

C.CRANE

FM TRANSMITTER 2

OPERATING INSTRUCTIONS



**PLEASE READ ALL THE INSTRUCTIONS COMPLETELY BEFORE USE AND
SAVE THIS MANUAL FOR FUTURE REFERENCE.**

Introduction/Owners Record

Thank you for purchasing the FM Transmitter 2. It transmits high-fidelity audio from any audio source such as a mobile phone, computer, television, powered microphone, smartspeaker to any nearby FM radio. Superior engineering and construction techniques were used to bring you the highest quality FM transmitter possible. Digital tuning and Phase Locked Loop technology have been incorporated for FM band frequency coverage from 88.1 MHz to 107.7 MHz, with stability and superb audio quality.

For your future reference:

Serial No. (Found inside battery compartment): _____

Date of purchase/ Name & address of dealer: _____

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.

Safety Instructions

Please read **IMPORTANT SAFETY INSTRUCTIONS** before use. It is important to read and understand all instructions. Keep these precautions and instructions where all who will use this FM Transmitter 2 will read them.

WARNING: To prevent fire or electric shock hazard do not expose this product to rain or moisture.



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.



This symbol is intended to alert you to the presence of uninsulated dangerous voltage within the product's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the product's case.



This symbol is intended to inform you that important operating and maintenance instructions are included in the literature accompanying this product.

READ BEFORE OPERATING EQUIPMENT. SAVE THESE INSTRUCTIONS.

- 1.) Read and understand all safety and operating instructions before the FM Transmitter 2 is operated.
- 2.) **Retain Instructions:** The safety and operating instructions should be retained for future reference.
- 3.) **Heed Warnings:** All warnings on this appliance and all operating instructions should be followed.
- 4.) **Water and Moisture:** The FM Transmitter 2 should not be used near water. Do not use near a bathtub, washbowl, laundry tub, kitchen sink, wet basement, swimming pool, etc. Risk of electric shock may result. ⚠

Safety Instructions

- 5.) Unplug the FM Transmitter 2 from the DC Power Adapter before cleaning. Only use a damp cloth for cleaning the exterior surfaces of the transmitter.
- 6.) **Heat:** Never put the FM Transmitter 2 in direct sunlight or behind glass such as a car's interior. The transmitter should be kept away from heat sources such as radiators, heat registers, stoves, or other appliances that produce heat.
- 7.) **DC Power Adapter:** The DC Power Adapter should be positioned so it is not walked on, pinched, or items placed on top of it. All power and other cables should be routed away from walkways or areas of foot traffic to avoid being tripped on. Always unplug the DC Power Adapter by gripping the adapter unit and pulling it out of the wall socket. Never pull on the cord. Always operate the FM Transmitter 2 using the supplied DC Power Adapter. Adapters that are not correctly rated can damage the transmitter. If you are not sure of the correct DC Power Adapter, consult your dealer.
- 8.) Never insert objects of any kind into the FM Transmitter 2 through openings. The objects may touch dangerous voltage points or short out parts, causing damage to the transmitter.
- 9.) If the transmitter is stored for long periods of time, unplug it from the wall outlet and remove the batteries. This will prevent damage caused by lightning or power line surges and battery acid from old batteries leaking inside of the transmitter.
- 10.) Never attempt to service the FM Transmitter 2 yourself. Removing the cover may expose you to dangerous voltage levels and will void the warranty. Refer all servicing to authorized service personnel.
- 11.) The FM Transmitter 2 should be serviced by qualified service personnel when:
 - a) Objects have fallen or liquid has been spilled into the transmitter;
 - b) The transmitter has been exposed to rain;
 - c) The transmitter does not appear to operate normally or exhibits a marked change in performance; or
 - d) The transmitter has been dropped or the enclosure damaged.
- 12.) If liquid leaks into the transmitter, do not turn it on. The interior of the transmitter must be fully dry or it will be damaged when power is applied.
- 13.) The user should not attempt to service this transmitter beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel. The symbols on page 2 are to alert you to important operation or servicing instructions that may appear in the owner's manual.

