ICStation FM MW SW Wireless Radio Receiver DIY Kit

1.Description:

It is a FM MW SW Wireless Radio Receiver Module with built-in Mono dual channel 4ohm 5W Amplifier so that it can connect speaker directly. It supports FM 87-108MHz, MW 522-1620KHz, SW 4.75-21.85MHz optional working frequency. So user just needs connect work voltage and speaker or headset.

It is also a high-sensitivity digital clock controlled radio set that integrates FM, AM and SW three bands. It adopts a modular structure of splicing installation, which is very suitable for radio electronics enthusiasts, electronic DIY enthusiasts and primary and secondary school students to exercise their hands-on ability.

The circuit modules are connected by connectors. The installation process can be completed only by preparing a screwdriver and referring to the installation manual. A high sensitivity digital radio can be assembled without using an electric soldering iron.

2.Features:

1>.FM/MW/SW Frequency: It is a radio set integrating FM, MW, SW within different frequency ranges. FM is 87-108MHz, MW is 522-1620KHz, SW is 4.75-21.85MHz. Note: MW adopts AM mode. Search and automatically save stations.Continue to play the last radio station when turn ON again.

2>.Mono 5W Amplifier: Built-in power amplifier which can drive mono 4ohm 5W speakers directly and the sound is very clear. User also can connect headset from AUX audio output socket.

3>.Time/Automatic Startup: Clock and radio functions can be switched. The time can be calibrated and the timing boot time can be set.

4>.Rechargeable: It is powered by 3.7v polymer lithium battery which can be used as outdoor mobile speaker. Built-in charging module is also more convenient for battery charging. At the same time, the power indicator shows the battery capacity in real time.Backlight enters power-saving mode after 10 seconds.

5>.DIY Handmade. It's a DIY kit which comes with various components. User need to install each component by hand. It not only can exercise and improve handmade skills, but also increase the interest in electronic technology. Great for electronics hobbyists, beginners, school and home education.

3.Parameters:

1>.Product name:FM MW SW Wireless Radio Receiver DIY Kit
2>.Model:KCX_RADIO
3>.Work Voltage:DC 3.7V
4>.Work Current:<500mA
5>.Standby current: <20uA
6>.Display Backlight:Amber
7>.FM Frequency Range:87MHz-108MHz(Accuracy 0.1MHz)
8>.MW Frequency Range:522KHz-1620KHz(Accuracy 9KHz)
9>.SW Frequency Range:4.75MHz-21.85MHz(Accuracy 0.5MHz)
10>.FM Noise limiting sensitivity:30dB =< 8dBu
11>.MW Noise limiting sensitivity:26dB =< 60dBu
12>.SW Noise limiting sensitivity:26dB =< 32dB
13>.FM SNR:98MHz >= 50dB
14>.MW SNR:1000KHz >= 40dB
15>.Output power(Speaker):4ohm 5W
16>.Output power(Headset):100mW*2
17>.Maximum output distortion:<10%
19>.Work Temperature:-20℃~85℃

20>.Work Humidity:0%~95%RH

21>.Size(Installed):108*65*30mm

4.FM/MW/SW Features:

1>.**FM: Frequency Modulation Broadcast**.

1.1>.Radio wave signal: the amplitude remains unchanged and its frequency is adjusted.

1.2>.Advantage:Listening to FM radio is characterized by low interference, clean sound, stereo (dual channel) programs can be received, and a wide audio range;

1.3>.Disadvantages: because the FM frequency band mainly propagates through a straight line and reflected by ground objects, the signal transmitted through the radio station has short propagation distance and small coverage, and generally can only listen to the FM programs of the local station.

2>.**MW: Medium Wave**.

2.1>.Medium waves can be transmitted through sky waves and ground waves. But sky waves are very unstable. In the process of sky wave propagation, path attenuation, time delay, atmospheric noise, multipath effect, ionospheric fading and other factors will cause signal weakening and distortion and affect the effect of communication.

2.2>.Advantage:MW can receive far away wireless broadcasting, mono.

2.3>.Disadvantages:Noise, strong directionality, weak anti-interference ability and average sound quality. Due to the influence of the ionosphere, there is basically no signal during the day.

3>.**SW: Shortwave**.

3.1>.The propagation of short wave mainly depends on sky wave. It can be transmitted to a long distance with the help of sky wave with very small power.

3.2>.Advantage:With long distance and wide coverage, you can hear international radio programs.

3.3>.Disadvantages:The signal drift is unstable, with high noise, mono and poor sound quality. Basically no signal is received during the day.

5.Function and Operate:

1>.**Power Switch(POWER)**

1.1>.Press 'POWER' button and then keep display 'ON' on screen within 2 second. Then display receiver frequency and frequency unit.

1.2>.Adjust other receiver frequency by other buttons.

1.3>.Press 'POWER' button again and then keep display 'OFF' on screen within 2 second. Then turn OFF and enter into clock state standby(just display clock)

2>.**Adjust Volume(VOL+/VOL-)**

2.1>.Each time press 'Vol+' button when playing radio, the sound increases by one level. Continuous increase by keep press.

2.2>.Each time press 'Vol-' button when playing radio, the sound decreases by one level. Continuous decrease by keep press.

2.3>.The adjustable range of volume level is 00-31.

3>.**Adjust Frequency(FRE-/FRE+)**

3.1>.Press 'FRE+' button to increase receiver frequency to search station when listing station.

3.2>.Press FRE-' button to decrease receiver frequency to search station when listing station.

3.3>.Continuous adjust receiver frequency to search station by keep press more than 1 second.

3.4>.It will stop to search station and then play radio if receive the next station.

3.5>.User can repeat the above operation if need to change the radio program again.

