Ｏregon
S C I E N T I F I C

MODULAR BTHR WEATHER STATION
Model : BHT663A

INTRODUCTION

Thank you for selecting the Oregon Scientific Multi-Component Wireless Weather Station (BHT663A). This unique product bundles weather forecasting, temperature and humidity monitoring, precise time keeping and alarm features into a single tool you can use from the convenience of your home.

In this box, you will find:

• Weather Station (BHB613)
• Alarm Clock (BHM612A)
• Thermo-Hygrometer (BHGR618)
• Wireless Remote Sensor (THGR238N)

The manual is divided into 4 distinct sections - one for each component.

Keep this manual handy as you use your new product. It contains practical step-by-step instructions as well as technical specifications and warnings you should know.

WEATHER STATION (BHB613)
FEATURES
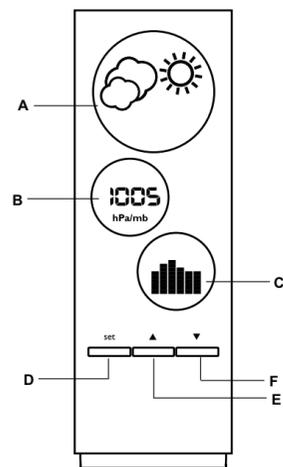
A. WEATHER FORECAST WINDOW
Weather forecast indication shows sunny, slightly cloudy, cloudy and rainy.

B. PRESSURE READING WINDOW
Displays the current pressure reading.

C. PRESSURE TREND CHART WINDOW

D. SET BUTTON
To set the altitude

E. UP BUTTON
Increases the value of setting by 10
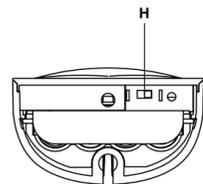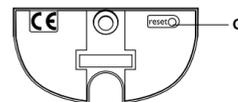
F. DOWN BUTTON
Decreases the value of setting by 10

G. RESET BUTTON
Returns all settings to default value and erases all memories.
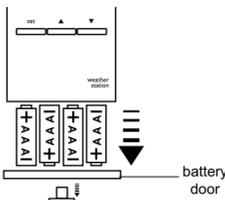
H. hPa/mb-inHg Slide switch
Selects between hPa/mb or inHg display unit.

WEATHER FORECAST SYMBOLS

Your weather station detects barometric pressure changes and the LCD displays the illustsrated weather symbols which indicating the weather forecast for 12 or 24 hours ahead, for an area with a radius of about 18-30 miles.

Indicator displays on the unit	☀	⛅	☁	🌧
Forecas	Sunny	Slightly Cloudy	Cloudy	Rainy

Important:
1. The accuracy of weather forecasting when using pressure trend alone is about 70 to 75 percent and, therefore, we cannot be held responsible for any inconveniences caused by an inaccurate weather forecast.
2. The weather forecasts symbols reflect forecast 12-24 hours in the future and not the current weather condition.
3. A 'Sunny' forecast reflects fine clear weather.

PRESSURE TREND

Stored memory of the barometric pressure changes are displayed on the chart, in 5 steps indicating the pressure 1,3,6,12 and 24 hours ago. This chart is plotted by comparing the past barometric pressure to the present pressure.

This gives you the pressure trend over the last 24 hours. The weather will be getting better (worse) if this chart shows the bar marks moving up (down) towards the present time.

Important:
It is only possible to measure the barometric pressure trend properly if your barometer remains at the same altitude.

When moving around at different altitude within a short time period, the air pressure changes. The barometric pressure reading is precise only if the barometer has remained at a constant altitude for 24 hours.

However, please note that the accuracy of a weather forecast based on barometric pressure reading is considered to be about 70-75%.

