

2.7K Video Camera

User Manual



Preface

Thank you for purchasing this digital video camera. Before use, please read this manual carefully. Keep this manual in a safe place for future reference.

The latest information at the time of compiling this manual is used for reference for the content of this manual. The screen displays, illustrations and other information adopted in this manual are to visually elaborate the operation of the video camera. Depending on different technology development and production batches, it may be slightly different from the digital cameras you actually use.

Disclaimer notice: Considerable effort has been made to ensure that this manual is free of inaccuracies and omissions. However, there is no guarantee that there will be no errors or omissions in this manual.

Safety Precautions:

- (1) Do not disassemble or modify the product.
- (2) Please stop operating camera immediately if there are smoke or unpleasant smell on any parts of camera, otherwise it may cause fire or electric shock. Turn off camera immediately and remove camera's battery or unplug power cord from electrical outlet. Make sure the camera has stopped emitting smoke or unpleasant smell.
- (3) Do not expose or immerse the camera to water or other liquids. This camera is not waterproof. Please dry with a soft cloth if the case is exposed to liquid or salt water. Turn off camera immediately and remove camera's battery or unplug power cord from electrical outlet if water or other materials immerse into the camera.
- (4) Do not trigger the flash in close to human or animal eyes. Your eyesight may be damaged when facing a strong light source if the distance is too close. Please pay special attention to keep more than 1 meter (39 inches) away from baby.
- (5) Keep the camera and battery out of the reach of children.
- (6) Do not heat the battery or expose it to sources of ignition, otherwise it may explode.

Appearance Description



Buttons and Indicators

Buttons/ Indicators	Functions
POWER (OK button)	1.Power on and off 2.It functions as confirmation in menus 3.When power is on, press it will turn on the infrared light, and then press it again will turn off
MODE	Switch the mode interfaces
MENU	Enter or exit the menus
UP	Upward
DOWN	Downward
Digital zoom in/out	T : zoom in(When selecting the mode, press it to move to the right) W : zoom out(When selecting the mode, press it to move to the left)
Photograph	Take photo
Recording start/end	Start or stop recording video
Indicator light (BUSY/ CHG)	1.BUSY:working indicator light. 2.CHG:charging indicator light(the indicator light will be on when connected with a charger.It will turn off when the power is full.
Hot shoe	For the installation of the connector of external microphone or fill light
MIC	External microphone interface
HD	TV interface
USB	Data cable interface

Remote Control



- 1: Turn off
- 2: Recording start/end
- 3: Photograph
- 4: Up
- 5: Mode
- 6: OK button
- 7: Right
- 8: Down
- 9: IR light vision
- 10: Zoom in
- 11: Zoom out
- 12: Menu
- 13: Left
- 14: PlayBack

- (1) When using the remote control, it must be used when the camera is turned on. The remote control cannot remotely turn the camera on.
- (2) When using the remote control, be careful to pull out the insulation paper at the bottom; insert the insulation paper when not in use to reduce the battery loss of the remote control.
- (3) The remote control should face the camera lens and be within 5 meters to ensure that the camera's infrared signal receiver can receive the signal.

Getting started

Battery installation/Charging batteries

This camera uses high capacity rechargeable external lithium battery. Please put the battery into the battery slot correctly according to the battery and battery compartment slot. The following symbols indicate the current remaining battery power.

icon	Remaining battery power
	60%-100%
	30%-60%
	5%-30%
	≤5%

When the battery logo is red, it means the battery needs to be charged. Please charge it in time, otherwise it may shut down automatically due to low battery.

(1) Charge with the camera, connect the power adapter and camera with the USB cable, and plug in the power to charge. When charging, the red light is always on, and when it is fully charged, the red light is off. (Tips: charging in the off state, the battery will fill faster)

(2) Charge the battery with a standard external charger and put the battery directly into the charger.

(3) Battery charging time (estimated)

In the normal environment, it takes 3 hours to be fully charged.

(4) Continuous working hours (estimated)

When [system] is set to 2.7K and all other settings are factory default settings, it can work for 1.5 hours.

When [system] is set to 1080p and other resolutions, and all other settings are factory default settings, it can work for 1.5 hours.

Note: The battery is recommended to start charging in a temperature range of 10 °C to 30 °C. At a lower temperature, the battery may not be able to or need more time to be fully charged. When charging at a high temperature, it may shorten battery life.

