WM-918

Electronic Weather Station

* User Manual *

FEATURES

Your WM-918 Electronic Weather Station is an attractive and useful addition to your home or business. It lets you monitor the air temperature, relative humidity, and dew point temperature (indoors and outdoors), as well as the barometric pressure, wind speed/direction, wind chill, and rainfall rate (outdoors only). The weather station's memory lets you recall high and low readings, set an alarm to sound at a set time or when a set condition is exceeded, and more.

The weather station also has an easy-to-read, illustrated display that forecasts the weather 12-24 hours in advance in a 20-30 mile radius. The weather station is ideal for anyone who depends on a local weather forecast - such as travelers, gardeners, farmer, or anyone who works outdoors. It can also help you successfully plan outdoor activities - from a picnic to simply knowing when to carry your umbrella!

The weather station's RS-232 jack lets you connect the weather station to a PC using a serial cable (not supplied). The weather station sends data to a connected PC every 10 seconds, so you can use the optional software to monitor the data as it is recorded (Real-time), or recall it later.

Important Notes :

The connection cables supplied with your weather station are carefully calibrated and specially designed for it. To avoid inaccurate readings from the weather instruments, we recommend you not use cable extensions.

Weather Station Features

12 - 24 Hour Forecast - provides you with advance notice of the weather conditions most likely to occur within a 20-30 mile radius of where the WM-918 is located.

Weather Forecast Symbols - give you the weather outlook at a glance. The symbols include sunny, partly cloudy, and rainy.

Built-in Memory - records the highest and/or lowest readings for temperature, relative humidity, dew point temperature, maximum wind speed, daily and accumulated rainfall, and minimum wind chill. You can reset the memory for each weather type, separately.

Weather Alarms - let you set the WM-918 to sound an alarm for each weather type (temperature, wind speed, rainfall rate, dew-point temperature, and so on) and alert you when a set weather condition is reached. For example, you can set the weather station to alert you when the temperature drops near freezing, so you can protect outdoor plants and plumbing.

Mode Scanning - lets you set the weather station to continuously scan all conditions in all modes, one after the other.

Measurement Unit Selection - lets you select the measurement unit (such as 12- or 24-hours time format, Fahrenheit or Celsius, and so on) that the WM-918 displays in all modes that use that unit.

Clock Display with Alarm - shows the time and date, and lets you set an alarm to sound at the same time every day.

Optional PC Connection - lets you connect your weather station to a personal computer (using an optional serial cable) so you can record and store weather data on your PC.

Mounting Hardware - lets you easily mount the various weather station components in the locations that best suit your needs.

Liquid Crystal Display - clearly displays the WM-918's digital readings and functional indicators.

Display Back Light - makes the display easy to read in low light situations.

Weather References - (see Page 61) include a glossary of frequently used weather terms.

Note: The weather station uses 8 AAA batteries (not supplied) for power and to preserve the information stored in memory if AC power is disconnected or interrupted. See "Installing Backup Batteries" on Page 22.

CONTENTS

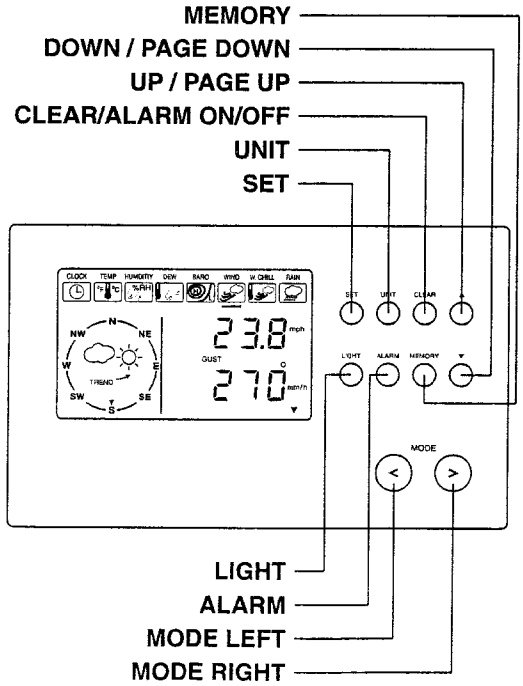
A LOOK AT YOUR WEATHER STATION

Your weather station includes these components and mounting supplies. Be sure to locate all of these items before you dispose of the packing material and box.

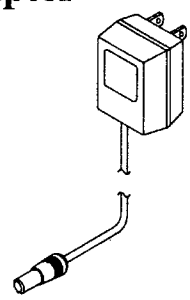
WEATHER STATION COMPONENTS

Note: The thermometers in the display unit and outdoor temperature/humidity sensor are calibrated to different specifications. Because of this, they might measure different temperatures even while they are located in the same area (if they are located, for example, side-by-side before you install/mount them). This is normal.

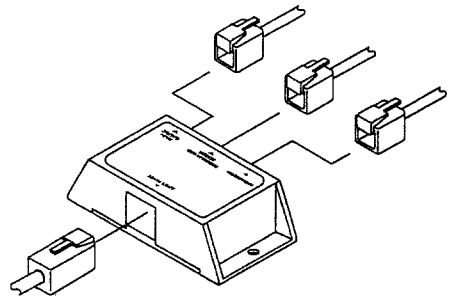
Display Unit



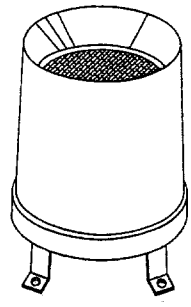
AC Adapter



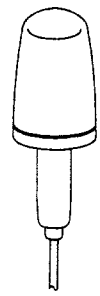
Connection Box and Cable



Rain Gauge

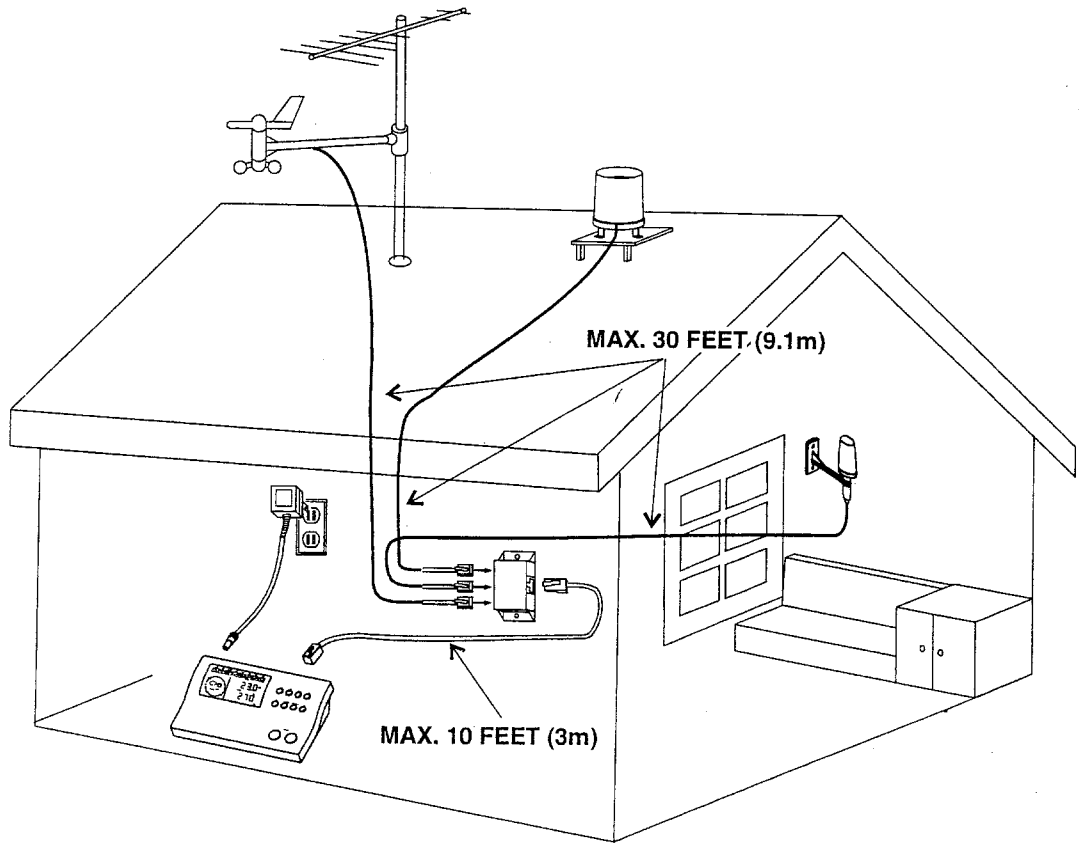


Outdoor Temperature/ Humidity Sensor



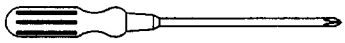
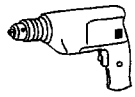
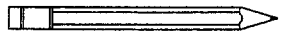
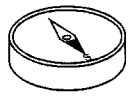
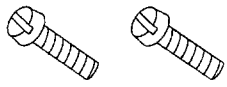
- The maximum length of serial cable (not supplied) available to connect the display unit's RS-232 jack to a PC is 10 feet, so the display unit must be located (indoors) within 10 feet of where your PC is located.
- The connection box's mounting location must be neat a window or other opening through which you can route the connection cables to the outdoor weather instruments.

The following diagram illustrates an example installation plan for the weather station and the maximum mounting location distances for each component.



Tool/Additional Supplies Needed for Installation

In addition to the supplied mounting hardware, you need the following tools/ supplies to install your weather station:

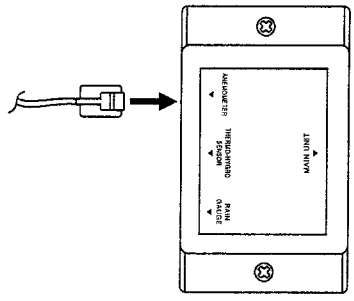
	Small flat-head screwdriver
	Small Phillips screwdriver
	Electric drill
	Pencil
	Directional compass
	Level
	Two screws (if you plan to mount the display unit on a wall - see "Installing the Display Unit" on Page 14)
	A mast, about 1-¼ inches in diameter, and the hardware necessary for mounting it (for mounting the anemometer - see "Installing the Anememeter" on Page 19)

ASSEMBLING/ CALIBRATING THE ANEMOMETER

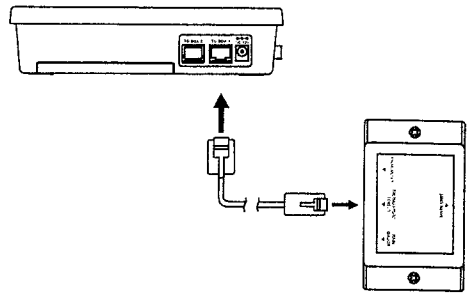
Before you mount the anemometer at the selected mounting location, follow these steps to calibrate the anemometer with the display unit, so the weather station properly measures wind speed and direction.

Important: You must be able to view the display unit while you assemble and calibrate the anemometer. Because of this, you will need to temporarily install the display unit and connect AC power. Be sure to follow these steps before you install the anemometer at its mounting location.

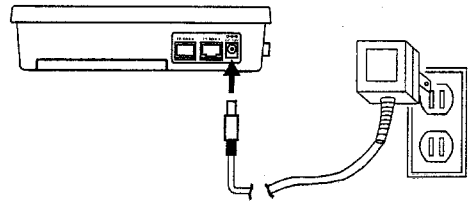
1. Plug the anemometer's modular plug into **ANEMOMETER** on the connection box.



2. Plug one end of the supplied 10-foot modular cord into **MAIN UNIT** on the connection box, then plug the other end into **TO BOX 1** on the display unit.

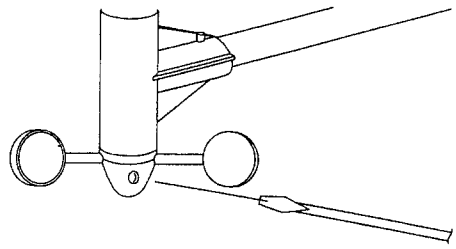


3. To connect the display unit to **AC** power, insert the supplied adapter's barrel plug into **DC 12V** on the back of the display unit, then plug the other end of the adapter into a standard **AC** outlet. All programmed display characters date (**12:00** and **1/1**) appear on the display.

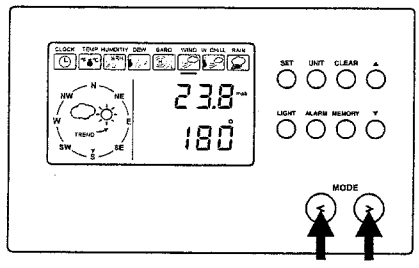


Caution : The supplied adapter meets the voltage specifications for your weather station. Using an adapter that does not meet these specifications could damage the weather station or the adapter. See "Connecting AC Power" on Page 21.

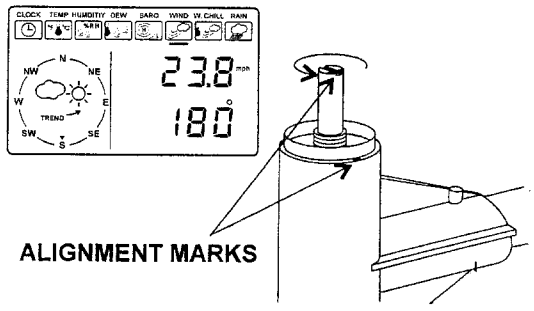
4. Place the wind cup over the thinnest shaft on the anemometer's T-bar, then use a small flat-head screwdriver to tighten the screw on the base of the wind cup.



5. Repeatedly press < or > on the display unit until the selection bar appears beneath the **WIND** icon on the display.

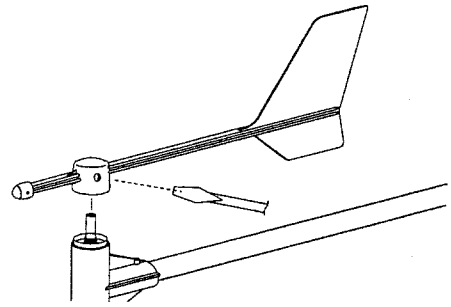


6. To calibrate the position of the wind vane's shaft with the display unit, turn the shaft (on the other side of the T-bar, opposite the wind cup) until the wind direction on the display unit reads 180°.



Note: In case you are unable to view the display unit while calibrating the wind vane. There is also an indication mark on the outer shell around the shaft. You will find the head of the shaft is slotted and red on one side. Rotate the shaft until the red side of the slot of the shaft point to the indication mark on the outer shell.

7. Carefully place the wind vane onto the shaft with aligning to the T-BAR, (without turning the shaft) then use a small flat-head screwdriver to tighten the screw on the base of the wind vane.



Important : If the shaft turns and the display reading changes (or the alignment marks are no longer aligned), repeat Step 6 before you tighten the wind-vane's screw. Otherwise, the weather station will not provide accurate wind direction data.

8. Unplug the display unit from **AC** power, then disconnect the connection box from the display unit and disconnect the anemometer from the connection box.

INSTALLING THE DISPLAY UNIT

Selecting a Location

You can set the display unit indoors on a flat surface (such as a desk or counter) or mount it on an indoor wall, within 10 feet of where you plan to mount the connection box, within 10 feet of where your PC is located, and near an AC outlet.

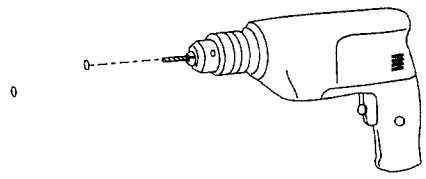
Caution : To avoid false indoor temperature and humidity readings, do not place the display unit:

- Where it will be in direct or reflected sunlight
- On or close to a surface that easily absorbs or reflects heat (such as a window or metal surface)
- Near hot or cold courses, such as stoves, heating and air conditioning vents, and radiators
- In water or in a location where it can get wet

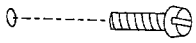
Mounting on a Wall

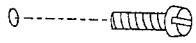
Note: To mount the display unit on a wall, you need two screws (not supplied) with heads that fit the keyhole slots on the back of the display unit.