BATTERIES

The unit uses four UM-4 "AAA" size batteries. If the " ⊏⧸⊐ " indicator appears, remove the exhausted batteries and follow these steps to replace the batteries:
1. Unscrew the battery door at the bottom of the unit.
2. Remove the battery cover and insert the batteries as indicated by the polarity symbols (+ and -) marked inside the battery compartment.
3. Replace the battery door and fasten the screw.

battery door

Note: After replacing the batteries, the whole display will be turned on for about 3 seconds and then show the following:

a. Weather forecast shows slightly cloudy weather (a sun with the cloud indicator)
b. Pressure trend shows steady.
c. Barometric pressure shows the current reading. The unit takes about 24 hours to store the barometric pressure date. Until that time has elapsed, the pressure trend and weather forecast symbols may not reflect actual weather forecast for your area.

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However, please note that the accuracy of a weather forecast based on barometric pressure reading is considered to be about 70-75%.

SET ALTITUDE

1. Press and hold the **SET** button for 2 seconds to set the altitude. The '*ALT*' indicator will turn on with the altitude setting flashing (display in meter). The accuracy of a general pressure-based weather forecast is about 70% to 75%.
   Increase/decrease the altitude in steps of 10 meter by pressing ▲ or ▼ button.
2. Press the **SET** button again to set the altitude. At this time the previous pressure display will reappear. If the altitude has been changed, the '*ALT*' indicator flashing (about 15 minutes) until a new sampling takes place and the pressure reading is then compensated with the new altitude.
3. Press the **SET** button 6 times to confirm the setting you just entered or wait for one minute for automatic exit.

Note: For monitoring the local barometric pressure reading, the user needs to select the 0 meter (preset value) for the altitude setting. For monitoring the Sea Level barometric pressure reading at certain altitude, the user needs to select the local altitude (-100 to 2500 meters i.e. -328 to 8223 feet) for the altitude setting. The BHB-613 requires entry of elevation in meters not feet. Therefore, to convert feet to meters, multiply feet by 0.3048.

To determine your location elevation, please either contact your local library, TV/ radio weather forecaster, or via Intenet at www.worldatlas.com/aatals/ infopage/elevation.htm.

PRESSURE TREND DISPLAY

- To get the line chart display, press the **RESET** button at the bottom of the unit while pressing and holding the **SET** key in the bar chart display.

- To get the bar chart display, press the **RESET** button once.

Note: Either action will reset the unit and the previous readings/setting will be lost.

SELECT MEASUREMENT UNIT

The switch in the battery compartment of the weather station selects between hPa/mb and inHg. To select hPa/mb, set the switch to hPa/mb. To select inHg, set the switch to inHg.

SPECIFICATIONS

Pressure
measuring range   794 to 1050 hPa/
                   mb (24.45 to
                   31.00 inHg)

Altitude
compensation for
barometric pressure
reading   -100 to 2500 meters
                   (-328 to 8223 feet)

Pressure display resolution	1 hPa/mb (0.03inHg)
Pressure sampling cycle	15 minutes
Power source	Four pcs. UM-4 or "AAA" size batteries
Battery life	9 month
Dimension	6.64" x 2.32" x 1.28" (H xWxD)
Weight	4.80 ounces (without battery)

ALARM CLOCK (BHM612A)
FEATURES

radio controlled
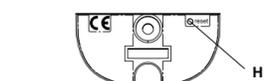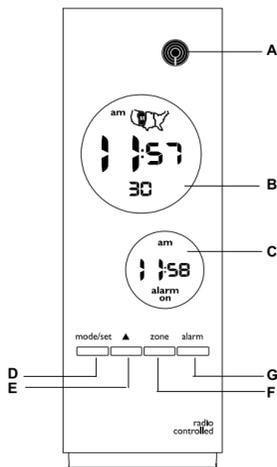
A RF SIGNAL INDICATOR
- Indicates the signal-receiving status of the unit

B MAIN WINDOW
- Displays the current time with seconds or day of-the week

C SECONDARY WINDOW
- Displays the alarm time and its status or date

D MODE/SET BUTTON
- Changes between seconds and weekday display (Main window) or between calendar and alarm clock display (secondary window)
- Holds to activate the clock setting mode

E UP BUTTON
- Increases the value of a setting by one unit

F ZONE BUTTON
- Press to sequence through the 4 U.S. time-zones: Pacific, Mountain, Central or Eastern.