The fully charged battery will naturally consume electricity. In order to ensure sufficient power, charging in advance is recommended.

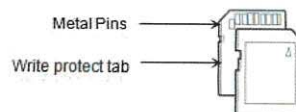
When the camera is not used for a long time, please charge the

battery every 3 months. Then let the battery discharge to maintain the battery life.

Memory Card

This camera can use: SD card (SDHC card and SDXC card). It supports up to 256GB.

As indicated aside from the card slot, insert the SD card into the card slot with the metal pins towards inside. Remove the card by pressing down.



1>SD card of Class 10 or higher is required.

2>Memory cards of SanDisk, Samsung, Panasonic are suggested to be used. Other memory cards may cause recording failure or data loss.

Recording Time of the Memory Card (Estimated)

The estimated recording time is just for reference and the specific time may be different depending on the memory card and battery condition.

System	2.7K		1080P		720P	
FPS	30FPS	60FPS	30FPS	120FPS	60FPS	30FPS
16G	80	80	160	80	160	160
32G	170	170	300	170	300	300
64G	350	350	620	350	620	620
128G	720	720	1320	720	1320	1320
256G	1440	1440	2640	1440	2640	2640

Unit: Min

Note: If there are documents not recorded by this camera or saved by PC in the memory card, the recording time may be reduced or data may be unable to record properly.

Format memory card

A memory card first used in this camera is recommended to be formatted, or failure, such as, inability to record may occur. When first using a memory card in this camera, the format window will pop up automatically. As shown in the figure:



You can also enter the system menu of this camera—sub-menu: Format, press OK button, enter the format window in the above figure to carry out formatting. You can also format the memory card on your computer.



Notes:

- Turn off the power before replacing card.
- Insert card in the right direction. Do not insert the card too hard to damage the card or camera components. If the card is not inserted, please check whether the direction is right or not.
- Format the card when the card is first used or used in other video cameras.

Open Monitor

- (1) The camera will be turned on by opening the LCD monitor.
- (2) When the power is off, press the "POWER" button for 1 second and the camera will turn on.
- (3) Boot screen display (Notes: Boot screen mode defaults to the last set mode)



System menu setup

(1) Set date/time

Press the MENU button, then press the MODE button to enter the system menu, then press the UP button or the DOWN button to move the cursor, select the time setting/date setting sub-menu, and press the OK button to enter the setting. After setting, press MODE to exit.

(2) Language setting

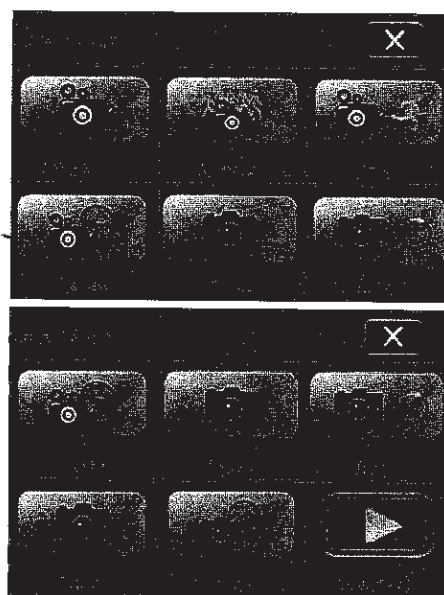
Press MENU (Menu button), then press MODE (Mode button) to enter the system menu, then press UP or DOWN button to move the cursor, select the language sub-menu, press OK button to enter the setting.

(3) System menu setting directory

Sub-menu	Menu content
Image Rotation	Turn On/Turn Off (Press OK to switch)
Light Source Frequency	Auto/50Hz/60Hz
LED Indicator	Turn On/Turn Off (Press OK to switch)
Auto Screen Saver	Turn Off/30s/1min/2min
Auto Power Off	Turn Off/3min/5min/10min
Button Sound	High/Middle/Low/Turn Off
Startup Music	Open/Close
Language	Simplified Chinese/traditional Chinese/English/Japanese/Korean/Russian/German/French/Italian/Spanish/Portuguese/Thai
Time Format	YYYY/MM/DD MM/DD/YYYY DD/MM/YYYY
Time Set	hour minute second
Date Set	Year month day
Format	(SD Card)Format/Cancel
Device Info	Product model and version number
Factory Reset	Confirm/Cancel

