GOSSEN®

N100

EXPOSURE METER

OPERATING INSTRUCTIONS

CONGRATULATIONS

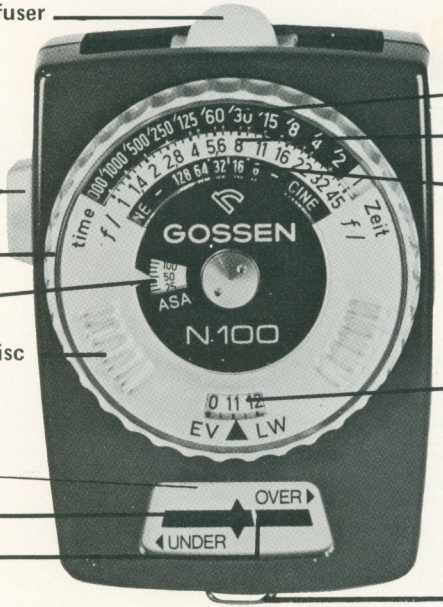
. . . on becoming the owner of an N 100 exposure meter! Your new meter is a product of GOSSEN GmbH, Erlangen, West Germany – manufacturers of precision electrical measuring instruments since 1919, and one of the outstanding pioneers in the design of exposure meters.

Many millions of Gossen exposure meters are in use all over the world, giving their owners reliable service year after year.

We know you will be pleased with your N100 and that it will give you faithful service for a long time to come. It is precisely built and carefully calibrated to give you accurate exposure information.

Please acquaint yourself with this fine instrument by reading the following pages with your N100 meter at hand, thus getting off to a good start for consistently good results.

GOSSEN N100 . . . OPERATING PARTS AND S



(1) Sliding spherical diffuser for incident light measurement

(2) On-off switch

(3) Computer ring

(4) ASA scale window

(5) Film speed setting disc

(6) Indicator window

(7) Centering target

(8) Indicator needle

(9) Exposure time scale

(10) F-stop scale (lens aperture)

(11) Cine frames per second scale

(12) Scale for shutters calibrated in EV (Exposure Values)

(13) Eyelet for neckstrap

(14) Battery chamber

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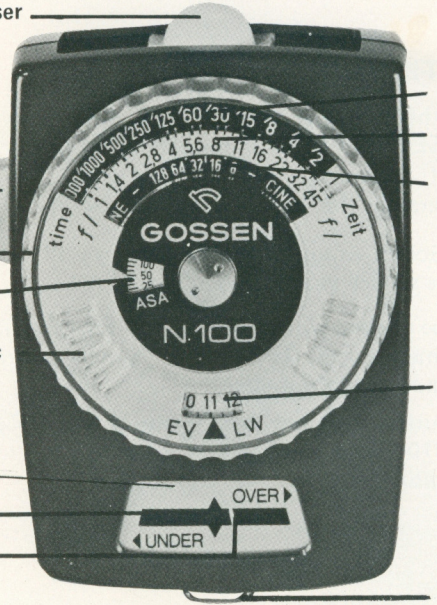

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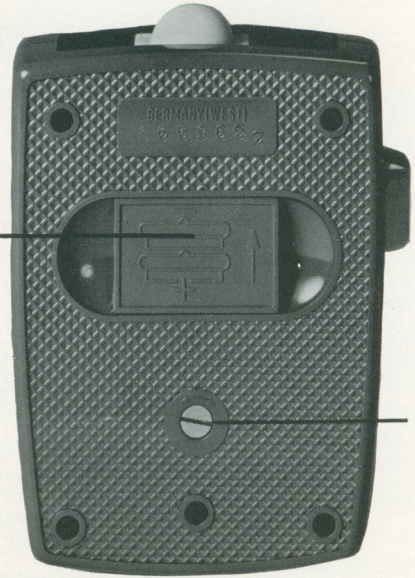

