M-TAC
TACTICAL ADVENTURE WATCH

Instructions

A. OVERVIEW OF BUTTONS AND FUNCTIONS

A - backlight / reset / delete records;

B - function mode/hold the button to enter the setting mode;

C - altitude measurement

D - digital compass

E - barometric pressure measurement;

- Display of hours, minutes, seconds, month, date and week (from 2000 to 2099);
- Possibility of displaying a second time on the dial;
- Dual alarm;
- Timer, 100-fold stopwatch recording, measuring capacity: 99:59:59:99;
- Countdown timer, measuring capacity: 99:59:59:59;
- Digital compass;
- Pedometer mode, maximum data for 7 days;
- Metronome (rhythmic beep);
- 12/24 hour display;
- LCD contrast setting;
- EL backlighting up to 3 sec

B. FUNCTION DISPLAY

HEIGHT MEASUREMENT→ NORMAL TIME→ PEDOMETER→ PEDOMETER MEMORY
↑ ↓
COMPASS←BAROMETER←DOUBLE TIME←PACER←MINUTEMAN← STOPWATCH← ALARM CLOCK

Normal time display

Press and hold button **B** for 2 sec to enter time setting mode until the seconds start flashing, indicating that editing is possible. Exiting this mode will result in the settings being retained if no operation is performed within 1 minute.

a) Press button **B** to select a setting item (flashing) keeping the following order:

Second ->Minute ->Hour ->Year ->Month ->Date ->Date/month display ->12/24 hours **->LCD** contrast **setting ->Sound switch**;

b) Click the button to increase the ordered setting number, press the **E** button for 2 seconds to quickly increase the setting number;
c) Click the **C** button to decrease the setting number in order, press the **E** button for 2 seconds to quickly decrease the setting number;
d) Press the **E** or **C** button to reset the seconds;
e) When setting the LCD contrast, press the **E** button to increase the setting sequence, press for 2 seconds to quickly increase the displayed values; press the **C** button to decrease the position setting, press for 2 seconds to quickly decrease the displayed values. Value setting range: 1-10;
f) Press button **B** for 3 seconds to exit the time setting mode.

3.TIME SETTING

- In this mode, press the **B** key for 3 seconds, the minutes indication on the screen will start flashing. Then press key **E** to increase the data of the second time indicator; press key **C** to decrease the data;
- Press the **B** key again until the hour indicator starts flashing. Press the **E** key to increase the data shown or the **C** key to decrease it;
- The watch will return to the double time display if no operation is performed within 3 seconds.

4.STEPMILL

- Press the **E** key to alternately display: step - distance - calories - sports time - step;
- In pedometer mode, a short press of button **C** will not work; but you can start/stop the pedometer by pressing button **C** for 2 seconds;
- Hold button **B** for 2 seconds to enter the setting mode: unit (KM/INCH) - weight - number of steps.

5.ACTIVITY HISTORY

- If there is no activity history, click button **C** or **D**, to exit the settings mode;
- This watch can record activity data sports activity data from up to 7 days;
- If there is a recorded history, the watch screen will turn over automatically.

6. ALARM SETTINGS

- Start/stop the countdown alarm; In alarm mode, press E to switch to settings. Press **C** to activate/deactivate the countdown alarm (ON/OFF). When the alarm is activated in normal mode, the "**CHIME**" symbol is displayed, otherwise nothing is displayed.

- Activate/deactivate alarm: in alarm mode, press button **C** to start/stop the alarm. The "**"** symbol displayed on the screen indicates activation, the "**"** symbol when the function is not active is not displayed. Press button **E** to switch the setting mode of the next alarm.

- When setting the first alarm "**AL**", press button **B** for 3 seconds with flashing "**HOUR**", press **B** briefly to switch sequentially between the display in "**Hour**" and "**Minute**". Press button **E** to order the setting data, keep the button pressed for a quick increase in the displayed numbers. Press the **C** button to arrange the setting data, keep the button pressed for a quick decrease in the displayed numbers.

- When the alarm reaches the set time, it will ring for 20 seconds with a flashing symbol "**".** Press any button to stop the alarm ringing. Press the **B** button for 3 seconds to confirm the setting change and then exit the setting mode. Press button **E** to increase the data during setting, press the button longer to quickly reach the maximum values. Press button **C** to decrease data during setting; press button longer to quickly reach minimum values. Press the **A** button to exit the setting mode. **ALM1-ALM2** settings take place in the same way.

