

MEADE[®]
INSTRUMENTS

TE653ELW-M
Complete Weather Forecaster
with Indoor/ Outdoor Temperature
and Humidity

USER MANUAL

INTRODUCTION

Thank you for selecting a Meade Instruments Weather Forecaster. This device combines precise time keeping, monitoring and displaying of current temperature data from up to three remote locations (additional sensors are required).

Meade Instruments is the world's leading designer and manufacturer of telescopes for professional and amateur astronomers – famous for its innovative, high performance telescopes at affordable prices. Meade Instruments now brings that same passion for innovation and high performance to its own line of precision, feature rich weather stations.

Please read this instruction manual so that you can get the most enjoyment out of your Meade Instruments weather station.

In this package, you will find:

- One (1) main unit (receiver)
- One (1) three-channel remote sensor (transmitter)
- One (1) user manual

Please keep this manual handy as it contains practical instructions, technical specifications and precautions.

INSTALLATION

Communications between the main unit (receiver) and the remote sensor (transmitter) is wireless. This allows you to greater flexibility in choosing the location of remote sensor. The remote transmits data up to 164 feet (50 meters) over an open, unobstructed area. The remote sensor can be located either indoors or outdoors, allowing you chose where your data is obtained.

NOTE:

- It is critical to power the remote sensor **BEFORE** setting up the main unit.
- It is critical to power up and **test** communication between the remote sensor and the main unit **BEFORE** permanently mounting if outside.

BEFORE YOU BEGIN

- We recommend using **alkaline batteries** for the remote sensor. If outdoor temperatures regularly fall **below 32°F (0°C)**, we recommend using lithium batteries.
- Avoid using rechargeable batteries. (Rechargeable batteries cannot maintain correct power requirements.)
- **ALWAYS** install batteries in the remote sensor before the main unit.
- Insert batteries before first use, matching the polarity in the battery compartment.
- Press **RESET** after each battery change with a paper clip or similar tool.
- During initial set up, place the remote sensor close to the main unit.
- After reception is established (remote readings will appear on the main unit's display), position the remote sensor and the main unit within the effective transmission range of up to 164 feet (50 meters).
- The main unit must be placed indoors.

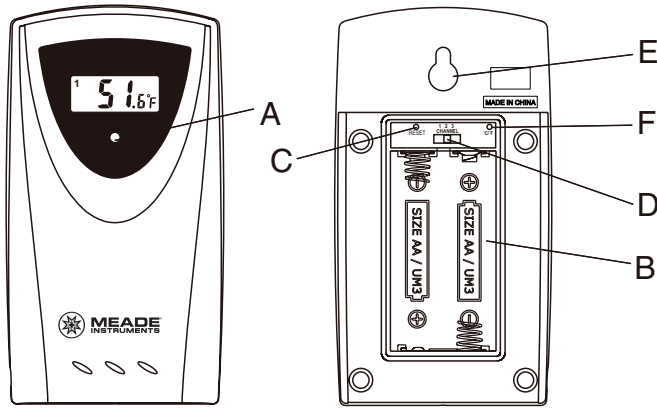
NOTE:

- Avoid pressing any buttons on the main unit before the remote readings are displayed.
- Transmission or reception range may be affected by trees, metal structures, and electronic appliances, surrounding building materials and how the main unit and transmitter are positioned.
- Place the remote sensor so that it faces the main unit (receiver), minimizing obstructions such as doors, walls and furniture.
- Though the remote sensors are weather-resistant, they should be placed away from direct sunlight, rain or snow. The optimal location for the remote sensor outdoors is under the eaves on the north side of the building.

REMOTE SENSOR

FEATURES

- Remote temperature transmission to the main unit via 433 MHz signal
- Case can be wall mounted using built-in hanger
- 164 feet transmission range without interference
- Selection of the temperature display in Celsius or Fahrenheit
- LCD display of measured temperature and humidity
- 3 channel selection
- Temperature display selection - Fahrenheit or Celsius



A LED INDICATOR

- Flashes once when the remote sensor transmits a reading to the main unit.
- Flashes twice when battery power is low.

B BATTERY COMPARTMENT

- Holds two AA-size batteries.

C RESET

- Resets all previous settings.

D CHANNEL SWITCH

- Selects the desired channel before installing batteries.

E WALL-MOUNT RECESSED HOLE

- Keeps the remote sensor on the wall.

F °C/ °F SWITCH

- Selects the temperature display in Fahrenheit or Centigrade.

PLACEMENT

- The remote sensor should be placed under eaves or a similar location with free air circulation, sheltered from direct sunlight and extreme weather.
- Ideally, place the remote sensor over soil, rather than asphalt, which would cause false readings.
- Avoid placing the remote sensor near sources of heat, such as chimneys or hot air exhaust vents.
- Avoid areas that collect heat from the sun and radiate heat, such as metal, brick or concrete structures, paving, and patios.
- The international standard for the valid air temperature measurements is 4 feet (1.25 meters) above the ground.

OPERATION

Immediately after batteries are installed, the remote sensor will start transmitting a temperature and humidity data to the main unit.