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Included Accessories:

1. AC Adapter
2. Patchcord for use with RCA Line Out.

Unpacking

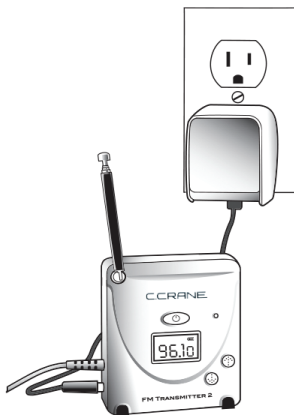
The box should contain the FM Transmitter, AC Adapter, patchcord for use with RCA Line Out, this manual and a warranty card. If anything is missing or damaged, please contact C. Crane immediately. We recommend that you keep the box in the unlikely event that your radio needs servicing.



Control Identification

- | | |
|------------------------------------|------------------------|
| 1.) Power Button/Timer | 6.) Up/Down Tuning |
| 2.) Audio Input Indicator | 7.) Frequency Display |
| 3.) Input Level Control | 8.) DC Input Jack |
| 4.) Battery Strength Meter | 9.) Telescopic Antenna |
| 5.) 1/8" (3.5mm) Audio Input Cable | |

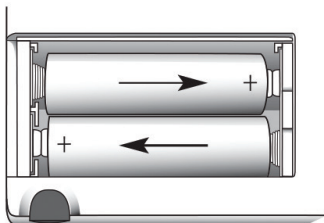
Connection to Power



The FM Transmitter 2 will operate on the included AC Adapter. It will also operate on two “AA” size Alkaline batteries (optional).

Battery Installation

1. Open the cover by pushing down on the textured tab firmly and pushing the cover off toward the side of the unit, the same direction the textured arrow is pointing.



2. Insert two “AA” batteries into the compartment as indicated in the drawing (at left). Be sure the negative (-) end is against the spring. Refer to the drawing to ensure correct battery installation. See page 7, #4 for location of Battery Strength Meter.

Tuning

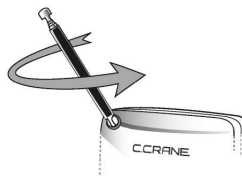
To transmit audio from the FM Transmitter 2, it is best to find a clear FM frequency that is not being broadcast on and is free from interference.

1. To find an unused frequency in your area, you can go to www.radiolocator.com, click on “find vacant channels” and enter your zip code and state. It will list vacant frequencies as “best”, “next best”, “third best”. You can also use a radio and scan through the entire FM band (using a digital radio will be easiest). Look for the largest gap in between stations. Once you find a gap, select a frequency located somewhere in the middle. Example: If there are no stations broadcasting between 90.1 - 93.5, select 91.5. Preferably there won't be a station broadcasting on either side of the frequency you have selected.
2. Now on your FM Transmitter 2, turn the power on. Use the Up or Down Tuning Arrows to select the same frequency as you have set on your radio. Hold the arrows down for faster tuning.
3. With the FM Transmitter 2 plugged into the radio, or other audio source, make sure you have adequate volume. The Audio Input Indicator LED will flash green in normal use. If the LED light rapidly flashes red or glows steadily red, it is indicating there is too much volume, causing distortion. Adjust the Input Level Control on the side of the unit or adjust the volume of your audio source until the Audio Input Indicator LED light goes back to flashing green. (See page 7 for location of controls.)



Antenna Orientation

Start with the antenna straight up and fully extended. You can then orientate the antenna to help transmit the signal a certain direction.



Tips to Make it Work Better

Location

Optimum placement for the FM Transmitter 2 is usually away from other electronic devices and objects. The higher the transmitter is located the better. The transmitter can be helped by placing it on something that will act as a ground plane like a metal filing cabinet or a refrigerator. Try moving it around for best performance.

Range is subject to many variables, including obstructions such as walls and FM signal overload in your area. The range of the FM Transmitter 2 is between 30 and 75 feet, line of sight with no obstructions. Vehicle FM radios may receive further distances than a portable FM radio.

Auto Shut-Off Timer

The "Auto Shut-Off" will not work until you activate it. Press and hold the Power Button until the words Auto-OFF appear in the display and the transmitter begins to cycle through the available shut-off times. You can choose from 1, 2, 3, 4 or 8 hour shut-off times. If you miss the time you want, just keep holding the Power Button down and it will start over. To select your time, let go of the button. Turning the power off and back on clears the Auto Shut-Off.

Audio Sources

From a powered (condenser type) microphone: Connect the plug that is attached to the FM Transmitter 2 to the Line Out of the microphone. For larger more traditional mics, it would plug into the line out of the amp or audio mixer. Tune your radio or car stereo to the transmitting frequency.