G ALARM BUTTON
- Changes the display and operating status of the alarm clock

H RESET BUTTON
- Returns all settings to the factory set default values

BATTERIES

1. Open the battery compartment by removing the screw at the bottom of the unit.
2. Pull out the battery holder and insert two AAA-sized (UM-4) batteries in accordance with the polarities shown.
3. Slide back the battery holder into the compartment and fasten the screw.
4. Press **RESET** with a blunt stylus.
5. When the low battery indicator [⊏⧸⊐] appears on the display, follow the above procedures to replace the unit with new batteries.

Note The unit will automatically search for the radio signal when batteries are first installed. When the BHM-612A is new and just out of the box, allow up to 72 hours for the unit to receive the US Atomic Clock signal. To facilitate reception, place the BHM-612A on a window sill away from other signal emitting equipment such as TVs, radios, PCs and microwaves. Stronges signal reception is between midnight and 4AM.

Screw

Battery Holder
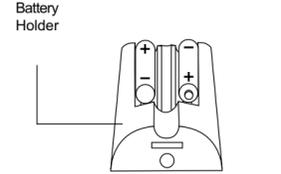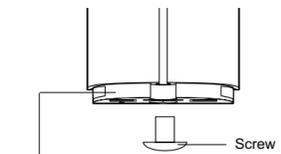
CHANGE DISPLAY

In normal display, the current time, with seconds, will be displayed in the main window and the date will be displayed in the secondary window.

To display the weekday in the main window, press **MODE / SET** once. Press the button again to display seconds.

E UP BUTTON
- Increases the value of a setting by one unit

To display the alarm time in the secondary window, press **ALARM** once. Press **MODE / SET** to display the date.

RF SIGNAL RECEPTION

The BHM-612A is designed to automatically synchronize its current time and date when within range of the U.S. Atomic Clock.

When the unit is within range, its radio-control mechanism will override all manual settings. The benefit of a RF controlled clock is sustained accuracy without the need of manual adjustment.

Slgnal Search Mode	●	🔆
Signal Reception Mode	○	◔ ◑ ◉
No Signal Received		●

Complete signal reception generally takes about 2 to 10 minutes, depending on the strength of the radio signal. When the reception is completed, the signal display will be stable. After that, the periodical scanning will only take a few seconds.
For better reception of radio signals, place the clock away from metal objects and electrical appliances to minimize interference.

ACTIVATE / DEACTIVATE RF SIGNAL

To disable the automatic signal reception feature and cause the BHM-612A to operate as a quartz clock, hold down **ZONE** for three seconds.
To enable the feature again, hold down the **UP** button for three seconds. The RF signal display will start scanning to initiate reception automatically.

SET CLOCK

NOTE You only need to perform this task if you have disabled RF signal reception.

When the current time is displayed:
• Press **MODE / SET** for two seconds. Hours digits will flash.
• Set the hour using **UP**.
• Press **MODE / SET**. Minutes digits will flash.
• Set the minutes using **UP**.
• Press **MODE / SET**.
• Follow the same pattern to enter year, month, day and the display language for the weekday. You can choose among **E (English)**, **F (French)** and **S (Spanish)**.
• Press **MODE / SET** to save the changes and exit.

If changes are made during the process, the seconds of the clock will reset and start from zero. The unit will also save all changes and return to normal display automatically after the unit has been left idle for a minute.

SET ALARM

To set the alarm time:
1. Press **ALARM** to display the alarm time.
2. Press and hold **ALARM** for two seconds. Hours digits will flash.
3. Set the hours using **UP** .
4. Press **ALARM**. Minutes digits will flash.
5. Set the minutes using **UP**.
6. Press **ALARM** to save and exit. The alarm clock will be activated automatically during the setting procedure.