MAIN UNIT

FEATURES

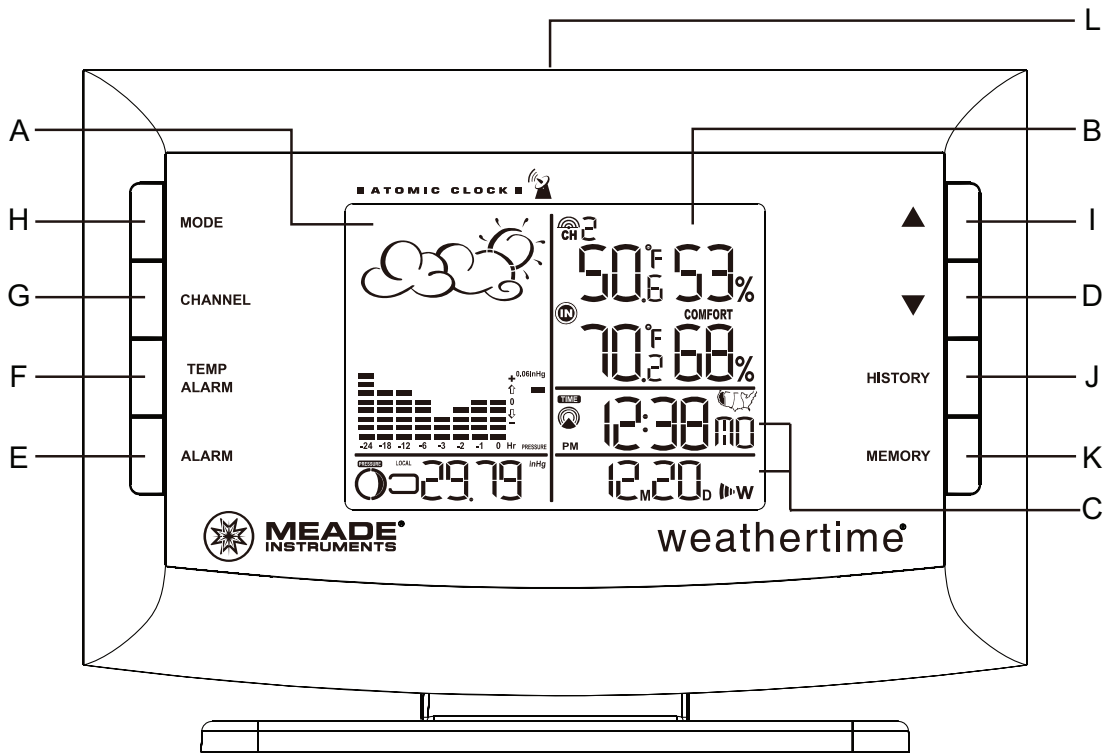
TIME

- Precise time and date set via signals from the US Atomic clock
- 12 or 24 hour time format
- Manual adjustment of time and date
- Calendar date with month and day in 7 languages English, German, French, Italian, Spanish, Dutch and Swedish
- Dual crescendo alarms with snooze
- Programmable ice warning alarm

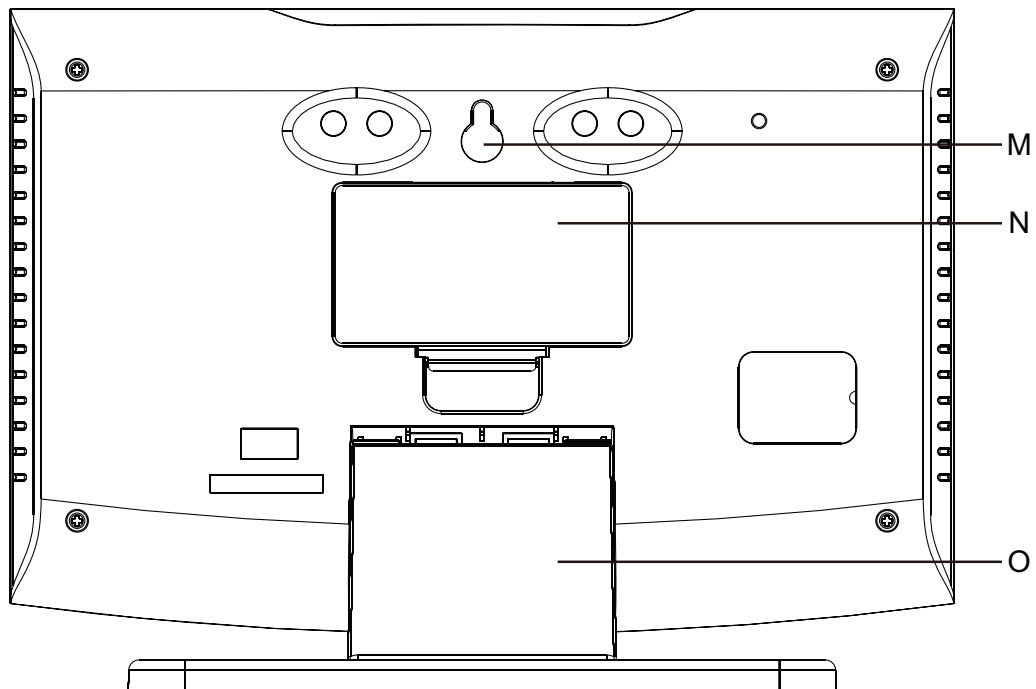
WEATHER

- Weather forecast for the next 12 to 24 hour in seven large icons: sunny, slightly cloudy, cloudy, rainy, heavy rainy, snowy and heavy snowy.
- Programmable minimum/maximum temperature alarm
- Indoor/outdoor temperature and humidity in up to 3 remote locations (additional sensors required)
- Barometric pressure in imperial or metric units
- Altitude adjustment for pressure compensation
- 24 hour barometric pressure history chart
- Comfort level indicators (Dry, Humid and Comfort)

FRONT



REAR



A. WEATHER FORECAST/ PRESSURE window

B. TEMPERATURE/ HUMIDITY window

C. CLOCK window

D. DOWN button

- Select the next available mode
- Press and hold for 2 seconds to search for wireless signal from remote sensor.
- Decrease parameters.

E. ALARM button

- When time mode has been selected, press once to display the alarm time of weekday alarm (W), single alarm (S) and pre-alarm (Pre-AL).
- Hold for 2 seconds, set weekday, single and pre-alarm's alarm time
- When alarm is on, press once to stop the alarm temporarily.

F. TEMP ALARM button

- When temperature mode has been selected, press once to display the highest or lowest temperature alarm's value.
- Hold for 2 seconds, set the highest lowest temperature alarm's value
- When alarm is on, press once to stop the alarm temporarily.

G. CHANNEL button

- Press to display the outdoor temperature readings of Channels 1, 2 and 3.
- Hold for 2 seconds, enter into the circulation mode and outdoor temperature readings of Channels 1, 2 or 3 will be displayed automatically in every 5 seconds.

H. MODE button

- When pressure mode has been selected, press once to display the local pressure, altitude and sea level.
- Press and hold for 2 seconds to set altitude and sea level.
- When time mode has been selected, press once to toggle between time with seconds display or time with weekday display.
- Press and hold for 2 seconds, set language of the day of the week, year digit, month digit, date digit, hour format (12/ 24 hours), hour digit and minute digit. (Note: calendar format is default in month-date display).
- When temperature mode has been selected, press and hold for 2 seconds to toggle the temperature unit between Celsius or Fahrenheit.

