CZB6721960

FM Stereo Transmitter Module BH1417

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Wireless Stereo FM Transmitter Module

This is the latest BH1417 FM Transmitter design from RHOM that includes a lot of features in one small package. It comes with pre-emphasis, limiter so that the music can be transmitted at the same audio level, stereo encoder for stereo transmission, low pass filter that blocks any audio signals above 15KHz to prevent any RF interference, PLL circuit that provides rock solid frequency transmission (no more frequency drift), FM oscillator and RF output buffer.

There are 14 possible transmission frequencies with 200KHz increments that users can select with a 4-DIP switch. Lower band frequencies start from 88.7 up to 89.9 MHz, and upper band frequencies start from 107.7 up to 108.9 MHz. BH1417 can be supplied with 4 - 6 voltage and consumes only around 30mA,providing 20mW output RF power. BH1417 provides 40dB channel separation which is pretty good, although older BA1404 FM Transmitter chip provides slightly better 45dB channel separation.

BH1417 is only available in SOP22 IC case so this may be an inconvenience for some folks. On the other hand, because the chip is smaller than regular DIPbased ICs it is possible to fit the entire transmitter on a small PCB.

The bad news is that BH1417 requires 7.6MHz crystal oscillator, which is very hard to find. The good news is that you can use 7.68 MHz crystal instead, which is easier to find. In fact our BH1417 transmitter prototype (schematic shown above) uses 7.68 MHz crystal. This has absolutely no effect on stereo encoding process, we have tested it and stereo sound is crystal clear. The transmitted frequency on the other hand will be shifted up by exactly 1MHz (example: 88.1 MHz to 89.1 MHz) which is perfectly fine. The frequencies that are used in this project have been adjusted by 1MHz already so no additional conversion is necessary.

BH1417 chip may also be used a stand alone stereo encoder. The advantage of that is that you have full freedom of using a transmitter & amplifier of your choice.

You will still have a pre-emphasis, limiter, stereo encoder and low pass filter in one small package because very few external components are required for these blocks.

PIN 5 is MPX output that can be directly connected to an external FM transmitter through a 10uF cap.

Frequency Selection / Calibration

Frequency selection is very straight forward. Simply select transmission frequency at which you would like to transmit, set the combination for 4-DIP switch and BH1417 will immediately tune to that frequency. If you can't hear the transmitted audio signal on your FM receiver then re-adjust 2.5 turn variable coil

until you can hear the signal. If you have a laboratory power supply you may try to vary the voltage supply from 4 to 6V. While doing that BH1417 will automatically vary the voltage for MV2109 varicap diode making sure that there's no frequency drift.

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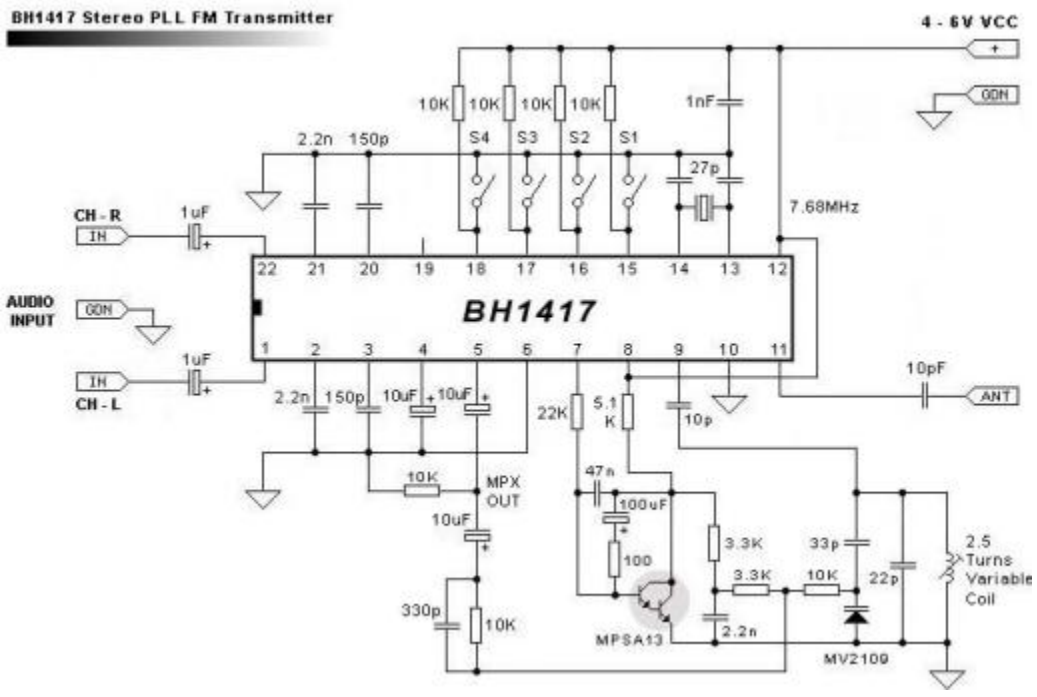
S4	S3	S2	S1	Frequency
1	1	1	1	88.7 MHz
1	1	1	0	88.9 MHz
1	1	0	1	89.1 MHz
1	1	0	0	89.3 MHz
1	0	1	1	89.5 MHz
1	0	1	0	89.7 MHz
1	0	0	1	89.9 MHz
1 = ON, 0 = OFF				