To activate or deactivate the alarm during normal display.
• Press **ALARM** to display the alarm time.
• Press **ALARM** to change the status of the alarm. The respective indicator will appear.

When the alarm goes off, the alarm sound will gradually increase in volume and speed. The alarm will continue to sound for approximately two minutes unless interrupted when any button is pressed. If the alarm is not interrupted, after 2 minutes the alarm will silence itself and reactivate after approximately eight minutes.

SPECIFICATIONS

Operating Temperature	32° F to 104° F
Radio Control	Auto synchronizes current time and date by Radio signal signal generated from the U.S. Atomic Clock
Calender	Weekday in English/French/ Spanish; Current month/day format
Clock Time	12-hour format
Alarm Time Duration	2 minutes
SNOOZE Time Duration	8-9mins
Accuracy	+/-0.5 second/ day(when operating in quartz clock mode)
Battery Type	Two (2) UM-4 or "AAA" size
Unit Dimension	6.64" x 2.32" x 1.28" (H x W x D)
Unit Weight	5.53 oz

THERMO-HYGROMETER (BHGR618)
FEATURES

wireless thermo- & hygrometer
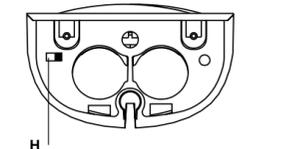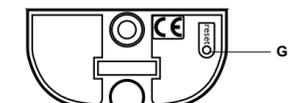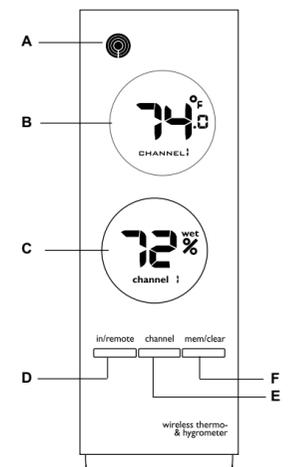
A RF SIGNAL INDICATOR
Indicates the signal-receiving status of the unit

B UPPER DISPLAY
Displays temperature data

C LOWER DISPLAY
Displays humidity data

D IN / REMOTE BUTTON
• Selects between main and remote unit display
• Activates search mode

E CHANNEL BUTTON
• Selects a different channel
• Scan for remote sensors

F MEM /CLEAR BUTTON
• Recalls maximum / minimum temperature / humidity
• Clears maximum / minimum temperature / humidity memory

G RESET HOLE

Returns all settings to default value and erases all memories

H °C/°F SWITCH

Selects between Centigrade (°C) and Fahrenheit (°F) degrees

To ensure proper setup, please note the following before you start:

• Assign different channels to different remote units.
• Insert batteries in remote units before doing so for the main unit (see instructions for battery installation).
• Place the main unit as close as possible to the remote unit
• Reset the main unit after installing batteries. This will ensure easier synchronization between the transmission and reception of signals.
• Position the remote unit and main unit within effective transmission range, which, in usual circumstances, is 65 to 100 feet.

NOTE Refer to the REMOTE SENSOR section for sensor setup instructions.

BATTERIES

The Thermo Hygrometer uses 2 UM-3 ("AA") alkaline batteries.

1. Remove the screw to open the battery door.
2. Insert the batteries strictly according to the polarities.
3. Select the temperature display unit on the °C /°F slide switch.
4. Replace the battery door and fasten the screw.
5. Replace the batteries when the low-battery indicator of the indoor temperature lights up (Repeat the steps described in "Before You Begin", above)

shows when batteries are low for the main unit or for the selected remote unit.

GETTING STARTED

Once batteries are placed in a given remote sensor unit, it will start transmitting information at 40-second intervals.

