

C.CRANE

CCRADIO2E

# INSTRUCTION MANUAL

Please read all the instructions completely before use  
and save this manual for future reference.



## About C. Crane

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C. Crane's radio division began soon after Bob and Sue Crane moved from the San Francisco Bay Area to the beautiful and remote Redwood Country of far Northern California. As they settled into Fortuna, nestled in the heart of the Redwoods, Bob tried to tune in his favorite Bay-Area radio stations, and was shocked. There were only a few radio stations available until nighttime arrived and that's when the AM dial came alive. Around that time, Bob spent many hours during the day at a drafting table and found that he missed listening to KGO, San Francisco so much while he was working that his drafting and designs were slowing down.

After about a year of searching, the Cranes found a simple antenna for AM that gave them fantastic AM reception - even through the trees - and they knew they had to get the word out. So, they decided to expand their company to market this wonderful antenna. They advertised the antenna on the radio, and after a few learning experiences, the C. Crane radio division was up and running.

That was over 30 years ago. Bob, Sue and Grandma Faye were the first phone operators. Their customers quickly taught them what they wanted in the way of products and services, and with their input, Bob and Sue grew C. Crane into a family-based business guided by strong ethics.

Since selling their first AM antenna, C. Crane has become a premier electronics company. We have developed several radios to serve radio listeners that prefer information, talk radio and audio tuned for voice clarity. After several near 7.0 earthquakes, in 1992 we added radio and light products that would become essentials during an emergency event anywhere in the country.

Thanks for choosing C. Crane. The items included in the C. Crane Catalog are always either the best of their class or the best for the money. All of C. Crane's products must pass extensive testing to maintain high quality standards.

And as for the mysterious letter "C" in C. Crane, well, Bob and Sue's middle names both begin with the letter "C", thus the name C. Crane.

## About the CCRadio2E

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Thank you for purchasing the **CCRadio2E**. Please read through these instructions thoroughly before using the product.

The **CCRadio2E** has many of the refinements and improvements requested by customers who have used previous versions of our 4-band CCRadios. This radio is built for the highest performance ever on AM. Traditional FM reception is amazing in its ability to bring in a weak station clearly. The **CCRadio2E** also has the NOAA Weather band & alert along with the 2-Meter Ham band.

With the new **CCRadio2E**, the audio has been enhanced and can be accurately tuned for realistic human voices. It can also be adjusted for good musical performance. Five memory buttons on top of the radio makes it easier to change stations rather than front mounted buttons.

For many radio listeners, the addition of the 2-Meter VHF Ham band will be their first experience with amateur (ham) radio. I hope you have the time to explore this band. What you'll hear is a lot of dedicated radio people using a communication device with pride. You will especially want to tune in to 2-Meter VHF during a local, areawide emergency when communications will be very different. When the power in an area is down and cell phones and other modes of communication are unavailable, many hams use portable equipment that lets them work as beacons of information. They have direct communication with federal agencies and the Red Cross. We recommend that you find out which local 2-Meter frequencies are used during an emergency in your area and have them installed into the five memory locations.

The **CCRadio2E** has been designed to be long lasting. We hope it will give you many years of learning, news, and entertainment. If you have any questions about your radio, please give us a call or check out [ccrane.com](http://ccrane.com).

Also, if you have a problem and you purchased the **CCRadio2E** from another company, call us and C. Crane may be able to help you faster.

Thanks! From all of us at C. Crane.

### UNPACKING

The box should contain the CCRadio2E, AC power cord, this manual and a warranty card. If anything is missing or damaged, please contact C. Crane immediately. We recommend that you keep the box in the unlikely event that your radio needs servicing.

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#### FOR YOUR FUTURE REFERENCE:

Serial No. (Found inside battery compartment): \_\_\_\_\_

Date of purchase / Name & address of dealer: \_\_\_\_\_

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### BEFORE USE

Please read **IMPORTANT SAFETY INSTRUCTIONS** on pages 5 and 6 before use. It is important to read and understand all instructions.

**WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK HAZARD, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.**



The lightning flash and arrowhead within the triangle is a warning sign alerting you of “DANGEROUS VOLTAGE” inside the radio.



**CAUTION:** To reduce the risk of electric shock, do not remove the radio back. No user serviceable parts inside. Refer servicing to qualified service personnel.



The exclamation point within the triangle is a **WARNING SIGN ALERTING** you of important instructions accompanying this radio.

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### CAUTION

- Before turning the unit on, set your volume control to a low setting.
  - Slowly increase the sound until you can hear it comfortably and clearly without distortion.
  - Long-term exposure to loud sounds may cause hearing damage. It is best to avoid high volume levels when using headphones/earbuds, especially for extended periods.
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## Safety Instructions

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- 1) Read and understand all safety and operating instructions before the radio is operated.
- 2) **Retain Instructions:** The safety and operating instructions should be retained for future reference.
- 3) **Heed Warnings:** All warnings on the appliance and in the operating instructions should be followed.
- 4) **Water and Moisture:** The appliance should not be used near water. Do not use near a bathtub, washbowl, laundry tub, kitchen sink, wet basement, swimming pool, etc.
- 5) **Cleaning:** Unplug the receiver from the AC power outlet before cleaning. Use only a dry cloth for cleaning the exterior of the receiver.
- 6) **Placement:** Do not place the radio on an unstable cart, stand, bracket or table. The radio may fall, causing serious personal injury and damage to the receiver.
- 7) **Ventilation:** This radio should be situated so that its location or position do not interfere with its proper ventilation. For example, the radio should not be used on a bed, sofa, rug or other soft surfaces that may block the ventilation openings. It should not be placed in a built-in situation like a cabinet that may reduce air flow through the ventilation openings.
- 8) **Heat:** Never put the radio in direct sunlight in an unventilated area or behind glass like a car's interior. The appliance should be away from heat sources such as radiators, heat registers, stoves, or other appliances that produce heat.
- 9) **Power Cords:** The power cord should be positioned so it is not walked on, pinched, or have items placed on top of it. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit. Unplug the power cord by gripping the power plug, not the cord. Operate the radio using only the correct type of power source indicated. If you are not sure of the type of power supply to your home, consult your dealer or local power company.
- 10) Do not overload wall outlets or extension cords. This can result in a risk of fire or electrical shock. Never insert objects of any kind into the receiver through openings. The objects may touch dangerous voltage points or short out parts. This could cause a fire or electrical shock.