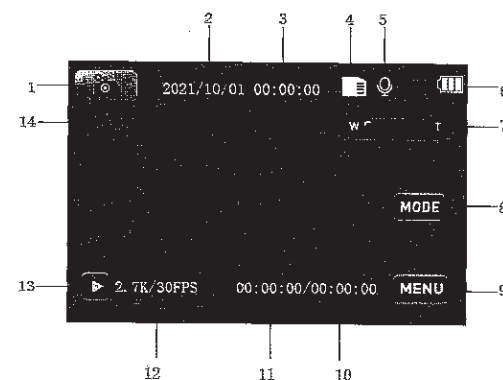
Record video/Take photo

Record video/take photo must select the mode.
Record video mode: Video, Slowly, Loop, Lapse
Take photo mode: Photo, Auto, Burst, Timer
PlayBack



Mode selection: You can press the MODE button to enter the mode menu, press the UP/DOWN button (or W/T button), move the cursor left or right to select the mode, press the OK button to confirm the mode, then press the recording button to start recording, or press Photo button to start taking pictures. After turn on, you can directly press the recording button to start recording, or take a photo with Photo button (Note: The recording/photo mode defaults to the last selected mode)

(1)Video mode



- 1: Current is the video mode
 - 2: Current system date
 - 3: Current system time
 - 4: The memory card is installed in place
 - 5: Current microphone is turned on
 - 6: Current remaining battery power
 - 7: Zoom in/Zoom out
 - 8: Mode menu button
 - 9: Main menu button
 - 10: Current memory card remaining recording time
 - 11: Current recorded time
 - 12: Current video resolution
 - 13: Playback button
 - 14: Exposure value
- Menu setting contents in video mode (In this mode, press MENU directly to set the corresponding menu)

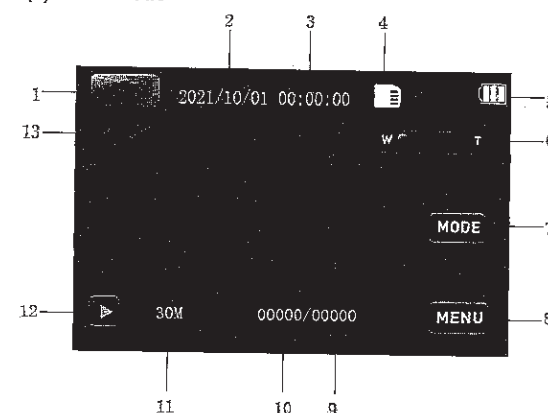
Sub-menu	Menu content
Video Resolution	2.7K 30FPS 1080P 60FPS/30FPS 720P 120FPS/60FPS/30FPS
White Balance	Auto/Sunny/Cloudy/Incandescent/ Fluorescence
Exposure Setting	-3/-2/-1/0/1/2/3
Metering Mode	Average Metering/Center Metering/ Spot Metering/Matrix Metering
Sharpness	High/Middle/Low
Video Quality	High/Middle/Low
ISO	Auto/100/200/400/800/1600/3200/6400
Time Watermark	Turn On/Turn Off (Press OK to switch)
Record Audio	Turn On/Turn Off (Press OK to switch)

Video pause

This camera supports video pause. During the recording, press the Photo button, the recording is stopped and press the Photo button again, the recording is continued. If pressing the Record button again, the recording will end.

Tips: The recorded long video will be saved in the memory card in sections, and the document name is ***0000X—***0000X.

(2)Photo mode



- 1: Current is the photo mode
- 2: Current system date
- 3: Current system time
- 4: The memory card is installed in place
- 5: Current remaining battery power
- 6: Zoom in/Zoom out
- 7: Mode menu button
- 8: Main menu button
- 9: Current memory remaining storage
- 10: Current stored quantity
- 11: Current photo pixels
- 12: Playback button
- 13: Exposure value