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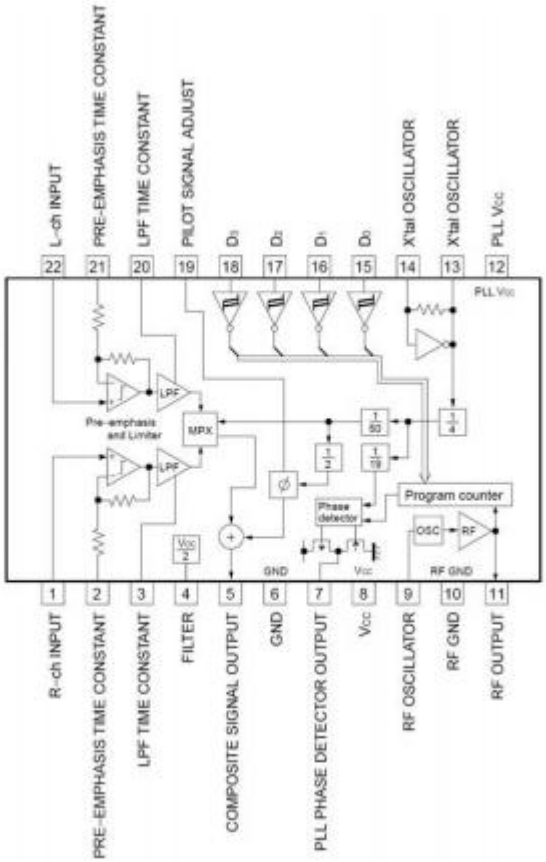
Chip pinout :



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Two-Channel FM Transmitter Stereo

PCB Size: 65x39x1.6mm
Transmitting Distance: 50-200 Meters with passive antenna and 200-500 Meters with patch antenna (in free space and with same level) . for higher Distance the power-amplifire is available .
Operating Voltage: 5-6 V
Modulation Mode: FM stereo two-channel (melody standard at 107.9 MHZ)

Input microphone line (on board microphone is available in custom)

frequency stability PLL phase-locked loop (without frequency deviation)

output power: 100-600 mW
carrier frequency tolerance: ± 500Hz
modulation capacity:> ± 100 kHz
FM signal to noise ratio:> 60dB
SOUND Parasitic noise: ≤50
Frequency response: 50Hz-15000Hz
Harmonic distortion: <1% ± 100Hz ± 75Hz offset offset frequency <1%
nominal deviation: ± 75 KHz (100% modulation)
ambient temperature: -10 ° - + 40 ° C

Frequency:

Low-end (87.7 mhz / 88.9 mhz / 88.1 mhz / 88.3 mhz / 88.5 mhz / 88.7 mhz / 88.9 mhz)

High-end (106.7 mhz / 107.9 mhz / 107.1 mhz / 107.3 mhz / 107.5 mhz / 107.7 mhz / 107.9 mhz)

You can connect an external amplifier based on the common 2N3866 / 2N4427 RF transistors. Please keep in mind that it is illegal to operate higher power transmitters

in most of the countries without the proper license.