Also, for approximately a 3-minute duration, the main unit will automatically search for signals once batteries are installed. Upon successful reception, the individual channel temperature reading will be displayed on the upper window and the respective humidity reading on the lower window. The main unit will automatically update its readings at about 40-second intervals.

If no signals are received, blanks "---" will show and the RF signal indicator will not show.

SEARCH FOR A SENSOR SIGNAL

Press and hold **IN / REMOTE** for 2-seconds to enforce a 3-minute search.

This is useful in synchronizing the transmission and reception of the remote and main units. Repeat this step whenever you find discrepancies between the reading shown on the main unit and that on the respective remote unit.

DISPLAY TEMPERATURE / HUMIDITY

Display of readings from a remote sensor or the main unit is a one-step procedure. The remote sensor channel or the main unit display is indicated under the readings.

INDOOR UNIT

Press IN/REMOTE until "in" is displayed under the readings:

REMOTE SENSOR

Press **CHANNEL** until the appropriate remote sensor channel is displayed under the readings.

If no readings are received from one particular channel for more than 15 minutes, blanks "---" will be displayed until further readings are successfully searched. Check the remote sensor to ensure that t is secure and that the correct channel has been selected. Optionally, press and hold IN/REMOTE for 2-seconds to enforce a search.

MAXIMUM / MINIMUM TEMPERATURE / HUMIDITY

The maximum and minimum recorded temperature and humidity readings will automatically be stored in the memory.

DISPLAY MAXIMUM / MINIMUM MEMORY

1. Select the channel to be checked.
2. Press **MEM / CLEAR** once to display the maximum reading and again to display the minimum reading. The respective indicators, MAX or MIN will show.

CLEAR MEMORY

Press and hold **MEM / CLEAR** for 2-seconds. The current temperature and humidity will be saved as the min / max values until new records are set.

TEMPERATURE DISPLAY

Slide the °C/°F switch into the desired position to select °C (Centigrade) or °F (Fahrenheit) degrees display. The switch is located on the bottom of the unit.

NOTE The switch on the main unit over-rides any selection you may make for the remote sensor (THGR238N).

COMFORT ZONE

The Comfort Zone indicates how comfortable the climate is, based on current temperature and humidity measurements.

ZONE	TEMP	HUMIDITY
WET	Any	>70%
COM	20 – 25 ° C (68 - 77 ° F)	40 – 70%
DRY	Any	<40%

This information is shown in the Humidity Area when the current measurement is displayed.

RF SIGNAL RECEPTION

The RF Signal Indicator shows the signal receiving status for the main unit.

The unit is in searching mode.	●	◎
Transmission data are securely registered.	○ ○ ◎ ◎	
No signals.	●	

SCAN FOR REMOTE SENSORS

To auto-scan between sensors, press and hold **CHANNEL** for 2 seconds. Each sensor's data will be displayed for 3 seconds. To end auto-scan, press any button.

SEARCH FOR SENSOR

To search for a sensor, press **IN / REMOTE**.

NOTE If the sensor is still not found, check the batteries, obstructions, and remote unit location.

NOTE Signals from household devices such as doorbells, electronic garage doors, and home security systems may cause temporary reception failure. This is normal and does not affect general product performance. The reception will resume once the interference ends.

NOTE Battery performance, and subsequently the effective range, may be affected by freezing temperatures.

SPECIFICATIONS

Dimensions	6.54 x 2.28 x 1.26 inches (L x W x H)
Weight	4.47 ounces
Operating range	-5.0 to 50.0 °C (23.0 to 122.0 °F)
Resolution	0.1 °C (0.2 °F)
Relative Humidity	25% to 95%
RF Frequency	433 MHz
Channel No.	1 - 3
Range	30 meters (98 feet) with no obstructions
Transmission	every 40 seconds
Batteries	2 x UM-3 ("AA") 1.5 V alkaline

REMOTE SENSOR (THGR238N)

FEATURES

[FIG A]   [FIG B]