1. At the desired mounting location, drill two pilot holes (each shallow and slightly smaller in diameter than the screw) 5 3/16 inches apart, one beside the other.

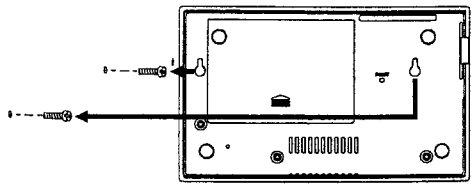


2. Thread a screw (not supplied) into each hole until the screw's head extends about 1/8 inch from the wall.





3. Place the keyhole slots on the back of the display until over the screws, then slide the display unit down over the screws.



Do not connect the display unit to AC power yet

INSTALLING THE CONNECTION BOX

Selecting a Location

Select an indoor location for the connection box that is:

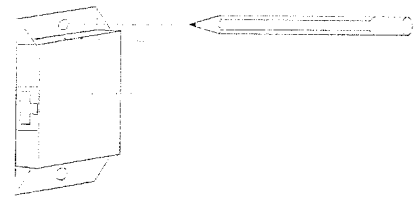
- Within 30 feet of each location where you plan to mount an outdoor weather instrument
- Near a window or other opening through which you can route the connection cables to the weather instruments outdoors
- Within 10 feet of the display unit

Caution: To avoid damaging the connection box's electronic circuits, do not mount it in an area:

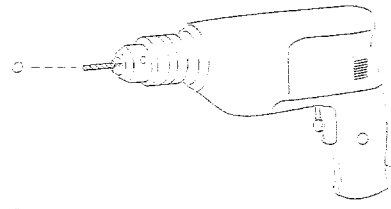
- Where it will be in direct sunlight or extreme hot or cold temperatures
- Near water or where it can get wet
- Where it is likely to get dirty
- Where it will be subject to frequent impact (such as being hit or bumped up against) or excessive vibration (such as near a frequently used door or other area of frequent activity)

Mounting on a Wall

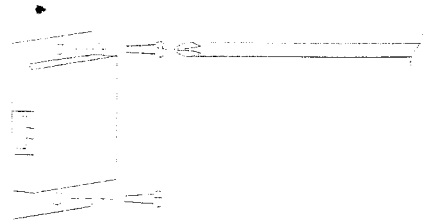
1. Hold the base of the connection box flat against the mounting surface, then trace the inside of the mounting hole with a pencil to mark the screw locations.



2. Drill a small pilot hole (shallow and slightly smaller in distemper than the screw) in the center of each marked location.



3. Hold the connection box against the mounting location so the holes in the wall are aligned with the mounting holes on the connection box, then thread a M3 X 10 screw into each hole and tighten it with a Philips screwdriver.



INSTALLING THE RAIN GAUGE

Selecting a Location

Select a mounting location for the rain gauge that is:

- A Flat, level surface
- Outdoors, within 30 feet of where you mounted the connection box
- In an area not blocked on the top or sides, so rain can freely reach the rain gauge (for example, not under an overhang or too close to a building or fence)

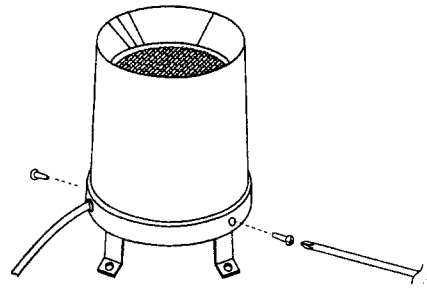
Cautions:

- To prevent false rainfall readings caused by water splashes, do not choose a location that is not level or that is too close to the ground, a swimming pool, lawn sprinklers, or anywhere water might accumulate or run-off.
- The screen in the cylinder of the rain gauge filters most debris (such as leaves) that might fall into the rain gauge. To avoid frequent build-up of debris in the cylinder, do not mount the rain gauge too close to trees or plants.

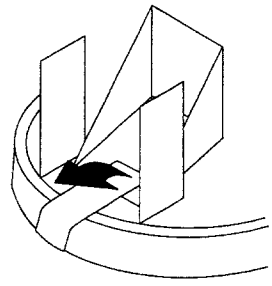
Removing the Packing Tape

Protective fiber tape is attached inside your rain gauge to protect it from damage during shipment. Follow these steps to remove the fiber tape before you mount the rain gauge.

1. Use a small Philips screwdriver to remove the screws on the base of the rain gauge.



2. Lift the rain gauge's cylinder off its base, then carefully remove the fiber tape from around the bucket assemblies.

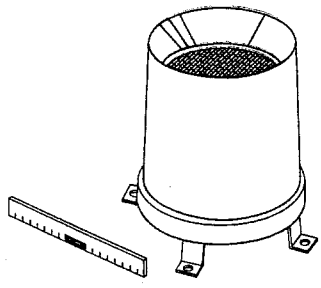


3. Replace the cylinder on the base and align the screw holes, then reinsert and tighten the screws.

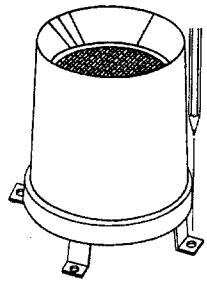
Mounting

Important : Before you mount the rain gauge, follow the steps listed in "Removing the Packing Tape" to remove the protective fiber tape. Otherwise, the rain gauge will not operate properly.

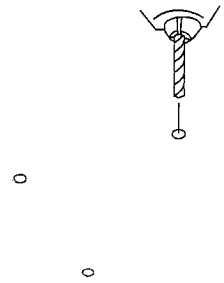
1. Hold the base of the rain gauge flat against the mounting surface and use a level to make sure the rain gauge (as it rests on the mounting surface) is horizontally level.



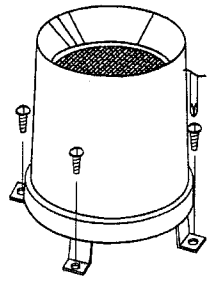
2. Trace the inside of the mounting holes on the base of the rain gauge with a pencil to mark the screw locations.



3. Drill a small pilot hole (shallow and slightly smaller in diameter than the screw) in the center of each marked location.



4. Hold the rain gauge against the mounting surface so the holes on the base are aligned with the mounting holes, then thread a M3 X 12 screw into each hole and tighten it with a Philips screw-driver.



5. Route the rain gauge's cable to the connection box, but do not connect it yet. Be sure the cable is safely out of the way of normal activity in the area.

INSTALLING THE OUTDOOR THERMO/ HYGRO SENSOR

Selecting a Location

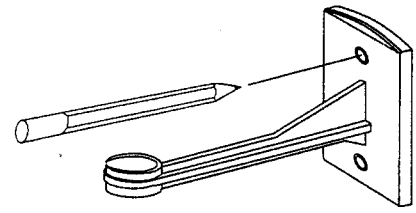
Select a mounting location for the outdoor temperature/humidity sensor that is within 30 feet of the connection box, so the sensor's cord can reach through a window or other opening to the jack on the side of the connection box. The idea location would be on the north side of the building (south side in the Southern Hemisphere), underneath an eave, place midway between the house and the end of the eave.

Caution : To avoid false outdoor temperature and humidity readings and prevent damage to the sensor's electronic components, do not place the sensor:

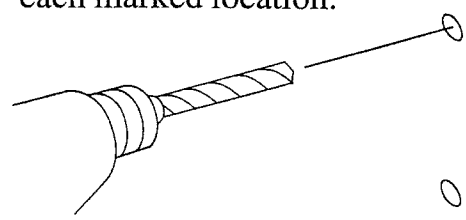
- Where it will be in direct or reflected sunlight
- Close to a surface that easily absorbs or reflects heat (such as a metallic surface or a window with reflective coating)
- Near hot or cold sources, such as a grille, stove or clothes dryer vent, or a heating or air conditioning unit
- In an area where it might be exposed to precipitation or likely to get wet
- In an area where these substances are likely to be present in the air: salt, inorganic gases (such as sulphur dioxide, chlorine, or ammonia, or organic gases (such as alcohol, glycol, aldehydes, and so on)
- With the sensor cable parallel to house wiring and the AC power lines.

Mounting

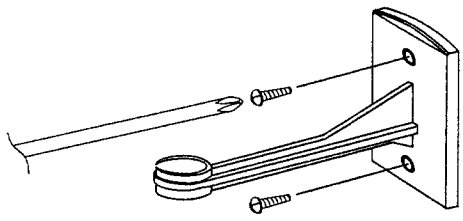
1. Hold the base of the sensor flat against the mounting surface and trace the inside of the mounting holes with a pencil to mark the screw locations.



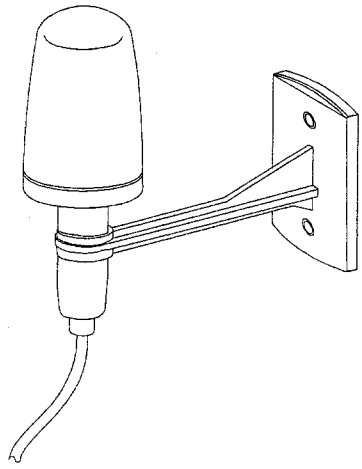
2. Drill a small pilot hole (shallow and slightly smaller in diameter than the screw) in the center of each marked location.



3. Hold the sensor against the mounting surface so the holes on the base are aligned with the mounting holes, then thread a M3 X 12 screw into each hole and tighten it with a Philips screwdriver.



4. Route the sensor's cable to the connection box, but do not connect it yet. Be sure the cable is safely out of the way of normal activity in the area.



INSTALLING THE ANEMOMETER

Selecting a Location

Select a mounting location for the anemometer that is :

- Outdoors, within 30 feet of where you mounted the connection box
- Not blocked on the top or sides, so wind can freely reach the anemometer

The best location for the anemometer is usually above roof-level on the building where the connection box and display unit are located.

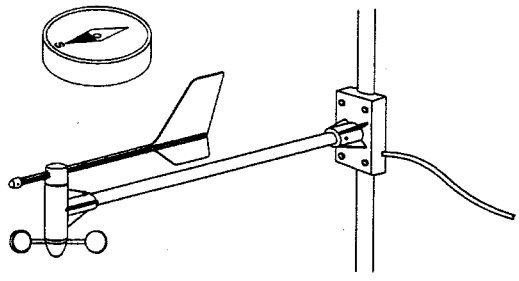
Note : To mount the anemometer, you need a mast (not supplied) about 1 - 1 1/4 inches in diameter, and the hardware necessary to fasten it to the mounting location. If you previously installed such a mast (for mounting an antenna, for example), you can mount your weather station on that mast.

Caution: To prevent damage to your weather station by lighting, if you mount the anemometer on a metal mast, we recommend you ground the weather station to the mast, and ground the mast as directed in the installation instructions provided with the mast.

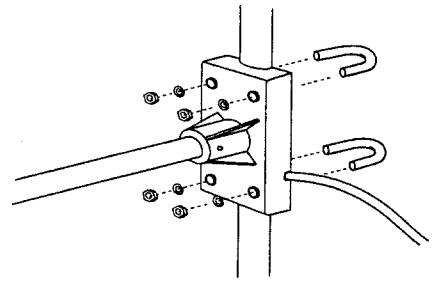
Mounting

Important : Be sure you follow the steps listed in "Assembling/Calibrating the Anemometer" on Page 12 before you mount the anemometer.

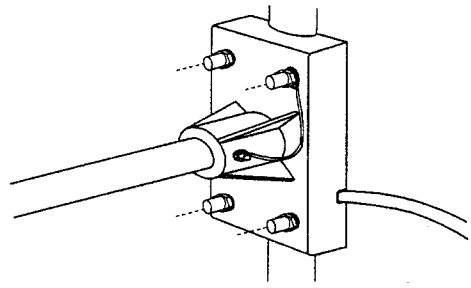
1. If necessary, mount and ground a mast, 1 - 1 1/4 inches in diameter, as directed in the installation instructions provided with the mast.
2. Using a directional compass for reference, point the "T" bar on which the anemometer is mounted so it faces due south. Then hold the grooved mounting bracket against the place where you plan to fasten it to the mast.



3. Place the supplied 1/4-inch U-bolts around the mast and through the holes on the anemometer's mounting bracket. Then place a washer over and tighten a nut onto both ends of each U-bolt, so the nuts are sung but not too tight.



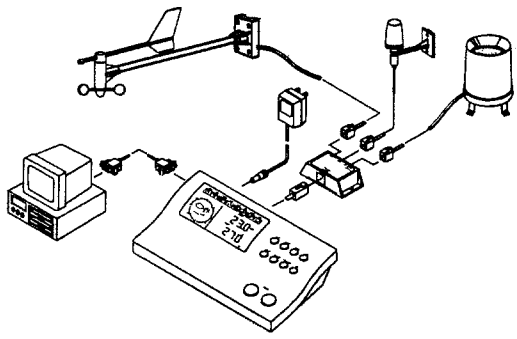
4. Check the bars position on the mast against the compass to be sure it is still facing due south, adjust it if necessary, then tighten the nuts on the U-bolts.
5. In order to ground the anemometer to the mask, there is a electrical wire attached on the mounting bracket with a ring-terminal at it's free end. Before you put the nut onto the U-Bolt, you should put the ring-terminal onto the U-Bolt. Then the nut should be tighten to lock the ring-terminal tightly.



6. Route the anemometer's cable to the connection box, but do not connect it yet. Be sure the cable is safely out of the way of normal activity in the area.

MAKING THE CONNECTIONS

CONNECTING THE COMPONENTS

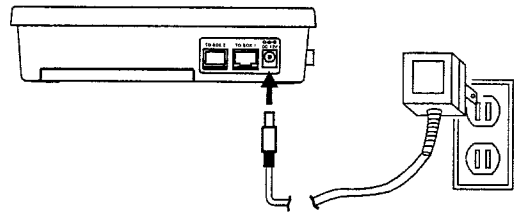


1. Take off the rubber cover at the **"TO BOX 1"** on the back of the display unit. Plug the modular plug on one end of the supplied 10-foot connection cable into **TO BOX 1**.
2. Take off the rubber cover at the **MAIN UNIT** on the connection box. Plug the modular plug on the other end of the connection cable into **MAIN UNIT**.
3. Take off the rubber cover at the RAIN GAUGE on the connection box. Plug the rain gauge's modular plug into **RAIN GAUGE**.
4. Take off the rubber cover at the **THERMO/HYGRO SENSOR** on the connection box. Plug the outdoor temperature/humidity sensor's modular plug into **THERMO/HYGRO SENSOR**.
5. Take off the rubber cover at the **ANEMOMETER** on the connection box. Plug the anemometer's modular plug into **ANEMOMETER.**

CONNECTING POWER

Connecting AC Power

To connect the display unit to AC power, take off the rubber cover at the **DC12V** on the back of the display unit, insert the supplied adapter's barrel plug into **DC 12V**, then plug the other end of the adapter into a standard AC outlet. All programmed display time and date (**12:00** and **1/1**) appear on the display.



Caution : You must use an AC adapter that supplies 12 volts and delivers at least 200 milliamps. Its center tip must be set to positive, and its plug must correctly fit the weather station's **DC 12V** jack. The supplied adapter meets these specifications. Using an adapter that does not meet these specifications could damage the weather station or the adapter.

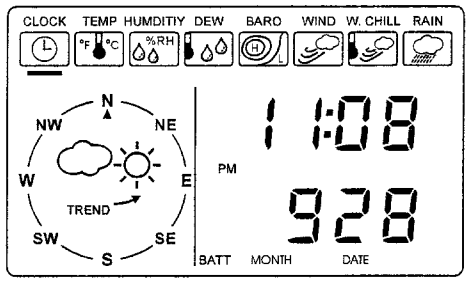
Installing Backup Batteries

If AC power is interrupted or disconnected, the weather station uses 8 AAA backup batteries (not supplied) for power and to preserve the information stored in memory. For the best performance, we recommend alkaline batteries, such as Cat. No. 23-558.

