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› VIGURTIME /

› VIGURTIME Music Spectrum Soldering Project Kit (MusicVT-17) Instruction Manual

VIGURTIME MusicVT-17

VIGURTIME Music Spectrum Soldering Project Kit (MusicVT-17) Instruction Manual

Model: MusicVT-17 | Brand: VIGURTIME

1. PRODUCT OVERVIEW

The VIGURTIME Music Spectrum Soldering Project Kit (MusicVT-17) is a DIY kit designed to convert sound into light, displaying a music spectrum, animated mouth talking, and pixel art on an 8x8 RGB LED display. This kit is an excellent STEAM project for individuals interested in electronics and soldering, recommended for ages 14 and up.

Key Features:

- **Music Spectrum Function:** Visualizes sound frequencies (50-1500Hz) with a rainbow color display.
- **Speak Animation Function:** Simulates a talking mouth, with size variations based on sound volume.
- **Pixel Art Display:** Features 10 classic pixel art animations.
- **High-Quality Components:** Includes FR-4 grade PCBs and 64 RGB full-color lamp beads.
- **Sensitive Pickup:** Real-time sound spectrum analysis with adjustable sensitivity.

2. WHAT'S IN THE BOX

Your VIGURTIME Music Spectrum Soldering Project Kit includes all necessary components for assembly:

- PCB boards
- Electronic components (resistors, capacitors, LEDs, buttons, microphone, etc.)
- Full-color instruction manual
- Acrylic casing parts (with protective film)

Please verify all components are present upon opening the package. If any parts are missing or damaged, contact customer support.



Figure 2.1: Components and soldering process.

3. SETUP AND ASSEMBLY

This kit requires soldering. Ensure you have a soldering iron, solder wire, side cutters, and a small Phillips head screwdriver. Follow the detailed full-color manual provided in the kit for step-by-step assembly instructions.

General Assembly Steps:

1. **Prepare Components:** Organize all electronic components and PCB boards. Note the clear marks on the FR-4 grade boards.
2. **Solder Components:** Carefully solder each component onto the designated spots on the PCB. Pay attention to component orientation (e.g., polarity of LEDs, capacitors).
3. **Assemble Acrylic Casing:** Remove the protective film from all acrylic parts. Assemble the casing around the soldered PCB, securing it with the provided screws.
4. **Power Connection:** Connect the 5V power cable.