## Safety Instructions

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- 11) If the radio is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage caused by lightning or power line surges.
- 12) If the radio is left unattended and unused for long periods of time, remove the batteries. The batteries may leak and damage furniture or your radio.
- 13) Do not attempt to service the receiver yourself. Removing the cover may expose you to dangerous voltage, and will void the warranty. Refer all servicing to authorized service personnel.
- 14) The receiver is equipped with a polarized type plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact an electrician to replace the obsolete outlet. Do not defeat the safety purpose of this plug.
- 15) The appliance should be serviced by qualified service personnel when:
  - A. The power supply cord or the plug has been damaged, or
  - B. Objects have fallen or liquid has been spilled into the radio, or
  - C. The radio has been exposed to rain, or
  - D. The radio does not appear to operate normally or exhibits a marked change in performance, or
  - E. The radio has been dropped or the enclosure damaged.
- 16) The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel. This symbol  is to alert you to important operation or servicing instructions that may appear in the owner's manual.
- 17) Antenna installations can be dangerous because many times it involves the use of a ladder and a possible fall. The antenna can be struck by lightning, which can be fatal. We recommend a licensed and insured installation by a qualified person.
- 18) Long-term exposure to loud sounds may cause hearing damage. It is best to avoid high volume levels when using headphones or earbuds, especially for extended periods.



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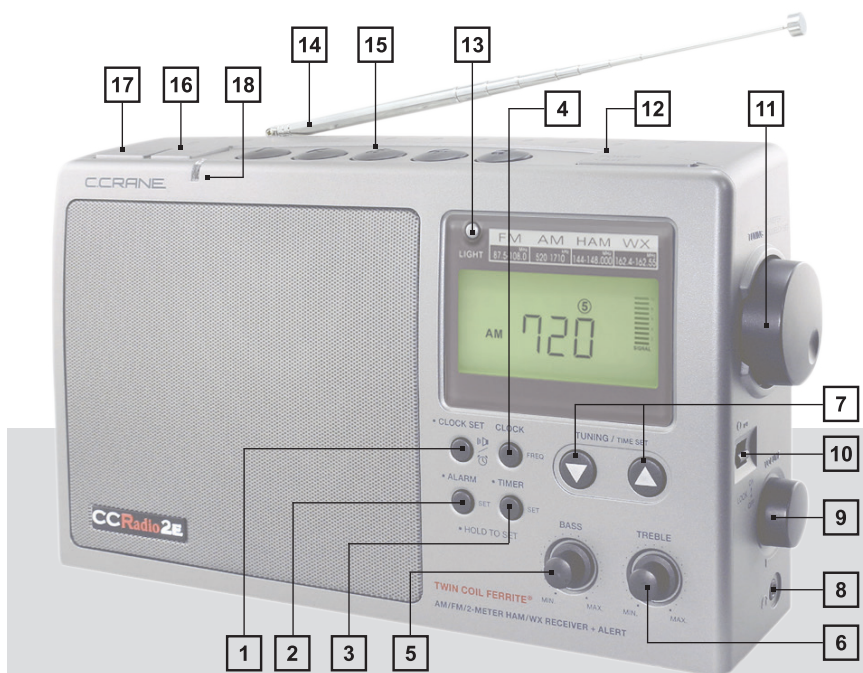
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## Button Identification



- |                               |                                 |
|-------------------------------|---------------------------------|
| 1) • Clock Set                | 10) Lock Switch                 |
| 2) • Alarm Set                | 11) Tuning Knob / • Squelch Set |
| 3) • Timer Set                | 12) Power / • Sleep Timer       |
| 4) Display Clock or Frequency | 13) Display Light               |
| 5) Bass Control               | 14) Telescopic Antenna          |
| 6) Treble Control             | 15) Memory (1-5)                |
| 7) Tuning /Time Set (Up/Down) | 16) Weather Alert (3 Modes)     |
| 8) Headphone Jack             | 17) Band / • AUXILIARY          |
| 9) Volume Control             | 18) Weather Alert Light         |

**NOTE:** When you see a “•” next to a button on the radio, it means you must press and hold the button down for two seconds to activate the function. The appropriate symbol will then appear on the display along with sounding a “beep”. If the radio is turned off, the beep volume is significantly reduced. **To deactivate the Alarm and Timer functions, press and hold the button until it beeps again and the symbol disappears from the display.** (Please see Display Panel symbols on page 11.)



## Getting Started

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### POWERING YOUR RADIO



**Before powering your radio be sure to read the Safety Instructions on pages 4 through 6.**

The CCRadio2E will run on (4) “D” size NiMH or alkaline batteries or on 120V AC house current using the included power cord. Batteries are optional. The batteries are necessary to retain the timer, clock, and memory settings if the power cord is removed from the radio for more than three minutes. Lithium batteries are not recommended as this may cause damage to the radio.

Rechargeable batteries work well in this radio. The Battery Power Level Indicator will be lower because the total voltage is lower for rechargeable batteries.

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### AC OPERATION

Before you plug the AC cord into the radio be sure the AC voltage is 120Volts/60Hz. If you have batteries in the radio and you use the AC power cord, the batteries will automatically be disconnected.

**NOTE:** If you remove the power cord without turning the radio OFF, the radio will automatically revert to the batteries.



Insert the plug on the end of the supplied power cord securely into the AC power jack on the back of the radio as shown.