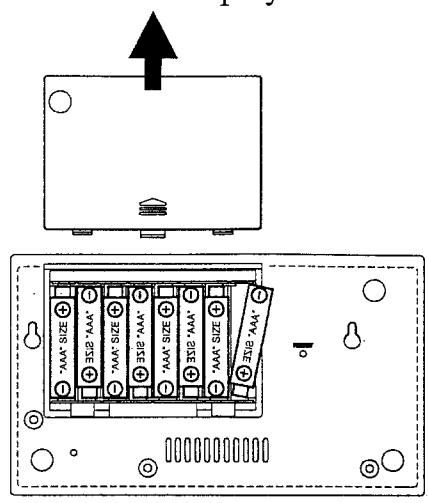
Caution : Always use fresh batteries of the required size and type.

Note:

- The weather station can operate on fresh batteries for up to 12 hours without AC power.
- BATT appears steadily on the display when the weather station is using battery power.

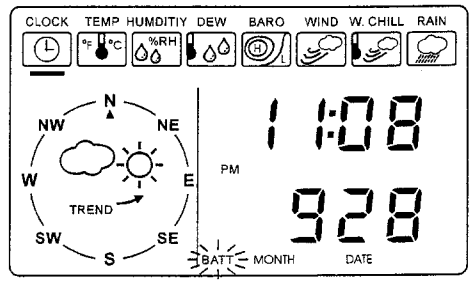


Follow these steps to install backup batteries in the display unit.



1. Side the battery component cover in the direction of the arrow to remove it.
2. Put eight AAA batteries in the component according to the polarity symbols (+ and -) marked there.
3. Replace the cover.

Replace the batteries when **BATT** flashes on the display. **BATT** stops flashing within about 5 seconds after you replace the batteries.



Caution : Always dispose of old batteries promptly and properly.

QUICK START

This section provides experienced weather station users with a quick reference for operating the WM-918. For complete instructions on a particular feature, refer to that feature's section in this manual.

Note : The weather station sounds a tone each time you press any key.

SELECTING A MODE

To select and view the current conditions for any mode, repeatedly press < or > until the selection bar appears beneath the icon for that mode.

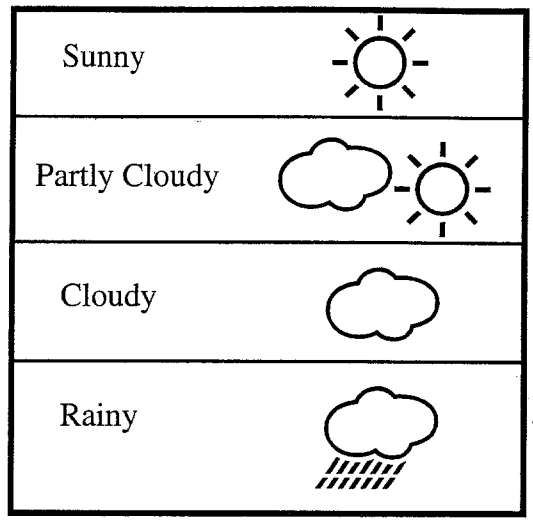
To view the next or previous page for a selected mode (if ▼or ▲ appears on the display), press ▼or ▲.

SETTING/ FORMATTING THE DATE AND TIME

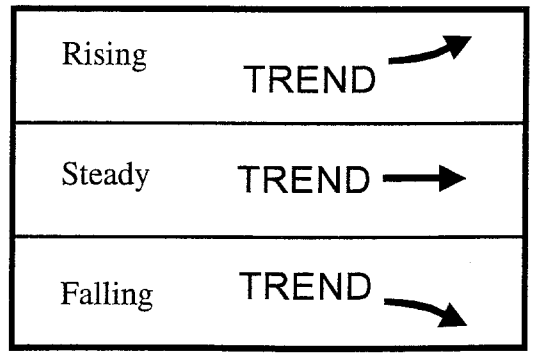
1. Select the **CLOCK** mode.
2. Press and hold **SET** for about 2 seconds until the weather station beeps. **MONTH** and **DATE** flash.
3. Repeatedly press ▼ or ▲ then **SET** for each flashing condition.

READING THE FORECAST DISPLAY

General Weather Forecast Symbols



Barometric Pressure Symbols



VIEWING/RESETTING MEMORY RECORDS

To view a HI/LOW/TOTAL memory record (in all modes except **CLOCK** and **BARO**), repeatedly press **MEMORY** until that record appears on the display.

To view the time and date a selected memory record was stored (if ▼ appears on the display), press ▼. To recall the current condition(s), press ▲.

To reset a selected memory record and record a new HI/LOW/TOTAL beginning with the current condition(s), press and hold **CLEAR** for about 2 seconds until the weather station beeps.

USING THE ALARMS

Setting an Alarm

1. If necessary, repeatedly press < or > to select the mode.
2. If necessary, repeatedly press **ALARM** until the desired alarm setting appears.

   Note: Dashes (such as -- : -- or -- --) appear when an alarm is not set.
3. To set the alarm to use the last set condition(s), simply press **CLEAR**. To set the alarm to use different conditions, press and hold **SET** for about 2 seconds until the weather station beeps and the previous alarm setting flashes. Then repeatedly press ▼ or ▲ ten **SET** for each flashing alarm condition.

Silencing an Alarm

At the set alarm time or when a set alarm condition is reached, the weather station sounds an alarm steadily for 1 minute, then (except in the **CLOCK** mode) for about 5 seconds once every minute until the set condition is no longer met. To silence the alarm sooner, press any key except **LIGHT**.

Cleaning an Alarm Setting

1. If necessary, repeatedly press or > to select the mode.
2. If necessary, repeatedly press **ALARM** until the desired alarm setting appears.
3. Press **CLEAR** so -- : -- appears.

USING MODE SCAN

To turn on mode scan, press and hold ▼ and ▲ for about 2 seconds until the weather station beeps. The weather station continuously scans all conditions in all modes.

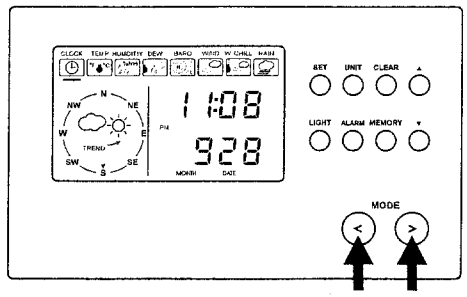
To turn off mode scan, press any key except **LIGHT**.

SETTING THE MEASUREMENT UNIT

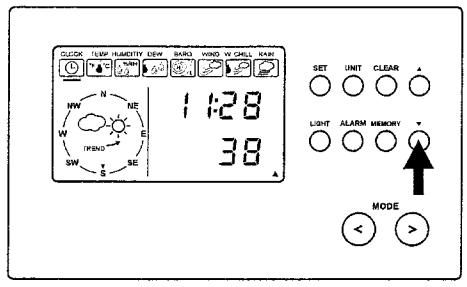
To change the unit of measurement on the display (for example, Fahrenheit to Celsius) for all modes that use that unit, repeatedly press **UNIT** until you see the measurement until you want to use.

USING CLOCK (DATE AND TIME)

To view the current date and time, repeatedly press < or > until the selection bar appears beneath the **CLOCK** icon on the display.



To view the seconds, while the date and time appear, press ▼. To recall the date and time, press ▲.



SETTING THE DATE AND TIME

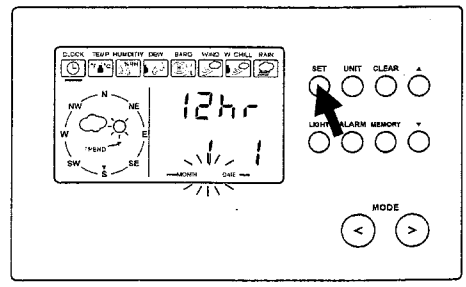
Follow these steps to set the date and time and change the date or time formats.

Notes:

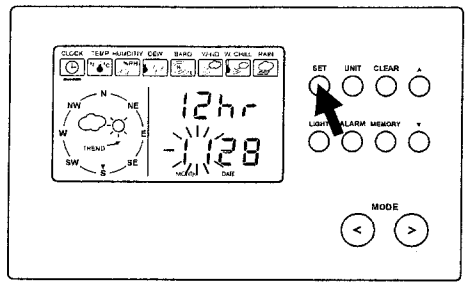
- While setting the date and time:
- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current date and time. If this happens, you must start over at Step 2.
- To keep the existing setting in any step, simply press SET and skip to the next step.
- Press ▲ to set the digit(s) forward, or ▼ to set the digit(s) backward.
- To rapidly set the digit forward or backward, press and hold ▲ or ▼.

- The weather station is preset to use the 12-hour and MONTH/DATE formats.
- The weather station is preset to skip from February 28th to March 1st. During a leap year, you must manually set the date to February 29th.

1. If necessary, repeatedly press < or > to select the **CLOCK** mode.
2. Press and hold **SET** for about 2 seconds until the weather station beeps. **MONTH** and **DATE** flash.



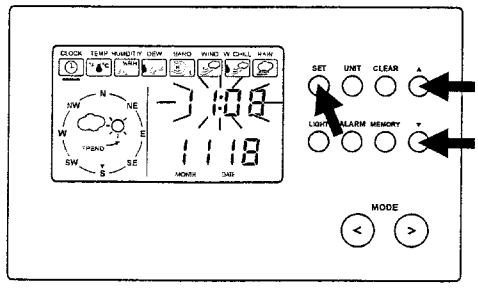
3. To change the data format, press ▲ or ▼ so the date format you want to use (**MONTH DATE** or **DATE MONTH**) appears, then press SET. The month digit(s) flash.



4. Repeatedly press ▲ or ▼ to set the month, then press **SET**. The data digit(s) flash.

5. Repeatedly press ▲ or ▼ to set the day of the month, then press **SET**. The last selected time format flashes.

6. To change the time format, press ▲ or ▼ so the time format you want to use (**12 hr** or **24 hr**) appears, then press SET. The last set time appears and the hour digits flash.



Note : **AM** or **PM** appears on the display if you select the 12-hour time format.

7. Repeatedly press ▲ or ▼ to set the hour, then press SET. The minute digit(s) flash.

8. Repeatedly press ▲ or ▼ to set the minutes, then press SET. The date and time you set appear on the display in the selected formats.

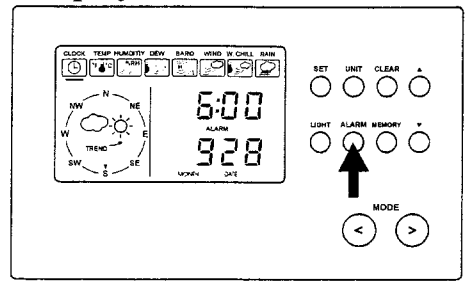
USING THE DAILY ALARM

You can set the WM-918 to sound an alarm at the same time every day.

When the set daily alarm time is reached, **ALARM** flashes on the display and the weather station sounds an alarm steadily for 1 minute. To silence the alarm sooner, press any key except **LIGHT**.

Note : If you are using a mode other than **CLOCK** when the daily alarm sounds, a bar flashes beneath the **CLOCK** icon on the display but **ALARM** does not appear.

To view the current daily alarm setting, select the **CLOCK** mode, then press **ALARM**. **ALARM** and the current alarm setting appear on the display.

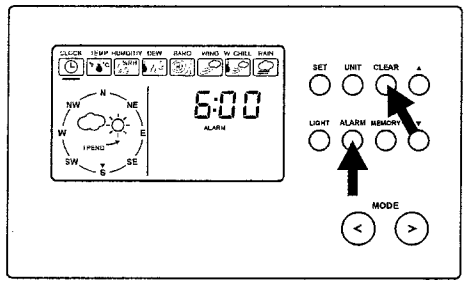


Note : -- : -- appears when no alarm time is set.

Press **ALARM** again to recall the date and time display.

Setting the Daily Alarm

To set the daily alarm to sound at the last set alarm time, select the **CLOCK** mode and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. The last set alarm time appears on the display.



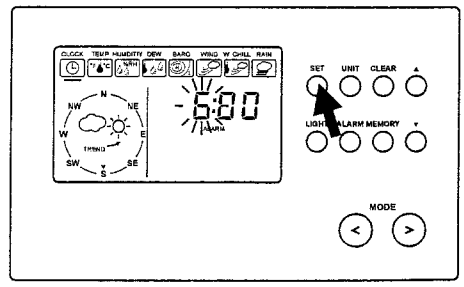
Note : The first time you set the daily alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default alarm time of **12:00 AM**.

To set the daily alarm to sound at a different time, follow these steps.

Note : While setting the daily alarm:

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current daily alarm setting. If this happens, you must start over at Step 3.
- To keep the existing setting in any step, simply press **SET** and skip to the next step.
- Press ▲ to set the digit(s) forward, or ▼ to set the digit(s) backward.
- To rapidly set the digits forward or backward, press and hold ▲ or ▼ .

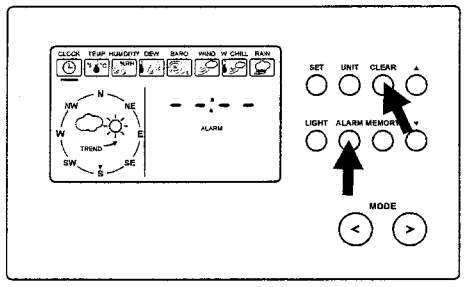
1. If necessary, repeatedly press < or > to select the **CLOCK** mode.
2. If necessary, press **ALARM** so **ALARM** appears on the display.
3. Press and hold **SET** for about 2 seconds until the weather station beeps. The hour digits flash.



4. Repeatedly press ▲ or ▼ to set the hour, then press SET. The minute digits flash.
5. Repeatedly press ▲ or ▼ to set the minutes, then press **SET**. The alarm time you set appears steadily on the display.

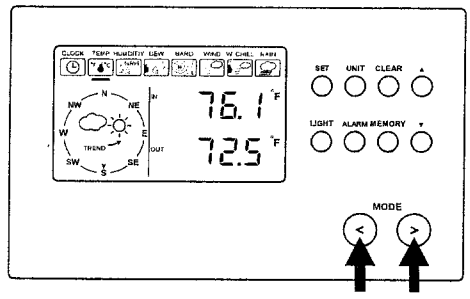
Clearing the Daily Alarm Setting

To clear a set daily alarm time so the alarm does not sound, select the **CLOCK** mode and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. -- : -- appears.



USING TEMP (AIR TEMPERATURE)

The WM-918 samples the indoor and outdoor air temperature every 10 seconds. To view the current indoor **(IN)** and outdoor **(OUT)** temperatures, repeatedly press < or > until the selection bar appears beneath the **TEMP** icon on the display.

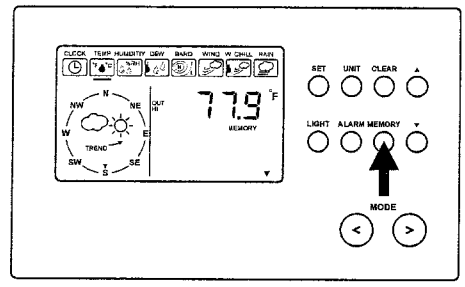


Notes:

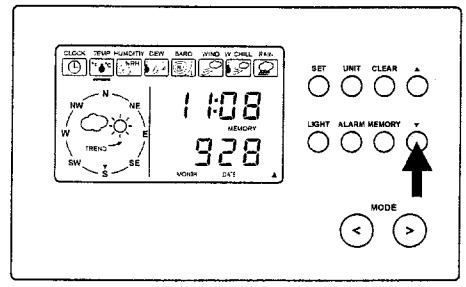
- The WM-918 is preset to display the temperature in degrees Fahrenheit (F), but you can change it to use the Celsius (C) format. See "Setting the Measurement Unit" on Page 58.
- If the current temperature is outside the weather station's operating measurement range (see "Specifications" on Page 70), **O.R.** (out of range) appears on the display.

