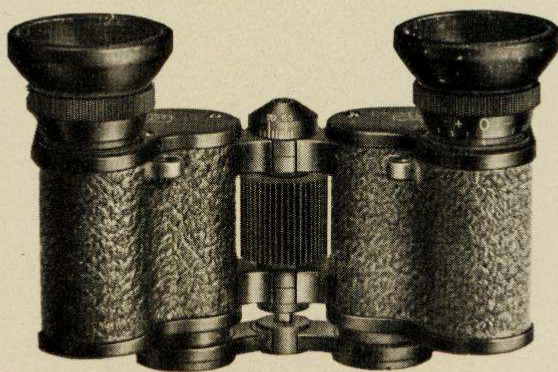
Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight		
			mm.	in.	in angu- lar mea- sure		of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
4 times	25	5	20	.79	10.3°	182	10 ⁵ / ₈	7 ¹ / ₂	3 ³ / ₈



TELETUR

Magnifying 6 times

Small and Light Tourists Glasses*.



1/2 Full Size.

Their extremely small dimensions and weight notwithstanding, these glasses have a magnifying power of 6 diameters, which suffices for most purposes.

In black hard leather case with shoulder strap Codeword: Teletur

In brown hard leather case with shoulder strap Codeword: Teleturba

In suède leather pouch Codeword: Teleturwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field in angu- lar mea- sure	of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
			mm.	in.			of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	6.25	2.5	15	.59	7.1°	123	7 1/2	5 3/8	2 1/4

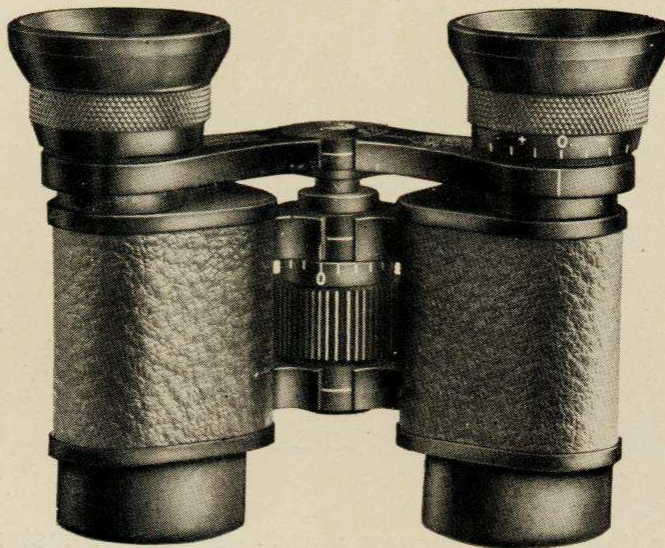
*Respecting Telescopic Magnifiers see page 42.



TUREXEM

Magnifying 6 times

Tourists Glasses.



1/2 Full Size.

Small Bulk and Weight,
combined with fine optical qualities.

In black hard leather case with shoulder strap Codeword: Turexem

In brown hard leather case with shoulder strap Codeword: Turexemba

In suède leather pouch Codeword: Turexemwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field in angu- lar mea- sure	of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
			mm.	in.			of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	12.25	3.5	21	.83	8.3°	145	12 1/2	7 1/2	3 3/8



TELEXEM

Magnifying 6 times

Universal Glasses for Travelling and for use in the Country.



1/2 Full Size.

Small Weight. Excellent Light Transmitting Power.

In black hard leather case with shoulder strap Codeword: Telexem

In brown hard leather case with shoulder strap Codeword: Telexemba

In suède leather pouch Codeword: Telexemwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective mm. in.		Field of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
						of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	16	4	24	.94	6.8 ⁰ 120	19	13 1/2	3 5/8



SILVAREM

Magnifying 6 times

Hunting and Marine Glass.



1/2 Full Size.

Great Light Gathering Power. Extensive Field of View.
Special Glasses for use at Dusk.