#### BACK OF RADIO

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### INSTALLING THE BATTERIES

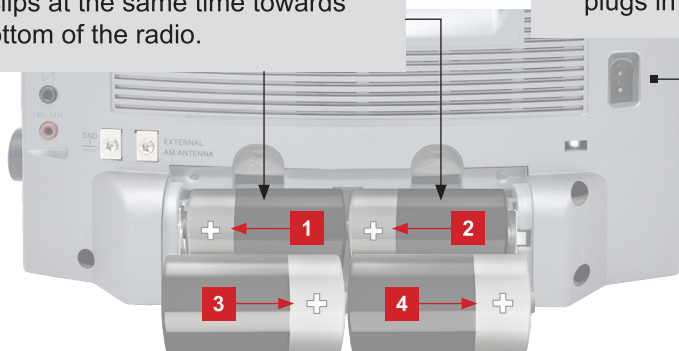
- 1) Position the radio face down on a soft surface to protect it.
- 2) Remove the battery compartment cover.

## Getting Started

- 3) Insert the (4) "D" cell batteries into the compartment as indicated in the drawing below. Be sure the negative(-) end is against the spring. Refer to the drawing below to insure correct installation of your batteries.
- 4) Replace the battery cover. You are now ready to operate your radio.

Remove Battery Cover by pressing both clips at the same time towards the bottom of the radio.

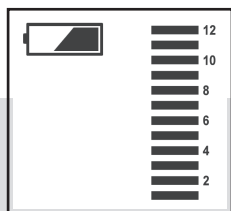
AC Power Cord plugs in here.



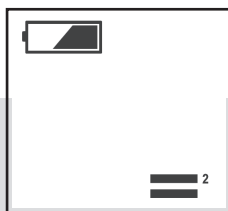
## BATTERY REPLACEMENT

The battery indicator will display the battery level for approximately one second when the radio is switched off. After removing dead batteries for replacement, you have approximately three minutes to replace the batteries before your clock and memory information will be lost (if the radio is not plugged in).

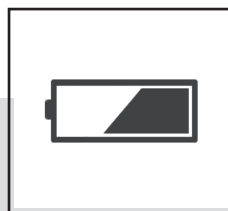
## DISPLAY SYMBOLS



THE 12 BARS NEXT TO BATTERY SYMBOL MEANS THE BATTERIES ARE FULL.



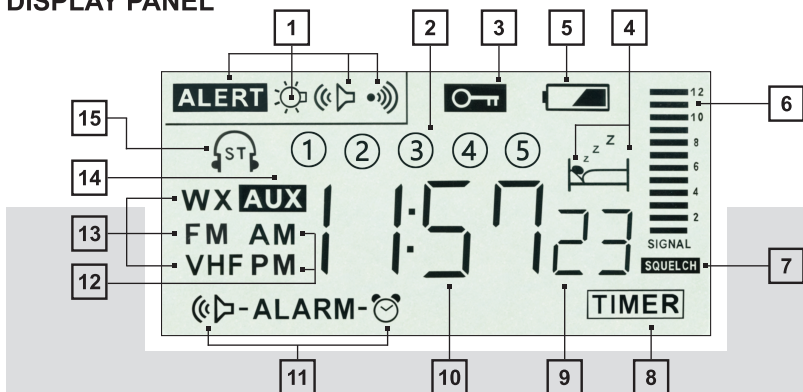
IF THERE ARE FEW BARS NEXT TO THE BATTERY SYMBOL THIS MEANS THE BATTERIES ARE LOW.



THIS SYMBOL FLASHING MEANS THE BATTERIES NEED REPLACING.

## Getting Started



### DISPLAY PANEL



- |  |                             |
|--|-----------------------------|
| 1) Weather Alert Modes                                     | 8) Timer Active Indicator   |
| 2) Memory Location (1 - 5)                                 | 9) Clock Seconds            |
| 3) Key Lock On/Off   | 10) Frequency/Clock Display |
| 4) Sleep Timer/Snooze Status                               | 11) Alarm Status and Type   |
| 5) Battery Symbol  | 12) AM/PM Indicator         |
| 6) Battery Power Level Indicator and Signal Strength Meter | 13) Indicates Band In Use   |
| 7) Squelch Indicator                                       | 14) AUX IN Indicator        |
|  | 15) Stereo Reception        |

### SETTING THE CLOCK


**Please read this entire section carefully before you start.** Set the time with the **radio off**. You must go through the steps listed below without stopping for more than 15 seconds at any given time or you will have to start over. (Refer to page 8 for Button Identification.)


- 1) Press the Clock Set Button and hold for two seconds then release. The hour digit will flash.
- 2) Using the Up/Down Tuning Button,   select the appropriate hour digit and AM or PM.
- 3) Press the Clock Set Button again, then release. The minutes digits will flash. Use the Up/Down buttons to adjust the minutes to the appropriate time.
- 4) You must press the Clock Set Button again then release to complete the time setting. This also sets the seconds to "00".


### SETTING THE ALARM

There are two different alarm modes on the CCRadio2E. You can choose to wake up to the radio or to a tone. You can set the alarm with the radio on or off. If the radio is off, the beep volume is significantly reduced.

#### TO SET THE TYPE OF ALARM

Press and hold the Alarm Button until you hear a beep and see one of these symbols flashing on the display  then release.



To wake with the radio: While Alarm is flashing on the display, press and release the Clock Set Button until you see the symbol.  When the alarm goes off the radio will play the last station selected at the same volume level last set.

To wake with a multi level tone: While Alarm is flashing, press and release the Clock Set Button until you see the  symbol.

#### TO SHUT OFF THE ALARM FUNCTION

Press and hold the Alarm Button until you hear a short beep and the alarm symbol disappears then release.

#### TO SET THE ALARM TIME:

- 1) Press and hold the Alarm Button for two seconds then release.  
The hour digit and Alarm symbol will flash.
- 2) Using the Up/Down Tuning Button,   select the appropriate hour digit and AM or PM.
- 3) Press the Alarm Button again then release. Use the Up/Down Tuning Buttons to adjust the minute to the appropriate time.
- 4) Press the Alarm Button again then release to complete the alarm setting.  
Although very high quality parts were used in the manufacturing of your radio, buttons, knobs, and dials should be operated with a light touch for best longevity.