From your internet radio, smart speaker or computer to your home stereo: Connect the plug that is attached to the FM Transmitter 2 to the headphone jack on your speakers or to the audio output of the computer's sound card. Tune your receiver to the transmitting frequency.

From a mobile phone or tablet to your car stereo: Connect the plug that is attached to the FM Transmitter 2 to the Line Out or headphone jack of the phone. Tune your car stereo to the transmitting frequency. Some products may require a special adapter (known as a dongle) if it does not include a standard Line Out or headphone jack.

From a portable radio to a pocket radio: Connect the plug that is attached to the FM Transmitter 2 to the Line Out or headphone jack of your radio. Tune your pocket radio to the transmitting frequency. This is sometimes good for office or warehouse environments where reception is only available in a window or other specific location.

Audio is distorted:

Try adjusting the Input Level Control on the side of the FM Transmitter 2 (see page 7, #3). If that doesn't help, try adjusting the volume of your audio source.

No Audio:

- 1). Verify that the power on the FM Transmitter 2, your audio source, and your receiver are on.
- 2). Try adjusting the Input Level Control on the side of the FM Transmitter 2. If that doesn't help, try adjusting the volume of your audio source.
- 3). Check your cable and make sure it is connected to the right audio source (see page 10).
- 4). Check your frequency and make sure you are tuned to the correct frequency.

If none of the above options work, try the FM Transmitter 2 on another device.

Can I use the FM Transmitter 2 as a repeater?

As a matter of fact, yes, you can broadcast from one radio to another radio and then rebroadcast from that radio to another radio. At some point, there is likely to be loss, but it does work. Keep in mind it is still line of site. Also, it will require multiple open frequencies for this to work.

Can I use it with a 12V plug (cigarette lighter) in my car?

Yes, but you will need one that has the ability to stepdown to the correct voltage.

Is there any way to improve the range?

Yes, here are some things that can impact the range:

- The number of FM stations in the area.
- The quality of the FM receiver and the antenna – cars actually work quite well as receivers.
- The number of walls the signal needs to travel through, every wall presents a challenge to the line of site transmission so the more open the area with the fewer obstructions, the better.
- The types of walls (e.g. wood, metal, stucco, etc).

As a hobbyist, you can also search Google on ways to improve the range of the “FM Transmitter 2” to see what others have done.

The output power of the FM Transmitter 2 is set to the maximum limit specified by the FCC. Most of our customers achieve 40 – 60 feet depending on their situation. The signal will travel up to 70' under good conditions. The FM Transmitter 2 will work better in a noise-free environment. In a noisy environment (such as one with lots of FM and computer noise) you can expect less range. We recommend extending the FM transmitter 2 input cable away from the computer (or any other RF noisy device) when connected.

In open environments with minimal radio noise, the range of an FM Transmitter 2 can be easily increased by attaching a length of wire to the telescoping whip antenna of the FM Transmitter 2. In our experiment, we attached a 31-inch length of wire to the whip antenna of an FM Transmitter 2 using an alligator clip. Please keep in mind you will need to comply with FCC rules and regulations regarding interference. (Any wire will work. Any clip that secures the wire to the transmitter's antenna will work). We highly recommend our FM Reflect-2 Dipole Antenna.

Check our blog at news.ccrane.com for more information.

Service Information:

If you have a specific scenario you would like to discuss, please call or email our U.S. Based Tech Support at: customerservice@ccrane.com

If your unit requires service, call C. Crane at 1-800-522-8863.

Specifications

FREQUENCY COVERAGE:

88.1 MHz - 107.7 MHz

Frequency Response 40 Hz - 15,000 Hz.

AC ADAPTER:

5V 100mA; center tip negative; 5.5mm x 2.1 mm, female tip.

DC Input Jack

3-6V; center tip negative.

AUDIO INPUT CORD:

3.5mm (1/8") stereo, 5 ft. (extension cords are not recommended).

PATCH CORD:

1/8" (3.5mm) Female X 2 RCA Male adapter.

BATTERY LIFE:

A fresh set of 2 "AA" alkaline batteries lasts 120+ hours.

DIMENSIONS:

3" W x 3.5" H x 1" D.

WEIGHT:

5.8 oz. without batteries.

Note: Specifications are subject to change without notice.

Model: FM TRANSMITTER 2 - Patent #US D483,024 S

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, AND
- 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.

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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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

NOTE: 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 or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction

FCC ID: Q3F-FMSTEREO