I. UP button

- Press to select the next available mode
- Increase the parameters
- In time with seconds display mode, press and hold for 2 seconds to activate/ deactivate radio controlled time signal search manually.
- In time with weekday display mode, press and hold for 2 seconds to switch time zone from Pacific, Mountain, Central to Eastern.

J. HISTORY button

- When pressure mode has been selected, press once to check the historical pressure data for the past 24 hours.

K. MEMORY button

- When temperature mode has been selected, press to recall the minimum or maximum temperature and humidity readings of main unit and remote units.
- Press and hold for 2 seconds, collected memories will be cleared.

L. SNOOZE/ LIGHT button

- Stops alarm temporarily and activates LCD backlight

M. WALL-MOUNT hole

- A recessed opening to mount the unit on a wall

N. BATTERY COMPARTMENT

- Requires two (2) AA batteries

O. TABLE STAND

- When placing the main unit on the table or other horizontal surface, unfold and adjust the table stand for the desired viewing angle.

BATTERY INSTALLATION

- Remove the battery door located at the back of the main unit.
- Insert two (2) AA batteries and replace the battery compartment door.

PLACEMENT

- Make sure that the main unit is locating within the operating range of all remote sensors.
- Ideally the main unit should be placed within line of sight of remote sensors. Avoid placing the main unit where surfaces emitting and radiating heat (e.g. heating ducts or air conditioners) and areas with interference from wireless devices (e.g. cordless phones, radio headsets, baby monitoring devices and other electronics).

OPERATION

Once the main unit is powered, the display will show all available LCD segments for a moment.








IMPORTANT: All of the display functions will be locked, allowing setting of your local altitude and pressure parameters by pressing the **UP** (?) or **DOWN** (?) and **SET** buttons. The locked display will show the pressure icon and abbreviation “inHg” flashing in the **Weather Forecast/ Pressure Window**, default time in **Clock Window** and channel 1’s temperature and humidity readings in **Temperature/ Humidity Window**.

If pressure and altitude are not configured during this time, the unit will self-calibrate in a few minutes and show the default settings for the pressure and altitude (sea level) and all remote weather sensors readings.

GETTING STARTED

WEATHER FORECAST

This unit is capable of detecting the atmospheric pressure changes. Based on collected weather data, it forecasts the weather for the next 12 to 24 hours.

When the display shows...							
Forecast is...	Sunny	Partly Cloudy	Cloudy	Rainy	Heavy Rainy	Snowy	Heavy Snowy

NOTE: The weather forecast accuracy is approximately 70%.

The main unit display shows forecasted (predicted) not current conditions. The **SUNNY** icon indicates clear weather, even when displayed during the nighttime.

PRESSURE OPERATION

The pressure window displays: current barometric pressure, sea level pressure, and weather forecast. The information contains a number of historical statistics: pressure/ temperature/ humidity history bar-chart for the past 24 hours.

Pressure can be measured in inHg, hPa/mBar or mmHg, and altitude is determined in either meters or feet.

IMPORTANT: There are three viewing options available: barometric pressure **SEA LEVEL** or **LOCAL** and **ALTITUDE**. Local pressure is a measured value (can't be adjusted) while **Sea Level & Altitude** are variables that you can enter. It is advisable to select and program only one of the variables and to allow the unit to calculate the third value.

The unit is designed to measure pressure changes at your **specific location**, when **LOCAL** barometric pressure is selected. Information for programming your unit, with either **Altitude** or **Sea Level** values, may be obtained from GPS readings, online from the Internet, etc.

SEA LEVEL barometric pressure provides you with information about pressure changes at lower elevations in your **surrounding area**. The **SEA LEVEL** pressure value can be set to match your local metro area weather information. (Sources – local TV or radio station, etc.)

SETTING INITIAL PRESSURE PARAMETERS

IMPORTANT: Allow the unit to set *without touching ANY buttons* for about 6-8 minutes during the main unit initial set up. This will give the unit time to synchronize with remotes, stabilize pressure readings and settle with default settings.

SELECT PRESSURE UNITS OF MEASURE

Press **UP** (?) or **DOWN** (?), as needed, until the pressure icon “**PRESSURE**”, to the left of the barometric pressure value, begins to flash.

- Press **MODE** button, to toggle through selections until “**SEA LEVEL**” or “**LOCAL**” barometric pressure is displayed.
- Press and hold **HISTORY** button to enter the pressure unit selection mode. Press the **UP** (?) or **DOWN** (?) button to select the preferred units of measure for pressure: inHG (English), hPa/mBar (scientific) or mmHg (metric)
- Press **HISTORY** to confirm your selection. Then press **MODE** to move to the **ALTITUDE unit** selection mode. Press the **UP** (?) or **DOWN** (?) button to select pressure unit as **FEET** or **METER**.
- Press **HISTORY** to confirm and hold **MODE** to move to the **ALTITUDE value** selection mode.
- Press **UP** (?) or **DOWN** (?) to select or adjust the altitude value to your location. (Press and hold either button for accelerated digit advance)
- Press **MODE** to confirm the programming selection.

(NOTE: The unit will automatically exit programming mode if it does not detect a button press after 2 minutes.)

VIEWING PRESSURE AND ALTITUDE INFORMATION

To view pressure or altitude information, press **MODE** button. The display will alternate between the sea level pressure, local pressure and local altitude screens.

PROGRAMMING SEA LEVEL PRESSURE (not required if you did altitude)

- Press and hold **MODE**, until the barometric pressure digits are flashing.
- Enter the desired sea level pressure value by pressing **UP** (?) or **DOWN** (?) buttons. (Press and hold either button for accelerated digit advance.)
- Press **MODE**, to confirm sea level value selection.

CHANGING PRESSURE AND ALTITUDE UNITS

- Press **MODE** as needed, until “**LOCAL**” pressure is displayed.
- Press and hold **HISTORY**, until the pressure unit is flashing.
- Change local or sea level pressure units by pressing the **UP (?)** or **DOWN (?)** buttons to select the pressure units. Choose from: **inHg, hPa/mBar or mmHg**.
- Press **HISTORY** to confirm your selection.
- Press **MODE** button until the local altitude value will be displayed.
- Press and hold **HISTORY** until the altitude unit is flashing.
- Select the **ALTITUDE** unit:, meters or feet, by pressing **UP (?)** or **DOWN (?)** buttons.
- Press **HISTORY** to confirm your selection.