VIEWING/RESETTING HI/LOW TEMPERATURE RECORDS

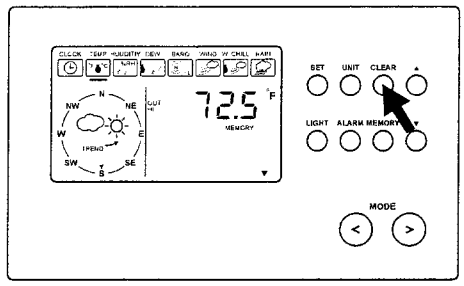
To view the highest (HI) or lowest (LOW) indoor or outdoor temperature recorded since the last memory reset, repeatedly press **MEMORY** until **MEMORY** and that record appear on the display. For example, repeatedly press **MEMORY** until you see **HI** and **OUT** to select the record for the highest outdoor temperature recorded.



To view the date and time a selected **HI** or **LOW** temperature was recorded in memory, press ▼. To recali that temperature record, press ▲.



To reset a selected temperature record in memory and record a new **HI** or **LOW** temperature beginning with the current reading, press and hold **CLEAR** for about 2 seconds until the weather station beeps.



USING THE HI/LOW TEMPERATURE ALARMS

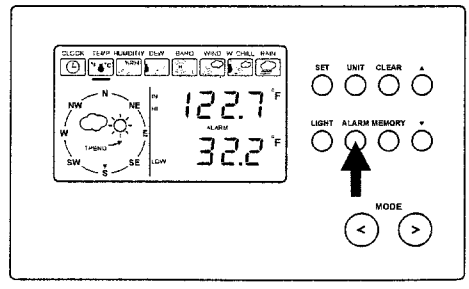
You can set the WM-918 to sound an alarm when a set high (HI) or low (LOW) indoor or outdoor temperature is reached.

Each time the temperature changes and meets or exceeds a set **HI** or **LOW** indoor or outdoor alarm condition, **ALARM** and **HI** or **LOW** flash on the display and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the temperature moves back within the set conditions for that alarm. To silence the alarm sooner, press any key except **LIGHT**.

Notes :

- If you are using a mode other than **TEMP** when a HI/LOW temperature alarm sounds, a bar flashes beneath the **TEMP** icon on the display but **ALARM** does not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM** and **HI** or **LOW**) continue to flash until that alarm condition is no longer met.

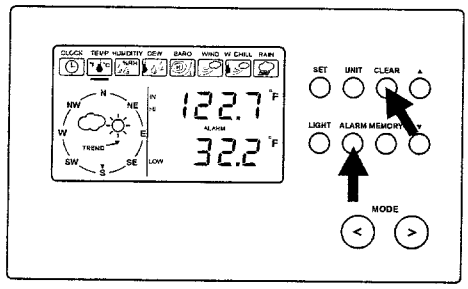
To view the current HI/LOW indoor or outdoor temperature alarm conditions, select the **TEMP** mode then press **ALARM** once to select the indoor (IN) setting or twice to select the outdoor (OUT) setting. Press **ALARM** again to recall the current indoor and outdoor temperature readings.



Note : ---- appears when no alarm condition is set.

Setting a HI/LOW Temperature Alarm

To set a HI/LOW temperature alarm to sound using the last set alarm conditions, select the **TEMP** mode and repeatedly press **ALARM** until you see the alarm setting you want to use, then press **CLEAR**. The last set conditions for that alarm appear on the display.



Note: The WM-918 selects these HI/LOW temperature conditions the first time you set an indoor or outdoor temperature alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69):

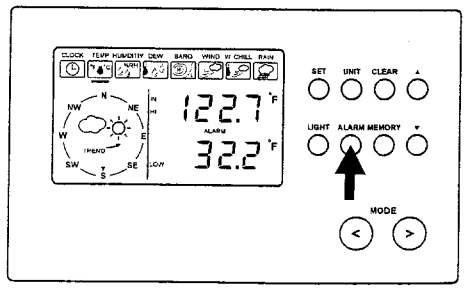
Indoor	HI	122°F (50°C)
	LOW	32°F (0°C)
Outdoor	HI	140°F (60°C)
	LOW	-40°F (-40°C)

To set different conditions for a HI/LOW temperature alarm, follow these steps.

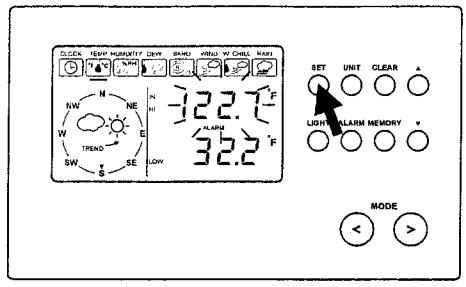
Note : While setting a HI/LOW temperature alarm:

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far then displays the current conditions for that HI/LOW alarm. If this happens, you must start over at Step 2.
- To keep the existing condition in any step, simply press **SET** and skip to the next step.
- Press ▲ to set the digit(s) forward, or ▼ to set the digit(s) backward.
- To rapidly set the digits forward or backward, press and hold ▲ or ▼.

1. If necessary, repeatedly press < or > to select the **TEMP** mode.
2. Press **ALARM** once to select the indoor alarm setting, or press it twice to select the outdoor alarm setting. Alarm and **IN** or **OUT** appear on the display.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set temperatures for that alarm setting appear, and the HI condition flashes.



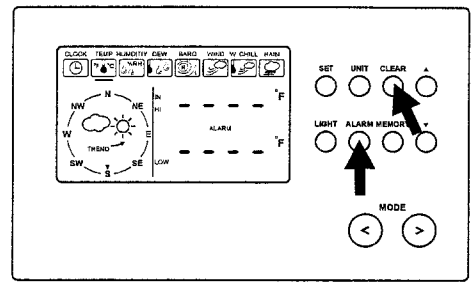
4. Repeatedly press ▲ or ▼ to set the HI temperature, then press **SET**. The LOW temperature flashes.

5. Repeatedly press ▲ or ▼ to set the LOW temperature, then press **SET** to store the set alarm temperature.

Note: The **LOW** temperature you select must be lower than the selected HI temperature. If not, the HI temperature flashes again when you press SET and you must repeat Steps 4 and 5 to select the correct alarm temperature.

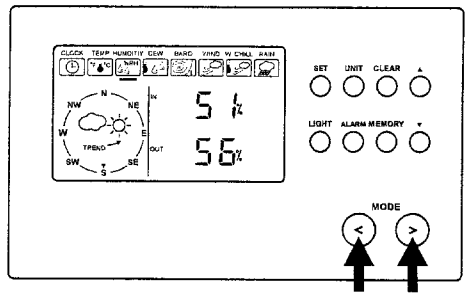
Clearing a HI/LOW Temperature Alarm Setting

To clear the conditions for a HI/LOW temperature alarm so the alarm does not sound, select the **TEMP** mode and repeatedly press **ALARM** until that alarm setting appears on the display, then press **Clear**. **----** appears.



USING HUMIDITY (RELATIVE HUMIDITY)

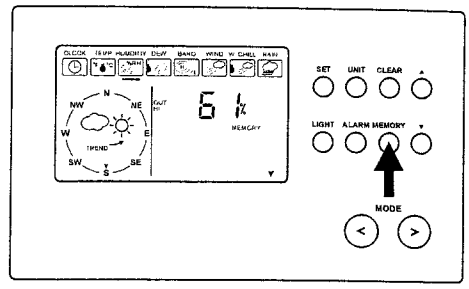
The WM-918 samples the indoor and outdoor air temperature and determines the relative humidity percentage every 10 seconds. To view the current indoor **(IN)** and outdoor **(OUT)** relative humidity conditions, repeatedly press < or > until the selection bar appears beneath the **HUMIDITY** icon on the display.



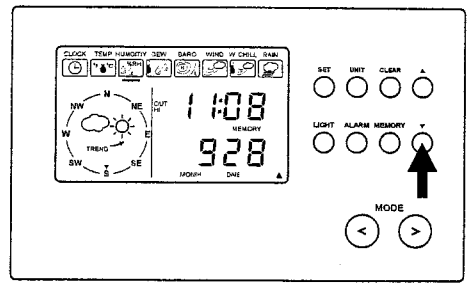
Note : If the current relative humidity is outside the weather station's operation measurement range (see "Specifications" on Page 70), **O.R.** (out of range) appears on the display.

VIEWING/RESETTING HI/LOW RELATIVE HUMIDITY RECORDS

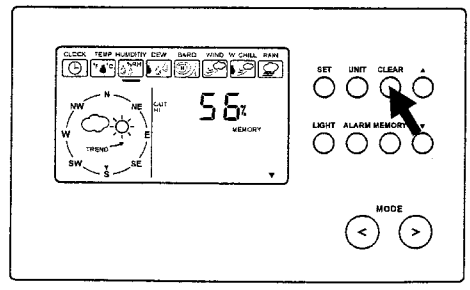
To view the highest (HI) or lowest (LOW) indoor or outdoor relative humidity recorded since the last memory reset, repeatedly press **MEMORY** until **MEMORY** and that record appear on he display. For example, repeatedly press **MEMORY** until you see **HI** and **OUT** to select the highest outdoor humidity recorded.



To view the date and time a selected relative humidity was recorded in memory, press ▼. To recall that relative humidity record, press ▲.



To reset a selected HI/LOW relative humidity record in memory and record a new HI or LOW beginning with the current condition, press and hold **CLEAR** for about 2 seconds until the weather station beeps.



USING THE HI/LOW RELATIVE HUMIDITY ALARMS

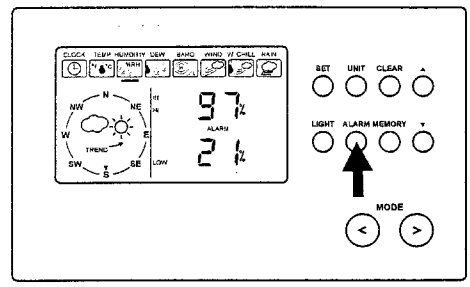
You can set the WM-918 to sound an alarm when a set HI or LOW indoor or outdoor relative humidity is reached.

Each time the relative humidity changes and meets or exceeds a set HI or LOW indoor or outdoor alarm condition, **ALARM** and **HI.LOW** flash on the display, and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the relative humidity moves back within the set conditions for that alarm. To silence the alarm sooner, press any key except **LIGHT.**

Notes :

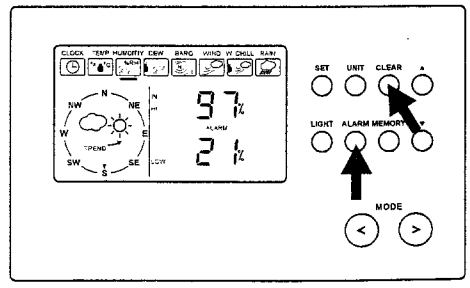
- If you are using a mode other than HUMIDITY wen a HI/LOW relative humidity alarm sounds, a bar flashes beneath the **HUMIDITY** icon on the display but **ALARM** and **HI/LOW** do not appear.
- If you press a key to silence the alarm, he alarm stops sounding but the icon bar (or **ALARM** and **HI/LOW**) continue to flash until that alarm condition is no longer met.

To view the current HI/LOW indoor or outdoor relative humidity alarm conditions, select the **HUMIDITY** mode, then press **ALARM** once to select the indoor **(IN)** setting or twice to select the outdoor **(OUT)** setting. Press it again to recall the current indoor/outdoor relative humidity conditions.



Setting a HI/LOW Relative Humidity Alarm

To set a HI/LOW relative humidity alarm to sound using the last set conditions for that alarm, select the **HUMIDITY** mode and repeatedly press **ALARM** until you see the alarm setting you want to use, then press **CLEAR.** The last set conditions for that alarm appear on the display.



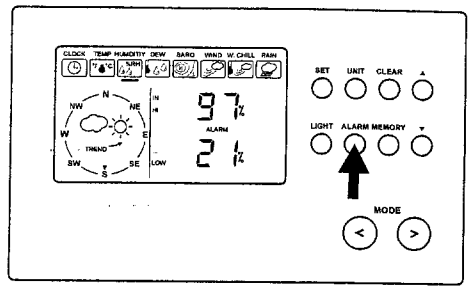
Note : The first time you set an indoor or outdoor relative humidity alarm after you connect power pr press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default HI relative humidity condition of 97% and LOW of 10% (for both indoors and outdoors).

To set different conditions for a HI/LOW relative humidity alarm, follow these steps.

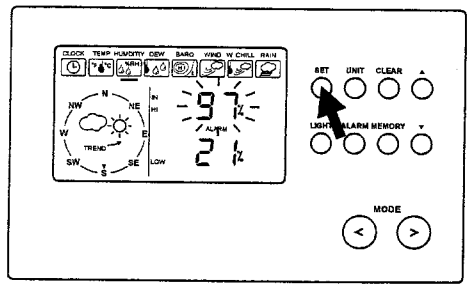
Note : While setting a HI/LOW relative humidity alarm:

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current conditions for that HI/LOW alarm setting. If this happens, you must start over at Step 3.
- To keep the existing condition in any step, simply press **SET** and skip to the next step.
- Press ▲ to set the digit(s) forward, or ▼ to set the digit(s) backward.
- To rapidly set the digits forward or backward, press and hold ▲ or ▼.

1. If necessary, repeatedly press or > to select the **HUMIDITY** mode.
2. Press **ALARM** once to select the indoor alarm setting, or press it twice to select the outdoor alarm setting. **ALARM** and **IN** or **OUT** appear on the display.



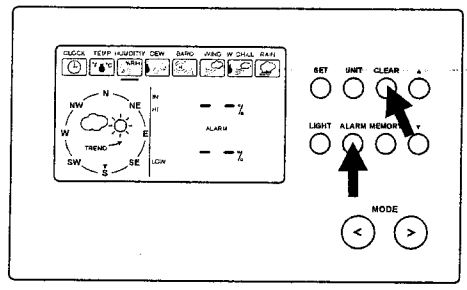
3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set humidity conditions for the selected alarm appear, and the HI condition flashes.



4. Repeatedly press ▲ or ▼ to set the HI relative humidity condition, then press **SET**. The LOW condition flashes.
5. Repeatedly press ▲ or ▼ to set the LOW relative humidity condition, then press **SET** to store the selected conditions.

Note : The LOW condition you select must be lower than the selected HI condition. If not, the HI condition flashes again when you press

SET and you must repeat Steps 4 and 5 to select the correct alarm conditions.



Clearing a HI/LOW Relative Humidity Alarm Setting

To clear the conditions for a HI/LOW relative humidity alarm so the alarm does not sound, select the **HUMIDITY** mode and repeatedly press **ALARM** until that alarm setting appears on the display, then press **CLEAR**. **----** appears.

USING DEW (DEW POINT)

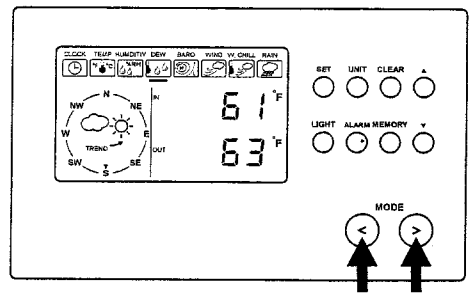
The WM-918 samples the indoor and outdoor air temperatures and humidity, and determines the current dew point temperature every 10 seconds. To view the current indoor **(IN)** and outdoor **(OUT)** dew point temperature, repeatedly press < or > until the selection bar appears beneath the **DEW** icon on the display.