In black hard leather case with shoulder strap Codeword: Silvarem

In brown hard leather case with shoulder strap Codeword: Silvaremba

In suède leather pouch Codeword: Silvaremwe

For Prices see Price Slip.

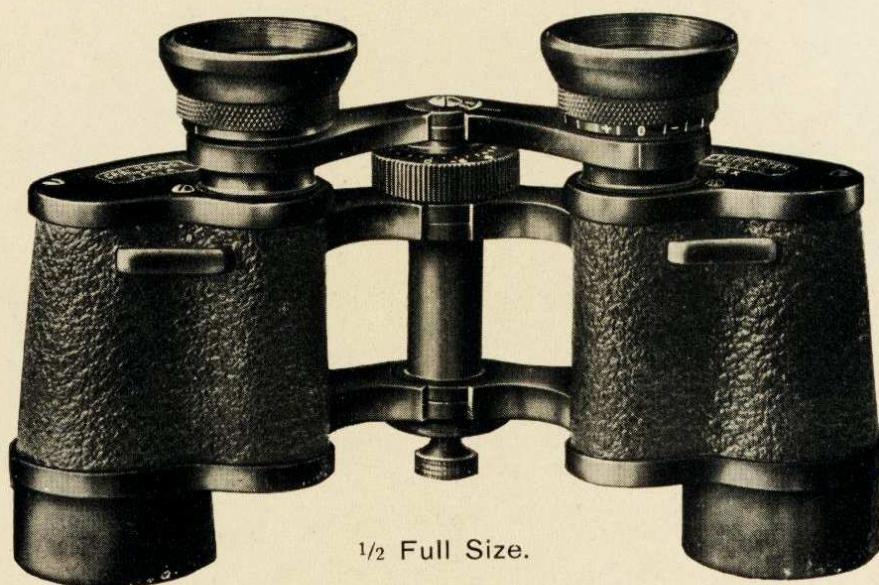
Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.		Weight		
			mm.	in.	in angu- lare mea- sure	of yds.	of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
6 times	25	5	30	1.18	8.4°	150	25 1/2	15 3/4	4



TURACTEM

Magnifying 8 times

Sporting and Travelling Glasses.



1/2 Full Size.

Powerful glasses with excellent optical qualities,
enabling small details being recognised at a great distance.

In black hard leather case with shoulder strap Codeword: Turactem

In brown hard leather case with shoulder strap Codeword: Turactemba

In suède leather pouch Codeword: Turactemwe

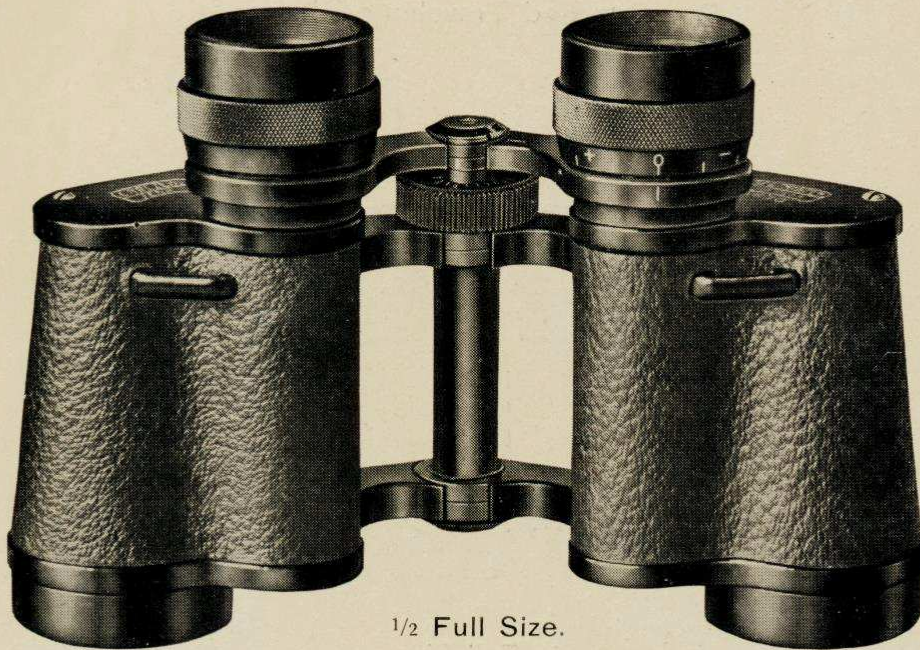
For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.	Weight of Field Glass oz.	Weight of Hard leather Case oz.		Weight of Soft leather Pouch oz.
			mm.	in.					
8 times	9	3	24	0.94	6.3° 110	18 1/2	13 1/2	3 5/8	