(14) Battery chamber

(15) Zero adjustment screw

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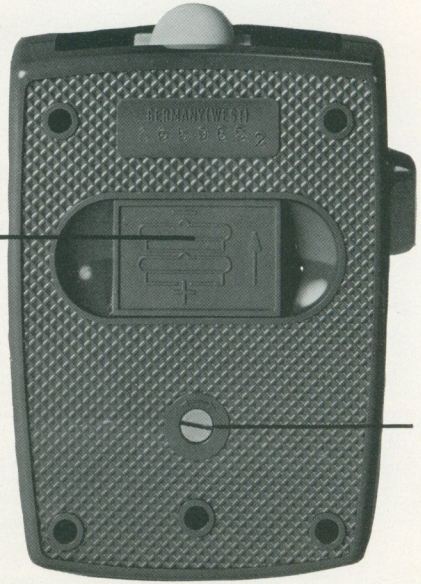

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(15) Zero adjustment screw

READING THE SCALES

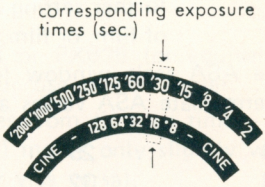
Still Cameras

'2, '4, '8, etc. are fractions of seconds:
1/2 - 1/4 - 1/8 sec. etc.
Unmarked numerals 1, 2, 4, etc. are full seconds:
1^m, 2^m, 4^m, etc. are minutes.
1^h, 2^h, are hours.

Note: On certain cine cameras, the exposure at 16 f.p.s. is not 1/30 second. Effective exposure time for f.p.s. can be read at corresponding f-stop on lower (still camera) scale. Check instructions for correct exposure time for your camera!

Cine Cameras

Cine frames per second and intermediate markings for 12, 24, and 48 f.p.s.



BASIC SETTING

Determine the ASA film speed rating of the film in use – from the film box or film instruction sheet – and turn the film speed setting disk (5) by the raised bars, until the ASA number of your film is lined up with the white triangle at the ASA scale window (4).

After this basic setting, your N100 meter is ready for operation. No further setting is necessary as long as you continue to use the same type of film, or film having the same ASA number.

The ASA scale window (4) shows the values shown below in **bold** type. The intermediate ASA values are indicated by thin lines on the scale.

6	**25**	**100**	**400**	**1600**	**6400**
8	32	125	500	2000	8000
10	40	160	640	2500	10000
12	**50**	**200**	**800**	**3200**	**12500**
16	64	250	1000	4000	
20	80	320	1250	5000	
25	**100**	**400**	**1600**	**6400**	

TESTING THE ZERO POSITION

Remove the battery holder from the battery chamber (14 – see below), push the on-off switch (2) in, and hold it in that position. The indicator needle (8) should be centered in the target (7). To adjust the needle position, turn the adjustment screw (15) on the underside of the meter left or right while holding the on-off switch (2) pushed in.

BATTERIES – BATTERY TEST

The N100 operates with two 1.35V Mallory PX13 or PX625 (or equivalent) batteries. The life of the batteries depends on your use of the meter.

It is advisable to check the condition of the batteries from time to time. The batteries must be replaced if the indicator needle (8) moves only slightly when measuring light contrast (from dark to bright area or vice versa).

To replace the batteries, hold the N100 with the diffuser (1) pointing UP; with thumb and forefinger pull the battery holder horizontally out of the battery chamber (14) and remove the batteries. Insert fresh batteries in correct position as shown in diagram on back of battery holder. Re-insert battery holder into battery chamber.

USING THE METER

To measure, hold the meter as indicated for reflected or incident light measurement, press the on-off switch (2) and hold it pressed in; rotate the computer ring (3) left or right to center the indicator needle (8) exactly in the center of the target (7). Release the on-off switch to save battery life. When the switch is in the off position, the meter needle deflects to the right of center null position and is held in place by a mechanical lock. This locking mechanism prevents handling and vibration damage to the meter movement. The computer now gives you complete exposure information in combinations of exposure times and f/stops (9 and 10) for still cameras, or f/stops and frames per second (10 and 11) for cine cameras.