Notes:

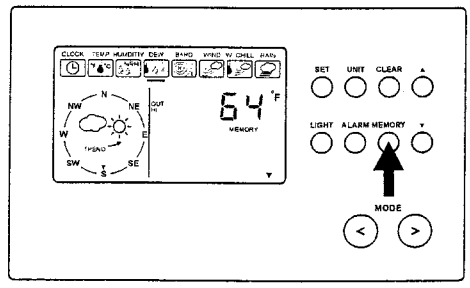
- The WM-918 is preset to display the temperature in degrees Fahrenheit **(F)**, but you can change it to use the Celsius **(C)** format. See "Setting the Measurement Unit" on Page 58.
- If the current dew point temperature is outside the weather station's operating measurement range (see "Specifications" on Page 70), **O.R.** (out of range) appears on the display.

VIEWING/RESTING HI/ LOW DEW POINT TEMPERATURE RECORDS

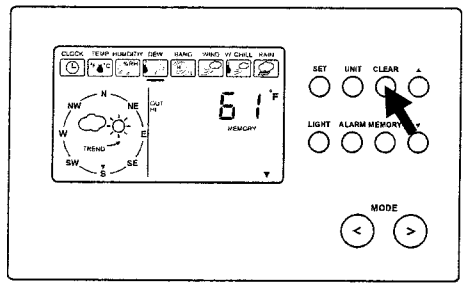
To view the highest (HI) or lowest (LOW) indoor or outdoor dew point temperature recorded since the last memory reset, repeatedly press **MEMORY** until **MEMORY** and that record appear on the display. For example, repeatedly press **MEMORY** until you see **HI** and **OUT** to select the highest outdoor record.



To view the date and time a selected dew point temperature was recorded in memory, press ▼. To recall that dew point temperature record, press ▲.



To reset a selected dew point temperature record in memory and record a new HI or LOW beginning with the current reading, press and hold **CLEAR** for about 2 seconds until the weather station beeps.



USING THE DEW POINT TEMPERATURE ALARM

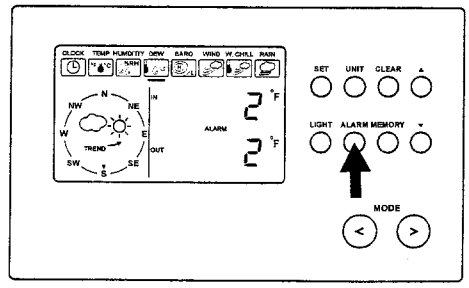
To alert you when the "dew point" (the point at which the air and dew point temperatures are equal and dew forms) is approaching, you can set the WM-918 to sound an alarm when the current indoor or outdoor temperature measures within anywhere from 2 to 29 ("offset") degrees of the indoor or outdoor dew point temperature.

Each time the indoor or outdoor dew point temperature changes and is within the set number of offset degrees from the indoor or outdoor air temperature, **ALARM** flashes on the display and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the set conditions for that alarm are no longer met. To silence the alarm sooner, press any key except **LIGHT**.

Notes :

- If you are using a mode other than **DEW** when a dew point temperature alarm sounds, a bar flashes beneath the **DEW** icon on the display but **ALARM** does not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM**) continue to flash until that alarm condition is no longer met.

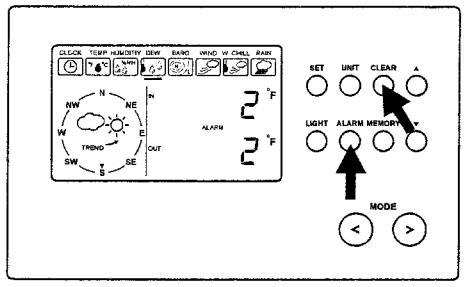
To view the current indoor (IN) and outdoor (OUT) dew point temperature alarm conditions, select the **DEW** mode then press **ALARM**. Press it again to recall the current indoor/outdoor dew point temperature conditions.



Note: ---- appears when no alarm condition is set.

Setting the Dew Point Temperature Alarm

To set the dew point temperature alarm to sound using the last set alarm conditions, select the **DEW** alarm and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. The last set alarm conditions appear on the display.



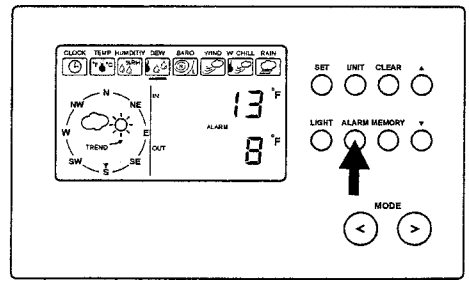
Note : The first time you set the dew point temperature alarm after you connect power or press RESET (see "Resetting the Weather Station" on Page 69), the WM-918 selects default indoor and outdoor alarm offset conditions of 2°F (1°C).

To set different conditions for a dew point temperature alarm, follow these steps.

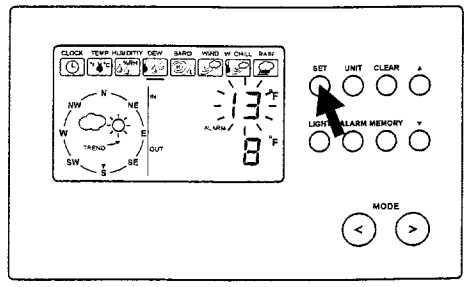
Note : While setting the dew point temperature alarm:

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current alarm conditions. If this happens, you must start over at Step 3.
- To keep the existing setting in any step, simply press **SET** and skip to the next step.
- Press ▲ to set the digit(s) forward, or ▼ to set the digit(s) backward.
- To rapidly set the digits forward or backward, press and hold ▲ or ▼.

1. If necessary, repeatedly press < or > to select the **DEW** mode.
2. If necessary, press **ALARM** so **ALARM**, **IN**, and **OUT** appear on the display.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set indoor and outdoor dew point alarm conditions appear, and the IN condition flashes.

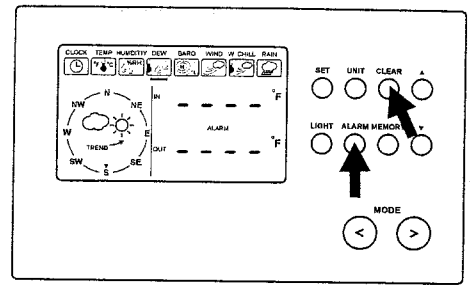


5. Repeatedly press ▲ or ▼ to set the indoor alarm offset condition to anywhere from 2 to 29°F (1 to 16°C), then press **SET**. The **OUT** setting flashes.

6. Repeatedly press ▲ or ▼ to set the outdoor alarm condition to anywhere from 2 to 29°F (1 to 16°C), then press **SET** to store the set alarm conditions.

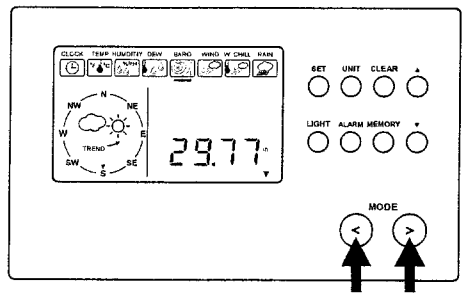
Clearing the Dew Point Temperature Alarm Setting

To clear the IN and OUT dew point alarm conditions so the alarm does not sound, select the DEW mode and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. ---- appears.



USING BARO (BAROMETRIC PRESSURE)

The WM-918 samples the barometric pressure every 15 minutes. To view the current barometric pressure, repeatedly press < or > until the selection bar appears beneath the **BARO** icon on the display.



Notes:

- After connecting power or resetting the WM-918, you must set/reset the WM-918's sea-level barometric pressure setting (see "Setting the Sea Level Barometric Pressure"). Otherwise, the weather station will not accurately measure the local barometric pressure.
- The WM-918 is preset to display the barometric pressure in inches (**in**), nut you can set it to display the barometric pressure in millimeters (**mm**), millibars (**mb**), or hecto-pascals (**hpa**). See "Setting the Measurement Unit" on Page 58.
- If the current barometric pressure is outside the weather station's operating measurement range (see "Specifications' on Page 70), O.R. (out of range) appears on the display.

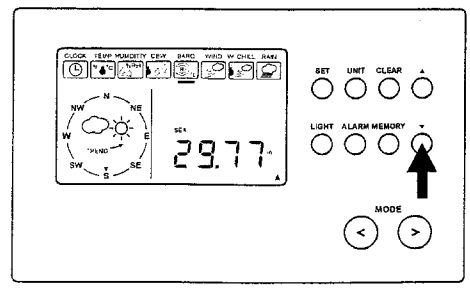
SETTING THE SEA LEVEL BAROMETRIC PRESSURE

No matter where you are, barometric pressure is measured using the current sea level barometric pressure. This way, meteorologists can easily compare measurements from locations at different altitudes.

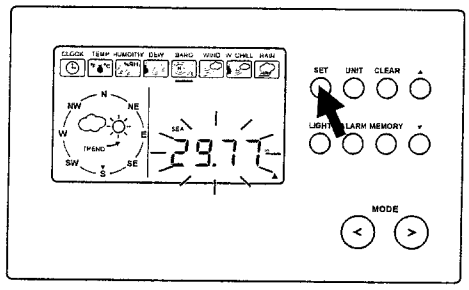
Follow these steps after connecting power or setting the WM-918 to set the sea level barometric pressure.

Note : To obtain the current sea level barometric pressure in your area, contact the nearest airport or weather service.

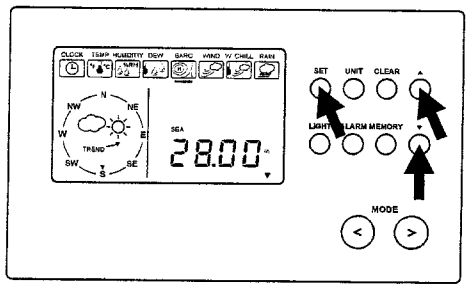
1. If necessary, repeatedly press < or > to select the **BARO** mode.
2. Press ▼. **SEA** and the last set sea level barometric pressure setting appear.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The sea level pressure setting flashes.



4. Repeatedly press ▲ to increase the setting or ▼ to decrease the setting, then press **SET** to store it.



Notes:

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the last set sea level pressure. If this happens, repeat Step 3 then try again.
- To rapidly increase or decrease the setting, press and hold ▲ or ▼.

Once you set the sea level pressure, your weather station automatically adjusts it every 15 minutes based on changes it senses in the local barometric pressure.

READING THE WEATHER FORECAST DISPLAY

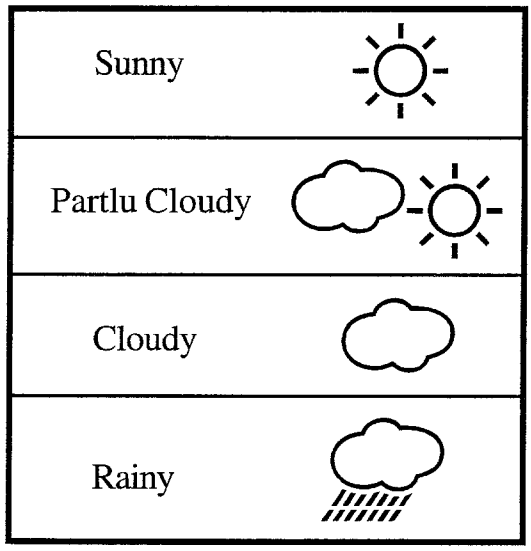
Your weather station is designed to forecast the weather conditions, from 12-24 hours in advance, for an area within 20-30 hours miles of where you installed it. The weather station updates its forecast once every hour based on the barometric pressure readings stored in its memory, and displays the forecast using easy-to-read symbols.

Notes :

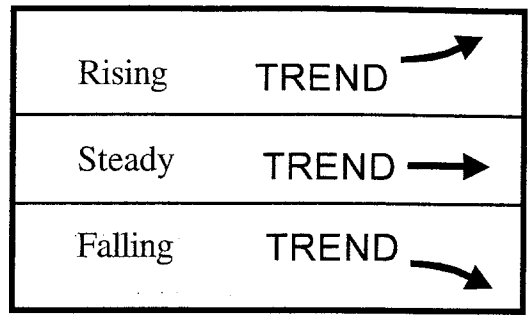
- Allow at least 24 hours after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69) for the weather station to store barometric pressure data in memory and display an accurate weather forecast.

- If you move the weather station from one altitude to another (for example, if you move it from the mountains to low, flat land), allow at least 24 hours for the weather station to store barometric pressure data at the new altitude. Otherwise, the forecast it provides will not be within normal accuracy levels.

General Weather Forecast Symbols



Barometric Pressure Symbols



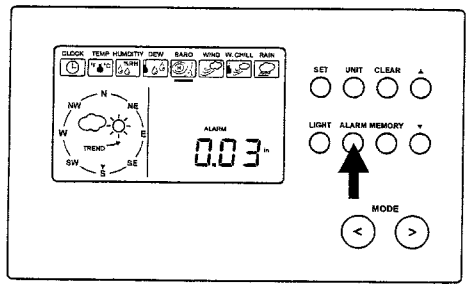
USING THE BAROMETRIC PRESSURE DROP ALARM

You can set the WM-918 to sound an alarm when the barometric pressure drops a set amount (such as .03 inches). Each time the barometric pressure changes and meets the set condition, **ALARM** flashes on the display and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the set condition is no longer met. To silence the alarm sooner, press any key except **LIGHT**.

Notes :

- If you are using a mode other than **BARO** when the barometric pressure drop alarm sounds, a bar flashes beneath the **BARO** icon on the display but **ALARM** does not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM**) continues to flash until the alarm condition is no longer met.

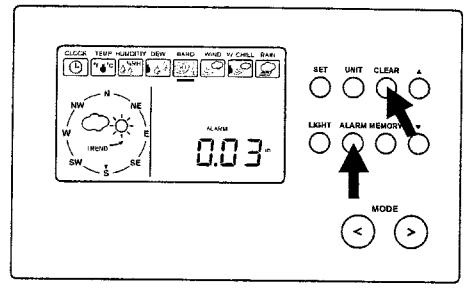
To view the current barometric pressure drop alarm setting, select the **BARO** mode then press **ALARM**. Press it again to recall the current barometric pressure reading.



Note : ---- appears when no alarm condition is set.

Setting the Barometric Pressure Drop Alarm

The set the barometric pressure drop alarm to sound using the last set alarm condition, select the **BARO** mode and press **ALARM** so **ALARM** appears on the display, the press **CLEAR**. The last set alarm condition appears on the display.

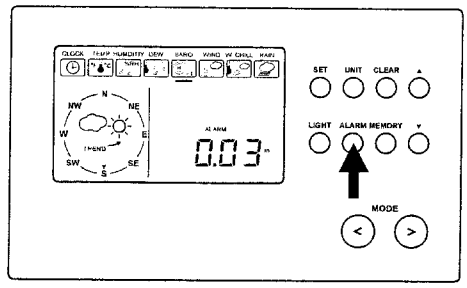


Note : The first time you set the barometric pressure drop alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default alarm condition of 0.03 in (0.8 mm, 1 mb, or 1 hpa).

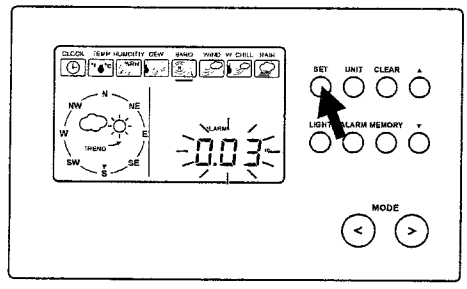
To set a different condition for the barometric pressure drop alarm, follow these steps.

1. If necessary, repeatedly press < or > to select the **BARO** mode.

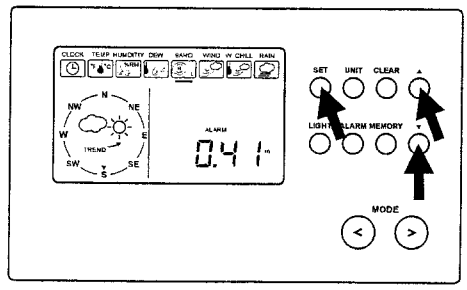
2. If necessary, press **ALARM** so **ALARM** appears on the display.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set pressure drop alarm condition flashes.