7. STOPER

- Measuring capacity 23:59:99. Press button **C**, the stopwatch will return to zero when it reaches the maximum time data.
- In stopwatch mode press button **E** to start/stop the countdown, press button **C**, button to return the values to "0" when the stopwatch is paused.
- Press the **C** button to access marks 1-99 in LAP mode when the stopwatch is on.
- The LAP segment can store data between 01 and 99.
- In LAP mode, click and hold button **A** for 2 seconds to access the status of the LAP query. Nothing will be displayed if you have not used the LAP function before.
- Press the **E** button to search the history by scrolling up, keep the button pressed to scroll to the beginning.
- Press the **C** button to search the history by scrolling down, keep the button button to scroll to the end.
- Press button **A** or **B** to exit the LAP stopwatch setting mode.

8. MINUTER

- Timing capacity: 99:59:59 The watch will beep for 30 seconds when the time countdown reaches 0:00:00;
- This watch has a cyclic countdown function. To activate it, turn on the cyclic countdown-back switch, after which the next countdown will start after one cycle has been completed. If the cyclic countdown is deactivated, the watch will return to displaying the normal time after one countdown cycle;
- Setting the countdown back:

a) Press the **B** key for 3 seconds to enter the countback mode settings;
b) Press the **B** key to change the order of the settings:
c) Press the **E** key to increase data values;
d) Press key **E** to decrease data values;
e) Press the **B** key for 3 seconds, confirm the changes and then exit the settings.

- Using countback

a) Press the **E** key to start.
b) Press the **E** key to pause and then also the E key to continue the countdown.

- If you want to end the countback completely, press the **E** key to pause and then the **C** key. The countback data will be reset to zero.
- The countdown will continue if you only exit countdown mode and not the timer

9. PACER/METRONOM

- This function allows you to record the frequency of your sporting activity, the metronome adapts to the frequency of your steps. To reset the data, press **E** and then hold down the **C** button.

10. BAROMETER, TEMPERATURE AND WEATHER FORECASTS

- Press **E** to enter the barometer mode "BARO" directly in normal time display mode or in measurement mode;

- Press button **E** in barometer, temperature and weather forecast measurement mode, temperature and barometer units as shown below:
- In this mode, press button **B** for 3 seconds to enter manual barometer and temperature calibration mode. Perform the calibration according to the diagram, attached below:In temperature calibration mode, press the **E/C** key to toggle between "+" and "-";
- Press the **B** key - the setting data will start flashing. Then press the **E** key to increase the displayed indications. Press longer for fast data change;
- Press the **B** key - the setting data will start to flash. Then press the **C** key to decrease the displayed markings. Press longer for quick data change; Default pressure measurement setting:
- In the mode with default pressure measurement settings, press the **E** key ("YES") to select the default pressure measurement setting or press the **C** key ("NO") to decline this option;
- Manually entering the current pressure data:
- In data entry mode, press the **E** or **C** key to enter calibration mode; press the **B** key to switch to setting mode;
- Press the **E** key to set the data. Press key for 2 seconds to quickly increase data values; Press key **C** to decrease data, press key for 2 seconds to quickly decrease data values. Press **the B** key for 3 seconds to confirm the correctness of the data given and return to standard measurement mode.

11. USING THE COMPASS

- In normal timing mode, press **the D** key to activate compass mode (COMP). Do not perform any operation for 1 minute, the compass will automatically enter test mode;
- In compass calibration mode, press the **B** button for 3 seconds to enter the calibration settings selection mode. Calibration methods are described further below.

Calibrating in manual mode

- In this mode, press **E/C** to set the W/E direction accordingly, after confirming the direction, press **B** to set the data, then press **E/C** to increase/decrease the number accordingly; Maximum angle correction range: *90* (WE ±45");
- Press **the B** key for 3 seconds to confirm the correct data and return to compass measurement mode. For example: If the compass direction of the watch is incorrect, you can use other tools to measure north. Match the number 12 to midnight, then press the **D** key to test the compass. The arrow at 3 o'clock refers to the west direction. Determine the eastern direction in the same way. Press the **A** key to confirm the changes and re-measure the compass. The arrow pointing at 3 o'clock will then point north. The digital correction is complete. If you do not have a compass, allowing you to check the correctness of the settings in manual mode, use the automatic calibration mode "CAL" as described below, but it is mandatory to make sure that in the digital calibration mode "DEC" the east or west direction is at "00".

AUTOMATIC CALIBRATION

Press the **B** or **C** key, then slowly rotate the watch (clockwise or anti-clockwise) in automatic correction mode. Turn in the same direction to display compass orientation data and return to compass measurement mode, the compass can be automatically corrected.

Note: replace the battery the first time you use the compass, the watch will indicate that the compass needs correction, turn the watch according to the above methods to correct the compass;

The meaning of the abbreviations is presented like this:

Direction	Meaning	Direction	Meaning	Direction	Meaning	Direction	Meaning
N	North	NNE	north north-east	NE	Northeast	ENE	east north-east
E	East	ESE	east south-east	SE	Southeast	SEE	South South-East
S	South	SSW	South South-West	SW	Southwest	WSW	west southwest
W	West	WNW	west north-west	NW	Northwest	NNW	north north-west

***If** the calibration result shows "**ERROR**", this means that the environment in which the direction is being measured has strong magnetic interference or the compass is faulty. Leave the site and realise the measurements again, then the compass should work.