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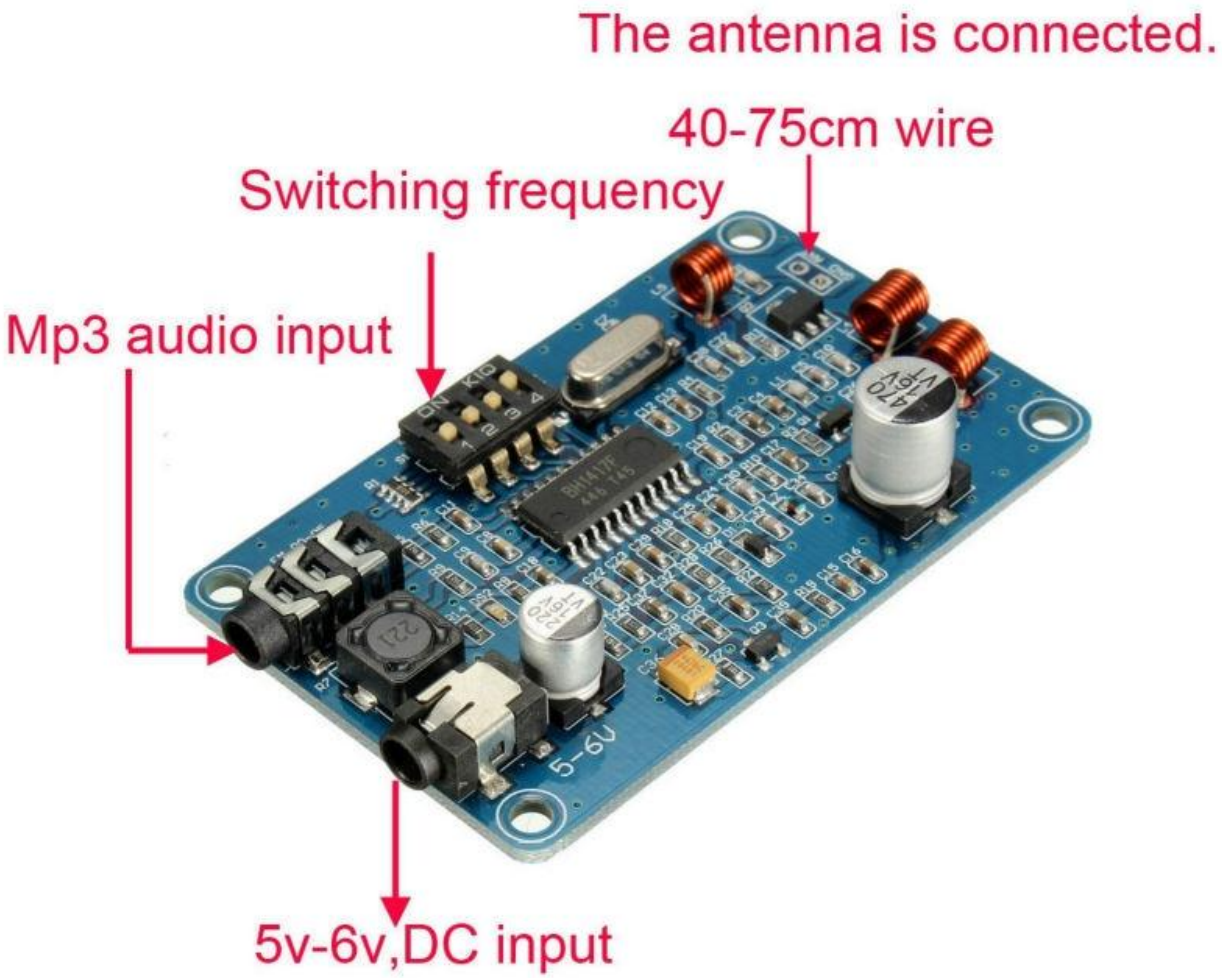
Pinout and switches :

FM Transmitter Module



Payment Terms

1) You can pay for your purchase order by **PayPal**, **WesternUnion**, **MoneyGram**, **Escrow**, **Trade Assurance**, **HSBC T/T**, **Alipay** or **Cash**.
2) The unit price we provided not included any shipping cost or payment charges. We can offer a discount according to your purchase order quantity.
3) We are not responsible for any import fees or customs taxes.

Shipping Terms

1) We will pack and send your goods within 2-3 working days after we confirmed your payment. For quickly packing and sending, please tell us when you finish the payment.
2) We will inform you the lead time if we have to purchase from manufactory.
3) We usually ship by **DHL**, **UPS**, **TNT**, **FedEx**, **Aramex** or **EMS**. It usually takes 3-7 days to arrive. Air cargo and sea shipping are aslo optional.
4) We are not responsible for any accidents, delays or other issues that are the responsibility of shipping service.
5) We need your shipping information including your name, address and phone number for shipping your parcel.
6) Tracking number will be shared with you when we got it from the logistics company.

Quality Warranty

1) Our products are all original and new from manufacturer. It must be work if the model number is correct.
2) We offer 30-90 days warranty to our products.
3) During the guarantee period, if the items you purchased from our store are out of perfected quality, pls notify us within 3 days after delivery, we will return the new products when we got your message.