4. Repeatedly press ▲ to increase the setting or ▼ to decrease the setting, then press **SET** to store it.

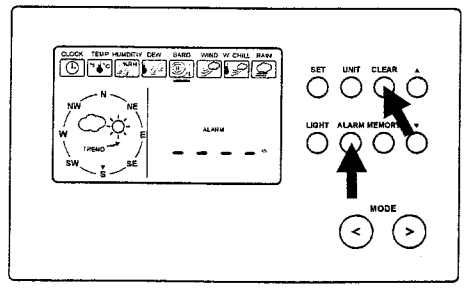


Notes :

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current alarm condition. If this happens, repeat Step 3 then try again.
- To rapidly increase or decrease the setting, press and drop ▲ or ▼.

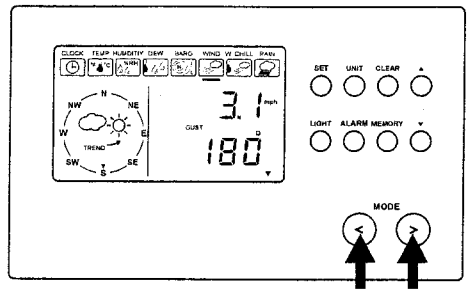
Clearing the Barometric Pressure Drop Alarm Setting

To clear the barometric pressure drop alarm condition so the alarm does not sound, select the **BARO** mode and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. ---- appears.



USING WIND (WIND SPEED/DIRECTION)

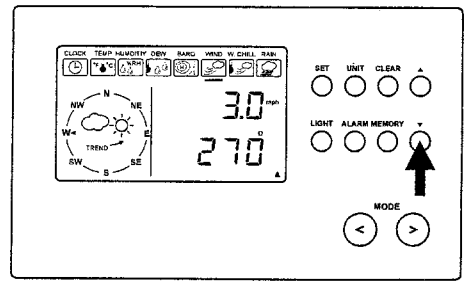
The WM-918 samples the wind speed and direction every 5 seconds. To view the current wind speed and direction, repeatedly press < or > until the selection bar appears beneath the **WIND** icon on the display.



Notes :

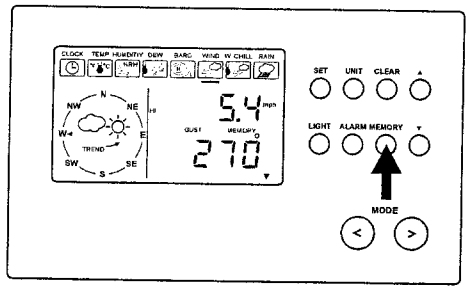
- The WM-918 is preset to display the wind speed in miles per hour **(mph)**, but you can set it to display **knots**, miles per second **(m/s)**, or kilometers per hour **(kph)**. See "Setting the Measurement Unit" on Page 58.
- If the current wind speed is outside the weather station's operation measurement range (see "Specifications" on Page 70), **O.R.** (out of range) appears on the display.
- The WM-918 displays wind direction in degrees (**0-359°**), 0o being due north, **180°** being due south, and so on) and literal compass direction (**N** for north, **S** for south, and so on). The WM-918 display the literal compass wind direction at all times, regardless of which mode you are using.

Once every minute, the WM-918 determines the average of all wind speed measurements it recorded in last minute. To view the average wind speed, press ▼. To recall the current wind speed and direction, press ▲.

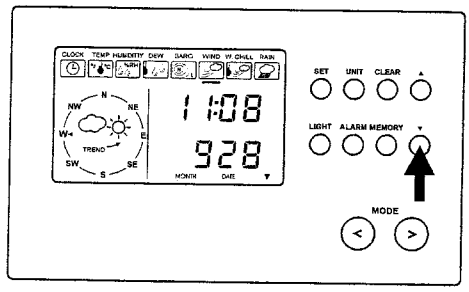


VIEWING/RESETTING THE HIGH WIND SPEED RECORD

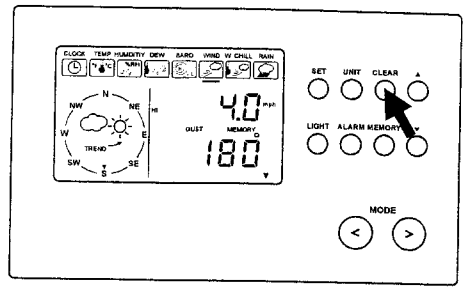
To view the highest wind speed recorded since the last memory reset, and the direction the wins was blowing at that time, press **MEMORY**.



To view the date and time that wind speed was recorded in memory, press ▼. To recall the wind speed and direction record, press ▲.



To reset the high wind speed in memory and record a new high wind speed and direction beginning with the current conditions, press and hold **CLEAR** for about 2 seconds until the weather station beeps.



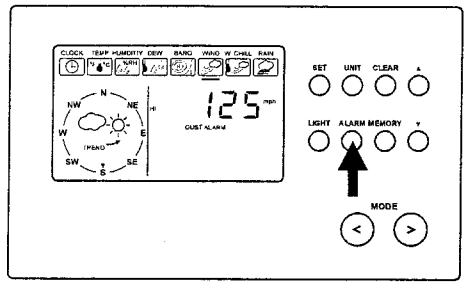
USING THE HIGH WIND SPEED ALARM

You can set the weather station to sound an alarm when the wind speed reaches or exceeds a set speed. Each time the wind speed changes and meets or exceeds the set speed, **ALARM** and **HI** flash on the display and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the wind speed no longer meets the set condition. To silence the alarm sooner, press any key except **LIGHT**.

Notes:

- If you are using a mode other than **WIND** when the wind speed alarm sounds, a bar flashes beneath the **WIND** icon on the display but **ALARM** and **HI** do not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM** and **HI**) continue to flash until the alarm condition is no longer met.

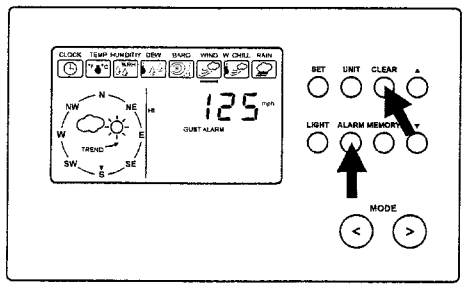
To view the current high wind speed alarm condition, select the **WIND** mode then press **ALARM**. Press it again to recall the current wind speed and direction.



Note : ---- appears when no alarm condition is set.

Setting the High Wind Speed Alarm

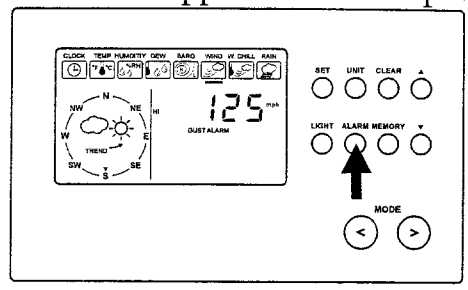
To set the high wind speed alarm to sound using the last set alarm condition, select the **WIND** mode mad press **ALARM** so **ALARM** appears on the display, then press **CLEAR**, The last set alarm condition appears on the display.



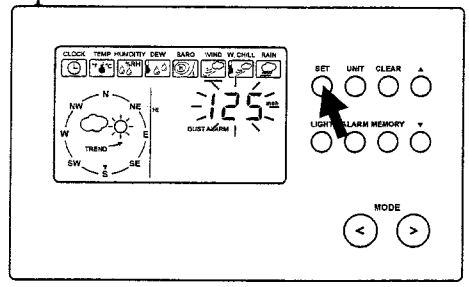
Note : The first time you set the high wind speed alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default alarm condition of 125 mph (109 knots, 56 m/s, or 201 kph).

To set a different condition for the high wind speed alarm, follow these steps.

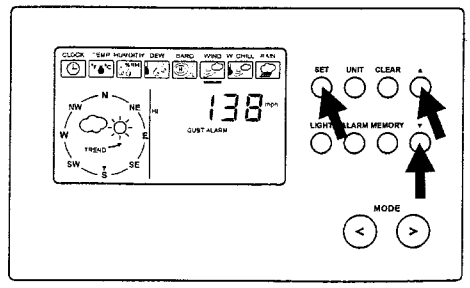
1. If necessary, repeatedly press < or > to select the **WIND** mode.
2. If necessary, press **ALARM** so **ALARM** appears on the display.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set high wind speed condition flashes.



4. Repeatedly press ▲ to increase the setting or ▼ to decrease the setting, then press **SET** to store it.

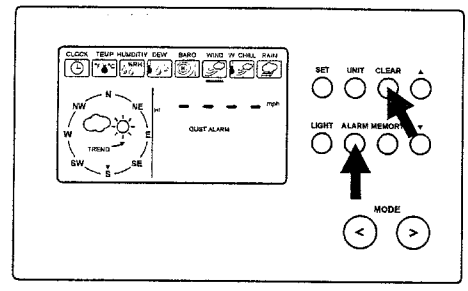


Notes :

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current alarm condition. If this happens, repeats Step 3 then try again.
- To rapidly increase or decrease the setting, press and hold ▲ or ▼.

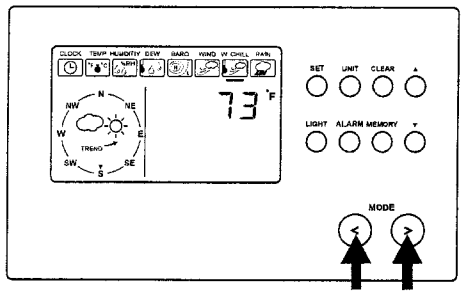
Clearing the High Wind Speed Alarm Setting

To clear the high wind speed alarm condition so the alarm, does not sound, select the **WIND** mode then press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. ---- appears.



USING W.CHILL (WIND CHILL)

The WM-918 samples the air temperature, speed, and humidity and determines the current wind chill temperature every 5 seconds. To view the current wind chill temperature, repeatedly press < or > until the selection bar appears beneath the **W.CHILL** icon on the display.

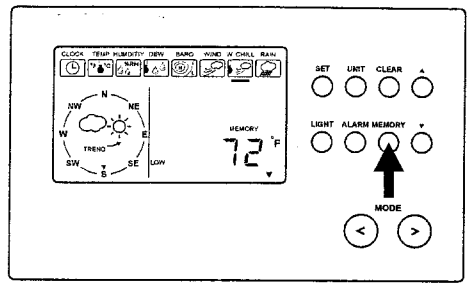


Notes :

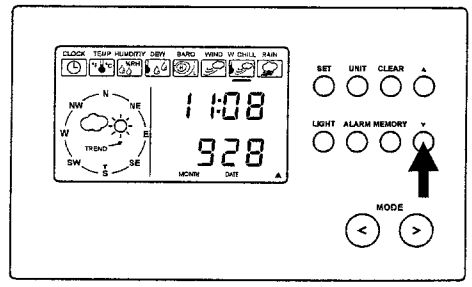
- The WM-918 is preset to display the temperature in degrees Fahrenheit (**F**), but you can change it to use the Celsius (**C**) format. See "Setting the Measurement Unit" on Page 58.
- If the current wind chill temperature is outside the weather station's operating measurement range (see "Specifications' on Page 70), **O.R.** (out of range) appears on the display.

VIEWING/RESETTING THE LOW WIND CHILL MEMORY RECORD

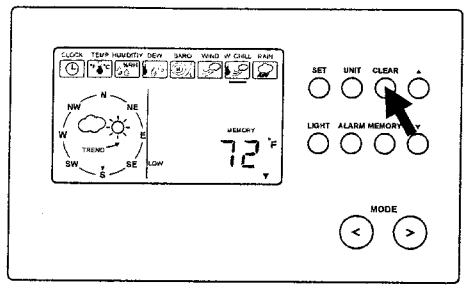
To view the lowest wind chill temperature recorded since the last memory reset, select the **W.CHILL** mode then press **MEMORY**.



To view the date and time that wind chill temperature was recorded in memory, press ▼. Press it again to recall the wind chill record.



To reset the low wind chill recorded in memory and record a new low wind chill beginning with the current condition, press and hold **CLEAR** for about 2 seconds until the weather station beeps.



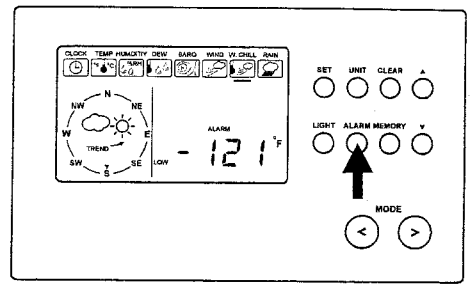
USING THE LOW WIND CHILL ALARM

You can set the weather station to sound an alarm when the wind chill temperature meets or drops below a set temperature. Each time the wind chill temperature changes and meets or drops below the set temperature, **ALARM** and **LOW** flash on the display and the weather station sounds an alarm steadily for 1 minute, then for about 5 seconds once every minute until the wind chill temperature no longer meets the set condition. To silence the alarm sooner, press any key except **LIGHT**.

Notes :

- If you are using a mode other than **W.CHILL** when the low wind chill alarm sounds, a bar flashes beneath the **W.CHILL** icon on the display but alarm and **LOW** do not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM** and **LOW**) continue to flash until the alarm condition is no longer met.

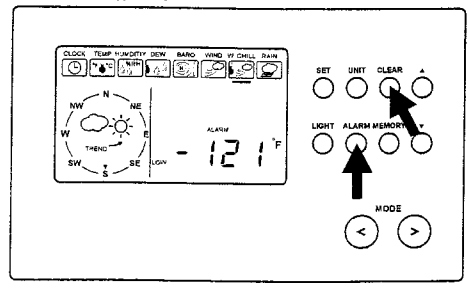
To view the current low wind chill alarm condition, select the **W.CHILL** mode then press **ALARM**. Press it again to recall the current wind chill.



Note : ---- appears when no alarm condition is set.

Setting the Low Wind Chill Alarm

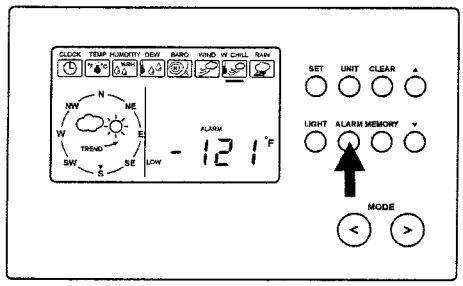
To set the low wind chill alarm to sound using the last set alarm condition, select the **W.CHILL** mode and press **ALARM** so **ALARM** appears on the display, ten press **CLEAR**. The last set alarm condition appears on the display.



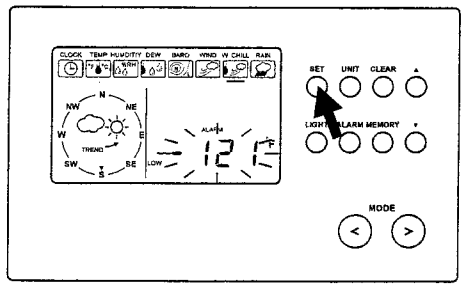
Note : The first time you press **CLEAR** to set the low wind chill alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default setting of **-121°F (-85°C).**

To set a different condition for the low wind chill alarm, follow these steps.

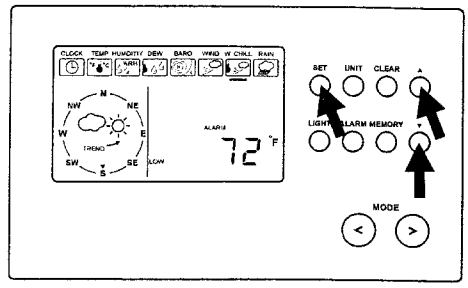
1. If necessary, repeatedly press < or > to select the **W.CHILL** mode.
2. Press **ALARM** so **ALARM** appears on the display.



3. Press and hold **SET** for about 2 seconds until weather station beeps. The last set low wind chill alarm condition flashes.