Although very high quality parts were used in the manufacturing of your radio, buttons, knobs, and dials should be operated with a light touch for best longevity.

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### NOTES ON THE ALARM

You can also set the alarm time immediately after selecting the radio or buzzer alarm as above.

## Getting Started

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**To stop the alarm from going off every day, press and hold the Alarm Button until ALARM disappears from the display.**  ALARM-



- 1) Once the alarm is set, it will automatically go off the next day at the same time. Use the Power Button to shut off the alarm until the next day.
- 2) If the radio alarm is selected, tune the radio to your favorite station and set the volume before turning your radio off for the day. When the alarm activates, the radio will play the last station listened to.

**NOTE:** There will be no audio if the AUX IN is set.

- 3) The tone alarm is called HWS or Humane Wake (if that is possible) System. The alarm tone beep will increase in volume every 15 seconds for one minute followed by one minute of silence before repeating the cycle.
- 4) The alarm system will sound for one hour unless turned off by pressing the Power Button.

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## SNOOZE FEATURE


  When the buzzer alarm is sounding, if you press any button except the Power Button, the alarm will temporarily stop for five minutes. The little Zs and Alarm symbol will flash on the display (above the little bed) while the radio is in snooze mode. To shut off the alarm and snooze feature press the Power Button.

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## SLEEP TIMER FEATURE

Your CCRadio2E is equipped with a Sleep Timer that enables the radio to continue playing for up to 120 minutes after activation, then shuts the radio off. Selectable times are 120, 90, 60, 45, 30 and 15 minutes.

Press and hold the Power/Sleep Button until the pictograph of a person in bed and the numbers 120 are displayed.

Holding the Power/Sleep Button down will reduce the time in steps, showing times of 120, 90, 60, 45, 30 and 15 minutes. If you miss the time you want, simply continue holding the button until the desired time shows on the display. Release the button. Now the pictograph of the  person in bed will appear on the display. The radio will then shut off after the set amount of time. To deactivate the Sleep Timer, simply shut the radio off using the Power Button.



## Radio Operation

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### TUNING

The CCRadio2E features four bands: AM / FM / 2-Meter Ham (VHF) and Weather (WX).

#### MANUAL TUNING

- 1) Press the Power Button to turn on the radio.
- 2) Select the band by pressing the **BAND/AUX** button on the top panel.
- 3) A single press of the Up or Down Tuning Buttons (▽ ▲) will change the frequency up or down for AM, FM and Ham (VHF) bands, and channel up or down for Weather.

Each press of Up and Down Tuning Buttons will change the frequency by 10 kHz in AM mode, 100 kHz in FM mode, and 5 kHz in Ham (VHF).

#### SCAN TUNING

Same as above except press and hold the Tuning Up or Down (▽ ▲) Button for more than 0.5 second. The radio will scan and stop automatically when it finds an active station. The Scan Tuning will not work on the weather band. It may also stop scanning on strong interference or noise. Press and hold again to resume. For 2-Meter Ham scanning, please see page 17 for more advanced information.

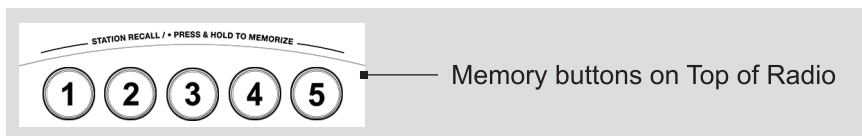
#### ROTARY TUNING

Rotating the tuning knob will change AM/FM/Ham (VHF) by frequency and the weather band by channel.

#### MEMORY TUNING

Five stations may be stored into memory in each of the four bands.

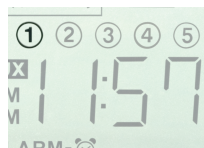
- 1) Tune to the station or channel you want to memorize. Wait 5 seconds for best tuning.



- 2) Press and Hold the desired Memory Button for two seconds or until you hear a beep. The station or channel is then memorized.

The display will show the memory number.

To recall the memorized station, select the correct band and briefly press and release the Memory Button. The radio will instantly tune to the station stored in memory.



## Radio Operation

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**NOTE:** The large buttons on top of the radio make it easy to locate your favorite station. Very high quality switches are used in manufacturing, so a light touch is all you need to save and restore your favorite stations.

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### WEATHER ALERT SYSTEM

The WEATHER ALERT modes on the CCRadio2E can alert you to special weather related emergencies. During an emergency or weather related hazard, NOAA issues an emergency tone that will set off an audible and/or visual alarm on the radio.

**NOTE: Hazard warnings are not available in all areas.**

There are seven standard NOAA weather channels used in the US and Canada. This radio receives broadcasts up to 40 miles from transmitting stations.

- 1) To listen to the standard NOAA weather channels, turn the radio on, press the **Weather Alert** button until WX shows on the display. The telescopic whip antenna may need to be fully extended and in a vertical position to receive a station clearly.
- 2) The channel number of the weather station is shown on the display. Pressing the Tuning Up or Down Buttons will toggle you through the seven programmed channels. There should be one or more weather service stations broadcasting in your local area. You will hear a report that is updated usually once or more per day for your area. If there is a severe weather or weather-related emergency, NOAA will update the weather broadcast more frequently. If there is a weather emergency, the NOAA will issue an alert tone.


The WEATHER ALERT mode enables you to listen to your favorite AM or FM station, Auxiliary device, 2-Meter Ham frequencies or turn the radio off, and still receive an alert signal warning you of a special emergency. There are three active WEATHER ALERT modes on the CCRadio2E.



#### **NOTE:**

- 1) When activated, the WEATHER ALERT consumes power even when the radio is turned off.
- 2) **Be aware that if you are not using AC power the WEATHER ALERT will completely drain your batteries. If your batteries are dead and AC power is off, the WX Alert Alarm will not work.**

### SETTING THE WEATHER ALERT

- 1) To place the radio in WEATHER ALERT mode, press and hold the **Weather Alert** button for two seconds: You will hear a short beep and see the alert symbol, shown on page 16, on the display. When the radio is off, the beep volume is significantly reduced.

