

Weytoll XR2206

Weytoll XR2206 Signal Generator DIY Kit User Manual

Model: XR2206

[Contents](#) [Assembly](#) [Introduction](#) [Safety Information](#) [Package](#)
[Operation](#) [Specifications](#) [Maintenance](#) [Troubleshooting](#) [Warranty & Support](#)

1. INTRODUCTION

This manual provides detailed instructions for the assembly, operation, and maintenance of the Weytoll XR2206 Signal Generator DIY Kit. This kit allows users to build a function generator capable of producing sine, triangle, and square waveforms with adjustable frequency and amplitude. It is designed for educational purposes, hobbyists, and basic electronic testing.

2. SAFETY INFORMATION

Please read and understand all safety instructions before assembling or operating this device. Failure to follow these instructions may result in electric shock, fire, or damage to the product.

- **Electrical Safety:** Always disconnect power before making any connections or adjustments. Use only the specified power supply (9-12V DC).
- **Soldering Safety:** If assembling, ensure proper ventilation and use appropriate safety gear (e.g., safety glasses) when soldering. Hot soldering irons can cause severe burns.
- **Component Handling:** Handle electronic components with care. Some components are sensitive to static electricity.
- **Supervision:** This kit is intended for users with basic electronics knowledge. Children should be supervised by an adult during assembly and operation.
- **Environment:** Do not expose the device to moisture, extreme temperatures, or corrosive environments.

3. PACKAGE CONTENTS

Verify that all components listed below are present in your kit before beginning assembly.



Image: The Weytoll XR2206 Signal Generator DIY Kit components, including the PCB, various electronic parts, and acrylic case pieces, sealed in a clear plastic bag.

- Printed Circuit Board (PCB)
- XR2206 Integrated Circuit (IC)
- IC Socket
- Resistors (various values)
- Capacitors (various values)
- Potentiometers (for Coarse, Fine, Amplitude adjustment)
- DC Power Jack
- 3-pin Terminal Block
- Waveform Selection Jumpers
- Acrylic Case Parts
- Mounting Hardware (screws, nuts)



Image: A collection of loose electronic components, including resistors, capacitors, and jumpers, ready for assembly onto the PCB.

4. ASSEMBLY INSTRUCTIONS

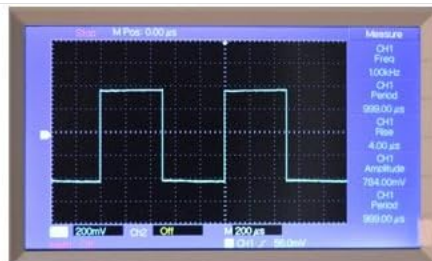
Follow these steps carefully to assemble your Weytoll XR2206 Signal Generator. A soldering iron, solder, and basic hand tools are required.

1. **Prepare the PCB:** Inspect the Printed Circuit Board for any defects.

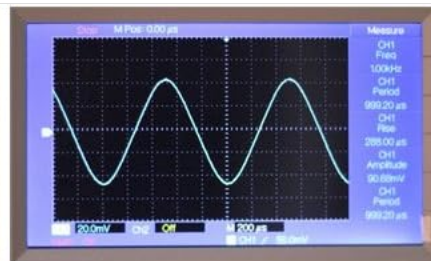


Image: The bare red Printed Circuit Board (PCB) with component outlines and solder pads visible, ready for component placement.

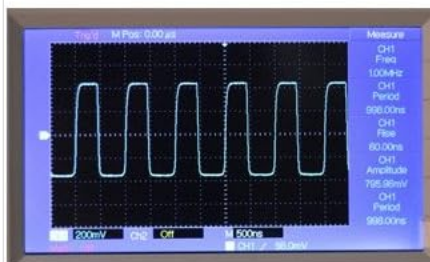
2. **Install Resistors and Capacitors:** Solder the resistors and non-polarized capacitors onto the PCB according to their marked values and positions. Pay attention to the polarity of electrolytic capacitors.
3. **Install IC Socket:** Solder the 16-pin IC socket onto the PCB. Ensure the notch on the socket aligns with the notch on the PCB silkscreen.



