

# CZE-7C INSTRUCTIONS

## 1. Precautions for Use

- Ensure that the power supply voltage is within the extent permitted
- Maintenance can only be professional and technical personnel to operate
- Do not touch the antenna after the transmitter is powered
- Do not boot the machine before the antenna is connected
- Do not use in an explosive environment (such as gas stations, gas, steam, etc.)
- Do not place the transmitter in extremely dusty, humid, high temperature to use
- Please be sure to use complying with local radio regulatory agencies require

## 2. Product Features

1. High-fidelity high stability: Motherboard is adopted by next-generation integrated NC FM stereo radio transmitter chip the BH1415 from Japan ROHM Company, built-in PLL frequency PLL, audio pre-emphasis, limiter and low pass filter circuit to achieve high fidelity, high stability signal transmission
2. Stereo clear sound: the control panel is consisted of AT89C2051 and AT24C02; after the stage by two 2SC3355 and one 2SC2053 total of three power amplifier to ensure that the three-dimensional sound quality output effect
3. Good shielding: Structure design closely, not because of external signal induction frequency drift
4. Excellent heat dissipation: The stability of the chassis using high quality aluminum alloy material, lightweight and excellent heat dissipation can work continuously to ensure that equipment
5. Easy to use: Panel use LCD to display the transmission frequency, according to the identification of the interface to connect to other hardware, easy to adjust and it is intuitive
6. Switching frequency: Can arbitrarily set from 87.9M to 91.9M range from 87.9M to 90M 90M to 91.9M, 87.9M to 91.9M
7. This subsection is with a microphone and volume control

## 3. Circuit Principle

Stereo audio via 3.5 mm interface input, after the adjustment of the potentiometer control input to BH1415 internal, internal after pre-emphasis circuit, limiting circuit and low-pass filter circuit and by 13, 14 feet again after access to the 7.6 MHz crystal vibration frequency oscillation circuit through 200 points after the 38 KHZ subcarrier signal, and 38 KHZ subcarrier by 2 points in the frequency of 19 KHZ pilot signal modulation. Firstly, the audio signal and the 38KHz subcarrier signal are balanced modulated by a multiplexer to produce a main signal (L+R) and a 38KHz subcarrier signal (L-R) modulated by DSB, and then the composite signal with the 19KHz pilot signal is output from the 5th leg. The microphone audio is also input by another 3.5mm interface, and after audio amplification, it is combined with the composite signal output from the 5th pin. The two channels are directly modulated by a high-frequency oscillator composed of a variogram diode. Frequency control by touch the key and the MCU control the internal PLL circuit to stabilize the transmission frequency. After two stages of power amplification, the transmitting frequency generates 800MW power input to

the final amplifier RD06, which generates about 7W power output. Then, after filtering out the frequency multiplier signal through a low-pass filter composed of LC, it is transmitted to the antenna for transmission. The MCU then transmits the current transmission frequency information to the user in real time through the LCD display module.

#### 4. Product Configuration

NO.	Product name	specification	quantity	unit
1	Host machine	CZE-7C	1	piece
2	antenna		1	set
3	Power adapter	DC 12V/1.67A	1	set
4	Audio cable	3.5mm audio cable	1	piece
5	manual	e-instruction manual	1	copy

#### 5. Operating Instructions

- Front panel and rear panel

front panel



① volume adjustment	⑤ Frequency down
② volume input	⑥ Microphone input
③ turn on/of	⑦ Microphone adjustment
④ Frequency increases	

rear panel



Power Interface

Antenna Interface

The transmitter operate with a omnidirectional antenna and the output power of the transmitter is less than 10W, so it can be deemed to comply with the antenna requirements of 73.316. The antenna gain shall not exceed 2.5 dBi.