2 High-quality PCBs

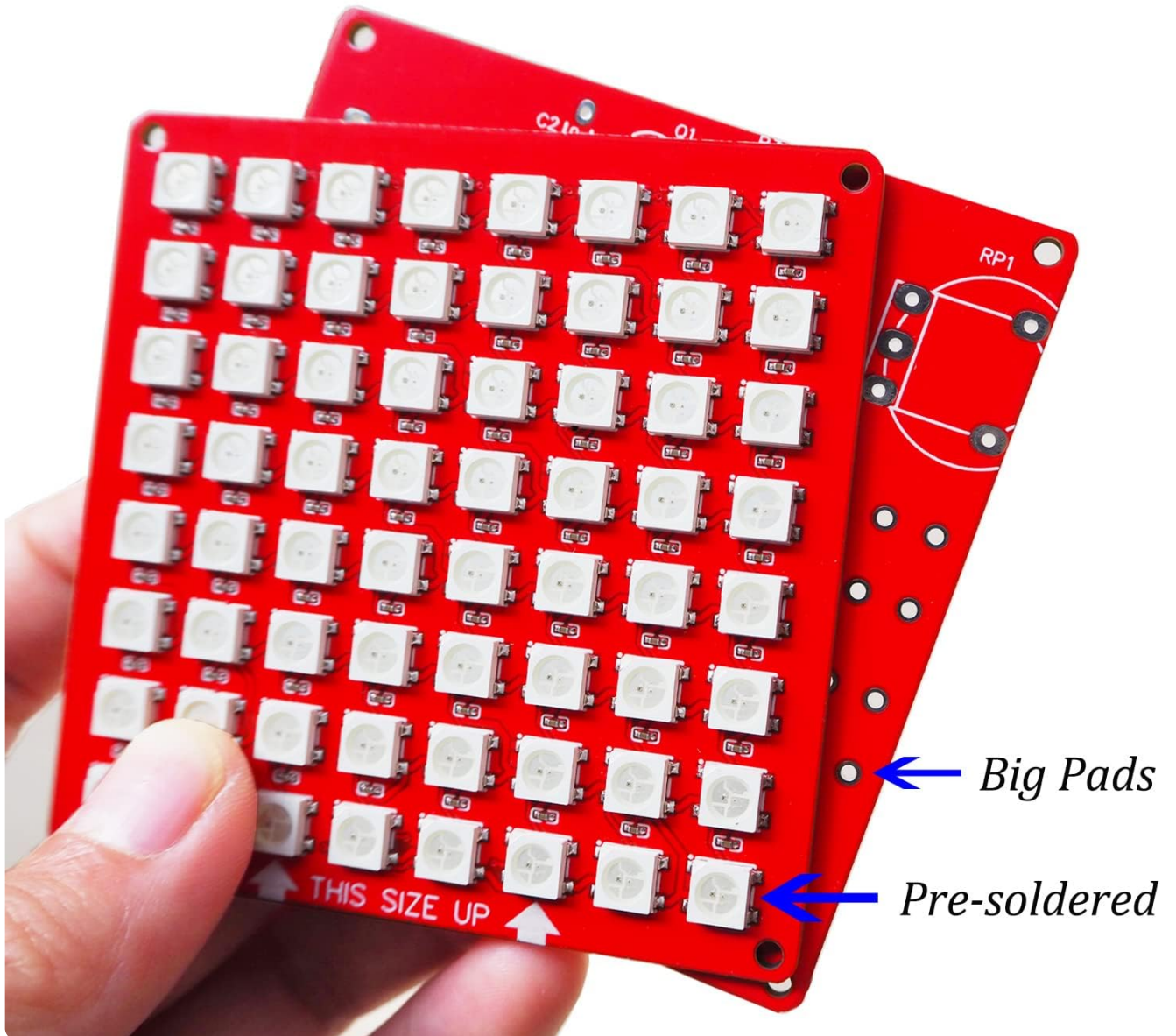
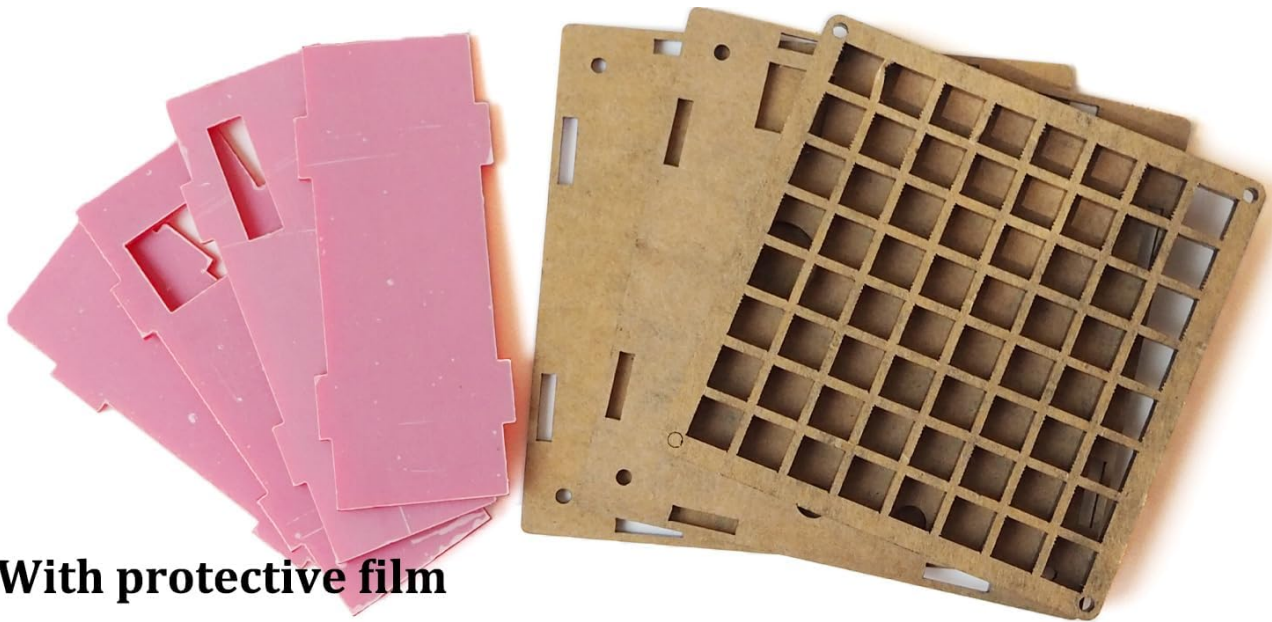


Figure 3.1: High-quality PCB boards with pre-soldered elements.