DELTRINTEM

Magnifying 8 times



1/2 Full Size.

An excellent Glass of high magnifying power with a relatively very large field of view.

In black hard leather case with shoulder strap Codeword: Deltrintem

In brown hard leather case with shoulder strap Codeword: Deltrintemba

In suède pouch Codeword: Deltrintemwe

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
			mm	in.		of Field Glass oz.	of Hard leather Case oz.	of Soft leather Pouch oz.
8 times	14.1	3.76	30	1.18	8.75 ⁰ 154	26 1/4	16	4



ZEISS "TELEATER" GLASSES

"Teleater" is an opera glass in which the recognised advantages of the prism binocular, — viz. its **excellent definition** and more especially its **large field of view**, — are embodied in an exceedingly small and light instrument. It magnifies 3 times, which is the power best adapted for use in the theatre, and at this magnification the "Teleater" embraces at a distance of 100 feet a scene 23 feet wide. A person seated 60 feet away from the stage will therefore be able to take in at one glance the whole of the actors comprised within a width of $13\frac{1}{2}$ feet.

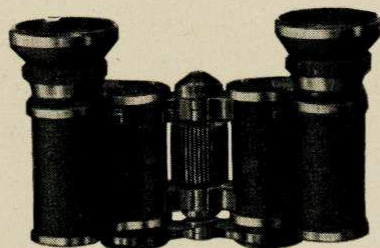
The "Teleater" can be adjusted for any distance between the eyes and for any sight. Its mechanical design is that of our glasses with twin focussing arrangement*. The "Teleater" is supplied in the following styles.

* Respecting Lens Attachments for the "Teleater" see page 42.



TELEATER

with black covering, black mounts and black silk cord

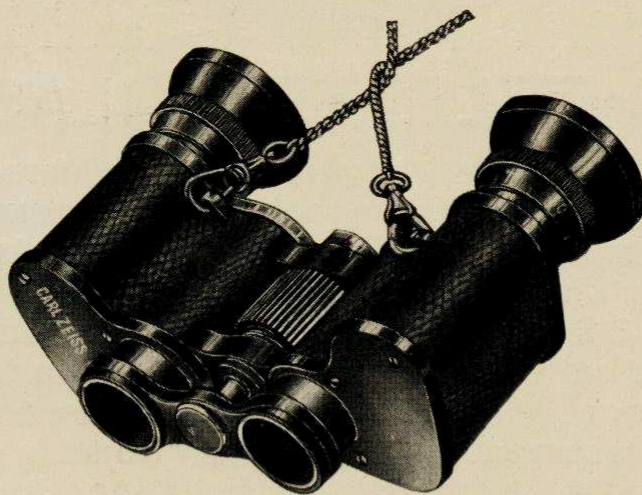


1/3 Full Size

- In hard leather case Codeword: Telebolo
In suède leather pouch Codeword: Teledamus
In bead bag Codeword: Teletas

TELEATER

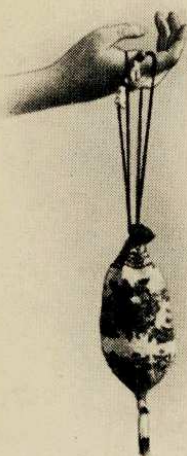
with antique leather or lizard skin covering, gilt metal mounts,
and silk cord