[FIG C]

[FIG D]
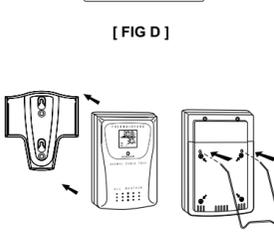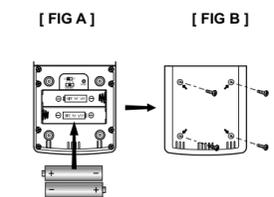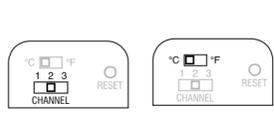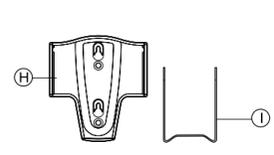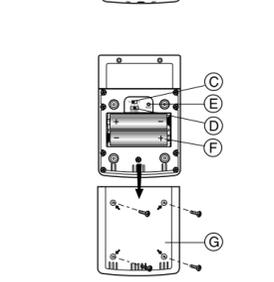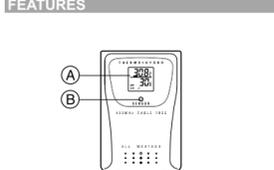
[FIG E]

A Two-line LCD

Displays the current temperature and humidity monitored by the remote unit
• Temperature display
• Humidity display
• Comfort-level indicator

B LED INDICATOR

Flashes when the remote unit transmits a reading

C °C/°F SLIDE SWITCH

Selects between Centigrade (°C) and Fahrenheit (°F)

D CHANNEL SLIDE SWITCH

Designates the remote unit Channel 1, Channel 2 or Channel 3

E RESET BUTTON

Returns all settings to default values

F BATTERY COMPARTMENT

Accommodates two UM-3 or AA size alkaline batteries

G BATTERY DOOR

H WALL-MOUNT HOLDER

Supports the remote unit in wall-mounting

I REMOVABLE TABLE STAND

For standing the remote unit on a flat surface

SETUP

Note: To ensure proper reception between the main unit and the remote sensor, follow these instructions carefully.

1. Place both units as close as possible to each other.
2. Remove the screws on the battery door of the remote unit.
3. Assign a different channel to each remote sensor by changing the channel switch in the battery compartment of the remote sensor. **[FIG A]**
4. Select the units of measurement for the temperature display on the °C/°F slide switch. **[FIG B]**
5. Install 2 alkaline batteries (UM-3 or "AA" size 1.5V) strictly according to the polarities shown. **[FIG C]**
6. Insert batteries or press the reset button of the main unit. Follow the instructions as set out in the User's manual.
7. Replace the battery compartment door and secure its screws.
8. Position the remote sensor and main unit within effective transmission range, which in usual circumstances, is 30 meters.

Note: The effective range may be limited by building materials and the position of either the main unit or remote sensors. Try various set-up arrangements for best result.

Though the sensor is weatherproof, and is meant for use outside, it should be placed away from direct sunlight, rain, or snow.

shows when batteries are low.

CHANGE CHANNEL

Once a channel is assigned to a unit, you can only change it by removing the batteries and repeating the above procedure.

COMFORT LEVEL

The comfort level is based on the recorded relative humidity. An indicator will be displayed to show if the level is comfortable, wet or dry. **[FIG D]**

TABLE OR WALL MOUNT

This sensor comes with a wall-mount holder and a removable stand. Use either to hold the unit in place. **[FIG E]**

SPECIFICATIONS

Remote thermo-hygro unit

| Displayed temperature range	-50.0°C to +70.0°C (-58.0°F to 158.0°F)
Proposed operating range	0.0°C to +50.0°C (32.0°F to 122.0°F)
Temperature resolution	0.1°C (0.2°F)
Displayed relative humidity range	2% RH to 97% RH
Humidity Resolution	1%
Relative humidity measurement range	25% RH to 95% RH
RF Transmission Frequency	433 MHz
Number of channels	3
RF Transmission Range	Maximum 30 meters
Temperature sensing cycle	around 40 seconds
Power	two (2) UM-3 or "AA" 1.5V alkaline batteries
Weight	80.5 gm (without batteries)
Dimension	105 x 70 x 21 mm (H x W x D)