VIEWING SEA LEVEL PRESSURE HISTORY

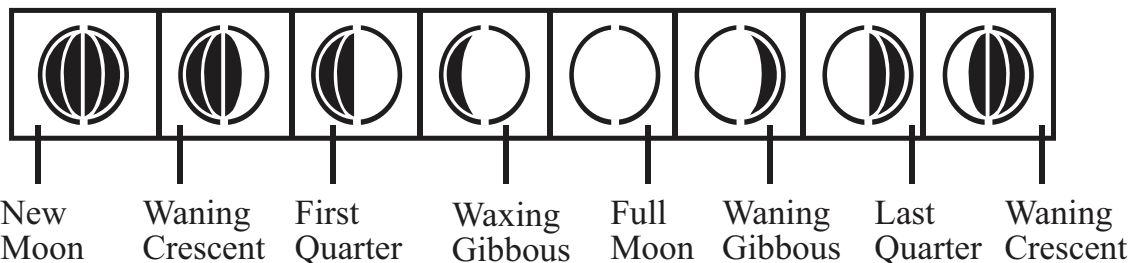
- In pressure mode, press **HISTORY** button entering the sea level pressure display.
- When the **SEA LEVEL** is displayed, press **HISTORY** repeatedly viewing the sea level pressure history for the past 24 hours in 1 hour intervals.
- If no buttons are pressed for 5 seconds, the unit will automatically return to the default Pressure and Weather Forecast Mode.

VIEWING PRESSURE, TEMPERATURE AND HUMIDITY CHARTS

The bar chart in **Pressure Window** can be configured to display a historical data for the sea level pressure and temperature or humidity for channel 1.

After selecting the **Pressure Window**, press and hold **ALARM** button to toggle the bar chart between the sea level pressure with a word “**PRESSURE**” displayed at the right bottom corner of the chart, temperature with a thermometer icon and “**CH1**” and a humidity with “**RH**” icon and “**CH1**”.

MOON PHASE ICONS



TEMPERATURE/ HUMIDITY WINDOW




The main unit supports up to 3 remote sensors, corresponding to a separate channel of the temperature and relative humidity display. The temperature can be displayed in Celsius (°C) or Fahrenheit (°F).

The main unit carries the temperature and humidity sensor and uses this data to calculate an indoors comfort level - **Wet, Comfort or Dry**.

A temperature alert function is available for all channels. It can be programmed to sound if the channel temperature exceeds or falls below the pre-set upper and lower limits.

REMOTE SENSORS STATUS

The wave icon above the current channel icon shows the connection status of the corresponding remote sensor:

Icon	Status
	Searching for the signals from the remote sensor
	Corresponding remote sensor signal received successfully
	No signals received for over 1 hour

SEARCH FOR REMOTE SENSORS

- The main unit can be manually activated to search for the signals from remote sensors by pressing and holding **DOWN** (?) button.

OPERATION


- To select the indoor/ outdoor temperature mode, press **UP** (?) or **DOWN** (?) until the **IN** icon  flashing with a beep sound alert.

VIEWING REMOTE (CHANNEL) TEMPERATURE AND HUMIDITY

Static Display:

- Press the **CHANNEL** button to select measurements from different remote sensors, each is set to a unique channel 1, 2 or 3.

Channel Auto-Scan Display:




- To enable an automatic scan of all channels, press and hold **CHANNEL**, until the  icon is displayed. The measurements from each remote channel will be alternately displayed with a 5 seconds viewing.

NOTE: the channel auto-scan feature can be active only if there **are more than one** remote sensors operating and are set to different channels.

PROGRAMMING TEMPERATURE IN CELSIUS OR FAHRENHEIT

- Press and hold **MODE** button for 3 seconds to toggle the temperature unit in Celsius (°C) or Fahrenheit (°F).

SETTING TEMPERATURE ALARM

- Press  down button to select temp display.
- Press **TEMP ALARM** button selecting the desired alarm, the upper temperature alert with  icon (if disabled, displays **OFF**), or lower temperature alert with  icon (if disabled, displays **OFF**).
- Press and hold **TEMP ALARM** button until the temperature digits flashing.
- Adjust the temperature digits using the **UP** (?) or **DOWN** (?). Press and hold either button for fast digits advance
- Press the **TEMP ALARM** to confirm selection and return to the temperature alarm selection screen

ACTIVATING OR DEACTIVATING TEMPERATURE ALARMS

- Once the above alerts are displayed, press the **UP** (?) or **DOWN** (?) to enable or disable the corresponding alert.

VIEWING MAX/MIN AND MINIMUM READINGS

Press the **MEMORY** button recalling:

- Current temperature and humidity
- Minimum temperature and humidity
- Maximum temperature and humidity at the remote location.

RESETTING TEMPERATURE MEMORIES

Press and hold **MEMORY** button for 3 seconds to clear all channel memories.

COMFORT LEVEL INDICATION

The main unit is capable of detecting and displaying the current indoor comfort levels of surrounding environment. The comfort level based on the combination of the current indoor temperature and humidity readings. The following comfort levels may be displayed:

COMFORT (comfortable); **WET** (wet) and **DRY** (dry)

Indicator displayed	Temperature Range	Humidity Range	Shows current condition
<i>COM</i>	20°C to 25°C (68°F to 77°F)	40%RH- 70%RH	Ideal relative humidity and temperature
<i>WET</i>	-5°C to 50°C (23°F to 122°F)	OVER 70%RH	Contains excess moisture
<i>DRY</i>	5°C to 50°C (23°F to 122°F)	BELOW 40%RH	Contains inadequate moisture


CLOCK WINDOW





WWVB RADIO CONTROLLED TIME

The NIST (National Institute of Standards and Technology) radio station (WWVB) is located in Ft. Collins, Colorado. It transmits an exact time signal continuously throughout the most of the continental United States at 60 KHz frequency. The main unit can receive this WWVB signal through the internal antenna from up to 2,000 miles away. Due to the nature of the Earth's ionosphere, reception can be limited during the daylight hours. The radio controlled clock will search for an alternate station that receives the atomic time signal from the NIST Atomic clock in Boulder, Colorado.