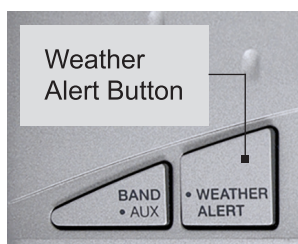
This symbol is the WEATHER ALERT mode with flashing  light only (no Alarm). If NOAA issues a weather related emergency, the radio will automatically alert you with a small flashing light near the top of the radio. The Alert light will continue to flash until any button is pushed.

- 2) To access the second mode, (WEATHER ALERT with NOAA Audio). Press and hold the **Weather Alert** button again for two seconds until you hear a long beep. This symbol  will be displayed in this mode. In this mode, if the NOAA alert tone is issued, the red light flashes and the radio switches to Weather Audio automatically.
- 3) To access the third mode, (WEATHER ALERT with flashing light and siren). Press and hold the **Weather Alert** button again for two seconds until you hear a double beep. This symbol  will appear and the red light near the top radio comes on continuously. In this mode, if the NOAA alert tone is issued, the red light on the top of the radio flashes and a siren turns on for up to 1 minute. In this mode, when the siren is active, pressing any button on the radio instantly turns the radio to the Weather Audio and cancels the siren.

**SPECIAL NOTE:** If you have the headphones plugged in and a weather alert is issued, the audio to the headphones will be cut-off and the siren will sound through the radio's speaker.

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### TURNING OFF THE WEATHER ALERT



LEFT SIDE TOP OF RADIO

Press the **Weather Alert** button again for two seconds. The alarm will go off and become inactive. The ALERT symbol will disappear from the display.

In any of the active WEATHER ALERT modes, the weather receiver stays on and listens for an emergency tone issued from NOAA in case of emergency.

You may get a periodic test tone from the NOAA that will cause an unexpected alarm on your CCRadio2E. This tone is only a test and will

## Radio Operation

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happen periodically, usually every Wednesday at noon, or whenever the agency decides to test their emergency alert system. Simply pressing any button on the receiver will shut the alert tone off. After an alert has been issued, the WEATHER ALERT light and/or siren will stay on for one minute or until you turn it off by pressing any button.

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### 2-METER HAM (VHF) BAND (144 TO 148 MHZ)

The 2-Meter Ham Band is a popular radio band used by amateur radio operators for civil defense. After a hurricane, earthquake or other calamity, 90% of emergency coordination at the local level takes place on this band. Listening to this band during an emergency can be extremely valuable and even life saving. For most people, the CCRadio2E will probably be their first experience with Ham radio.

We have preprogrammed some of the most popular frequencies into the five memories of the CCRadio2E. Different frequencies may be active at your location, other than those preprogrammed into the memories. The following are the frequencies and memory locations as they were originally preprogrammed:

- 1) 146.520
- 2) 146.760
- 3) 146.880
- 4) 146.940
- 5) 147.000

You can program your frequencies of interest into a memory location at any time.

To scan the five memory channels when in 2-Meter Ham, momentarily press both of the Up and Down Tuning Buttons   at once, the radio will scan the memories and automatically stop when it detects a voice transmission. Raise the telescopic antenna up fully in a vertical position. It is best to set the squelch level prior to scanning the memory stations. See “Setting the Squelch” below.

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### SETTING THE SQUELCH

Background noise or static is present to some degree at every location and on every frequency of the 2-Meter Ham Band. This is a normal condition. If you set the squelch above the background noise level, the radio will remain silent until a voice transmission is detected. It is best to set

## Radio Operation

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the squelch as low as possible (to just before static is constant). This way you can hear signals that may be weak. If you set the squelch too high, you may miss some weak voice transmissions.

To adjust the squelch level, press and hold the main Tuning Knob in for three seconds until the display changes. Turn the Tuning Knob slowly clockwise from OFF through 12 (increasing squelch) until the radio just becomes silent.

**NOTE:** Squelch operates on the 2-Meter Ham Band only.

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### SEARCHING FOR A NEW ACTIVE FREQUENCY

At times, more frequencies will become active than have been preprogrammed into the radio. You can search the 2-Meter Ham band by pressing the Up or Down Tuning Button   and holding it momentarily. You can also start scanning by pressing and releasing the main Tuning Knob. The radio will begin searching the entire 2-Meter Ham band until it finds an active frequency and then it will stop. You may want to write down this frequency to keep track of which frequencies are active. With time you may find a frequency of interest.

During non-emergency times, you can listen and learn more about the Ham radio operators that live around you. After listening to them for a time, you may find you would like to be a Ham, too. Joining requires passing an entry level multiple choice test and purchasing reasonably priced Ham radio equipment. The 2-Meter band is the most popular place to start for a Ham. You can contact the American Radio Relay League (ARRL) toll free at 888-277-5289 or at [arrl.org](http://arrl.org) to find out what you need to learn and the nearest testing location.

C. Crane salutes every Ham who has volunteered to be a part of emergency radio operations.

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### DEFAULT CLOCK/ FREQUENCY SETTING

When listening to AM and FM bands the default setting is for the Frequency to be displayed for approximately 5 seconds and then return to the Clock Display. This can be changed to show just the Frequency unless the Clock/Freq button is pushed and then the clock will display for approximately 5 seconds and then show the Frequency.

To change the display to show Frequency - turn on the power, and press and hold the Clock/Freq button. Then quickly press the Memory 1 button



## Radio Operation

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until you hear a beep. Release. You should now see the frequency displayed unless you push the Clock/Freq button, in which case you will see the clock for approximately 5 seconds.

Reverse the process to return to the default of showing the clock.

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### DISPLAY LIGHT ON AC POWER

When the radio is plugged into AC power, the display light will always be on unless you turn it off. The special green LED bulbs last about 100,000 hours and use very little electrical energy. The display light has three light levels. If you want to change the light level or turn off the display light, press and release the Light button until you reach the desired level. Refer to page 8 for button identification.