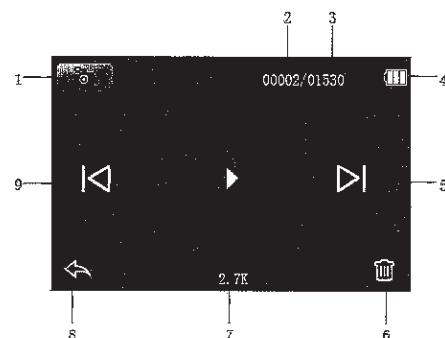
Menu setting contents in photo mode

Sub-menu	Menu content
PixelInset	30M/24M/20M/12M/8M/5M/3M

White Balance	Auto/Sunny/Cloudy/Incandescent/Fluorescence
Exposure Setting	-3/-2/-1/0/1/2/3
Metering Mode	Average Metering/Center Metering/Spot Metering/Matrix Metering
Sharpness	High/Middle/Low
Long Exposure	Auto/2S/5S/10S/15S/20S/30S
ISO	Auto/100/200/400/800/1600/3200/6400
Time Watermark	Turn On/Turn Off (Press OK to switch)

(3)PlayBack mode

In this mode, you can view the videos and photos taken.



- 1: Mode when shooting
- 2: Current video / photo sequence location
- 3: Total number of videos and photos stored
- 4: Battery remaining capacity
- 5: Downward

- 6: delete
- 7: Current video or photo resolution
- 8: Back
- 9: Upward

If there is no memory card, or no file, a null value will be displayed when entering playback mode.

Delete videos / photos

Enter playback mode, find the video or photo you want to delete by scrolling up or down, Press the menu button, select Delete, then press the OK button.

Power OFF

Long press POWER button to turn off the video camera. If you set the auto turn off menu, when the video camera is free, it will turn off automatically without operation in more than 3 min/5min/10min, so to save power.

Infrared light night vision function

When the ambient light brightness is insufficient, press the power (OK) button to turn on the night vision function when the camera is turned on. After turning on the infrared night vision function, the camera can use the recording videos and take photos normally. Press the Power (OK) button again to switch off the night vision light.

Note: the effect of turning on the infrared lamp is black and white. In addition, this function will increase the battery power consumption.

MIC INPUT

When an external microphone is needed, plug the external microphone into the MIC interface of video camera to record video or audio for better audio effects. The microphone interface diameter is 3.5mm.

HD OUTPUT

When the video and sound of the video camera are needed to output to the HD TV, insert the public port of the HD cable into the HD interface of the video camera, and connect the HD input port to the HD input interface of the HDTV. Please stop recording / playing videos before accessing / unplugging the HD cable. (switch TV signal into HD mode)

Connect to computer

Connect the video camera to the USB port on the computer with the USB cable, insert the USB and the camera will automatically turn on, press UP and DOWN to select the Charging Mode or Mass Storage Mode or PC camera, then press OK to confirm entry.

(1) Select to enter the charging mode, all functions of the camera can be used normally, this camera supports the function of recording while charging.

(2) Select to enter the storage mode, a removable storage device will be added in the "My Computer" window, and the corresponding storage file in the memory card can be found in this mobile device.

Note: Do not disconnect the USB connection while downloading files. Do not plug memory card when USB is connected so to avoid data loss.

(3) Select the PCcamera mode, the camera can be used as a webcam. After turning on the webcam, you can press the W/T button to adjust the digital focal length to bring the distance to an appropriate distance.



Troubleshooting:

Trouble	Measures
Camera cannot start after battery is installed	The battery is low, please replace it with a new one.
	Battery pack not removed.
	The battery is not installed in place; please confirm that the battery is installed correctly.
Unable to charge	If the charging indicator light is flashing, the battery is not installed in place or in poor contact. Please reinstall the battery until the indicator light is on for a long time (the indicator light will go out when the battery is full).
	If the charging indicator is not on, the charger is not plugged in. Please check whether the charger is connected normally.
Remote control does not work	Check whether the remote control battery is dead.
	The remote control can't start the camera remotely. This is not a fault
HD cable connected TV cannot be connected	Check whether the TV source is set to HD mode.
	Check if the HD wire is connected correctly.
Unable to connect to PC	Please check whether the USB data cable is connected correctly.
	Please check whether the USB interface of computer is working properly.
	Please check the compatibility of the computer system.

Blurred shooting effect	The best distance for shooting is more than 2m.
	Check whether the camera shake when shooting.

Camera cleaning and maintenance

(1) If you do not use the camera for a long time, take out the camera battery and place it in a dust-free, dry environment with a temperature no higher than 30 °C.

(2) In order to extend the service life of the battery, please discharge it completely before storage.

(3) Please fully discharge the battery at least once every 3 months after it has been fully charged.