The WWVB tower icon on the unit's display will flash indicating a radio signal reception from the WWVB station. If the tower icon is not fully lit, or if the time and date are not set automatically, please consider the following:

- During nighttime hours, atmospheric disturbances are typically less severe and radio signal reception may improve. A single daily reception is sufficient enough to keep the clock accuracy within 1 second.
- Make sure the unit is positioned at 8 feet (2 meters) distance from any interference source such as a TV, computer monitor, microwave, etc.
- Within concrete wall rooms such as basements or office buildings, the received signal may be weakened. Always place the main unit near the window for better reception.

Once the atomic time signal is received, the date and time will be set automatically, and the  icon will appear.

ICON	Atomic Time Reception Strength
 (Flashing)	Undefined data
	No Reception for the past 24 hours
	Weak signal, but can be decoded
	Strong signal

- The atomic clock receiver is programmed that it will search for the atomic time signal daily for 0:00, 3:00, 6:00, and 12:00 am.
- To enable or disable the atomic time receiver, press and hold **UP (?)** button for 3 seconds. If atomic time reception is activated, a tower icon will start flashing. If reception is disabled, the tower icon will disappear.
- If the time signal has not been received in 8 minutes, you may set the time manually. (Refer to the **MANUAL SETTINGS** section).

MANUAL SETTINGS

To select the time mode, press **UP (?)** or **DOWN (?)** until the **IN** icon  flashing with a beep sound alert. It is necessary to set the desired **US TIME ZONE**.

TIME ZONE

- Press **MODE** button **once** to select hour and minutes with the day of the week display.
- Select the Time Zone by pressing and holding **UP (?)** button for 3 seconds.
- Keep holding **UP (?)** button until the desired US Time Zone (Pacific, Mountain, Central or Eastern) is highlighted on the display's US map, located to the right of the time display and above the day of the week.
- Release the **UP (?)** button. The Time Zone is set.

TIME AND CALENDER

- Press and hold **MODE** button until the day of week language abbreviation "**ENG**" will flash
- Press the **UP (?)** or **DOWN (?)** selecting the day of the week in English, German, French, Italian, Spanish, Dutch or Swedish.
- After the language of weekday is **MODE**, press **MODE** button to confirm and move to the next parameter (year).
- Continue setting the year, month, day, time format (12 or 24 hours), local hour and minutes, using the same technique.
- After programming is complete the display will return to the default hour and minutes with seconds display.

CLOCK ALARMS

There are two time alarms – Weekday alarm (**W**) and Single day alarm (**S**) - and one Ice Warning Alarm (**PRE-AL**).

- If **Weekday (W)** alarm is activated, it will sound at the set time and the alarm icon will flash Mondays through Fridays
- If **Single (S)** day alarm is activated, it will sound at the set time and the alarm icon will flash only for this specific day and will not activate on subsequent days
- If **Ice Warning Alarm (PRE-AL)** is activated, it will sound at the set time and alarm icon will flash when the remote temperature for Channel One (1) reaches 32°F(0°C) and below.

NOTE: Ice Warning Alarm can be set only if weekday and/or the single alarm are programmed.

SETTING THE WEEKDAY (W) AND SINGLE DAY (S) ALARMS

- Press **ALARM** button once to enter into the alarms setting mode. The default alarm is a Weekday alarm (**W**). The abbreviation “**OFF**” with a letter “**W**” next to it will be displayed, if the alarm has not been set previously
- Press and hold **ALARM** button for two seconds. The hour digit will flash
- Adjust the hour using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button again. The minute digits will flash
- Adjust the minutes using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button again to confirm and the weekday alarm time will be set
- Set **Single (S)** day alarm if desired in the same manner

SETTING THE ICE WARNING ALARM (PRE-AL)

If Weekday (**W**) or Single day (**S**) alarm is set, the Ice Warning Alarm (**Pre-AL**) can be programmed.

- Press **ALARM** button once to enter into the Ice Warning Alarm setting mode. The abbreviation **OFF** with a **PRE-AL** next to it will be displayed.
- Press and hold **ALARM** button for two seconds. The number **30** will flash, meaning that if selected, the alarm will sound 30 minutes earlier than the Weekday or Single alarm.
- Select the desired Ice Warning Alarm interval in 15 minutes increments between 15 and 90 minutes, using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button to confirm and exit from the alarm setting mode.

ACTIVATING/ DEACTIVATING ALARMS

- Press **ALARM** button to enter into the desired alarm mode.
- Press **UP (?)** to activate alarm and the corresponding icons **W**, **S** or **PRE-AL** will be displayed.
- Press **DOWN (?)** to deactivate alarm until “**OFF**” is displayed.

MAINTANANCE

CHANGING BATTERIES

- If the low battery indicator lights up, replace batteries in the corresponding unit.
- Do not mix old and batteries.

CLEANING

The main unit and remote sensors housings can be cleaned with a damp cloth. Small parts can be cleaned with a cotton tip or pipe-cleaner. Never use abrasive or corrosive cleaning agents or solvents. Do not immerse electronic components in water.

TROUBLESHOOTING

Check here before contacting customer service.

Issue	Symptom	Solution
Main unit	Radio Controlled Time signal is not received	Place unit by the window and keep it there overnight
Remote sensor	Cannot locate remote sensor	Check batteries
		Check location
		Press and hold DOWN (?) button on the main unit to search for the signal from the remote sensor
	Cannot change the channel	Press “ RESET ” after setting the channel
Data does not match data on the main unit	Initiate manual sensor search (Press and hold DOWN (?) button on the main unit)	

PRECAUTIONS

This product is engineered to give you years of satisfactory service if handled carefully. Here are a few precautions:

- Do not immerse the units in water.
- Do not clean the units with abrasive or corrosive materials. They may scratch the plastic parts and corrode the electronic circuits.
- Do not subject the product to excessive force, shock, dust, temperature, or humidity, which may result in malfunctions, shorter lifespan, damaged batteries, and damaged parts.
- Do not tamper with the units internal components. Doing so will invalidate the warranty and may cause damage. These units contain no user-serviceable parts.
- Use only fresh batteries. Do not mix new and old batteries.
- Read the user's manual thoroughly before operating the units.

