EMCONRTOL SMDTB14

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Schumann Resonance Pure Sine Wave Signal Generator User Manual

1. Introduction

The EMCONRTOL SMDTB14 is a high-precision 4-channel Schumann Resonance Pure Sine Wave Signal Generator. This device is designed to output a 7.83Hz Schumann wave and offers adjustable frequency output within the range of 0.01Hz to 9999Hz. It features a robust acrylic shell, a digital tube display, and three buttons for parameter settings. The SMDTB14 incorporates four independent audio signal outputs with dedicated amplifiers, overcurrent and overvoltage protection, and high-precision low-temperature drift circuits.

Key Features:

- Optimized design with a tough and solid acrylic shell.
- Digital tube display for frequency indication.
- Three intuitive buttons for parameter adjustment.
- Four independent audio signal outputs with dedicated amplifiers.
- Integrated overcurrent and overvoltage protection.
- High-precision low-temperature drift circuits.
- Adjustable frequency range from 0.01Hz to 9999Hz, generating a pure sine wave signal.

2. Product Overview and Components

Familiarize yourself with the main components of the SMDTB14 signal generator.

Figure 1: EMCONRTOL SMDTB14 Schumann Resonance Signal Generator, shown with its transparent acrylic casing and included USB Type-C power cable.

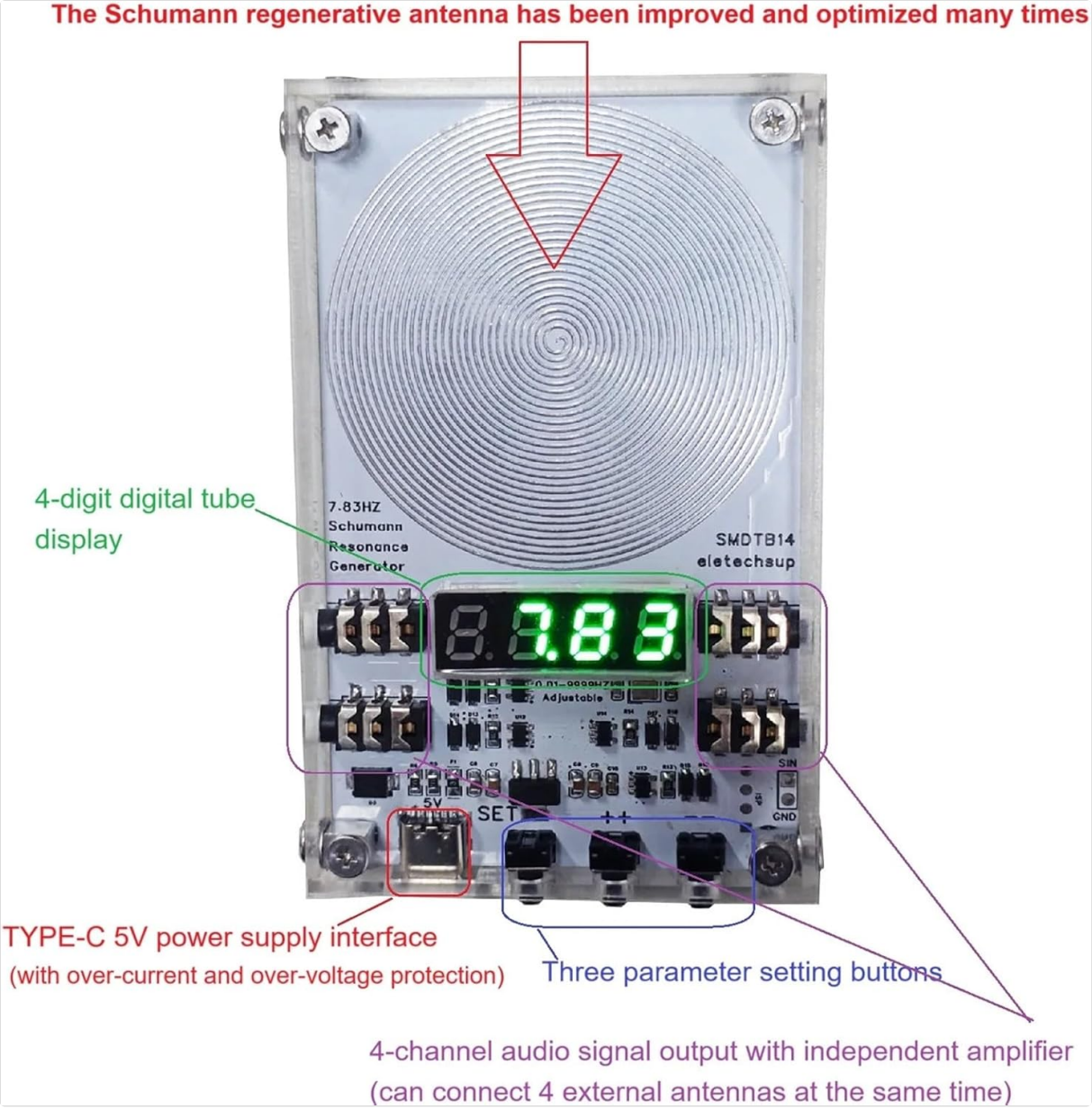

Figure 2: Detailed view of the SMDTB14 with key components labeled. This includes the 4-digit digital tube display, TYPE-C 5V power supply interface (with over-current and over-voltage protection), three parameter setting buttons (SET, ++, --), and 4-channel audio signal outputs with independent amplifiers, capable of connecting up to 4 external antennas simultaneously.

3. Setup

Follow these steps to set up your SMDTB14 signal generator:

1. **Power Connection:** Connect the device to a DC 5V power supply using the provided Type-C cable. The Type-C interface supports Type-C to Type-C power supply.
2. **Initial Power On:** Upon connecting power, the digital tube display will show "7.83". The device will automatically begin emitting a 7.83Hz Schumann wave.
3. **External Antenna Connection (Optional):** For enhanced effect, you may connect 1 to 4 external antennas (e.g., ANTSA01/ANTSB02/ANTSC03) to the 3.5mm audio output ports. The device features four independent 3.5mm audio output channels.

Figure 3: The SMDTB14 signal generator highlighting its four independent audio output channels (Channel 1, Channel 2, Channel 3, Channel 4) for connecting external antennas.

4. Operating Instructions

The SMDTB14 operates automatically at 7.83Hz upon power-up. To adjust the output frequency, follow the steps below:

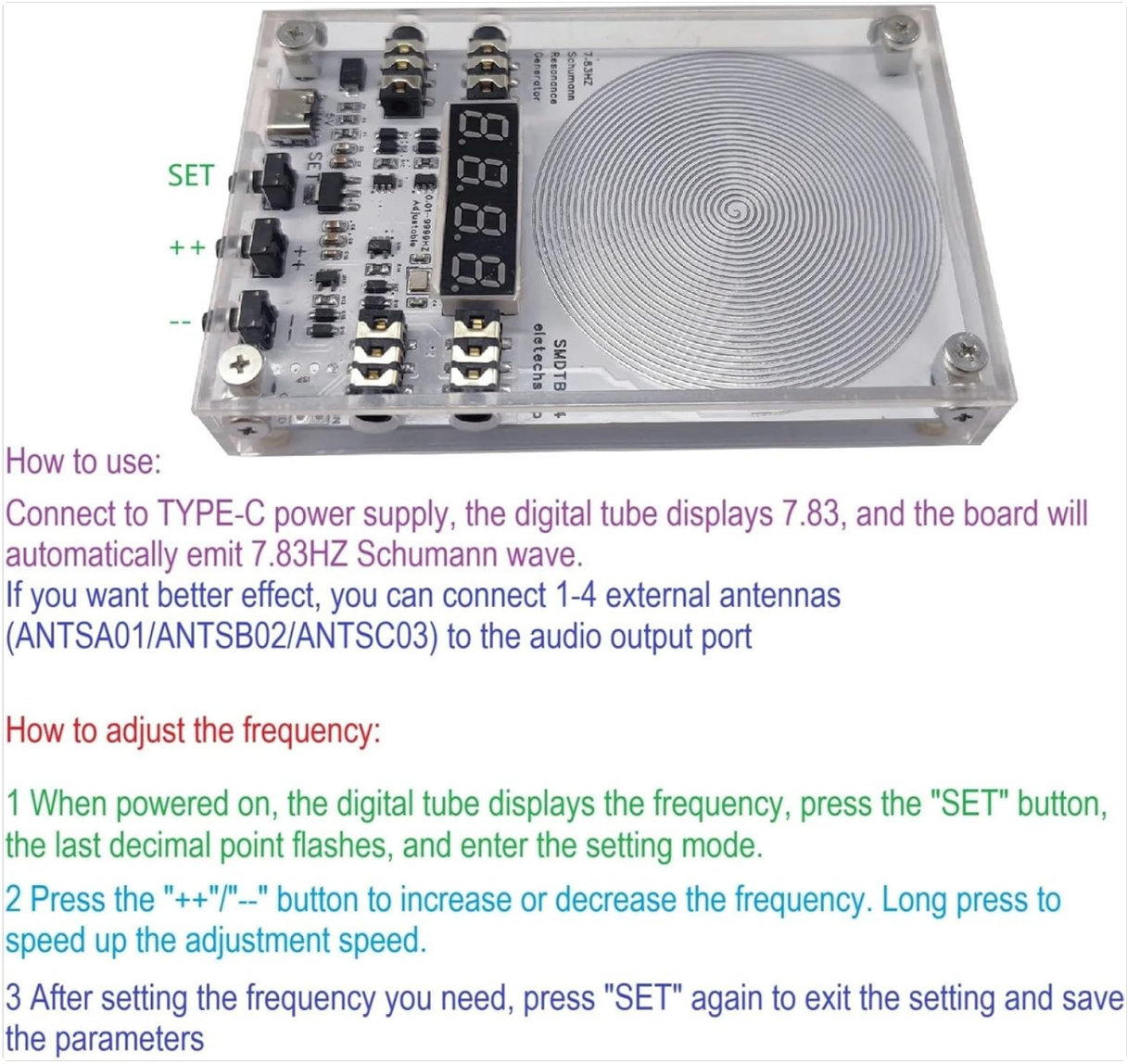

Figure 4: Visual guide for adjusting the frequency on the SMDTB14, showing the 'SET', '++', and '--' buttons and the digital display.

How to Adjust the Frequency:

1. When powered on, the digital tube displays the current frequency. Press the "SET" button to enter the setting mode. The last decimal point on the display will flash, indicating that the device is ready for adjustment.
2. Use the "++" button to increase the frequency or the "--" button to decrease the frequency. A long press on either button will accelerate the adjustment speed.
3. After setting your desired frequency, press the "SET" button again to exit the setting mode and save the new parameter.

Frequency Adjustment Steps:

- 0.01Hz - 99.99Hz: Adjustment step is 0.01Hz.
- 100.0Hz - 999.9Hz: Adjustment step is 0.1Hz.
- 1000Hz - 9999Hz: Adjustment step is 1Hz.

5. Specifications

Technical details for the EMCONRTOL SMDTB14 signal generator:

Parameter	Value
Working Voltage	DC 5V
Working Current	15-30mA
Power Interface	Type-C (supports Type-C to Type-C power supply)
Default Frequency	7.83Hz (Schumann wave)
Adjustment Range	0.01Hz - 9999Hz
Signal Type	Pure Sine Wave
Signal Voltage Amplitude	3V
Output Channels	4 x 3.5mm audio output (independent)
Shell Material	Transparent Acrylic
Dimensions	104mm x 66mm x 18mm (4.09 x 2.60 x 0.71 inches)
Weight	80g (2.82 ounces)

Figure 5: Top view of the SMDTB14 circuit board, showing the spiral antenna design and the 'Schumann Wave Signal Generator' and 'eletechsup SMDTB14' labels.

6. Troubleshooting

This section addresses common issues you might encounter with the SMDTB14 signal generator.

- **No Power/Display Off:**
  - Ensure the Type-C power cable is securely connected to both the device and a functional 5V DC power source.
  - Verify the power source is active and providing 5V DC.
- **Incorrect Frequency Display:**
  - If the display shows an unexpected value, try resetting the device by disconnecting and reconnecting the power.
  - Follow the frequency adjustment steps in Section 4 to set the desired frequency.
- **No Output Signal (with external antenna):**
  - Ensure external antennas are properly connected to the 3.5mm audio output ports.
  - Verify the external antennas are functional.

7. Maintenance

To ensure the longevity and optimal performance of your SMDTB14 signal generator, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the acrylic casing. Avoid using abrasive cleaners or solvents, as they may damage the surface.
- **Storage:** Store the device in a cool, dry place away from direct sunlight, extreme temperatures, and high humidity.
- **Handling:** Handle the device with care to prevent physical damage to the casing or internal components.

8. Warranty and Support

For warranty information or technical support, please refer to the documentation provided at the time of purchase or contact your seller directly. Keep your purchase receipt as proof of purchase.