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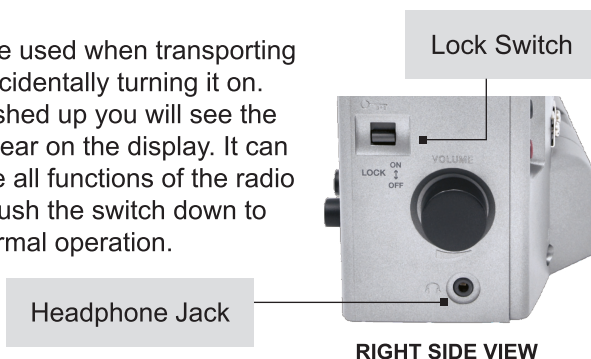
### DISPLAY LIGHT ON BATTERIES

When batteries are used, the display light can be turned on by pressing the light button. The display light automatically goes off 2 minutes after the last time you press any button.

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### LOCK SWITCH

The Lock switch can be used when transporting the radio to prevent accidentally turning it on. When the switch is pushed up you will see the Lock symbol  appear on the display. It can also be used to disable all functions of the radio when it is turned on. Push the switch down to release the lock for normal operation.



### HEADPHONE JACK

You can use a stereo or mono headphone with a 1/8" (3.5 mm) plug. When you insert the headphone plug, the speaker is disconnected. This radio delivers FM in stereo through the headphones.

## Radio Operation

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### RESET BUTTON


Once in a while glitches may occur on any portable digital radio. This can be caused by static electricity, unusual key strokes or a power disruption. If this happens, use the end of a paper clip and push it into the hole briefly to reset the radio. **You will lose the clock time and all the stations stored in memory when the radio is reset.**

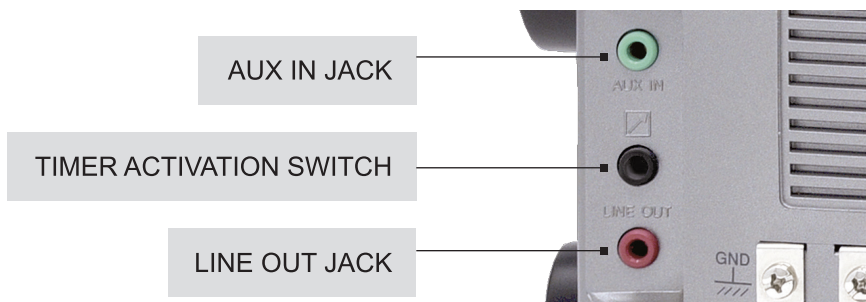


BOTTOM VIEW

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### AUDIO & RECORDING JACKS

The jacks on the back left side of the radio are for audio input (AUX IN), audio output (LINE OUT) and a timer activation switch .



LEFT SIDE BACK OF RADIO

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### AUX IN JACK

The green jack, labeled AUX IN, is used to connect an external audio source such as a CD Player or recorder, so you can listen through your CCRadio2E's speaker. To do this, you will need an appropriate patch cord (1/8" (3.5mm) stereo).

**Warning:** If a "LINE OUT" is not available on your external audio source, you can use the headphone jack. However, the volume must be kept low or damage to the CCRadio2E may result.

## Radio Operation

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- 1) Plug your patch cord into the LINE OUT or Headphone Jack of your external audio source.
- 2) Plug the other end into the AUX IN jack on the CCRadio2E.
- 3) With the power on, press and hold the **BAND/AUX** button until you hear a short beep and AUX appears on the display.
- 4) Turn on your external audio source to hear the audio played through the CCRadio2E.
- 5) To turn the AUX off, press the **BAND/AUX** button again and the AUX will disappear from the display.

**NOTE:** Volume can be controlled from the CCRadio2E.

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## LINE OUT JACK

The red jack, labeled LINE OUT, is used to output the audio from the CCRadio2E to another device such as a recorder, your home stereo, or some other unit. To do this, you will need an (1/8" (3.5mm) stereo) patch cord.

**NOTE:** The LINE OUT jack differs from a headphone jack because the volume level of a headphone jack varies depending on the volume of the radio. The LINE OUT jack has a set line level so the volume is consistent no matter what the position of the volume knob.

- 1) Plug your patch cord into the LINE OUT jack on the CCRadio2E.
  - 2) Plug the other end of the patch cord into the LINE IN or AUDIO IN of the device you want to send the audio to and you will hear the radio through the other source. You can still listen to the CCRadio2E while using the LINE OUT jack.
- 

## TIMER ACTIVATION SWITCH

The black jack labeled with this symbol  is for use with a recorder that has a timer activated switch. You would use this switch if you wanted to do a timed recording. It is used in conjunction with the LINE OUT jack. See your recorder's instructions to determine if this function will work with your recorder.

### SETTING THE TIMER

**Please read this entire section carefully before you start.** You must go through the 3 steps listed below without stopping. If you stop for more than 15 seconds, press and hold the Timer Button until you hear a single beep. Then start at step one again.

Before you begin, program the stations that you will want to record into memory. Refer to page 14 for instructions on programming memory presets. **The timer has an ON TIME and an OFF TIME. You must set both in order for the timer to work correctly.**

#### STEP 1: TO SET THE ON TIME

- 1) Press and hold the Timer/Set Button until you hear a beep and see the word ON, the hour digit and TIMER flash on the display.
- 2) Use the Tuning Up/Down Buttons to set the hour, verifying that the time is set correctly for AM or PM as shown on the display.
- 3) Press the Timer/Set Button again so the minutes and the word ON and TIMER flash on the display.
- 4) Use the Tuning Up/Down Buttons to set the minutes.

#### STEP 2: TO SET THE OFF TIME

- 1) Press the Timer/Set Button again until the word OFF, the hour digit and TIMER flash on the display.
- 2) Use the Tuning Up/Down Buttons to set the hour. Again, verify that the time is set correctly for AM or PM.
- 3) Press the Timer/Set Button again so the word OFF and TIMER and the minutes, flash on the display.
- 4) Use the Tuning Up/Down Buttons to set the minutes.