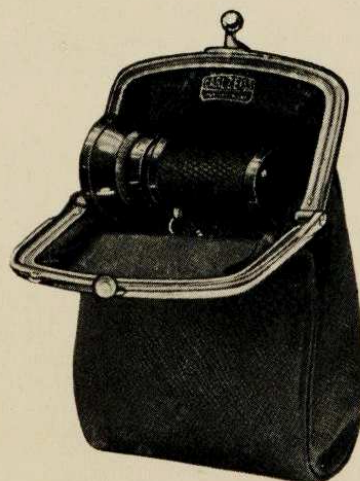
1/2 Full Size

- In case with antique leather or crocodile skin
covering Codeword: Teleba
In suède leather pouch Codeword: Teleboes
In bead bag Codeword: Telesilla

For Prices see Price Slip.



"Teleater" in bead bag



"Teleater" in suede leather pouch



"Teleater" with black covering in black leather case



"Teleater" in crocodile leather case with ticket pocket and mirror

- Silk cord with two swivel catches Codeword: Teletico
 Suède leather bag Codeword: Telesia
 Black or brown morocco case Codeword: Teleblack
 Crocodile leather case Codeword: Telemaco
 Bead bag Codeword: Teletel

For Prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil	Effective Diameter of Objective		Field of View in terms of yds. at a dis- tance of 100 yds.		Weight		
			mm.	in.	in angu- lare mea- sure		of Field Glass	of Hard leather Case	of Soft leather Pouch
3 times	20.25	4.5	13.5	.51	13.3°	23	7 1/4	4	2 1/2



MONOCULAR FIELD GLASSES



1/2 Size

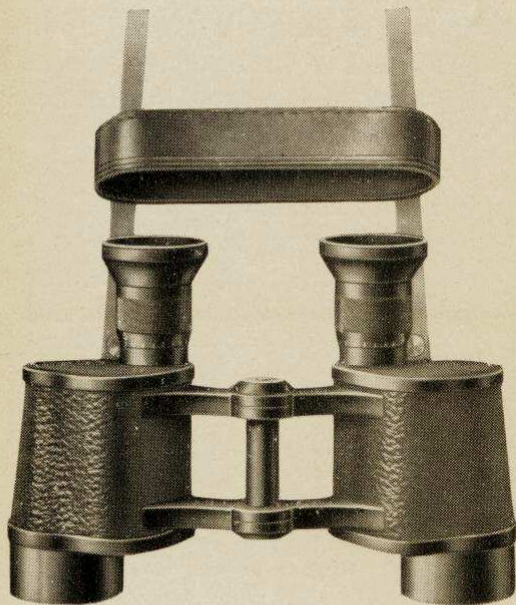
The component telescope bodies of our binocular field glasses may be supplied separately. Their optical and mechanical qualities are identical with those of the binoculars. Obviously, they cannot furnish a plastic effect. They may be desirable where one eye is sightless or seriously defective, or where the glass is intended for a purpose where stereoscopic vision is of no moment. Being considerably lower in price than the corresponding double telescopes, they are likewise welcome in many cases for reasons of economy.

Linear Magnification	Diameter of Objective		In hard leather case with strap	In suède leather pouch
	mm.	in.	Codeword	Codeword
6 times	24	.94	Simplex	Simplexpo
6 „ Hunting Glass	30	1.18	Simpsilv	Simpsilvpo
7 „	50	2	Noctarmo	—
8 „	24	.94	Simplact	Simplactpo
8 „	30	1.18	Deltrintmo	—
8 „	40	1.57	Telactomo	—
12 „	40	1.57	Telonarmo	—
16 „	40	1.57	Telsexormo	—
18 „	50	2	Delfortmo	—

For prices see Price Slip.



FIELD GLASS ACCESSORIES.

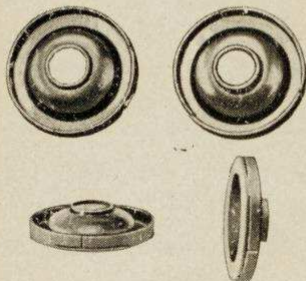


Rain Guard

for protecting the eyepieces from rain while hunting, &c. The guard is attached to the shoulder strap and is so arranged that when the glasses are not in use it rests on both eyepieces, and pushes back when the glasses are held to the eyes.