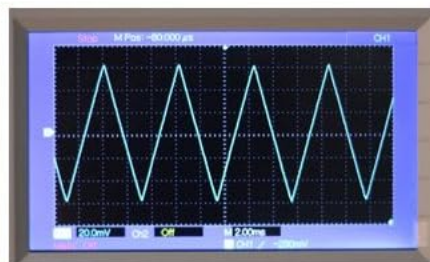
1KHz-Square Wave



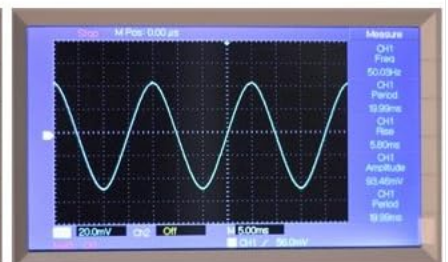
1KHz-Sine Wave



1MHz-Square Wave



Triangle Wave



50Hz-Sine Wave

Image: The XR2206 Integrated Circuit (IC) shown alongside its corresponding 16-pin socket, ready for installation.

4. **Install Potentiometers:** Solder the three potentiometers (Coarse, Fine, Amplitude) into their designated positions.
5. **Install Power Jack and Terminal Block:** Solder the DC power jack and the 3-pin terminal block onto the PCB.