4. Repeatedly press ▲ to increase the setting or ▼ to decrease the setting, then press **SET** to store it.

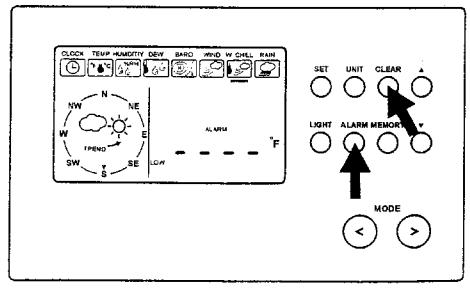


Notes :

- If you do not press any button for about 60 seconds, the weather station beeps, stores any changes you have entered so far, then displays the current alarm condition. If this happens, repeat Step 3 then try again.
- To rapidly increase or decrease the setting, press and hold ▲ or ▼.

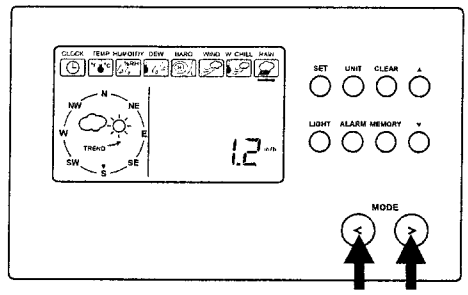
Clearing the Low Wind Chill Temperature Alarm

To clear the low wind chill alarm condition so the alarm does not sound, select the **W.CHILL** mode, then press **ALARM** so **ALARM** appears on the display, ten press **CLEAR**. **----** appears.



USING RAIN (RAINFALL RATE/AMOUNT)

The WM-918's rain gauge measures rain as it falls and automatically calculates the rate of rainfall per hour. To view the current rainfall rate, repeatedly appears beneath the **RAIN** Icon on the display.

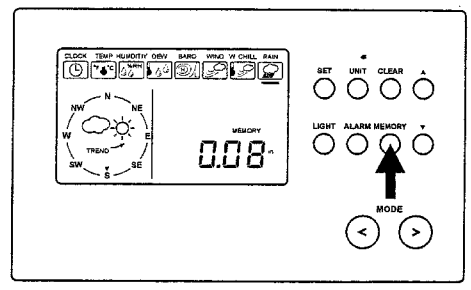


Notes :

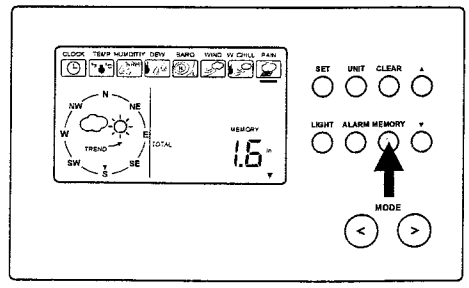
- The WM-918 is preset to display the rainfall rate in in/h (inches per hour), but you can set it to measure in mm/h (millimeters per hour). See "Setting the Measurement Unit" on Page 58.
- If the current rate of rainfall is outside the weather station's operating measurement range (see "Specifications" on Page 70), O.R. (out of range) appears on the display.
- We recommend you regularly check for and remove any debris that might have fallen into the rain gauge's cylinder. Otherwise, rain might not properly into the gauge.

VIEWING/RESETTING THE DAILY OR CUMULATIVE RAINFALL RECORD

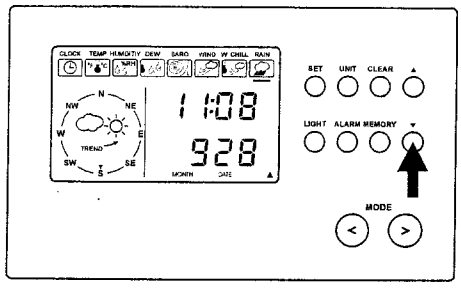
The WM-918 updates its daily rainfall memory every night at midnight. To view the amount of rain recorded in memory since midnight (or since the last memory reset), select the **RAIN** mode, then press **MEMORY** so **MEMORY** appears on the display.



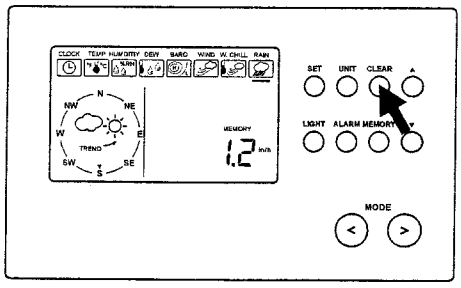
To view the cumulative amount of rainfall recorded in memory since the last memory reset, press **MEMORY** again so **TOTAL** appears on the display.



To view the date and time that the cumulative rainfall memory was last reset, press ▼. To recall the cumulative rainfall record, press ▲.



To reset the daily or cumulative rainfall record in memory and record new data beginning with the current condition, select that memory record then press and hold **CLEAR** for about 2 seconds until the weather station beeps.



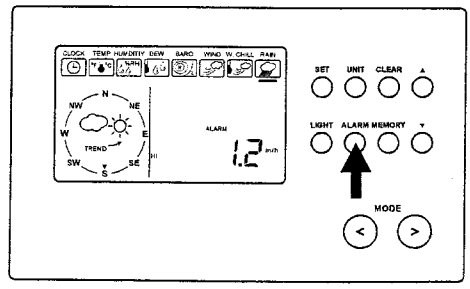
USING THE HIGH RAINFALL RATE ALARM

You can set the weather station to sound an alarm when the rainfall rate meets or exceeds a set condition (such as 1. in/h). Each time rain falls and meets or exceeds the set alarm condition, **ALARM** and **HIGH** flash on the display and the weather station sounds an alarm steadily for 1 minute, then once for about 5 seconds every minute until the rainfall rate no longer meets the set condition. To silence the alarm sooner, press any key except **LIGHT**.

Notes :

- If you are using a mode other than RAIN when the high rainfall rate alarm sounds, a bar flashes beneath the **RAIN** icon on the display but **ALARM** and **HIGH** do not appear.
- If you press a key to silence the alarm, the alarm stops sounding but the icon bar (or **ALARM** and **HIGH**) continue to flash until the alarm condition is no longer met.

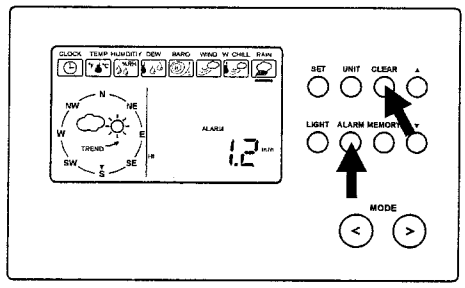
To view the current high rainfall rate alarm setting, select the **RAIN** mode then press **ALARM**. Press it again to recall the current rainfall rate.



Note : ---- appears when no alarm condition is set.

Setting the High Rainfall Rate Alarm

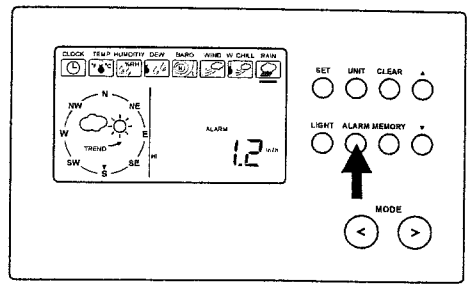
To set the high rainfall rate alarm to sound using the last set alarm condition, select the **RAIN** mode and press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. The last set alarm condition appears on the display.



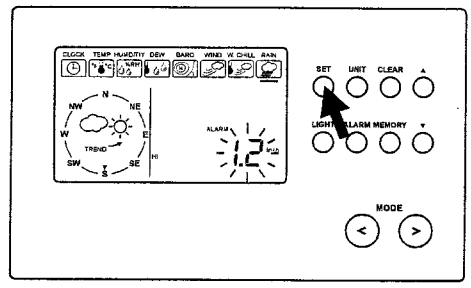
Note : The first time you set the high rainfall rate alarm after you connect power or press **RESET** (see "Resetting the Weather Station" on Page 69), the WM-918 selects a default alarm condition of **0.00 in/hr (0 mm/hr)**. If you use the default condition, the WM-918 alerts you when any amount of rain falls.

To set a different condition for the high rainfall rate alarm, follow these steps.

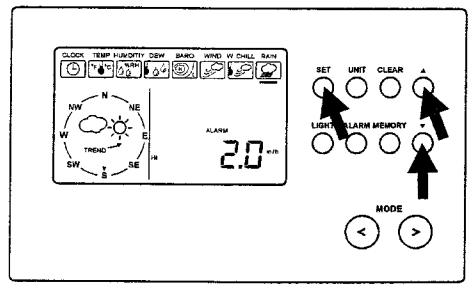
1. If necessary, repeatedly press < or > to select the **RAIN** mode.
2. Press **ALARM** so **ALARM** appears on the display.



3. Press and hold **SET** for about 2 seconds until the weather station beeps. The last set alarm condition flashes.



4. Repeatedly press ▲ to increase the setting or ▼ to decrease it, then press **SET** to store it.

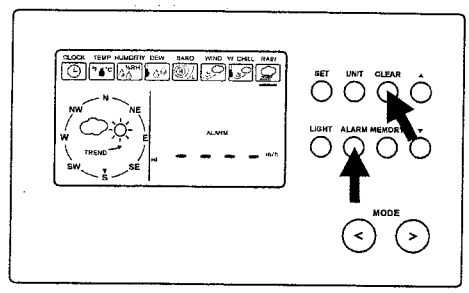


Notes :

- If you do not press any button for about 60 seconds, the weather station beeps, stores the changes you have entered so far, then displays the current alarm condition. If this happens, repeat Step 3 then try again.
- To rapidly increase or decrease the setting, press and hold ▲ or ▼.

Clearing the High Rainfall Rate Alarm Setting

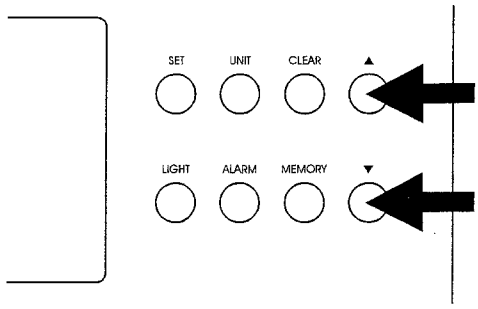
To clear the high rainfall rate alarm condition so the alarm does not sound, select the **RAIN** mode then press **ALARM** so **ALARM** appears on the display, then press **CLEAR**. ---- appears.



SPECIAL FEATURES

USING MODE SCAN

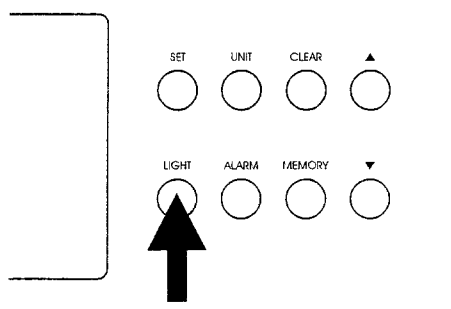
To set the weather station so it continuously scans all conditions in all modes, one after the other for about 5 seconds each, press and hold ▲ and ▼ for about 2 seconds until the weather station beeps.



To turn off mode scan, press any key except **LIGHT**.

USING THE DISPLAY'S BACK LIGHT

You can turn on the display's back light for easy viewing in the dark. Press **LIGHT** to turn on the display light for 8 seconds. To turn off the light before 8 seconds elapse, press **LIGHT** again.

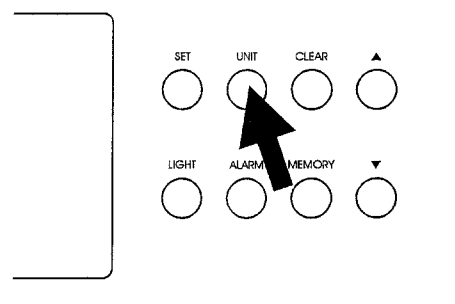


To turn on the light so it stays on, press and hold **LIGHT** for about 2 seconds until the weather station beeps. Press **LIGHT** again to turn it off.

Note : The display light will not turn on while AC power is disconnected or interrupted.

SETTING THE MEASUREMENT UNIT

To change the unit of measurement on the display (Fahrenheit to Celsius, for example) for all modes that use that unit, repeatedly press **UNIT** until you see the measurement unit you want to use.



Available/Default Measurement Units

Here is a table of all measurement units you can select for the time and date and each weather condition. A ✓ appears next to each unit that the weather station is set to use as a default.

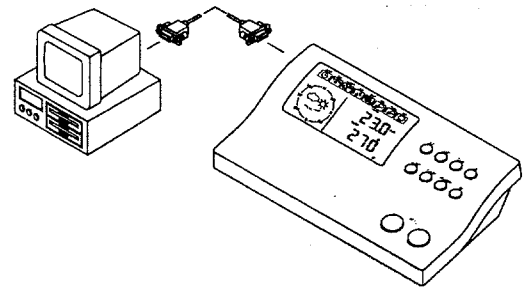
Note : Since relative humidity can be measured only as a percentage, it is not included in this table.

Mode(s)/Function(s)	Unit
Time Format	12 hour (**12 hr**) ✓
	24 hour (**24 hr**)
Date Format	Date Month (**DD MM**) ✓
	Month Date (**MM DD**)
Temperature/Dew Point Temperature/Wind Chill	Degree Fahrenheit (**F**) ✓
	Degree Celsius (**C**)
Wind Speed	Mile per Hour (**MPH**) ✓
	Knot (**KNOTS**)
	Meter per Second (**m/s**)
	Kilometer per Hour (**kph**)
Rainfall Amount	Inch (**in**) ✓
	Millimeter (**mm**)
Rainfall Rate	Inch per Hour (**in/hr**) ✓
	Millimeter per hour (**mm/hr**)
Barometric Pressure	Inch Mercury (**inHg**) ✓
	Millimeter Mercury (**mmHg**)
	Hecto-Pascal (**hpa**)
	Millibars (**mb**)

CONNECTING THE WM-918 TO A PC (Optional)

Using an optional serial cable (up to 10 feet long, maximum) and the optional software, you can connect the WM-918 to a PC, then view on the PC any data recorded by the weather station.

To connect the weather station to a PC, plug one end of a serial PC cable into the RS-232 jack on the left side of the display unit, then plug the other end into the appropriate port on your PC.



Notes :

- The weather station sends data through its RS-232 jack every 10 seconds at a rate of 9600 bps.
- For instructions on using the optional software, see the optional software's user manual.

WEATHER REFERENCES

GLOSSARY OF WEATHER TERMS

air mass - a large body or air that has similar horizontal temperature and moisture characteristics.

air (atmospheric) pressure - the pressure exerted by the weight of air above a given point. Usually expressed in millibars (mb) or inches (in) of mercury (Hg).

altimeter - an instrument that indicates the altitude of an object above a fixed level. Pressure altimeters use an aneroid barometer with a scale graduated in altitude instead of pressure.

anemometer - an instrument that measures wind speed.

atmosphere - the envelope of gases that surrounds a planet's and are held to it by the planet's gravitational attraction. The earth's atmosphere is mainly nitrogen and oxygen.

autumnal equinox - the equinox at which the sun approaches the Southern Hemisphere and passes directly over the equator. Occurs around September 23.

backing wind - a wind that signifies cooling and changes direction in a counterclockwise sense (north to northwest to west, for example).

barometer - an instrument that measures atmospheric pressure. The two most common barometers are the mercury barometer and the aneroid barometer.

blizzard - a server weather condition characterized by low temperatures and strong winds (greater than 32 mph) bearing a great amount of snow.