#### STEP 3: TO SET THE FREQUENCY

- 1) Press the Timer/Set Button again to select your desired frequency. The word TIMER and the memory preset will flash on the display. Using the Band Button, select the appropriate band [AM, FM, Ham (VHF) or WX]. Press the memory button 1-5 that corresponds with your desired station.

## Radio Operation

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**2) You must Press the Timer/Set Button again to complete the setup.**

**The timer will go ON and OFF at the same time and same station every day until you turn the timer off or reprogram it.**

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### TO TURN OFF THE TIMER

If TIMER is showing on the display then the Timer is set. Press and hold the Timer/Set Button until you hear a short beep and the word TIMER disappears from the display.

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### NOTES ON THE TIMER

The timer can be used to play your favorite program every day.

**To stop the timer from going off every day press and hold the Timer/Set Button until you hear a short beep and the word TIMER disappears.**

Once the timer is programmed, you may use your radio as normal. If you are using the radio during a “timed” operation, the radio will automatically switch to the programmed station, and turn off at the programmed OFF time.

The word TIMER flashes while the radio is playing in Timer Mode.



## Specifications

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### FREQUENCY COVERAGE

FM Band: 87.5 - 108 MHz Stereo

AM Band: 520 - 1710 kHz

Ham (VHF): 144 - 148 MHz

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### WEATHER BAND:

Channel 1: 162.400 MHz

Channel 2: 162.425 MHz

Channel 3: 162.450 MHz

Channel 4: 162.475 MHz

Channel 5: 162.500 MHz

Channel 6: 162.525 MHz

Channel 7: 162.550 MHz

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### ROTARY TUNING KNOB RESOLUTION

AM - 1 kHz

FM - 50 kHz

Ham (VHF) - 5 kHz

WX - 1 Channel

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### POWER SOURCE

AC 120 Volts 60Hz.

Batteries: (4) "D" size.

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### POWER CONSUMPTION

AC Power: 8 Watts.

Battery Power: 40-50 mA DC.

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### AUDIO

10% THD at output power @ 1.8 Watt AC typical and @ 0.9 Watt Battery.

Speaker: 5", 4 Ohm, 6 Watts.

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### ANTENNA

FM, Ham (VHF) and Weather Band: Telescopic whip antenna.

AM Band: Built-in Ferrite Bar - 7/16" dia. x 8" long (200 mm).

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## Specifications

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### DIMENSIONS

11" W x 6-1/2" H x 4" D (at the base).

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### WEIGHT

Approximately 3.8 pounds without batteries.

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### AUX IN JACK

300 - 1000mV RMS (line level) input from external audio source. Do not overload.

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### LINE OUT JACK

300 - 1000mV RMS (line output)

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### TIMER ACTIVATION SWITCH

Low impedance, transistor driven switch. Used for operation of external recording devices.

**NOTE:** Specifications are subject to change without notice.

### **The CCRadio2E will not turn on and none of the buttons work:**

The Lock Switch, located on the right side of the radio between the tuning and the volume knobs, is in the up position. Push the switch down to release the lock and resume normal operation of the radio. (Please see Lock Switch on page 19.)

### **The CCRadio2E comes on by itself or changes to a different station while I'm listening:**

The Timer has been set. The word TIMER will appear in the display if the Timer is set. To cancel the Timer setting, press and hold the Timer/Set button until you hear a short beep and the word TIMER disappears from the display.

### **My radio shuts off after a few seconds or shows the letter 'E' in the display:**

Low batteries can cause this situation. Replace them with a new set of batteries. If the radio is operating on the power cord, check for solid connections at the wall outlet and the back of the radio. Also make sure there is power at the wall outlet.

### **Stations won't hold in memory:**

The memory button settings are being overwritten. When recalling a station from memory, if you hold the memory button down too long it will program the current station over your previously stored station. To recall a station that has been stored in memory, always press and release the button quickly. To program a new station into memory, tune to the desired station and then press and hold the memory button for two seconds until you hear a beep. Also, please see the section on Memory Tuning on page 14.

### **The AM reception is poor inside of my building:**

Many building materials have adverse effects on AM band listening. Brick, concrete, stucco, and aluminum siding all have a tendency to absorb or reflect the AM signal. Spanish tiles or metal roofs are also culprits. To test your AM reception, put batteries in your radio and take it outside of the building, especially at night. If your reception is notably stronger outside than inside the building, an external AM antenna may be necessary to bring the signal into the building. See the AM Tuning and Listening Tips section on page 28 for a quick and easy antenna.

### **Poor reception on FM, Ham (VHF), or Weather band:**

The CCRadio2E uses its telescopic, or "whip" antenna for FM, Ham (VHF), and the weather bands. To improve reception of these bands, fully

## Troubleshooting Guide

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extend the telescopic antenna. Reception of FM and weather broadcasts is normally improved with the antenna extended straight up. NOTE: The antenna must be fully extended to allow it to rotate. You can also try a piece of any type of insulated wire about 36" long. Remove about 1" of the insulation from one end of the wire. Wrap the bare wire around the telescopic antenna or use an alligator clip. Try various orientations of the wire and different heights of the telescopic antenna to obtain the strongest signal. If you want an antenna that is pre-made, we recommend the FM Reflect-2 Antenna by C. Crane. (See Page 29).

### **Battery Power Level Indicator doesn't show full charge when using rechargeable batteries:**

Rechargeable batteries will never show a full charge on your radio's display. The CCRadio2E is calibrated to read the charge of your Alkaline batteries, which is 1.5 volts at full charge. Rechargeable batteries, however, are fully charged at just 1.25 volts, and so your radio will show a partial charge even if the rechargeable batteries have been fully charged.