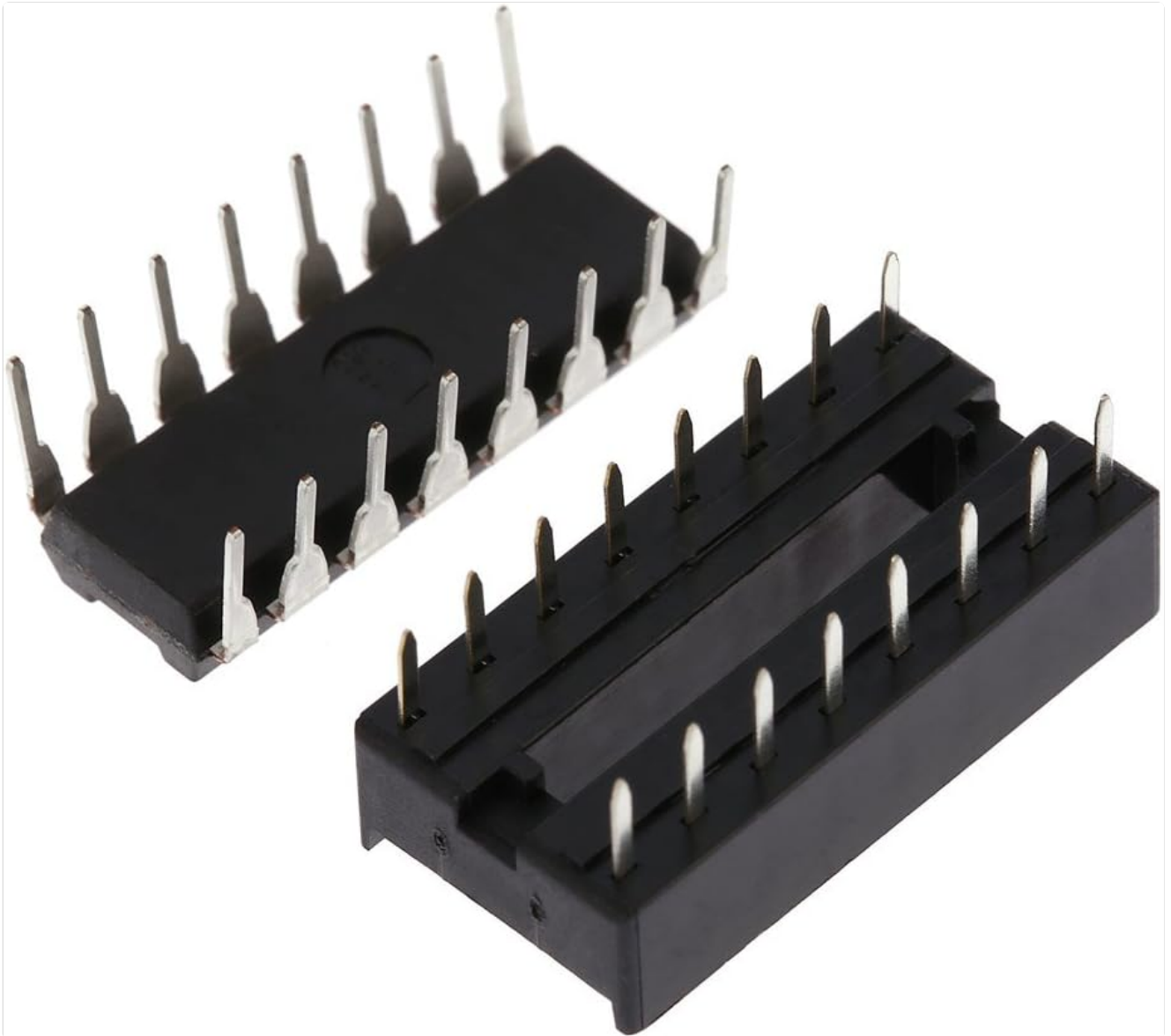


Image: The DC power input jack and a blue 3-pin screw terminal block, used for power and signal output connections respectively.

6. **Install XR2206 IC:** Carefully insert the XR2206 IC into its socket, ensuring the notch on the IC aligns with the notch on the socket and PCB.
7. **Assemble Acrylic Case:** Peel off the protective film from the acrylic case parts. Assemble the case around the completed PCB using the provided screws and nuts.