Celsius scale - a temperature scale where (at sea level) water freezes at 0o and boils at 100o.

cold front - a transition zone where a cold air mass advances and replaces a warm air mass.

cold wave - a rapid fall in temperature within 24 hours that often requires increased protection for agriculture, industry, commerce, and human activities.

convection - motions in a fluid that result in the transport and mixing of the fluid's properties. In meteorology, convection usually refers to atmospheric motions that are predominantly vertical, such as rising air currents due to surface heating. The rising of heated surface air and the sinking of cooler air aloft is often called free convection.

cyclone - an area of low pressure around which the winds blow counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.

daily range of temperature - the difference between the maximum and minimum temperatures for any given day.

dew - water that has condensed onto objects near the ground when their temperatures have fallen below the dew point of the surface air.

dew point (dew-point temperature) - the temperature to which air must be cooled (at constant pressure and constant water vapor content) for saturation to occur. When the dew point falls below freezing, it is called the frost point.

downburst - a severe localized downdraft that can be experienced beneath a severe visibility more than light rain.

drizzle - small drops between 0.2 and 0.5 mm in diameter that fall slowly and reduce visibility more than light rain.

drought - a period of abnormally dry weather sufficiently long enough to cause serious effects on agriculture and other activities in the affected area.

dry line - a boundary that separates warm, dry air from warm, moist air. It usually represents a zone of instability along which thunderstorms form.

evaporation - the process by which a liquid changes into a gas.

extratropical cyclone - a cyclonic storm that most often forms along a front in middle and high latitudes. Also called a middle latitude storm, a depression, and a low. It is not a tropical storm or hurricane.

eye - a region in the center of a hurricane (tropical storm) where the winds are light and skies are clear to partly cloudy.

eye wall - a wall of dense thunderstorms that surrounds the eye of a hurricane.

Fahrenheit scale - a temperature scale where (at sea level) water freezes at 32° and boils at 212°.

fog - a cloud with its base at the earth's surface. It reduces visibility to less than 1 km.

freeze - a condition occurring over a widespread area when the surface air temperature remains below freezing for a sufficient time to damage certain agricultural crops. A freeze most often occurs as cold air moves into a region, causing freezing conditions to exist in a deep layer of surface air.

freezing rain/drizzle - rain or drizzle that falls in liquid form and then freezes upon striking a cold object or ground.

front - the transition zone between two distinct air masses.

frost (hoarfrost) - a covering of ice produced by deposition (sublimation) on exposed surfaces when the air temperature falls below the frost point (the dew point is below freezing).

frozen dew - the transformation of liquid dew into tiny beads of ice when the air temperature drops below freezing.

funnel cloud - a rotating cone-like cloud that extends downward from the base of a thunderstorm. When it reaches the surface, it is called a tornado.

graupel - ice particles between 2 and 5 mm in diameter that form in a cloud. Snowflakes that become rounded pellets due to riming (being frosted over) are called graupel or snow pellets.

gust front - a boundary that separates a cold downdraft of a thunderstorm from warm, humid surface air. On the surface its passage resembles that of a cold front.

hailstones - transparent or partially opaque particles of ice that range in size from that of a pea to that of golf balls and larger.

haze - fine dry or wet dust or salt particles dispersed through a portion of the atmosphere. Individually these are not visible, but cumulatively these are not visibility. Dry haze particles are very small, on the order of 0.1 fm. Wet haze particles are larger.

heat index (HI) - an index that combines air temperature and relative humidity to determine an apparent temperature - how hot it actually feels.

humidity - a general term that refers to the air's water vapor content.

hurricane - a severe tropical cyclone having winds in excess of 64 knots (74 mph).

hurricane warning - a warning given when it is likely that a hurricane will strike an area within 24 hours.

hurricane watch - a hurricane watch indicates that a hurricane poses a threat to an area (often within several days) and residents of the watch area should be prepared.

jet stream - relatively strong winds concentrated within a narrow band in the atmosphere.

knot - a unit speed equal to 1 nautical mile per hour. 1 knot equals 1.15 mph.

lake-effect snows - localized snowstorms that form on the downwind side of a lake. Such storms are common in late fall and early winter near the Great Lakes as cold, dry air picks up moisture and warmth from the unfrozen bodies of water.

lightning - a visible electrical discharge produced by thunderstorms.

mean annual temperature - the average temperature at any given location for the entire year.

mean daily temperature - the average of the highest and lowest temperature for a 24-hour period.

meteorology - the study of the atmosphere and atmospheric phenomena as well as the atmosphere's interaction with the earth's surface, oceans, and life in general.

millibar (mb) - a unit for expressing atmospheric pressure. Sea level pressure is normally close to 1013 mb.

northeaster - a name given to a strong, steady northeast wind that is accompanied by rain and inclement weather. It often develops when a storm system moves northeastward along the coast of North America.

overrunning - a condition that occurs when air moves up and over another layer of air.

pressure tendency - the rate of change of atmospheric pressure within a specified period of time, most often three hours. Also known as barometric tendency.

rain - precipitation in the form of liquid water drops that have diameters greater than that of drizzle.

rainbow - an arc of concentric colored bands that spans a section of the sky when rain is present and the sun is behind the observer's back.

rain gauge - an instrument designed to measure the amount of rain that falls curing a given time interval.

relative humidity - the radio of the amount of water vapor actually in the air compared to the amount of water vapor the air can hold at that particular temperature and pressure. The ratio of the air's actual vapor pressure to its saturation vapor pressure.

sea breeze - a coastal local wind that blows from the ocean onto the land. The leading edge of the breeze is called a sea breeze front.

sea level pressure - the atmospheric pressure at mean sea level.

severe thunderstorms - intense thunderstorms capable of producing heavy showers, flash floods, hail, strong and gusty surface winds, and tornadoes.

shower - intermittent precipitation from a cumuliform cloud, usually of short duration but often heavy.

sleet - a type of precipitation consisting of transparent pellets of ice 5 mm or less in diameter. Also known as ice pellets.

smog - originally smog meant a mixture of smoke and fog. Today, smog means air that has restricted visibility due to pollution, or pollution formed in the presence of sunlight - photochemical smog.

snow - a solid form of precipitation composed of ice crystals in complex hexagonal forms.

snowflake - an aggregate of ice crystals that falls from a cloud.

snow flurries - light showers of snow that fall intermittently.

snow squall (shower) - an intermittent heavy shower of snow that greatly reduces visibility.

squall line - any non-frontal line or band of active thunderstorms.

standard atmospheric pressure - pressure of 1013.25 millibars (mb), 29.92 inches of mercury (Hg), 760 millimeters of mercury (mm), 14.7 pounds per square inch (lb/in), 101,325 pascals (Pa).

station pressure - the actual air pressure computed at the observing station.

supercell storm - an enormous severe thunderstorm whose updrafts and downdrafts are nearly in balance, allowing it to maintain itself for several hours. It can produce large hail and tornadoes.

temperature - the degree of hotness or coldness of a substance as measured by a thermometer. It is also a measure of the average speed or kinetic energy of the atoms and molecules in a substance.

thermograph - an instrument that measures and records air temperature.

thermometer - an instrument for measuring temperature.

thunder - the sound created by rapidly expanding gases along the channel of a lightning discharge.

thunderstorm - a local storm produced by cumulonimbus clouds. Always accompanied by lightning and thunder.

tornado - an intense, rotating column of air that protrudes from a cumulonimbus cloud in the shape of a funnel or a rope and touches the ground.

tornado outbreak - a series of tornadoes that form within a particular region - a region that may include several states. Often associated with wide-spread damage and destruction.

tornado warning - a warning issued when a tornado has actually been observed either visually or on a radar screen.

tornado watch - a forecast issued to alert the public that tornadoes may develop within a specified area.

visibility - the distance an observer can see and identify prominent objects.

warm front - a front that moves in such a way that warm air replaces cold air.

wet-bulb temperature - the lowest temperature that can be obtained by evaporating water into the air.

wind - air in motion relative to the earth's surface.

wind-chill factor - the cooling effect of any combination of temperature and wind, expressed as the loss of body heat. Also called wind-chill index.

wind direction - the direction from which the wind is blowing.

wind vane - an instrument used to indicate wind direction.

winter solstice - approximately December 22 in the Northern Hemisphere when the sun is lowest in the sky and directly overhead at latitude 23 1/2°S, the Tropic of Capricorn.

CARE AND MAINTENANCE

Your WM-918 Electronic Weather Station is an example of superior design and craftsmanship. The following suggestions will help you care for your weather station so you can enjoy it for years.

Keep the weather station's display unit and connection box dry. If either component gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.

Use and store the weather station only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.

Keep the weather station's display unit and connection box away from dust and dirt, which can cause premature wear or parts.

Handle the weather station gently and carefully. Dropping it can damage circuit boards and cases and can cause the weather station to work improperly.

Use only fresh batteries of the required size and type in the display unit. Old batteries can leak chemicals that damage your weather station's electronic parts.

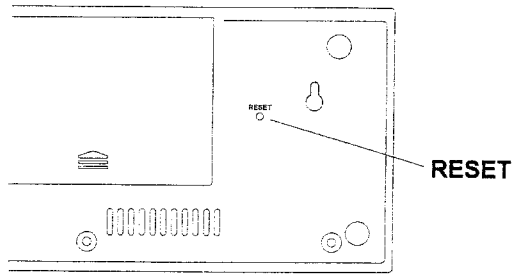
Wipe the weather station with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the weather station.

Modifying or tampering with the weather station's internal components can cause a malfunction and might invalidate its warranty.

RESETTING THE WEATHER STATION

Caution : Resetting the weather station also clears all data stored in the weather station's memory!

If the weather station's display locks up or the weather station does not work properly, use a pointed object, such as a straightened paper clip, to lightly press and release **RESET** on the bottom of the display unit. All preprogrammed display characters appear, then the default time and date (**12:00** and **1/1**) appear on the display.



Note : Set the correct date, time, and sea level barometric pressure after you reset the weather station.

THE FCC WANTS YOU TO KNOW

This weather station complies with the limits for a Class B digital device as specified in Part 15 of FCC Rules. These limits provide reasonable protection against radio and TV interference in a residential area. However, your equipment might cause TV or radio interference even when it is operating properly. To eliminate interference, you can try one or more of the following corrective measures:

- Reorient or relocate the receiving antenna
- Increase the distance between the weather station and the radio or TV
- Use outlets on different electrical circuits for the weather station and the radio or TV

You must use shielded interface cables with this equipment.

SPECIFICATIONS

TEMPERATURE

Measuring Range ..... Indoor: 32° to 122 °F (0° to 50°C)
Outdoor: -40° to 140°F (-40° to 60°C)

Indoor Measurement Accuracy:

Range: 32° to 104°F (0° to 40°C) ..... ±2°F (±1°C)

Range: >104° to 122°F (>40° to 50°C) ..... ±4°F (±2°C)

Outdoor Measurement Accuracy:

Range: -40° to 32°F (-40° to <0°C) ..... ±4°F (±2°C)

Range: 32° to 104°F (0° to 40°C) ..... ±2°F (±1°C)

Range: >104° to 122°F (>40° to 50°C) ..... ±4°F (±2°C)

Range: >122° to 140°F (>50° to 60°C) ..... ±6°F (±3°C)

Resolution (indoor and outdoor) ..... 0.2°F (0.1°C) typical

Sampling Cycle (indoor and Outdoor) ..... 10 seconds

RELATIVE HUMIDITY

Measuring Range ..... 10 to 97%RH

Accuracy: (at temp range 15°C to 40°C)

Indoor Range: 25 to 90%RH ..... 25 to 40%RH, ±7%RH
40 to 80%RH, ±5%RH
80 to 90%RH, ±7%RH

Outdoor Range: 25 to 90%RH ..... 25 to 40%RH, ±8%RH
40 to 80%RH, ±6%RH
80 to 90%RH, ±8%RH

Resolution (indoor and Outdoor) 1%RH

Sampling Cycle (Indoor and Outdoor) ..... 10 seconds

DEW POINT TEMPERATURE

Measuring Range ..... Indoor: 32° to 117°F (0° to 47°C)
Outdoor: 32° to 133°F (0° to 56°C)

Measurement Accuracy (Indoor and Outdoor):

Condition: 25-90% RH ..... ±18°F (±9°C)

Condition: 32° to 104°F (0° to 40°C)

Resolution (indoor and Outdoor) ..... 2°F (1°C)

Sampling Cycle (Indoor and Outdoor) ..... 10 seconds

BAROMETRIC PRESSURE/TREND

Measuring Range ..... 23.48 to 31.01 inHg (795 to 1050 mb)

Accuracy: (at temp 32° to 122°F) ..... ±0.21 inHg (±7 mb)

Resolution ..... 0.03 inHg (1 mb)

Pressure Sampling Cycle ..... 15 minutes

Trend Sampling Cycle ..... 1 hour

WIND SPEED

Measuring Range ..... 0 to 125.3 mph (0 to 56 m/s)

Measurement Accuracy:

at Temperature: -4°F to 140°F (-20° to 60°C)

i) Range: 2 to < 10 m/s ..... ±1 m/s

ii) Range: 10 to 56 m/s ..... ±10%

Resolution ..... 0.2 m/s (0.4 mph)(typical)

Sampling Cycle ..... Gust Wind Mode: 5 seconds
Average Wind Mode: 1 minute

WIND DIRECTION

Measuring Range ..... 0° to 359° (Degrees)
0° to 350° (Compass Direction)

Digital Measurement Accuracy:
- Range: 0° to 347° ..... ±8° (Degrees)
- Range: <0° or >347° ..... ±18° (Degrees)

Resolution ..... 1° (typical)

Graphical Measurement accuray:
- Range: 0° to 340° ..... ±10°
- Range: >340° ..... ±20°

Resolution ..... 10°

Sampling Cycle (Degrees and Compass Direction) ..... 5 seconds

WIND CHILL TEMPERATURE

Measuring Range ..... -121° to 140°F (-85° to 60°C)

Accuracy: (at temp -20°C to 60°C wind speed 2 to 56 m/s) ..... ±16°F (±8°C)

Resolution ..... 2°F (1°C)

Sampling Cycle ..... 5 seconds

RAINFALL

Daily and Cumulative Measuring Range ..... 0 to 393.7 in (0 to 9999 mm)

Rainfall Rate Measuring Range ..... 0 to 39.32 in/hr (0 to 998 mm/hr)

Daily Rainfall Accuracy: (at 33.8°C to 140°C)
- Range: <.6 in (15 mm) ..... ±.04 in (1 mm) ± 1 digit
- Range: .6 to 394 in (15 to 9999 mm) ..... ±5% ± 1 digit

Cumulative Rainfall Accuracy: (at 33.8°F to 140°C)
- Range: <.8 in (20 mm) ..... ±.04 in (1 mm) ± 1 digit
- Range: .8 to 394 in (20 to 9999 mm) ..... ±5% ± 1 digit

Rainfall Rate Accuracy:

Range: <0.6 in/hr (15 mm/hr) ..... ±0.04 in (±1 mm) + 1 unit

Range: 0.6 to 39.32 in/hr (15 to 998 mm/hr) ..... ±7% + 1 unit

Daily and Cumulative Resolution ..... 0.04 inch (1 mm)

Rainfall Rate Resolution: ..... 0.04m/hr (1mm/hr) typical

Daily rain Sampling Cycle ..... 24 hours

Rainfall Rate Sampling Cycle ..... Varies Based on Rainfall Frequency

Cumulative rain Sampling Cycle ..... Varies Based on Rainfall Frequency

GENERAL

Display ..... Liquid Crystal (LCD)

Clock Accuracy ..... ±0.5 Seconds/Day

Power Requirement ..... 12V DC

Battery Life (Alkaline) ..... About 36 Hours

Display Unit Dimensions (HWD) ..... 4 1/4 x 7 x 1 11/16 inches
(108 x 178 x 43.5 mm)

Weight:

Display Unit (without batteries) ..... 10.6 oz (300 g)

8-Way Connection Cable ..... 3.5 oz (100 g)

Connection Box ..... 1.4 oz (40 g)

Rain Gauge (with cable and screens) ..... 10.2 oz (290g)

Anemometer (with cable, u-bolts, and nuts) ..... 19.4 oz (550 g)

Thermo-Hygro Sensor (with cable) ..... 10.6 oz (300 g)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

CE