Icstation Digital FM Transmitter Stereo Module

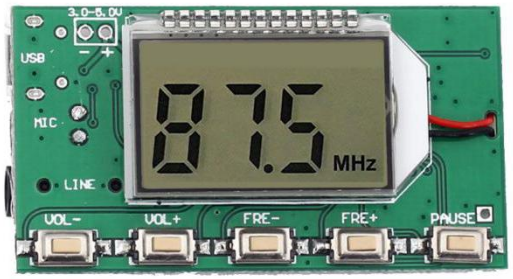
Frequency Modulation DSP PLL 76.0-108.0MHz

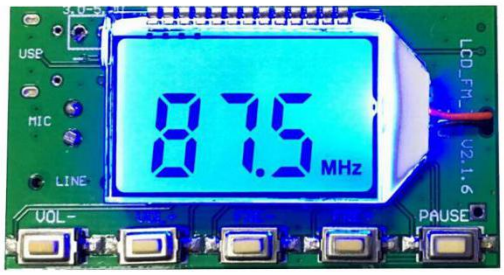
Feature

- Mini multifunctional stereo FM transmitter module adopting advanced DSP and PLL technology ensure high quality stereo and broadcasting performance
- Built-in 30-level digital volume adjustment, easy to complete with button operation. Blue backlight LCD display also provide you a clearer visual experience in the night or in the dark.
- Support line/USB/MIC audio channel input. Transmitting frequency range from 76.0MHz to 108.0MHz(Campus broadcast: 76.0MHz-87.0MHz), and the fequency response range from 50Hz to 18KHz.
- Power fail safeguard: Icstation FM transmitter will automatically save the information of volume and frequency and other parameters in case the power is suddenly off.
- Support TTL level serial command control. Working Voltage: DC3V-5V
  Working Current: 35mA; Output Power: 100mW

Application

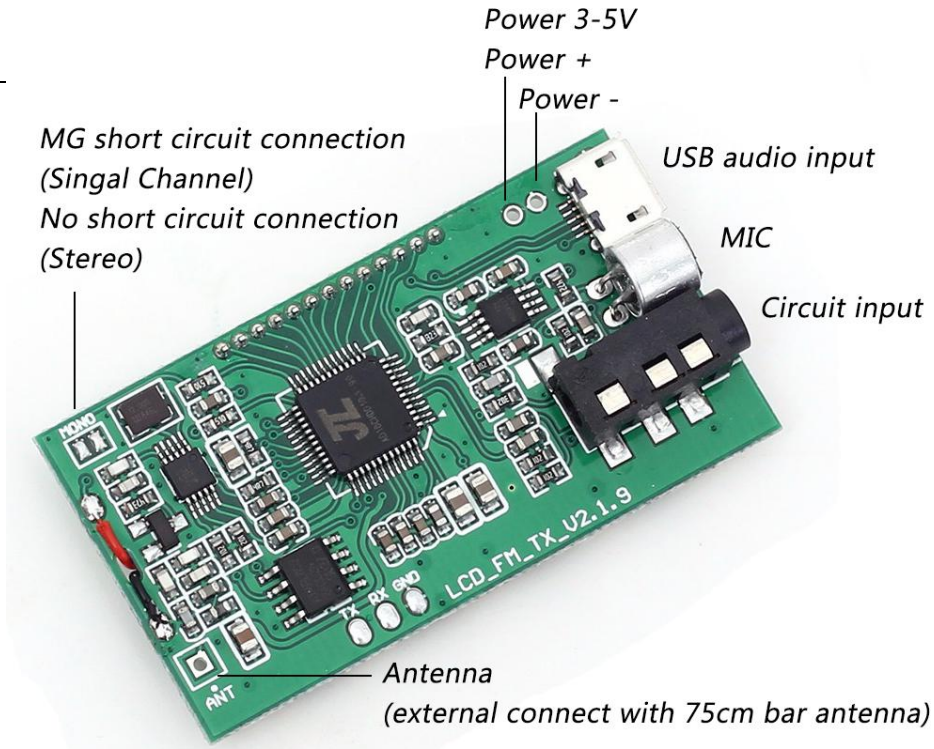
- FM Wireless Frequency
- USB PC Audio Broadcast
- Wireless Microphone
- Maternal And Infants Custody





Specifications

- Output Power: 100mW
- Modulation Mode: standard FM
- Equivalent Noise: >=30dB
- Power Supply Voltage: DC 3.0V-5.0V
- Operating Current: 35mA
- Adaptive Antenna: 75cm bar antenna
- Audio Frequency Response Range: 50Hz-18KHz
- Transmission Frequency: 76.0MHz to 108.0MHz (Campus broadcast: 76.0MHz-87.0MHz)
- Frequency Adjustment Stepping:
  0.1MHz/times (short press the key); 1.0MHz/times (long press the key)
- Sound Track: LINE/USB channel (stereo); MIC channel (single channel)



FM Transmitter

Instruction

1>. Power supply

The corresponding port of the module "-", "+" respectively connects the power (battery) negative pole and the positive pole. The power supply is recommended for battery or other stabilized power supply. Do not use an unfiltered power supply (such as a mobile phone charger and other low-quality switching power supply), otherwise the interference of the power supply will affect the normal work of the module. The normal working voltage of this module is 3.0-5.0V, and the power supply voltage should not exceed this range.