TABLE OR WALL MOUNT

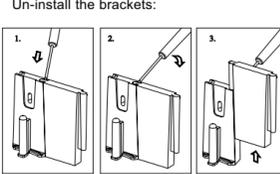Your unit comes with a stand connector for connecting it to other components.

STAND CONNECTOR
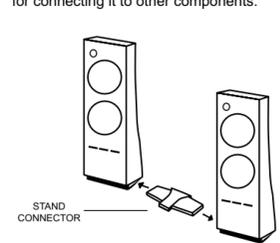
You can also mount it to a wall using a wall mount bracket.
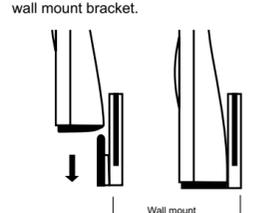
Wall mount bracket

Or, if there is already a wall mount bracket installed, you can use a connector to align the brackets.

Wall Mount Bracket

Wall Mount Connector
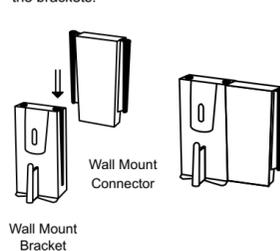
Un-install the brackets:

RESET SYSTEM

The **RESET** holes are located in the battery compartments for each component. Press with the point of a blunt object (such as a paper clip) whenever the product is not behaving as expected. This will return all settings to default value.

SAFETY AND CARE

Wash the unit with a slightly damp cloth and mild detergent. Avoid dropping the unit or placing it in a high-traffic location.

WARNINGS

This product is designed to give you years of service if handled properly. Observe the following guidelines:

• Never immerse the unit in water. This can cause electrical shock and damage the unit.
• Do not subject the main unit to extreme force, shock, or fluctuations in temperature or humidity.
• Do not tamper with the internal components. Doing so will terminate the unit's warranty and may cause damage. The unit contains no user-serviceable parts.
• Do not mix new and old batteries or batteries of different types.
• Do not use rechargeable batteries with this product.
• Remove the batteries if storing this product for a long period of time.
• Do not scratch the LCD display.
• Read this instruction manual thoroughly before operating the unit.

The contents of this user manual and technical specifications are subject to change without further notice. Images not drawn to scale. Do not make any changes or modifications to this product. Unauthorized changes may void your right to use the product.

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer of an experienced radio/TV technician for help.

ABOUT OREGON SCIENTIFIC

Visit our website (www.oregonscientific.com) to learn more about other Oregon Scientific products such as digital cameras, health and fitness gear, and weather stations. The website also includes contact information for our customer service department, in case you need to reach us.

Warning: Changes or modifications not expressly approved by Oregon Scientific for compliance could void the warranty and your authority to use this equipment.

DECLARATION OF CONFORMITY

The information below is not to be used as contact for support or sales. Please call our customer service number (listed on our website at www.oregonscientific.com, or on the warranty card for this product) for all inquiries instead.

We

Name:	Oregon Scientific, Inc.
Address:	19861 SW 95th Place, Tualatin, Oregon 97062 USA
Telephone No.:	1-800-853-8883
Fax No.:	1-503-684-8883

declare that the product

Product No.:	BHT663A
Product Name:	Modular BTHR Weather Station
Manufacturer:	IDT Technology Limited
Address:	Block C, 9/F, Kaiser Estate, Phase 1, 41 Man Yue St., Hung Hom, Kowloon, Hong Kong

is in conformity with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation.

1/9/04, 4:38 PM