Codeword: Regenklapp

For price see Price Slip.



Yellow Glasses.

These glasses attach to the eyepieces and are useful when the light is excessively glaring.

Codeword: Gelbglaser

For price see Price Slip.

Sight Correcting Glasses.

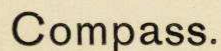
For the use of persons with astigmatic eyes we recommend spectacle glasses fitting the eyepiece mounts in cases where it is desired to use the glasses without spectacles. When ordering, the oculist's prescription, giving the position of the axes, should be furnished.

Codeword: Telecorrect.

For prices see Price Slip.

The mounts of the Sight Correcting Glasses are marked R (for right) and L (for left) respectively. Also, on either mount there are two indentations (not on the cylinder axis produced). When the glasses are in position the four indentations should be in a straight line.

For the convenience of spectacle wearers the field glasses may be supplied with flat eyepiece cups. This does not affect the price of the instrument.



A compass can be fitted to the lid of the case. It is so mounted that the casing also serves to arrest the needle, the latter being fixed when the casing is turned to the right and released when it is turned to the left. The projecting rim of the casing prevents dust and rain from entering the compass and also protects it from damage.

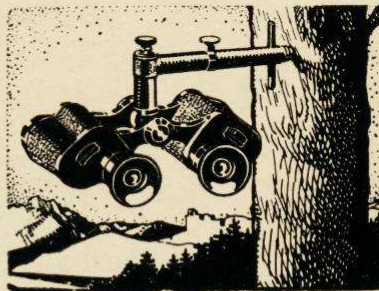
Codeword: Kompass

For price see Price Slip.

TREE SCREWS AND STANDS.

Field Glasses of high magnifying power have a correspondingly greater weight. It is somewhat fatiguing to steadily support these glasses. For use with high power field glasses we have accordingly devised.

Tree Screws enable the user of a field glass to direct it both in horizontal and vertical directions. The tree screw designed for the binocular field glasses secures the instrument by its hinge, whereas in the case of that provided for monocular field glasses the body of the instrument attaches to the screw.



Tree Screw for Binocular Field
Glasses fixed to a tree.

Tree Screw for binocular field glasses Codeword: Telarbor
 " " " monocular " " Codeword: Simparbor

When ordering please specify the field glass for which the tree screw is required.

For Prices see Price Slip.

Stands.

These are of the well tried design of our tripod stands. The stockhead grips the field glass after the manner of a tree screw and admits of its being freely directed up and down as well as from left to right.

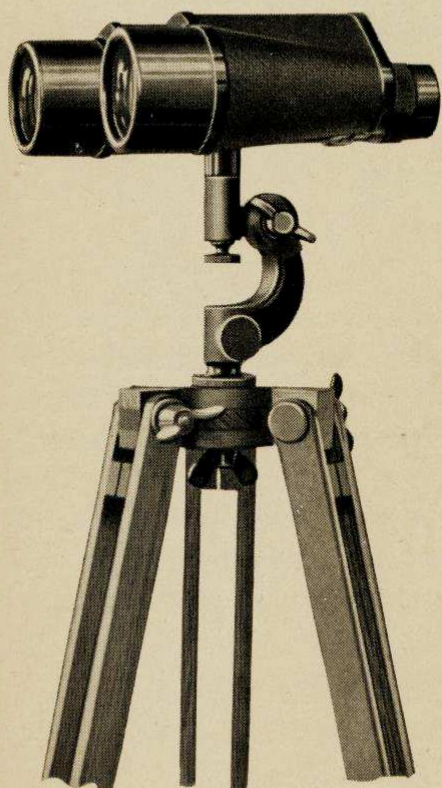
When ordering use the respective Codewords on pages 23—26 or specify the field glass for which the stand and stockhead are required.

Light stand in canvas case.