12. TEMPERATURE AND ALTITUDE MEASUREMENT MODE

- In temperature and altitude measurement mode, press button **C** for 2 seconds to activate the corresponding units as shown below;
- In time or measurement display mode, press the **E** button to enter high temperature measurement mode (ALTI). Wait until the display shows "ALTI" for 2 seconds, then you can switch to temperature and altitude measurement mode;
- This watch model does not automatically exit temperature and altitude measurement mode;
- In temperature and altitude mode, press and hold **B** for 3 seconds to adjust the temperature and altitude or press **B** to select the settings:
- During setting, press **B** to toggle between "+" and "-".

Temperature correction mode

- In this mode, press **E** or **C** to toggle the temperature between the "+" and "-" meanings.
- In this mode, press **B** - the setting item will start flashing, then press **E** to change the value of the item by 1; press longer for the value to increase rapidly.
- In this mode, press button **B** - the setting item will start flashing, then press button **E** to change the value of the item by 1; press longer for the value to quickly decreased.
- In this mode, press button **A** to confirm the correct value and return to normal measurement mode.

RELATIVE ALTITUDE SETTING

- In the relative altitude setting mode (ZERO), switch between the "YES" or "NO" options using the **E** or **C** buttons to select or not select the relative altitude value as *0*. In this mode, press button **A** to confirm the correct value and return to normal measurement mode.

Manual altitude input

- In this mode (ALTI), press **E** or **C** to toggle the altitude between "+" and "-".
- Press the **B** key so that the position you want to set starts flashing.
- Press the **E** key to increase the value by 1 significance, press the key to rapidly increase the value.
- Press **C** to decrease the value by 1 meaning, press the button to quickly decrease the value.
- In this mode, press button **A** to confirm the correct value and return to normal measurement mode.

Sea level pressure input mode (altitude above sea level)

- In sea level pressure (SEAP) input mode, press **E** or **C** to enter a value, press **B** to change the setting of the flashing value.
- Press **E** to set the value plus 1; press for the value to increase rapidly.
- Press **C** to set the value minus l; press for the value to decrease rapidly.
- In this mode, press **A** to confirm the correct value and return to normal measurement mode.

DEFAULT ALTITUDE MODE

- In default mode, toggling between "yes" and "no" with the **E** or **C** button means selecting or not selecting the default altitude. This is the altitude value obtained from converting the default sea level pressure value to 1013.25mb, according to the default sea level pressure value.

C. DESCRIPTION

- Enter compass measurement mode, stop measurement after 30 seconds, exit after 30 seconds and return to time display mode.
- Enter barometric, temperature and weather prediction mode, measure data once per second, exit and return to time mode without pressing the button for 1 minute.
- Enter altitude and temperature mode and measure data every 5 seconds during 3 minutes and every 2 minutes after 3 minutes. Do not leave this mode.
- In correction mode, when the B button is pressed to exit, "error" is displayed to indicate a correction error; "done" is displayed to indicate that the correction is correct.
- In the setting state, the setting position flashes at 1 Hz and goes to the setting state without pressing the key for 1 minute.
- When the air pressure or altitude test is higher than the test range, the clock displays HI, below the test range it displays LO.
- The way the weather forecast is detected is as follows: weather conditions are evaluated every 1 hour (based on the change in atmospheric pressure during the first 4 hours). If the pressure value gradually increases, the weather improves, and if the pressure value gradually decreases, the weather deteriorates. Weather conditions are divided into 4 (from good to bad): sunny days, partly cloudy days, cloudy days and rainy days.
- The atmospheric pressure test range is: 300~ 1100 mbar or 8.84~ 32.44 inHg.
- The temperature test range is: -10~ 60° C or 14~ 140 F.
- The altitude test range is: -700~ 9000m or -2300-29529F

INSTRUCTIONS FOR USING THE DIGITAL COMPASS

- This watch is equipped with a magnetic directional sensor to detect geomagnetism. This means that the north shown on this watch is the magnetic Arctic, which is slightly different from the real Arctic. The magnetic Arctic is in the north of Canada and the magnetic pole is in the south of Australia.

- Note that with all magnetic compass measurements, the closer the magnetic poles are to the Earth, the greater the difference between the magnetic north pole and the true Arctic. In addition, it should also be noted that some maps are created based on the true Arctic (rather than the magnetic Arctic), so appropriate adjustments should be made in the use of such maps and watches.