(Note: The indications "UNDER" and "OVER" are provided for the convenience of photographers desiring to make intentional under- or overexposures of certain subjects for individual reasons (e.g. lighter- or darker-than-normal color slides). To adjust for intentional overexposure, first center the needle in the target and note EV value at black index mark (12); then turn computer ring (3) so that needle moves toward OVER. After EV scale has moved the desired amount – ½ or full EV value – the modified exposure time/f-stop combination can be read off the computer scales 9 and 10. For under exposure activate needle in the opposite direction.

MEASURING AND READING

Your N100 offers you the advantage of easily measuring either the light reflected from the scene, or the incident light that illuminates the scene. Thus, your N100 can give you reliable exposure information under all kinds of picture-taking conditions – one of the special advantages of a hand-held exposure meter!

HELPFUL FACTS ABOUT LIGHT MEASUREMENT

Reflected Light measurement. When you point your N100 (with uncovered measuring cell window) from the camera position toward the subject, it measures the light reflected by all parts of the scene, averages it and indicates a suitable exposure. And, for most subjects, the exposure indicated by such an overall reflected light reading is perfectly correct. (When large sky areas are included in a scene, direct the meter slightly downward to exclude light from the sky which would result in too high a reading.)

If the scene contains strong contrasts in brightness or color, it is preferable to measure that part of the scene which requires the most accurate exposure. For negative films, this is usually a darker area which is to show detail in the final print; for color slides or movie films the lighter areas are usually favored. To measure such important areas, get closer to the subject but not so close that your own shadow or

that of the N100 falls on the subject. Such **close-up** readings are especially appropriate if an important darker subject is backlighted or when an important brighter subject is against a dark background.

Or, instead of taking a close-up reading, if the subject is inaccessible, you may take a **substitute reading** by pointing the meter at a nearby subject which receives the same illumination as the actual scene, and which is similar to the subject (your own hand or ski parka or a nearby flower, for instance).

Incident Light Measurement Reading. The most convenient way to determine exposure for scenes containing extensive bright or dark areas, i.e. contrasty subjects, is by means of an incident light measurement. Simply slide the diffuser (1) over the measuring cell window and point the meter, from subject position, toward the camera. Thus, you measure all the light which illuminates that part of the subject which faces the camera. If the subject is too far away, point the meter toward the camera from another position which receives the same light.

SETTING YOUR OWN "STANDARDS"

Although general standards have been established for film speeds, camera shutters, lens apertures, etc., it is possible that – for one reason or another – the results you get by using all these standards do not please you. Critical photographers usually make actual performance tests of all their equipment to establish their own standard of film speed ratings to harmonize with their particular camera, lens, projector, etc. If your color slides are consistently too light, simply set your N100 for a higher ASA number; if they are too dark, use a lower ASA number.

LONG EXPOSURES – RECIPROCITY FAILURE

Film manufacturers base the published "speed ratings" of photographic emulsions on average conditions of exposure times and illumination under which such emulsions are "normally" intended to be used. However, photography under poor light conditions may call for "abnormally" long exposures which may cause some films not only to lose "speed", but to change their color balance as well. This behavior of photographic emulsions is due to a phenomenon called "reciprocity failure". Since various types and makes of films react differently to extended exposure times, it is impractical to incorporate the many possible variations in the N100 scales.

It is advisable to write to the film manufacturer for information concerning the necessary exposure correction and filtering for color correction of the specific film which you plan to use with extended exposure times.

YOUR GOSSEN N100

is your valuable precision instrument, made with great care and accurately calibrated. It deserves your good care!

The battery and zero position tests described on page 7 enable you to check the proper functioning of your N100.

Measuring comparisons of your N100 with similar or other types of exposure meters cannot be made properly without special laboratory equipment (optical bench).

Do not attempt to open or repair your N100. Service information appears on the following page.

SERVICE

Should your N100 require service, send the meter (directly or through an authorized dealer), in the original packing if possible, prepaid and insured, to:

Gossen Service Center
Berkey Marketing Companies
25-20 Brooklyn-Queens Expressway West
Woodside, New York 11377

Gossen Service Center
Berkey Marketing Companies
1011 Chestnut Street
Burbank, California 91506

A brief description of the reason for sending the meter should accompany the package.

GOSSEN

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BERKEY MARKETING COMPANIES
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