2>. Buttons

Volume +/- : short press volume +/- 1, long press continuous +/-.

Frequency +/- : short press frequency +/ -0.1mhz, long according to continuous +/ -1mhz.

Mute: short press to switch mute/non-mute.

3>. Antenna

The ANT port is used to connect the FM antenna. In order to better transmit the FM signal, it is recommended to extend the antenna with a length of 75cm. And the antenna is near as far as possible without obstruction.

4>. USB audio connection

If you want to start the USB audio broadcast function of this module, you need to connect the USB cable to the computer. USB port is compatible with common cell phone, so you can use the USB cable to connect the module and computer. Because computer USB comes with 5V output, USB connection can be used to supply power to the module directly. After connecting to the computer USB, the module will automatically enter the PC audio broadcast mode, the LCD screen will display the PC, the computer terminal will install the driver automatically, and the module will be named "CD002" sound card device. Enable this "CD002" audio device in the computer voice Settings. Computer system audio can be transmitted through this module by FM.

When the radio frequency is adjusted to the frequency of this module, the audio of the computer terminal system will be heard.

5>. LINE audio connection

If you need this module LINE (line in) channel as a source of sound emission, please insert one end of the audio LINE into 3.5 mm audio jack of the module , insert the other end into your audio device (such as mobile phone headset hole), the module automatically switch to the launch of the audio source LINE channel as FM. The nearby FM radio can be heard from the mobile phone as long as it is tuned to the same frequency as the module.

6>. FM wireless microphone

If you need MIC of this module to launch, pull out LINE and USB cable (LINE and USB are not connected). The module is automatically transferred to the MIC channel as the transmitting audio source of FM. This module is equipped with a high sensitivity electret microphone, which can be used in wireless microphone, mother-baby monitoring and so on. Note to adjust the volume of this module to achieve the optimum sound pickup effect when used.

7>. Serial port control (please ignore this part without serial port control)

The module reserved TTL level serial port control interface.When TTL serial port communicates with this module, it needs to connect the module's UART_RX, UART_TX and GND. You can use the external MCU or the computer serial port to send instructions control module related functions.

Note: The computer serial port is not TTL level. When connecting to the computer communication, it is necessary to connect the RS323 level to the TTL power leveling device or to use the USB TTL level serial port module to communicate with the module. Serial command control module requires certain computer expertise, if you don't understand, please don't have a try.

User-defined Settings

1>. Setting of backlight LED mode

When the power is off, press the “FRE-” and “FRE+” button at the same time to start up. B1 indicates always bright. B0 indicates that the backlight is closed for 20 seconds, and the reset setting takes effect. (the factory defaults to 20 seconds of backlight delay).

2>. Start/close the campus radio frequency band

When the power is off, press VOL+,VOL- key, and power on.LCD display C1, which means to start the campus broadcast.C0 means closing the campus radio frequency band.Set to take effect after restart. (the factory defaults to closing the campus radio frequency band).

3>. Settings of stereo/mono transmission mode

The back of the module has two solder joints M,G. Short connecting is the monophonic launch. Disconnecting these two points is the stereo system launch. (the factory defaults to stereo system launch).

Note: the stereo system must satisfy the input to the module's audio source is stereo and the radio is also stereo to achieve the stereo effect. When using a single speaker (monophonic) radio or input to the module's audio signal as mono, there is no stereo.

5. Using attention:

1>. The power supply voltage is strictly prohibited to exceed the power supply voltage range of this module.

2>. Do not touch the back part of the module when working, so as not to affect the normal work of this module or cause the short-circuit burn module.

6. User Settings (please refer to the above) :

This module can set the backlight state and whether to listen to the campus radio frequency band according to the user's specific usage

Serial AT Commands

Baud rate 38400

Commands	Example	Description	Value Range	Display
Set the current frequency	AT+FRE=875	Set the current frequency to be 87.5MHZ	760-1080 (with campus broadcast) 870-1080 (without)	current frequency or ERR
Frequency-0.1MHz	AT+FRED	Single cloth frequency-0.1MHz		Current Frequency
Frequency+0.1MHz	AT+FREU	Single cloth frequency+0.1MHz		Current Frequency
Pause/Play	AT+PAUS			Play / Pause
Volume Adjustment	AT+VOL=16	Set the current volume to 16	00-30	VOL / ERR
Volume -	AT+VOLD	Volume -1		VOL / ERR
Volume +	AT+VOLU	Volume +1		VOL / ERR
Set backlight time (s)	AT+BANK=10	Set backlight for 10 seconds to turn off the screen	00-99 00 to be off, 01 to always light	BANK / ERR
Turn on/off campus broadcast	AT+CAMPUS=1	Turn on campus broadcast	0 to turn off 1 to turn on	CAMPUS_OFF /CAMPUS_ON
Reset	AT+CR	Reset VOL=16 FRE=875 BANK=20 CAMPUS_OFF		OK
Display current status	AT+RET			VOL=10 FRE=875 PLAY/PAUSE BANK_OFF (ON) / BANK CAMPUS_OFF (ON)

Hi Dear:

- ✓ ICStation has 9 years experience on electronic industry products.
- ✓ Provide technical assistance. Looking forward to your inquiry and hope to built long term cooperation relationship with you! **icstation@hotmail.com**