L. SNOOZE/ LIGHT button

- Stops alarm temporarily and activates LCD backlight

M. WALL-MOUNT hole

- A recessed opening to mount the unit on a wall

N. BATTERY COMPARTMENT

- Requires two (2) AA batteries

O. TABLE STAND

- When placing the main unit on the table or other horizontal surface, unfold and adjust the table stand for the desired viewing angle.

BATTERY INSTALLATION

- Remove the battery door located at the back of the main unit.
- Insert two (2) AA batteries and replace the battery compartment door.

PLACEMENT

- Make sure that the main unit is locating within the operating range of all remote sensors.
- Ideally the main unit should be placed within line of sight of remote sensors. Avoid placing the main unit where surfaces emitting and radiating heat (e.g. heating ducts or air conditioners) and areas with interference from wireless devices (e.g. cordless phones, radio headsets, baby monitoring devices and other electronics).

OPERATION

Once the main unit is powered, the display will show all available LCD segments for a moment.








IMPORTANT: All of the display functions will be locked, allowing setting of your local altitude and pressure parameters by pressing the **UP** (?) or **DOWN** (?) and **SET** buttons. The locked display will show the pressure icon and abbreviation “inHg” flashing in the **Weather Forecast/ Pressure Window**, default time in **Clock Window** and channel 1’s temperature and humidity readings in **Temperature/ Humidity Window**.

If pressure and altitude are not configured during this time, the unit will self-calibrate in a few minutes and show the default settings for the pressure and altitude (sea level) and all remote weather sensors readings.

GETTING STARTED

WEATHER FORECAST

This unit is capable of detecting the atmospheric pressure changes. Based on collected weather data, it forecasts the weather for the next 12 to 24 hours.

When the display shows...							
Forecast is...	Sunny	Partly Cloudy	Cloudy	Rainy	Heavy Rainy	Snowy	Heavy Snowy

NOTE: The weather forecast accuracy is approximately 70%.

The main unit display shows forecasted (predicted) not current conditions. The **SUNNY** icon indicates clear weather, even when displayed during the nighttime.

PRESSURE OPERATION

The pressure window displays: current barometric pressure, sea level pressure, and weather forecast. The information contains a number of historical statistics: pressure/ temperature/ humidity history bar-chart for the past 24 hours.

Pressure can be measured in inHg, hPa/mBar or mmHg, and altitude is determined in either meters or feet.

IMPORTANT: There are three viewing options available: barometric pressure **SEA LEVEL** or **LOCAL** and **ALTITUDE**. Local pressure is a measured value (can't be adjusted) while **Sea Level & Altitude** are variables that you can enter. It is advisable to select and program only one of the variables and to allow the unit to calculate the third value.

The unit is designed to measure pressure changes at your **specific location**, when **LOCAL** barometric pressure is selected. Information for programming your unit, with either **Altitude** or **Sea Level** values, may be obtained from GPS readings, online from the Internet, etc.

SEA LEVEL barometric pressure provides you with information about pressure changes at lower elevations in your **surrounding area**. The **SEA LEVEL** pressure value can be set to match your local metro area weather information. (Sources – local TV or radio station, etc.)

SETTING INITIAL PRESSURE PARAMETERS

IMPORTANT: Allow the unit to set *without touching ANY buttons* for about 6-8 minutes during the main unit initial set up. This will give the unit time to synchronize with remotes, stabilize pressure readings and settle with default settings.

SELECT PRESSURE UNITS OF MEASURE

Press **UP** (?) or **DOWN** (?), as needed, until the pressure icon “**PRESSURE**”, to the left of the barometric pressure value, begins to flash.

- Press **MODE** button, to toggle through selections until “**SEA LEVEL**” or “**LOCAL**” barometric pressure is displayed.
- Press and hold **HISTORY** button to enter the pressure unit selection mode. Press the **UP** (?) or **DOWN** (?) button to select the preferred units of measure for pressure: inHG (English), hPa/mBar (scientific) or mmHg (metric)
- Press **HISTORY** to confirm your selection. Then press **MODE** to move to the **ALTITUDE** unit selection mode. Press the **UP** (?) or **DOWN** (?) button to select pressure unit as **FEET** or **METER**.
- Press **HISTORY** to confirm and hold **MODE** to move to the **ALTITUDE** value selection mode.
- Press **UP** (?) or **DOWN** (?) to select or adjust the altitude value to your location. (Press and hold either button for accelerated digit advance)
- Press **MODE** to confirm the programming selection.

(NOTE: The unit will automatically exit programming mode if it does not detect a button press after 2 minutes.)

VIEWING PRESSURE AND ALTITUDE INFORMATION

To view pressure or altitude information, press **MODE** button. The display will alternate between the sea level pressure, local pressure and local altitude screens.

PROGRAMMING SEA LEVEL PRESSURE (not required if you did altitude)

- Press and hold **MODE**, until the barometric pressure digits are flashing.
- Enter the desired sea level pressure value by pressing **UP** (?) or **DOWN** (?) buttons. (Press and hold either button for accelerated digit advance.)
- Press **MODE**, to confirm sea level value selection.

CHANGING PRESSURE AND ALTITUDE UNITS

- Press **MODE** as needed, until “**LOCAL**” pressure is displayed.
- Press and hold **HISTORY**, until the pressure unit is flashing.
- Change local or sea level pressure units by pressing the **UP** (?) or **DOWN** (?) buttons to select the pressure units. Choose from: **inHg, hPa/mBar or mmHg**.
- Press **HISTORY** to confirm your selection.
- Press **MODE** button until the local altitude value will be displayed.
- Press and hold **HISTORY** until the altitude unit is flashing.
- Select the **ALTITUDE** unit:., meters or feet, by pressing **UP** (?) or **DOWN** (?) buttons.
- Press **HISTORY** to confirm your selection.