(4) If there is dust or dirt on the lens or screen, gently wipe it with a clean, soft lens cleaning cloth.

(5) As this machine is a precision instrument, please do not drop it or suffer from strong impact or vibration.

Additional notes

(1) Do not insert any object into the slot except the memory card.

(2) After the power is turned on, the camera may show an unstable image about for a few seconds, but this is not a fault.

(3) Due to the optical properties of the lens, there may be color dispersion (magnification of chromatic aberration) at the edges of the image. This is not a camera fault.

(4) It is normal for the memory card to get hot after a long period of use.

(5) It is normal for the camera's screen to heat up after a long period of use.

(6) The camera has no auto focus function, and the best distance for shooting is more than 2 meters.

(7) when the camera is recording or taking pictures, please do not press multiple buttons of the camera quickly and repeatedly. Under normal circumstances, the camera will display the waiting

icon 

Specification

Image sensor	cmos13 million megapixel sensor, 30 million megapixel maximum
Memory Card	SD Card (4GB-256GB)
Video Format	MP4
Video Resolution	2.7K 30FPS
	1080P 60FPS/30FPS 720P 120FPS/ 60FPS/ 30FPS
Image Format	JPEG
Picture Resolution	30M/24M/20M/12M/8M/5M/3M
Digital zoom	16X
Lens	f=7.36mm
Aperture	F/3.2
Language	Simplified Chinese/traditional Chinese/ English/Japanese/Korean/ Russian/ German/French/Italian/Spanish/Portuguese/ Thai
USB interface	2.0
HDMI interface	Support
External microphone	Support
Fill light	IR night vision

ISO	Auto/100/200/400/800/1600/3200/6400
White Balance	Auto/Sunny/Cloudy/Incandescent/ Fluorescence
Exposure Setting	-3.0 ~ +3.0
Power supply	Lithium rechargeable battery
Operating system requirements	Windows 98 / 98SE / ME / 2000/ XP / Vista / win7 / win10 / Mac

MANUAL

MODEL No. 8III

HONTRY[®] OPTICS

SOME THINGS YOU NEED TO KNOW BEFORE USING IT.

MAKE SURE

YOU ARE LOOKING THROUGH FROM
THE EYEPIECES.



HERE IT IS.



SOME THINGS YOU NEED TO KNOW BEFORE USING IT.

Adjustment of
LEFT Diopter.

Adjustment of
RIGHT Diopter.

NOT
for
Adjustable



OH...YOU SHOULD RECEIVE ITEMS AS BELOW.

- BINOCULARS
- CARRYING CASE
- NECK STRAP
- CLEAN CLOTH
- AND...**3 YEARS WARRANTY**

NO DOUBT ABOUT IT? LET'S GO TO THE NEXT STEP.

3 Steps For Quick Start



STEP 1. MAKE YOUR VIEW BE A CIRCLE.

START BY ADJUSTING THE DISTANCE BETWEEN THE TWO BARRELS OF THE BINOCULAR SO THAT THEY ARE THE RIGHT WIDTH FOR YOUR EYES.



TOO FAR APART OR TOO CLOSE TOGETHER AND YOU WILL SEE BLACK EDGES IN YOUR FOV. IF YOU HAVE THE SPACING RIGHT, YOUR VIEW WILL BE A CIRCLE.



STEP 2. MAKE IT CLEAR.

CLOSE YOUR RIGHT EYE AND USING ONLY YOUR LEFT EYE.



TURNING THE CENTRAL FOCUS WHEEL. THE VIEW THROUGH YOUR BINOCULARS, WITH THE DIOPTER ADJUSTED, SHOULD APPEAR CLEARLY. IF THE IMAGE IS NOT CLEARLY FOCUSED, REPEAT THIS STEP UNTIL YOU CAN SEE CLEAR IMAGE.



STEP 3, YEP...ALMOST THERE

NOW USING ONLY YOUR **RIGHT EYE** TO FOCUS.
TURNING THE **RIGHT** FOCUS WHEEL AND MAKE
SURE LOOK THROUGH THE IMAGE IS CLEAR.