4>.**Sleep Switch: Automatic Shutdown(LOCK_SLEEP)**

4.1>.LCD screen displays the sleep shutdown time and the Sleep Icon flashes when press 'LOCK_SLEEP' button at first time.

4.2>.It means the radio automatic shutdown after 90 minute if display '90'.

4.3>.Sleep Icon indicates that the radio is in sleep timing.

4.4>.Automatic shutdown time also flash and it can also be reset time by press 'LOCK_SLEEP'

button. The optional option is '90-60-45-30-15-10-OFF'.

4.5>.It means to cancel the sleep timing function(automatic shutdown) if select 'OFF'.

4.6>.It can turn off the sleep timing function in advance and automatically return to the clock state for standby when press 'POWER' button during sleep timing.

4.7>.Users can query the remaining time of sleep timing playback when press press 'LOCK_SLEEP' button during receiving station. Press again to change parameter for sleep timing.

4.8>.It is a lock parameters function by keep press 'LOCK_SLEEP' button more than 2 second after display Lock Symbol.

4.9>.The lock symbol will flashing and all parameters and buttons function locked in locked state.All buttons are not available and can not change parameters.

4.10>.Keep press 'LOCK_SLEEP' button more than 2 second after the Lock Symbol disappears if need to unlock.All buttons are available.

5>.Set Time(TIME)

5.1>.AM '12:00' is displayed by default after power ON.

5.2>.TIME just can be set in the clock display interface.

5.3>.Keep press 'Time' button more than 2 second to enter into set 12H or 24H hour system. Then press 'FRE+' and 'FRE-' buttons switch 12 or 24.

5.4>.The system will automatically exit the current setting when the system does not any operate within 5 seconds.

5.5>.Set Hour: Press 'Time' button again and then press 'FRE+' and 'FRE-' buttons to set value for current hour.

5.6>.Set Minute: Press 'Time' button again and then press 'FRE+' and 'FRE-' buttons to set value for current minute.

5.7>.Save and Exit: Press 'Time' button again to save parameters and exit set status.

5.8>.It will display AM or PM for 12-hour system. It is a 24-hour system if there is no AM or PM symbol.

6>.Set Timing Startup Time(ALARM)

6.1>.The Timing Startup Time setting just can be set in the clock display interface.

6.2>.Set Timing Startup Time Hour: Keep press 'ALARM' button more than 2 second to set hour. Then press 'FRE+' and 'FRE-' buttons set value for current hour. Note: Screen will display symbol ' AL '.

6.3>.Set Timing Startup Time Minute: Press 'ALARM' button again to set minute. Then press 'FRE+' and 'FRE-' buttons set value for current minute.

6.4>.Save and Exit: Press 'ALARM' button again to save parameters and exit set status.

6.5>.The system will automatically exit the current setting when the system does not any operate within 5 seconds.

6.6>.The radio playback function is automatically turned ON if the Timing Startup Time is same to the real time clock. Then automatically turned OFF after 30 minute. Note: The buttons cannot be operated during this 30 minute.Otherwise, exit.

7>.ON/OFF Timing Startup Time(AL_ON/OFF)

7.1>.The ON/OFF Timing Startup Time just can be set in the clock display interface.

7.2>.Keep press 'AL_ON/OFF' button more than 2 second to switch ON or OFF.

7.3>.Alarm Symbol display on screen if turn ON Alarm Timing Startup Time.

7.4>.Alarm Symbol disappears from screen if turn OFF Alarm Timing Startup Time.

8>.Select Band(AM/FM)

8.1>.Press 'AM/FM' button when play radio to switch FM, AM, SW in turns.

9>.Scan Storage Stations

9.1>.Keep press 'Time' button more than 2 second to enter into Scan Storage Stations at play radio status.

9.2>.The frequency of the current radio station will increase rapidly. In the process of increasing, if the frequency of the radio station with a program is encountered, it will be automatically stored in the memory chip.

9.3>.If P01 is displayed on the screen, it means that the first radio frequency is stored, and if P02 is displayed means that the second radio frequency is stored and so no.

9.4>.When the number of stored stations is equal to or the station frequency increases to 60 the highest (high-end), the scanning and storage state ends immediately, and the radio returns to the stored program station or to the lowest (low-end) frequency state.

10>.**Storage Playing Radio Station**s

10.1>.This operate just can be available during playing status.

10.2>.This operate just can be available after store stations.

10.3>.Keep press 'ALARM' button to select the stored stations decrementally

10.4>.Keep press 'AL_ON/OFF' button to select the stored stations incrementally.

10.5>.Store Current Station: Keep press 'ALARM' or 'AL_ON/OFF' button until 'PRE' is displayed. Quickly press the 'ALARM' or 'AL_ON/OFF' button to Store Current Station during the symbol 'PRE' flashing.

11>.**ON/OFF Stereo**

11.1>.Keep press 'AM/FM' button more than 2 second to turn ON or OFF stereo audio when playing FM radio stations.

11.2>.It needs insert headphones from AUX socket.

11.3>.It is not available for MW and SW frequency.

11.4>.It will return to mono mode if re-power ON at FM.

12>.**Charge and Indicator**

12.1>.Battery needs to be charged when the single battery indicator displays the last grid.

12.2>.Charging: The battery icon flashes repeatedly.

12.3>.Charged: The battery icon display all grids.

12.4>.The battery charging time is about 3-4 hours.

13>.**Antenna**

13.1>.FM and SW needs telescopic antenna.

13.2>.MW needs Magnetic Rod Antenna.

6.Note:

1>.The radio receiver should be as far away as possible from the WIFI signal (router) avoid signal interference.

2>.It is not recommended to play music when recharging to avoid damaging the battery.

3>.Please read use manual and description before use.