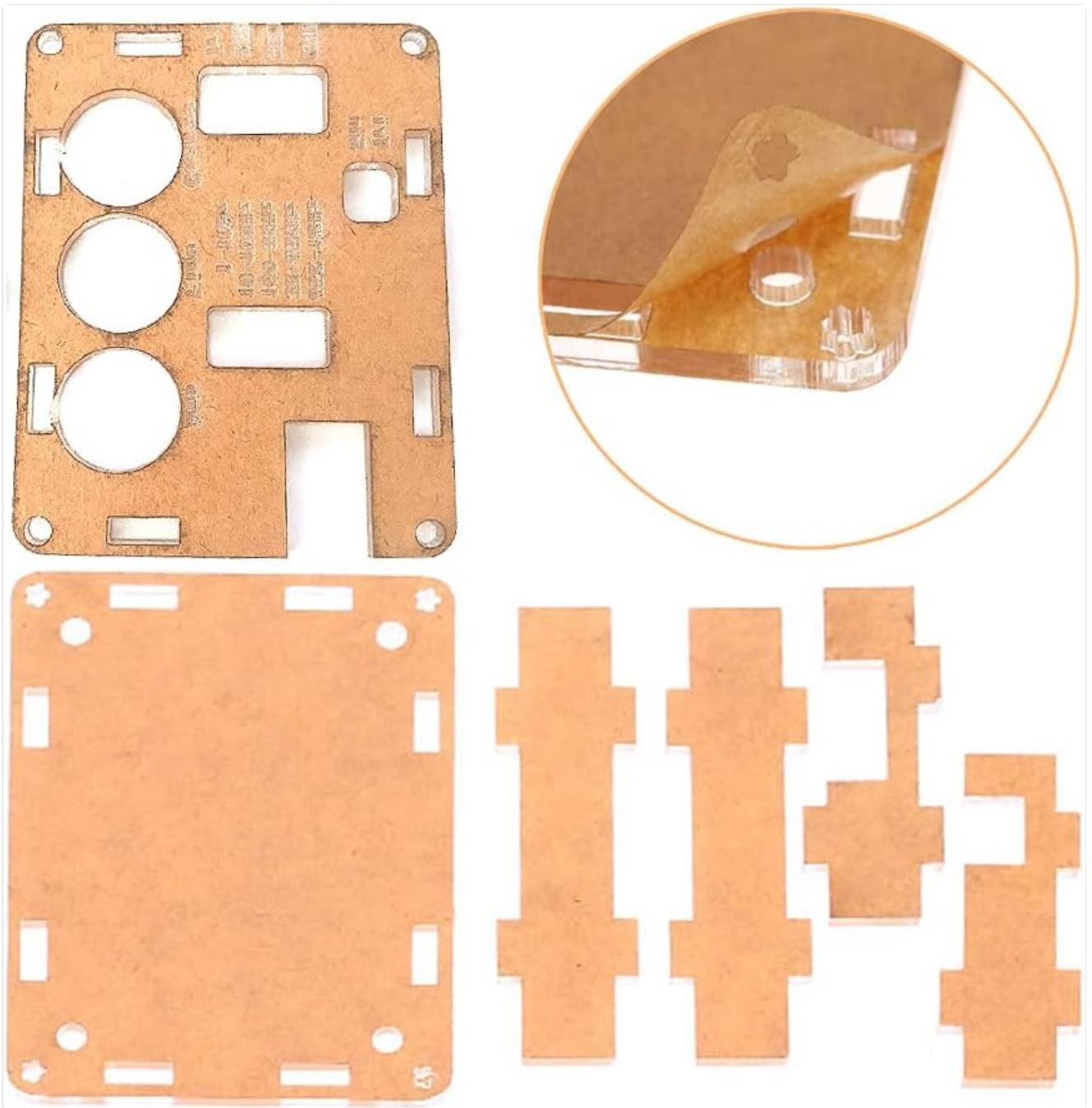


Image: Various laser-cut acrylic pieces that form the protective enclosure for the signal generator, shown with their protective film.

- Final Check:** Before applying power, visually inspect all solder joints for shorts or cold joints. Ensure all components are correctly oriented.