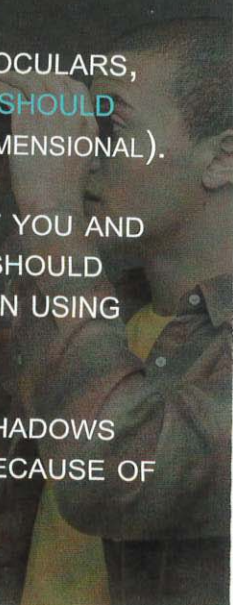
AND THEN OPEN BOTH EYES AND CHECK IF
YOUR FOCUS IS CRYSTAL CLEAR.

WAIT...HOW CAN YOU TELL IF YOUR FOCUS IS CORRECT?

THE VIEW THROUGH YOUR BINOCULARS,
WITH THE DIOPTER ADJUSTED, **SHOULD**
APPEAR ALMOST 3D (THREE-DIMENSIONAL).

IT SHOULD REALLY POP OUT AT YOU AND
BE CLEAR. **ALSO**, YOUR EYES SHOULD
NOT HAVE TO WORK HARD WHEN USING
YOUR BINOS.

THERE WILL BE SOME BLACK SHADOWS
APPEAR AROUND SOMETIMES BECAUSE OF
SUNLIGHT OR LAMPLIGHT.



HOW TO PRACTICE?

POINTED RIGHT AT THE TARGET.

The one problem birders typically encounter more than any other is getting their binocs pointed right at the bird. This can be a problem even when the bird is sitting still, perched in an obvious place. Fortunately, this problem can be easily overcome with a bit of practice.

HERE'S HOW.

- (1) Looking with your naked eyes, find a bright leaf in a distant tree, or a certain spot on a distant building, and lock your eyes onto it.
- (2) Now, without removing your eyes from that spot, bring your binoculars up to your eyes and into alignment with your view. Did it work? With practice you'll find that locking your eyes in place and bringing the binocs into alignment really works. This will make it easier for you to find birds with your binocs, even if a bird is moving.
- (3) When locking your eyes onto a distant bird, note some other feature or landmark near the bird's location. This can be a notch in a tree's outline, a brightly colored leaf, or even a passing cloud.

ANYTHING ELSE?

CLEANING YOUR BINOCULARS

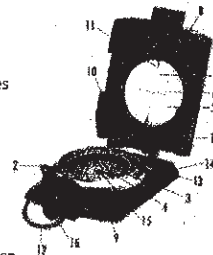
No matter if your binoculars cost \$25 or \$100, they will need to be cleaned regularly. Wiping your shirtsleeve across your lenses may seem like the easiest way to get the dust off, but you might be putting lots of tiny scratches on the glass or lens coatings.

HERE'S THE WAY TO CLEAN OPTICS LENSES

1. Use a soft brush or compressed air to blow away particles (dust, dirt, grit, crumbs, etc).
2. Once the particles are removed, wet a lens cloth or lens tissue with cleaning solution (solution made for use on coated lenses, available at camera shops and outdoor stores).
3. Softly wipe the lenses with the wet cloth.
4. Dry the lenses with a dry portion of the lens cloth.
5. Hold the binocs up in the light and look for smudges or smears. Repeat the wet cleaning as needed.

INSTRUCTIONS FOR USE OF COMPASS LET'S USE THE LAND COMPASS

1. Graduated metric scale
2. 360° pivoting dial
3. Wind rose
4. North line with north arrow
5. Glass
6. Distance-measuring notches
7. Aiming line
8. Cover
9. Case
10. Hinge
11. Reading lens or prism
12. Holding ring
13. Level bubble
14. Thread and tripod
15. Central support
16. Reading adjustable eyepiece



MOUNTING INSTRUCTIONS

Remove the compass from its case, lift the cover (8) with the aiming line (7) until it is at 90° from its original position. Later, through the aiming line (7) and the slit over the reading lens/prism, (fig. 2) aim at an object at 100m distance. Adjust the position of the prism or lens until you see distinctly the numbers of the wind rose. In models with adjustable eyepiece, the barrel (16) must be rotated until numbers in degree are clearly visible.

HOW TO DEFINE THE VALUE OF MARCHING DIRECTION

With your compass in reading position (see point A), aim at an object, sighting it through the notch over the reading system and the aiming line (7) (according to the models, it can be a lens, a prism or the eyepiece). Now read the value of your marching direction on the wind rose which also corresponds to the azimuth of the object.

HOW TO FOLLOW THE VALUE OF THE MARCHING DIRECTION YOU DEFINED

If the value of the marching direction is known, look through the reading system and turn around until said value appears on the graduated dial.