- **Audio volume and microphone adjustment**



Audio volume control  
The left smaller volume, right larger

MIC volume control  
The left smaller volume, right larger

- **frequency adjustment**



- power adjustment

The output power of the machine in two stages: High-power file (H): >7W; Low power file (L): <1W



**Turn off the power adapter, disconnect the transmitter power finish line state to follow these steps:**

1. First press and hold the power switch **【⏻】** ,and connect the power (DC 12V) to the antenna, after 3 seconds after release the key, at this time into the power adjustment status, the LCD display shows "L" or "H" (default image file H high power)
2. Press **【▲】** , and set it as high power (H)
3. Press **【▼】** , and set it as low power (L)
4. Select the desired power profile, and press**【⏻】** .power setting finished, and it will into frequency range setting state.

- **Frequency range setting**

- (1) After the power setting, it will enter the frequency range setting state, power setting is completed, press the LCD screen display shows a set of frequencies, the frequency data is the high-end of the operating band (below)



(Factory default frequency is 91.9MHz)

- (2) For example, to set the operating frequency range of 90MHz to 91MHz, then through the key **【▲】** **【▼】** , adjust the frequency data as 91.00MHz



- (3) Band after the completion of the high-end setting, press key **【⏻】** , the band will enter the low-end setting, LCD displayed data band low frequency (below), through key **【▲】** **【▼】** to adjust the data to 90.00MHz



Then press key **【⏻】** , at this time the setting finished.

(Note that the low-end band must not be higher than the high-end band.)

● **Product Technical Parameter**

1	Working voltage	11~13V DC
2	Worknig current	1.67A
3	Frequency domain	87.9-91.9MHz
4	Frequency stability	±10PPM
5	Stepped frequency	200KHZ
6	The operating temperature of the	10°C~+50°C
7	Output impedance	50Ω
8	RF power output range	H:7W (L:1W)

9	Harmonic and noise radiation	≤-60dB
1	Audio distortion	<0.30%
1	Frequency response	50HZ~15000HZ
1	Preemphasis delay	50us
1 3	Degree of separation	≥35dB
1	Input level	≤15dB
1 5	Modulation frequency deviation	±75KHZ
1	SNR(Signal to Noise Ratio)	≥60dB
1	Machine Size	128*95*55mm
1	Machine weight	269g

## ● Common Troubleshooting

N O	Undesirable phenomena	Reason
1	Can not be boot	1) outlet for power; 2) The power cord is plugged in; 3) the power adapter is normal.
2	Standing wave is greater	1) The antenna is not connected; 2) The antenna does not match; 3) antenna installation location next to the reflector too
3	Transmitter distance is close	1) feeder loss; 2) poor launch environment; 3) Output power is not adjusted; 4) antenna installation height is not high enough; 5) The antenna does not match; 6) receiver sensitivity
4	No power output	1) Output power is not adjusted; 2) Machine standby or power.
5	Audio muting	1) The master volume is not large; 2) the input audio signal is normal.
6	The microphone is silent	1) microphone is normal; 2) the microphone volume is not large; 3) whether the microphone dynamic microphone; 4) microphone is plugged.
7	Sound quality is poor	1) microphone quality is not good; 2) Input audio sound quality is not good; 3) antenna installation method is not correct; 4) audio signal or machine volume is not adjusted.

## **6. After-sales service**

Thank you for choosing our products, we will provide lifetime maintenance. We offer free repairs within 200 days of purchase. Except for the following:

1) Problems caused by unauthorized disassembly or maintenance Products.

2) Problems caused by not following the operation instructions.

3) Man-made damage/collision/collision/water and other problems caused Non - Product quality problem.

4) The product is damaged by lightning or other force majeure.

5) The product shell, Lion battery, microphone, charger, audio cable, charging cable and other accessories are not included in the free maintenance scope.

For items beyond or outside the free repair period, we can offer very low repair costs.

1) We provide lifelong maintenance for the products during free maintenance.

2) We can repair the overdue or damaged products at a very low cost.

## **7. Disclaimer**

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

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

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.

RF Exposure Warning Statements:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment shall be installed and operated with minimum distance 40cm between the radiator & body.

Please use this product following local laws or regulations about using wireless products, otherwise the user will be responsible for any problems occurred by not obeying rules. We and our distributors are free of responsibility for that.