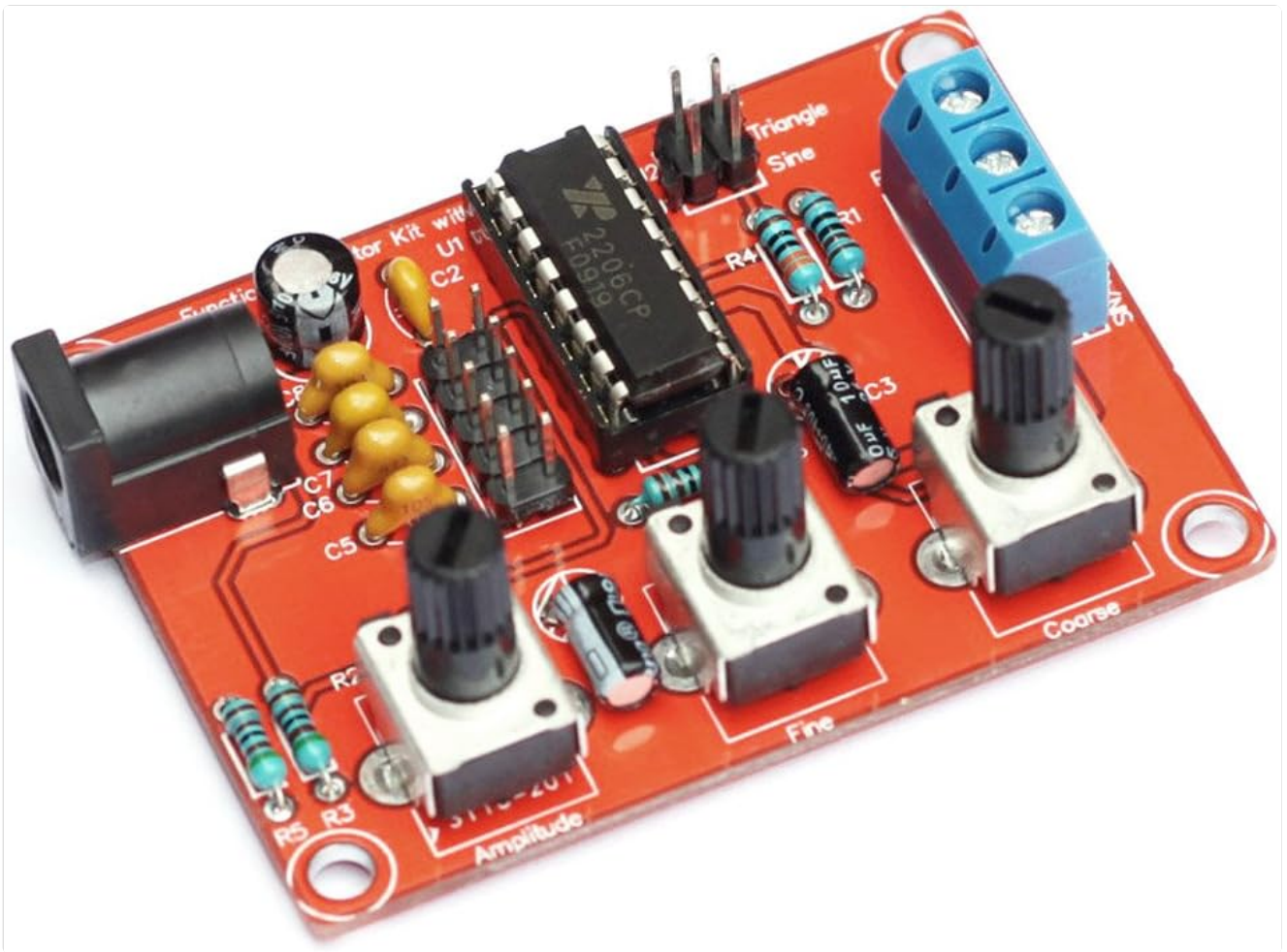


Image: The fully assembled Weytoll XR2206 Signal Generator circuit board, showing all components soldered in place, including the XR2206 IC, potentiometers, and connectors.

5. OPERATING INSTRUCTIONS

This section details how to power on and operate your signal generator.

5.1 Powering On

- Connect a 9-12V DC power supply to the DC power jack. Alternatively, a 9V battery can be used (not included).
- Ensure connections are secure before applying power.

5.2 Waveform Selection

The kit supports sine, triangle, and square waveforms. Select the desired waveform using the jumpers on the PCB (J1, J2, etc., as marked for Sine/Triangle/Square).

5.3 Frequency Adjustment

The frequency range is 1Hz to 1MHz. Use the "Coarse" potentiometer for broad frequency adjustments and the "Fine" potentiometer for precise tuning.

5.4 Amplitude Adjustment

Adjust the output signal amplitude using the "Amplitude" potentiometer.

5.5 Output Connection

Connect your testing equipment (e.g., oscilloscope, frequency counter) to the output terminals on the 3-pin terminal block

(marked S/N/TR/SQU and GND).