Weight in case about 3 lbs.

Codeword for the stand alone:
Telesta.

For Prices see Price Slip.



Headstock to fit.

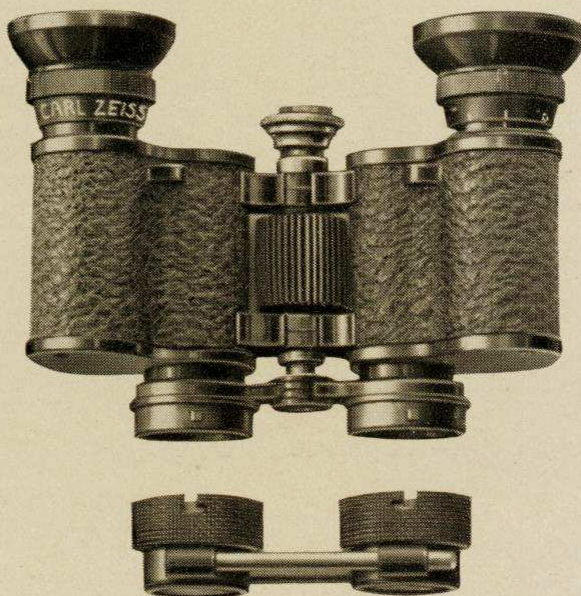
Weight about 6½ oz.

Codeword for the headstock alone:
Teleauf.

For Prices see Price Slip.

Lens Attachments.

The field glasses as well as the "Teleater" theatre glasses are essentially telescopes. To render them available for viewing near objects at distances ranging from 4 inches to 2 yards it is necessary to convert the optical system into an amplifying combination by the introduction of an appropriate lens in front of the objective. This reduces the telescope to a **telescopic magnifier**. The field glass becomes thus available in several new ways for artistic, scientific and technical purposes. The interchangeable lens attachments furnish a series of high power magnifiers. The peculiarity of this combination is that the distance between the glass and the object is very much greater than in the case of a simple



magnifier. The telescopic magnifiers are accordingly of special value to medical men, zoologists, botanists, makers of delicate instruments, cartographers, collectors, and lovers of natural history.

Field glasses with contracted objectives, such as the "Teleater" theatre glass magnifying 3 times and the "Teietur" distance glass magnifying 6 times, may by combination with lens attachments be converted into binocular telescopic magnifiers, whilst field glasses with distended objectives may be changed into monocular telescopic magnifiers.

Respecting Lens Attachments for the Conversion
of Field Glasses into Telescopic Magnifiers see
Separate Price List "Med. 3".

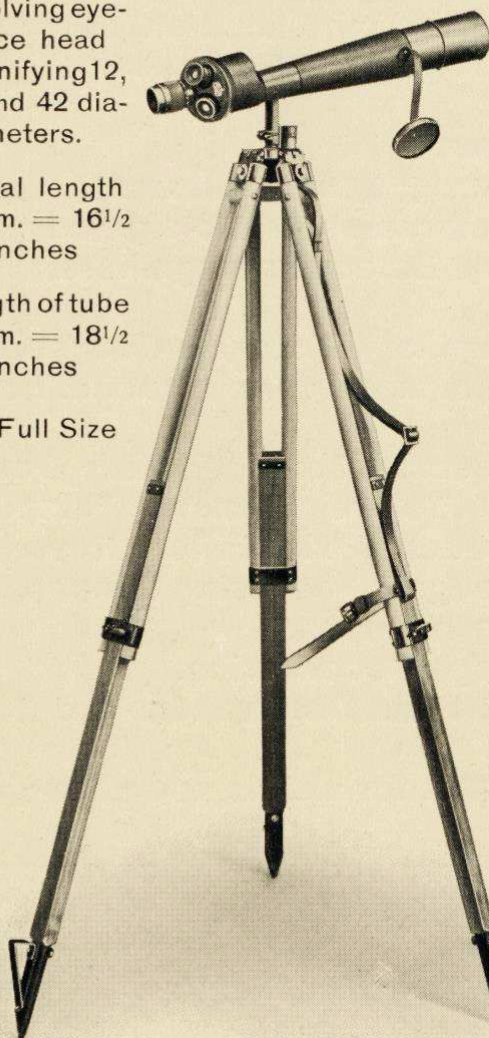


Revolving eye-piece head magnifying 12, 24 and 42 diameters.