VIEWING SEA LEVEL PRESSURE HISTORY

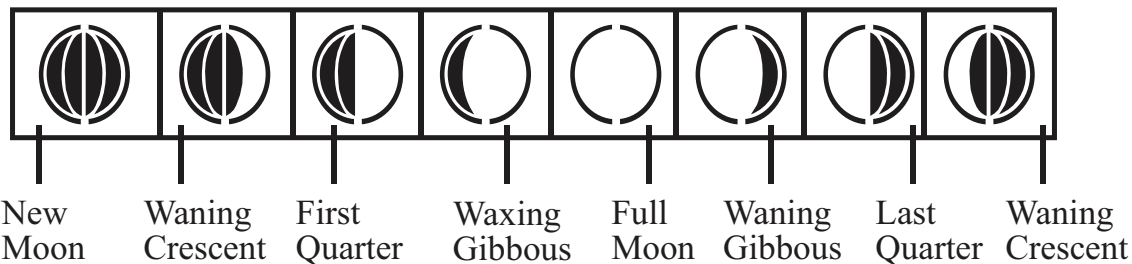
- In pressure mode, press **HISTORY** button entering the sea level pressure display.
- When the **SEA LEVEL** is displayed, press **HISTORY** repeatedly viewing the sea level pressure history for the past 24 hours in 1 hour intervals.
- If no buttons are pressed for 5 seconds, the unit will automatically return to the default Pressure and Weather Forecast Mode.

VIEWING PRESSURE, TEMPERATURE AND HUMIDITY CHARTS

The bar chart in **Pressure Window** can be configured to display a historical data for the sea level pressure and temperature or humidity for channel 1.

After selecting the **Pressure Window**, press and hold **ALARM** button to toggle the bar chart between the sea level pressure with a word “**PRESSURE**” displayed at the right bottom corner of the chart, temperature with a thermometer icon and “**CHI**” and a humidity with “**RH**” icon and “**CHI**”.

MOON PHASE ICONS



TEMPERATURE/ HUMIDITY WINDOW




The main unit supports up to 3 remote sensors, corresponding to a separate channel of the temperature and relative humidity display. The temperature can be displayed in Celsius (°C) or Fahrenheit (°F).

The main unit carries the temperature and humidity sensor and uses this data to calculate an indoors comfort level - **Wet, Comfort or Dry**.

A temperature alert function is available for all channels. It can be programmed to sound if the channel temperature exceeds or falls below the pre-set upper and lower limits.

REMOTE SENSORS STATUS


The wave icon above the current channel icon shows the connection status of the corresponding remote sensor:

Icon	Status
	Searching for the signals from the remote sensor
	Corresponding remote sensor signal received successfully
	No signals received for over 1 hour

SEARCH FOR REMOTE SENSORS

- The main unit can be manually activated to search for the signals from remote sensors by pressing and holding **DOWN** (?) button.

OPERATION


- To select the indoor/ outdoor temperature mode, press **UP** (?) or **DOWN** (?) until the **IN** icon  flashing with a beep sound alert.

VIEWING REMOTE (CHANNEL) TEMPERATURE AND HUMIDITY

Static Display:

- Press the **CHANNEL** button to select measurements from different remote sensors, each is set to a unique channel 1, 2 or 3.

Channel Auto-Scan Display:


- To enable an automatic scan of all channels, press and hold **CHANNEL**, until the  icon is displayed. The measurements from each remote channel will be alternately displayed with a 5 seconds viewing.

NOTE: the channel auto-scan feature can be active only if there **are more than one** remote sensors operating and are set to different channels.

PROGRAMMING TEMPERATURE IN CELSIUS OR FAHRENHEIT

- Press and hold **MODE** button for 3 seconds to toggle the temperature unit in Celsius (°C) or Fahrenheit (°F).

SETTING TEMPERATURE ALARM

- Press **▼** down button to select temp display.
- Press **TEMP ALARM** button selecting the desired alarm, the upper temperature alert with  icon (if disabled, displays **OFF**), or lower temperature alert with **▼** icon (if disabled, displays **OFF**).
- Press and hold **TEMP ALARM** button until the temperature digits flashing.
- Adjust the temperature digits using the **UP** (?) or **DOWN** (?). Press and hold either button for fast digits advance
- Press the **TEMP ALARM** to confirm selection and return to the temperature alarm selection screen

ACTIVATING OR DEACTIVATING TEMPERATURE ALARMS

- Once the above alerts are displayed, press the **UP** (?) or **DOWN** (?) to enable or disable the corresponding alert.

VIEWING MAX/MIN AND MINIMUM READINGS

Press the **MEMORY** button recalling:

- Current temperature and humidity
- Minimum temperature and humidity
- Maximum temperature and humidity at the remote location.

RESETTING TEMPERATURE MEMORIES

Press and hold **MEMORY** button for 3 seconds to clear all channel memories.

COMFORT LEVEL INDICATION

The main unit is capable of detecting and displaying the current indoor comfort levels of surrounding environment. The comfort level based on the combination of the current indoor temperature and humidity readings. The following comfort levels may be displayed:

COMFORT (comfortable); **WET** (wet) and **DRY** (dry)

Indicator displayed	Temperature Range	Humidity Range	Shows current condition
<i>COM</i>	20°C to 25°C (68°F to 77°F)	40%RH- 70%RH	Ideal relative humidity and temperature
<i>WET</i>	-5°C to 50°C (23°F to 122°F)	OVER 70%RH	Contains excess moisture
<i>DRY</i>	5°C to 50°C (23°F to 122°F)	BELOW 40%RH	Contains inadequate moisture


CLOCK WINDOW





WWVB RADIO CONTROLLED TIME

The NIST (National Institute of Standards and Technology) radio station (WWVB) is located in Ft. Collins, Colorado. It transmits an exact time signal continuously throughout the most of the continental United States at 60 KHz frequency. The main unit can receive this WWVB signal through the internal antenna from up to 2,000 miles away. Due to the nature of the Earth's ionosphere, reception can be limited during the daylight hours. The radio controlled clock will search for an alternate station that receives the atomic time signal from the NIST Atomic clock in Boulder, Colorado.