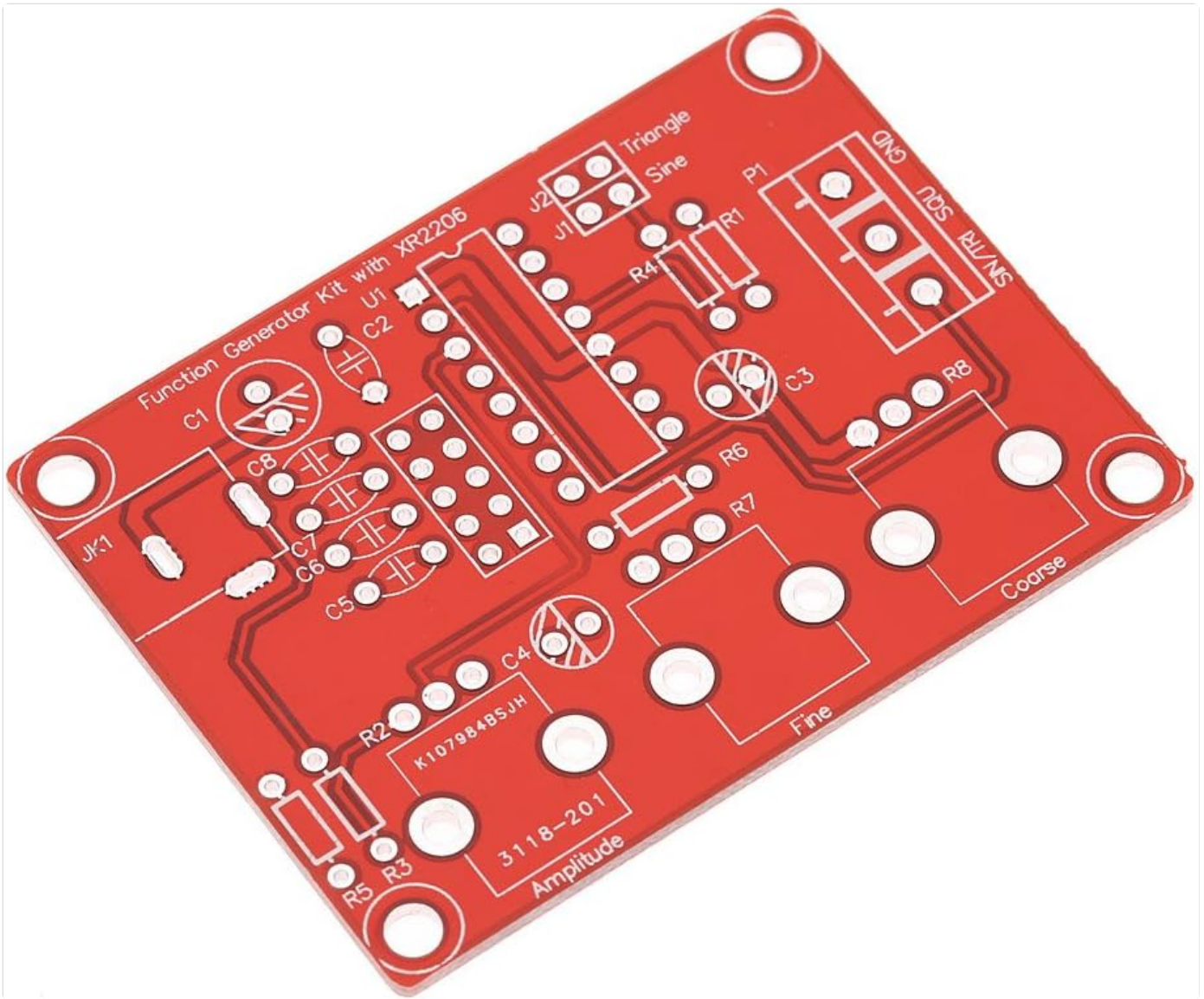


Image: An oscilloscope screen showing examples of waveforms generated by the device, including 1KHz square wave, 1KHz sine wave, 1MHz square wave, triangle wave, and 50Hz sine wave.

6. SPECIFICATIONS

Feature	Value
Frequency Range	1Hz - 1MHz
Waveforms	Sine, Triangle, Square
Frequency Adjustment	Coarse and Fine tuning
Amplitude Adjustment	Adjustable
Power Supply	9-12V DC external or 9V battery (not included)
Output Impedance	600 Ohm \pm 10% (typical for XR2206 based circuits)
Model Number	JZD7213503927391CH
Dimensions (assembled)	Approx. 19.6 x 15.8 x 1.7 cm (based on package dimensions)

Feature	Value
Weight (assembled)	Approx. 70 grams (based on package weight)

7. MAINTENANCE

The Weytoll XR2206 Signal Generator requires minimal maintenance.

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Do not use liquid cleaners or solvents.
- **Storage:** Store the device in a dry, dust-free environment when not in use.
- **Inspection:** Periodically check for loose connections or damaged components, especially if the device is frequently moved or used.

8. TROUBLESHOOTING

If you encounter issues with your signal generator, refer to the following common problems and solutions.

Problem	Possible Cause	Solution
No output signal	No power, incorrect power supply, IC incorrectly inserted, soldering error.	Check power connections and supply voltage. Verify IC orientation and all solder joints.
Incorrect waveform	Incorrect jumper setting for waveform selection.	Adjust the waveform selection jumpers on the PCB.
Frequency or amplitude not adjustable	Faulty potentiometer, soldering error on potentiometer connections.	Inspect potentiometer connections and test the potentiometer if possible.
Unstable output	Poor power supply filtering, cold solder joint, faulty component.	Ensure stable power supply. Re-check all solder joints.

9. WARRANTY AND SUPPORT

As a DIY kit, specific warranty terms may vary. Please refer to the retailer or manufacturer's website for the most current warranty information and support options. For technical assistance, consult online forums or communities dedicated to the XR2206 function generator IC, as this is a widely documented component.