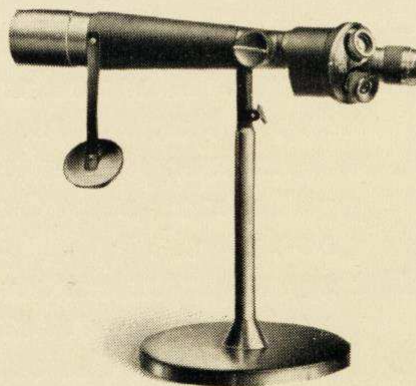
Focal length
42 cm. = 16½ inches

Length of tube
47 cm. = 18½ inches

1/15 Full Size



LOOK- OUT TELESCOPE STARMOR



Starmorund.

Weight of this stand
4 lb. 8½ oz.

1/15 Full Size

Telescope with
Leather Case.
Stand with cir-
cular base, as
shown

Codeword:
Starmorund

Telescope with Leather Case.

Collapsible Tripod Stand with shoulder strap Codeword: Starmor

For prices see Price Slip.

Magni- fica- tion	Light Trans- mitting Power	Dia- meter of Exit Pupil mm.	Effective Diameter of Objective		Field of View in angu- lar mea- sure	of View in terms of yds. at a dis- tance of 1000 yds.	Weight		
			mm.	in.			of Tele- scope lbs.	of Hard leather Case lbs.	of Tripod Stand lbs.
12	0.25	5	60	2.4	4.2°	74	13.2	20.9	11
24	6.25	2.5	60	2.4	2.1°	37			
42	1.96	1.4	60	2.4	1°	17.5			

* Separate Price List "Astro 26" on Astronomical and Terrestrial Telescopes free on application.

Any of the following **Catalogues** may be had on application:

Binocular and Monocular Stand and Look-out Telescopes for Terrestrial and Astronomical Purposes.

Range Finders.

"Punktal" Spectacle Glasses.

Gullstrand's Cataract Glasses ("Katral" Glasses).

Telescopic Spectacles for extremely weak-sighted eyes.

Magnifiers. Monocular and Binocular Magnifiers. Telescopic Magnifiers.

Ophthalmoscopes. Interpupillary Distance Gauges. Exophthalmometer, Oral Illuminating Appliances. Laryngoscopes.

Photographic Objectives. Tessars, Double Protars, Double Amatars, Convertible Protars, Planars, Telephoto Attachments, Yellow Screens, Dukar Filters, Reversing Prisms, Light Filter Troughs, Focussing Lenses, etc.

Stereoscopes. Verant Stereoscopes.

Microscopes and Microscope Accessories.

Apparatus for **Ultra-microscopic Observations** and **Dark-ground Illumination.**

Photo-micrographic Apparatus for visible and ultra-violet light.

Projection Apparatus for macroscopic and microscopic projection. Episcopes. Epidiascopes. Small Projection Apparatus.

Illuminating Appliances for **Operating Theatres.**

Surveying Instruments, Levels, Theodolites, Optical Squares, &c.

Astronomical Telescopes and Astronomical Accessories, Astronomical and Astro-photographic Objectives, Observatory Domes.

Optical Measuring Instruments. Photo-theodolites, Stereo-comparators, Micro-calipers, Reading Microscopes, Comparators, Spectroscopes, Spectrographs, Refractometers, Interferometers.

Automobile Projector Head Lights for electric and acetylene illumination, with moderating devices. Motor Boat Projectors.

Micrometer Tools: Screw Gauges, Universal Angle Gauges, Depth Gauges, Automatic Centre Punches, Bar Compasses, Screw Thread Testing Apparatus, Micrometer Dial Gauges.