MAP ORIENTATION

For more complicated operations to be carried out on the topographic map, it is necessary to orientate the geographic north of the map with that magnetic of the earth. Therefore, align the centimeter-marked line with the meridian closest to your position, so that the upper cover points to the north of the geographic map.

Meridians are parallel lines running from the upper to the lower part of the map. Holding the compass in position, rotate the map until the north-seeking needle coincides with the notch on the glass. The map is now oriented with the ground.

LET'S DEFINE THE MARCHING DIRECTION ON THE MAP

a) After you aligned your map with the north pole, draw a line on the map starting from your position to your final destination.

b) Open the compass and put the centimeter-marked side of the compass on the above line so that the marker on the compass glass indicates the direction of the objective.

For models supplied without a centimeter-marked scale, follow the alignment between the aiming line (7) and the notch (close to the reading lens/prism). Make sure the phosphorescent arrow on the glass coincides with the north-seeking needle located on the dial.

c) Read the value of marching direction which corresponds to the line marking the glass.

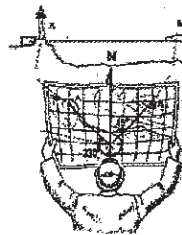
d) Remove the compass from the map, look through the reading system and turn around until the value of your marching direction (defined as described under point c) will appear. Find an auxiliary destination point which must be on the same survey line and start following it. Repeat this operation until you reach your final destination.

The longer your route, the more you have to repeat the above operation which will help you keep the direction you defined.

LET'S DEFINE OUR POSITION ON THE MAP

Select two well visible points on the ground and mark them on the map.

Once the map is oriented, with your compass (fig. 4) measure the value in degree of position (A) and draw a line on the map in accordance with said value. Now pass through point A, and repeat the operation for the second point (B). The intersection of the two lines indicates the position of the observer on the map.



LET'S USE THE CLINOMETER

The clinometer is an instrument allowing the measuring of differences in height and slopes. It can be pendular or automatic. Open the compass as showed in the fig. 2c. Release the pendulum from its lock. Aim at the upper (or inferior) edge of your target by means of the reading lens/prism (inferior side) and the marker (lower segment) (7).

Pay attention as to create one single line. The more you tilt your compass, the more the clinometer changes its position. Aim at the target and tilt the compass on the clinometer side so that the pendulum stops and the value in degree (%) can be easily read. Should the object be located inferiorly to the observer, aim at it by viewing through the upper part of the cover.

TABLE FOR CALCULATE

I	II	III	IV	V
Angle 0-360	Angle 0-6400	Angle 0-400	Pendence %	Height distance
1	18	1	2	1/6
2	35	2	3	1/30
3	53	3	5	1/30
4	71	4	7	2/30
5	89	5	9	2/30
6	107	6	10	1/10
7	125	8	12	1/8
8	142	9	15	1/7
10	178	11	18	1/6
12	219	13	21	1/5
14	250	16	25	1/4
17	302	19	30	3/10
18	320	20	33	1/3

20	355	22	36	3/8
22	391	25	40	2/5
24	426	27	45	4/9
27	480	30	50	1/2
31	551	35	60	3/5
34	604	38	66	2/3
35	622	39	70	7/10
37	658	41	75	3/4
40	711	45	84	5/6
42	742	47	90	9/10
45	800	50	100	1/1
50	889	56	120	1+1/5
I	II	III	IV	V
Angle	Angle	Angle	Pendence	Height
0-360	0-6400	0-400	%	distance

THE HEIGHT OF AN OBJECT

Calculate the inclination (in degrees or percentage) refer to the first (I) column of the table and search for relevant value of fourth (IV) and fifth (V) column.

Calculate the inclination (in degrees or percentage) refer to the first (I) column of the table and search for relevant value of fourth (IV) and fifth (V) column.



Once you know the distance, you can calculate the height of the object. Example (fig. 7), an object 4000m away with an inclination of 14°:

- A) $\frac{4000 \text{ mt.} \times 25 \%}{100\%} = 1000$ This formula refers to IV column
- B) $4000 \text{ mt.} \times \frac{1}{4} \%$ This formula refers to V column

D) HOW TO MEASURE THE DISTANCE ON THE GROUND

In accordance to the principle mentioned under point c), it is possible to define the (distance on the ground between two well-visible points on the ground. For example, you can measure the width of a farm house, the length of a bridge, etc. There is one necessary condition to measure the distance from your own position to that of the object: the line running from these two positions must be as perpendicular as possible to the side of the object to be measured.