The WWVB tower icon on the unit's display will flash indicating a radio signal reception from the WWVB station. If the tower icon is not fully lit, or if the time and date are not set automatically, please consider the following:

- During nighttime hours, atmospheric disturbances are typically less severe and radio signal reception may improve. A single daily reception is sufficient enough to keep the clock accuracy within 1 second.
- Make sure the unit is positioned at 8 feet (2 meters) distance from any interference source such as a TV, computer monitor, microwave, etc.
- Within concrete wall rooms such as basements or office buildings, the received signal may be weakened. Always place the main unit near the window for better reception.

Once the atomic time signal is received, the date and time will be set automatically, and the  icon will appear.

ICON	Atomic Time Reception Strength
 (Flashing)	Undefined data
	No Reception for the past 24 hours
	Weak signal, but can be decoded
	Strong signal

- The atomic clock receiver is programmed that it will search for the atomic time signal daily for 0:00, 3:00, 6:00, and 12:00 am.
- To enable or disable the atomic time receiver, press and hold **UP (?)** button for 3 seconds. If atomic time reception is activated, a tower icon will start flashing. If reception is disabled, the tower icon will disappear.
- If the time signal has not been received in 8 minutes, you may set the time manually. (Refer to the **MANUAL SETTINGS** section).

MANUAL SETTINGS

To select the time mode, press **UP (?)** or **DOWN (?)** until the **IN** icon  flashing with a beep sound alert. It is necessary to set the desired US **TIME ZONE**.

TIME ZONE

- Press **MODE** button **once** to select hour and minutes with the day of the week display.
- Select the Time Zone by pressing and holding **UP (?)** button for 3 seconds.
- Keep holding **UP (?)** button until the desired US Time Zone (Pacific, Mountain, Central or Eastern) is highlighted on the display's US map, located to the right of the time display and above the day of the week.
- Release the **UP (?)** button. The Time Zone is set.

TIME AND CALENDER

- Press and hold **MODE** button until the day of week language abbreviation "**ENG**" will flash
- Press the **UP (?)** or **DOWN (?)** selecting the day of the week in English, German, French, Italian, Spanish, Dutch or Swedish.
- After the language of weekday is **MODE**, press **MODE** button to confirm and move to the next parameter (year).
- Continue setting the year, month, day, time format (12 or 24 hours), local hour and minutes, using the same technique.
- After programming is complete the display will return to the default hour and minutes with seconds display.

CLOCK ALARMS

There are two time alarms – Weekday alarm (**W**) and Single day alarm (**S**) - and one Ice Warning Alarm (**PRE-AL**).

- If **Weekday (W)** alarm is activated, it will sound at the set time and the alarm icon will flash Mondays through Fridays
- If **Single (S)** day alarm is activated, it will sound at the set time and the alarm icon will flash only for this specific day and will not activate on subsequent days
- If **Ice Warning Alarm (PRE-AL)** is activated, it will sound at the set time and alarm icon will flash when the remote temperature for Channel One (1) reaches 32°F(0°C) and below.

NOTE: Ice Warning Alarm can be set only if weekday and/or the single alarm are programmed.

SETTING THE WEEKDAY (W) AND SINGLE DAY (S) ALARMS

- Press **ALARM** button once to enter into the alarms setting mode. The default alarm is a Weekday alarm (**W**). The abbreviation “**OFF**” with a letter “**W**” next to it will be displayed, if the alarm has not been set previously
- Press and hold **ALARM** button for two seconds. The hour digit will flash
- Adjust the hour using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button again. The minute digits will flash
- Adjust the minutes using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button again to confirm and the weekday alarm time will be set
- Set **Single (S)** day alarm if desired in the same manner

SETTING THE ICE WARNING ALARM (PRE-AL)

If Weekday (**W**) or Single day (**S**) alarm is set, the Ice Warning Alarm (**Pre-AL**) can be programmed.

- Press **ALARM** button once to enter into the Ice Warning Alarm setting mode. The abbreviation **OFF** with a **PRE-AL** next to it will be displayed.
- Press and hold **ALARM** button for two seconds. The number **30** will flash, meaning that if selected, the alarm will sound 30 minutes earlier than the Weekday or Single alarm.
- Select the desired Ice Warning Alarm interval in 15 minutes increments between 15 and 90 minutes, using **UP (?)** or **DOWN (?)** buttons
- Press **ALARM** button to confirm and exit from the alarm setting mode.

ACTIVATING/ DEACTIVATING ALARMS

- Press **ALARM** button to enter into the desired alarm mode.
- Press **UP (?)** to activate alarm and the corresponding icons **W**, **S** or **PRE-AL** will be displayed.
- Press **DOWN (?)** to deactivate alarm until “**OFF**” is displayed.

MAINTANANCE

CHANGING BATTERIES

- If the low battery indicator lights up, replace batteries in the corresponding unit.
- Do not mix old and batteries.

CLEANING

The main unit and remote sensors housings can be cleaned with a damp cloth. Small parts can be cleaned with a cotton tip or pipe-cleaner. Never use abrasive or corrosive cleaning agents or solvents. Do not immerse electronic components in water.

TROUBLESHOOTING

Check here before contacting customer service.

Issue	Symptom	Solution
Main unit	Radio Controlled Time signal is not received	Place unit by the window and keep it there overnight
Remote sensor	Cannot locate remote sensor	Check batteries
		Check location
		Press and hold DOWN (?) button on the main unit to search for the signal from the remote sensor
	Cannot change the channel	Press “ RESET ” after setting the channel
Data does not match data on the main unit	Initiate manual sensor search (Press and hold DOWN (?) button on the main unit)	

PRECAUTIONS

This product is engineered to give you years of satisfactory service if handled carefully. Here are a few precautions:

- Do not immerse the units in water.
- Do not clean the units with abrasive or corrosive materials. They may scratch the plastic parts and corrode the electronic circuits.
- Do not subject the product to excessive force, shock, dust, temperature, or humidity, which may result in malfunctions, shorter lifespan, damaged batteries, and damaged parts.
- Do not tamper with the units internal components. Doing so will invalidate the warranty and may cause damage. These units contain no user-serviceable parts.
- Use only fresh batteries. Do not mix new and old batteries.
- Read the user's manual thoroughly before operating the units.



MEADE[®]
INSTRUMENTS

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All user manual contents and information are subject to change.