### **AM Alignment Procedure**

The CCRadio2E has a remarkable (hidden) AM Calibration Feature. You can "re-tune" the radio for the best possible reception on each AM station. When you calibrate the radio, you will lose any stations you memorized, the time and alarms set. To maintain the best AM reception, you may want to perform this procedure when the radio has been moved to a new location. You can also do it every year or two to compensate for the normal aging of components. All components age with time in all electronics. The calibration only affects the AM band.

1. Turn the power "On" and switch to "AM" band.
2. Press and Hold the "Clock" button for 6 seconds until the radio beeps and the red indicator light comes on. Release.
3. Briefly tap the "Clock" button once.
4. You will see the display begin the calibration at 1700 and move to 520 at 100 KHz steps. Do not turn the power off during this procedure or you will have to start over.
5. When done calibrating you need to "Reset" the radio by using a paper clip in the hole on the bottom of the radio marked RESET. Press once gently and release. Done!

### AM RADIO NOISE PROBLEMS AND POSSIBLE SOLUTIONS

If you hear an annoying buzz when listening to AM radio, it's most likely radio noise. Here are some of the usual culprits:

- Dimmer switch (even in an adjacent room).
- Lights: Fluorescent light, "touch lamp" type fixtures, automatic night lights, motion-activated outdoor lights, dying bulbs, blinking bulbs.
- Nearby televisions, computers, cell phones, tablets, wireless chargers or C-Pap machines.
- Electronic bug and pest controllers.
- Faulty electrical switch.
- Radio scanners.
- Dirty insulators on a nearby power pole.
- Electric blanket.
- Smoke detectors that run from an AC current (battery operated units are OK).

Now what can you do about it?

- Turn off the circuit breakers to see if the noise stops, and if the source comes from inside your house. Turn off one circuit at a time to isolate the source of the noise.
- Using a battery-operated radio, check if the interference comes from the AC 120V line, through the air, or both. To locate the direction of the noise, turn the radio until you hear the loudest noise. The front and the back of the radio will point to the noise origin.
- If the noise comes from outside, carry the radio around the neighborhood to check for the origin of the noise. Ask your neighbors if they hear the same noise.
- If you suspect a power pole, call the utility company. Dirty power pole insulators are sometimes a cause of hard-to-find radio interference.
- Sometimes grounding can greatly reduce the hum from AC line noise. Unfortunately, most radios do not have a ground connection. Finding a good earth ground may also be difficult.

For more detailed information, please visit [www.ccrane.com/radionoise](http://www.ccrane.com/radionoise)

## AM Tuning & Listening Tips

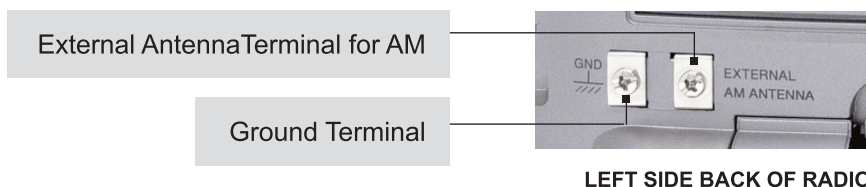
Most portable radios including the CCRadio2E have an internal AM antenna. Best performance is achieved when the radio is swiveled on its base for maximum signal pickup from the transmitting tower. This same technique can be used to help nullify unwanted signals or radio noise. Experimentation is the best way to see how it works for you.



The CCRadio2E automatically fine tunes the Twin Coil Ferrite® AM antenna for a few seconds after a station is changed in AM mode. The “signal” icon will flash during this time. For best tuning wait for signal to stop flashing or 5 seconds after tuning before storing a station to a Memory Button.

The CCRadio2E has an external antenna terminal for AM. If your reception is better outside, try this quick and easy antenna: Use 50’ of insulated wire attached to the AM antenna terminal. Also try a ground wire attached to the ground terminal. Go to [ccrane.com/radionoise](http://ccrane.com/radionoise) for more information about a good grounding method. Run the antenna wire inside around a window or along a baseboard, or if possible, the wire should be mounted outside at least three feet away from the face of a metal building or it may not work. Where an outdoor antenna is not possible, try an inductive AM antenna. The antenna can be placed on a window sill or close to the radio to provide a better signal.

**⚠ SAFETY DIRECTIONS AND PRECAUTIONS FROM YOUR ANTENNA SUPPLIER SHOULD BE FOLLOWED TO PREVENT INJURY FROM LIGHTNING OR ANY ACCIDENT WITH ALL ANTENNAS.**



## AM Tuning & Listening Tips

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The CCRadio2E is made for distant or weak AM signal listening. Daytime reception is limited to about 300 miles maximum because you can only receive the signal directly from the transmitter site. You may receive AM stations thousands of miles away at dawn, dusk and at night, depending on the time of year and atmospheric conditions. The ionosphere is a layer of ions above the earth. At night it slows and congeals into a giant mirror and can reflect radio waves back to the earth, allowing you to receive signals much farther away than during the day. Distant listening is called DXing. One club that is devoted to DXing is National Radio Club at: PO Box 473251, Aurora, CO 80047-3251. They maintain a website at: <http://www.nationalradioclub.org>

## Accessories

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Check with your dealer for the following accessories:



**SoftSpeaker 3K Amplified Pillow  
Speaker with Kevlar®**  
Item#: PS3K



**Twin Coil Ferrite® AM  
Antenna Signal Booster**  
Item #TWIN



**FM Reflect-2 FM Dipole Antenna**  
Item #FMR2



**CCR radio Carry Case**  
Custom made in the USA to fit and protect the CCRadio 2, 2E and 3, while providing a sturdy carry handle. There is a pouch in the back to stow the power cord and possibly a Softspeaker Pillow Speaker or some CC Buds Pro earphones. Also, the case will not interfere with the operation of the radio.  
Item #CA3





## PERSONAL STATION LOG

[illegible]

2-METER HAM FREQUENCY LOG

Frequency	Location/Call Sign	Date	Time

# MODEL: CCRADIO2E

## FCC ID: BYG 014

THIS DEVICE COMPLIES 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 UNDESIRE OPERATION.

**NOTICE:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## C.CRANE

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