MEASURE OF THE ANGLE

Measure the of the right side of the object. The wind rose, by oscillating, will immediately go in its correct position.

Keeping in mind the value in degree that you defined, slowly orientate the compass towards the left side of the object. From the first value in degree deduct the second value you just defined. The difference represents the value in degree of the angle between the left and right sides of the object.

N.B.: Measure of the angle through the north

If the value 360° (north) comes across the reading system during your measuring operation, consider 360°=0°

The calculation will be: 360° - second value in degree + first value in degree.

If the first value in degree is 4 and the second is 354, the angle will be 10. Example fig. 8

Once the value in degree has been calculated (ex:3) and the distance is known (zoom) According to the column I and II the width will be 1/20 of the distance:

3° = 1/20 of 2000 m. = 100 m.

or according to the table:

3° = 5% of 2000 m. = 100 m.

MEASURE OF THE DISTANCE OF AN OBJECT, THE HEIGHT AND/OR WIDTH OF WHICH ARE KNOWN

If the height or width of an object is known or drawn from a map, its distance will be defined by simply inverting the calculation mentioned above. In other words, if the width of an object with an angle of 8 is 1/7 of the distance according to the table, the same will be viceversa, that is the distance is 7 times wider than the width or height.

MEASURING THE DISTANCE WITH SCALE-MARKED GLASS

1. Aiming line
2. Horizontal line with measuring notches
3. Measuring line
4. First object
5. Second object



The glass cover of some models, in addition to the aiming line, is provided with notches which allow you to measure the distance from an object when the distance between the target and another visible object on the same level of the observer's is known. Start by counting how many notches (2) run between two targets on the horizontal line of the glass. Each notch is worth 10 units. Divide the distance in meters by the number of units and multiply by 1000.

For example, if the distance between two objects is 36m and the notches on the glass are 12 the result will be:

12 notches x 10 = 120 units

$$\frac{36 \text{ mt}}{120 \text{ units}} \times 1000 = 300 \text{ mt. of distance}$$

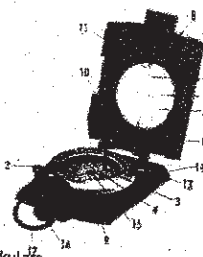
When the two targets are exactly on the measuring line (3), multiply by 10 the distance in meters between the two objects.

WARNING!

In superior quality compasses the oscillation of the needle is stabilized by the liquid in which it is totally dipped. Strong variations in temperature or pressure can cause the formation of small air bubbles around the wind rose. These bubbles do not interfere with the compass functioning and, under normal temperature conditions, they will disappear in 24-48 hours. Avoid anyhow to use the compass at temperatures much under -20° centigrade. Make sure to be always for from magnetic fields created by iron parts, magnetic cores or electric wires which cause the compass to show wrong values. Prevent your instrument from falling or getting damaged and never tamper it (so as to keep your guarantee always valid).

Gebrauchsanweisung für Kompass Verwenden wir den Landkompass

1. Abgestufte metrische Skala
2. 360° drehbares Zifferblatt
3. Windrose
4. Nordlinie mit Nordpfeil
5. Glas
6. Distanzmessung
7. Ziellinie
8. Abdeckung
9. Fall
10. Scharnier
11. Leselinse oder Prisma
12. Ring Halterung
13. Wasserwaage
14. Faden und Stativ
15. Zentrale Unterstützung
16. Ablesen des einstellbaren Okulars



Montage Anleitung

Nehmen Sie den Kompass aus der Tasche und heben Sie die Abdeckung (8) mit der Ziellinie (7) an, bis sie sich in einem Winkel von 90° von ihrer ursprünglichen Position befindet. Später zielen Sie durch die Aning-Linie (7) und den Schlitz über der Leselinse / dem Prisma (Abb. 2) auf ein Objekt in 100 m Entfernung. Passen Sie die Position des Prismas oder der Linse an, bis Sie die Anzahl der Windrosen deutlich sehen. Bei Modellen mit einstellbarem Okular muss der Tubus (16) gedreht werden, bis die Gradzahlen deutlich sichtbar sind.