MEASURING LOCATION

- When measuring direction near a strong magnetic field, a huge error will be created.
- It is not possible to obtain accurate measurements if they are realised while in the vicinity of permanent (permanent) magnets, metal structures (iron doors, metal cabinets, etc.), high-voltage cables, antennas, household appliances (TV, computer, washing machine, refrigerator, etc.), as well as on a train, ship or plane.
- Directional values cannot be measured correctly indoors and especially in buildings with many metals. This is because the metal structures in such buildings absorb the magnetic force from electrical appliances etc.

WATCH PROTECTION

- If the watch is magnetised, the accuracy of the orientation sensor will be reduced.
- Keep the watch away from magnets and any objects that emit a strong magnetic force, including: permanent magnets (magnetic necklaces, etc.) and household appliances (TV, computer, washing machines, refrigerators, etc.).
- If you suspect that the watch may be magnetised, calibrate the alignment of the digital directional sensor and manual correction.

Reason why the measured direction is incorrect

- If the direction is incorrect, carry out a correction. If you measure the direction near a strong magnetic field, such as: a large iron bridge, a metal door, a steel pole, an electric cable, etc., or measure the direction on a train or ship, it will cause an error. In this situation, move away from the large metal object and measure the direction again. Please note that the digital compass cannot be used on a train or ship.

C. DESCRIPTION

Why will different results appear when measuring direction at the same location?

The magnetic force from a nearby high voltage pole interferes with the geomagnetic detection of the watch. It is necessary to move away from the high-voltage pole and perform the detection again.

Why is there a problem when measuring the direction in a room?

A TV, personal computer, loudspeaker or other objects will interfere with the watch's geomagnetic detection. Stay away from interfering objects or perform the detection outdoors. Errors can also occur when taking measurements in reinforced concrete buildings.

Altimeter principle:

As altitude increases, pressure and temperature tend to decrease. The altitude measurements of this watch are based on the International Standard Atmospheric Pressure (ISA) values developed by the International Civil Aviation Organisation (ICAO), which define the relationship between altitude, pressure and temperature.

Pay attention to the accuracy of each situation, as below will affect the measurements:

When the pressure changes due to changes in the weather, the temperature changes abruptly or there is a bump in the watch, the accuracy of the measurements can decrease significantly.

There are four ways of expressing altitude: 1. relative altitude; 2. actual altitude; 3, absolute altitude; 4. default altitude.

The following illustration shows the differences between relative and absolute altitude. Absolute height refers to absolute height; relative height is the difference between two different positions.

C. DESCRIPTION

Precautions when measuring altitude and temperature simultaneously:

Although altitude and temperature can be measured simultaneously, it is important to remember that the best results are obtained under different conditions. When measuring temperature, it is best to remove the watch from the wrist to reduce the effect of body temperature on the measurement. When measuring altitude, on the other hand, it is best to wear the watch on the wrist as it can keep the watch temperature stable and improve the accuracy of the altitude measurement.

Before approaching altitude or temperature measurement, the following steps should be taken:

- When accurate temperature measurement is a priority, the wearer should wear the watch on the wrist or place the watch elsewhere so that its temperature remains stable.
- Remove the watch from the wrist and place it in a bag or other location so that it is not directly exposed to sunlight when temperature measurement is a priority. It is mandatory to remove the watch from the wrist, otherwise the measurement values obtained will not be accurate. The air pressure sensor in this watch can be used to determine the change in air pressure for your personal weather forecast, it is not a precise device that can be used for formal weather prediction or reporting.
- Sudden changes in temperature may affect the sensor's measurements.
- The temperature will be measured based on your body temperature (when you wear the watch), direct sunlight and humidity. To measure the temperature more accurately, remove the watch from your wrist and place it in a well-ventilated area free from direct sunlight. To measure the actual ambient temperature, take the watch off, wipe the case and wait 20 to 30 minutes.

C. DESCRIPTION

Barometer principle:

- Atmospheric pressure changes as a result of changes in the weather, so you can use the watch to predict the weather with reasonable accuracy. An increase in atmospheric pressure indicates good weather, while a decrease in atmospheric pressure indicates worsening weather.
- The atmospheric pressure published in newspapers, for example, and reported on television weather forecasts is modified to the value measured at sea level (0 m above sea level)

IMPORTANT NOTES: QUALITY STANDARD

- When using the compass function for the first time after each battery change, turn the watch (left or right) twice, after which an automatic correction of the digital signals, atmospheric pressure, altitude and temperature results will take place.
- If you do not have a high-precision barometer, thermometer and compass to use their measurement results as a model to follow when setting the watch in manual mode, carry out all adjustments in automatic mode only.
- If you have set the altitude or atmospheric pressure incorrectly, revert to the default settings of the watch according to the instructions.