With protective film

After telling off protective film

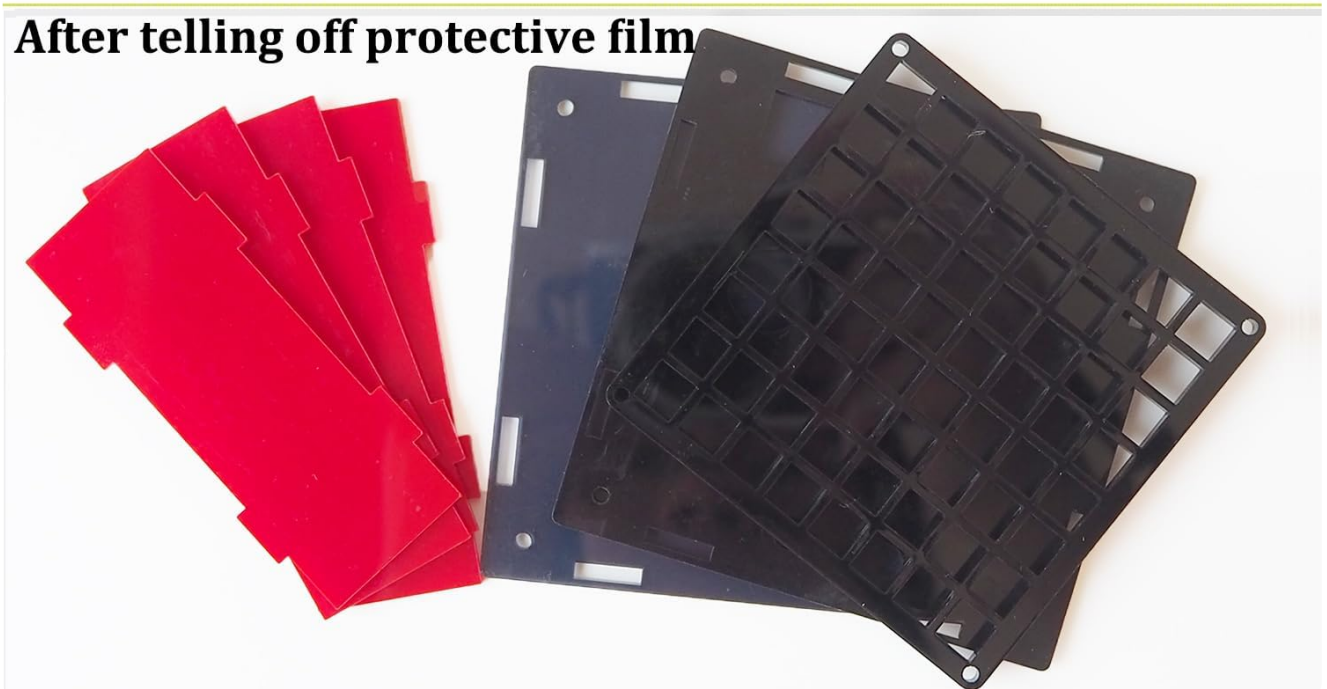


Figure 3.2: Acrylic casing parts before and after removing protective film.

Soldering Guidance:

For a visual guide on basic soldering techniques, refer to the video below. This can be helpful for beginners or as a refresher.

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Video 3.1: General Soldering Practice Kit Assembly. This video demonstrates basic soldering steps for electronic components.

4. OPERATING INSTRUCTIONS

Once assembled, the Music Spectrum Kit offers multiple interactive functions. The device is powered via a 5V power cable.

Controls:

Easy to Operate



Figure 4.1: Control layout of the Music Spectrum Kit.

- **Power Switch:** Located on the side, use to turn the device ON/OFF.
- **Adjust Sensitivity:** A knob on the side allows you to fine-tune the microphone's responsiveness to sound.
- **Switch Functions:** A button to cycle through the different display modes (Spectrum, Speak Animation, Pixel Art).
- **Adjust Brightness:** A button to change the brightness level of the LED display.

Display Modes:

- **Boot Animation:** A brief animation displayed upon startup.
- **Spectrum Function:** The 8x8 RGB display visualizes sound frequencies in real-time. The rainbow colors can be displayed in sequence.
- **Speak Animation:** A dynamic animation that simulates a person speaking. The 'mouth shape' on the display changes size according to the volume of the sound detected.
- **Pixel Art Display:** Cycles through 10 pre-programmed classic pixel art designs. You can toggle between pixel arts by tapping sound or fix the current art by turning down sensitivity.



Figure 4.2: Overview of the kit's three fun features.



Figure 4.3: Examples of pixel art displays and control instructions.

Product in Action:

Observe the assembled VIGURTIME Music Spectrum Kit in operation:

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Video 4.1: A brief demonstration of the Music Spectrum Kit's functionality.

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Video 4.2: Another demonstration highlighting the interactive features of the kit.

5. MAINTENANCE

To ensure the longevity and proper functioning of your VIGURTIME Music Spectrum Kit, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the acrylic casing and LED display. Avoid abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Handle the device with care to avoid damaging the soldered connections or electronic components.
- **Power Supply:** Always use a stable 5V power supply. Disconnect power when not in use for extended periods.

6. TROUBLESHOOTING

If you encounter issues with your Music Spectrum Kit, consider the following troubleshooting steps:

- **No Power:** Ensure the 5V power cable is securely connected and the power switch is in the ON position. Check the power adapter for functionality.
- **Display Not Working:** Verify all LED connections are properly soldered. Check for any short circuits or cold solder joints on the PCB.
- **No Sound Response:** Adjust the sensitivity knob. Ensure the microphone is not obstructed. Check the microphone's solder connections. Some users have reported improved performance by replacing the microphone if initial response is poor.
- **Incorrect Functionality:** Review your soldering work for any bridges between solder pads or incorrectly placed components. Refer to the instruction manual's schematic diagram.
- **Overheating:** If the device becomes excessively warm during prolonged use, consider reducing usage time or ensuring adequate ventilation.

7. SPECIFICATIONS

Product Dimensions	3 x 1.1 x 3 inches
Item Weight	4.2 ounces
Item Model Number	MusicVT-17
Manufacturer Recommended Age	14 years and up
Manufacturer	VIGURTIME

8. WARRANTY AND SUPPORT

Specific warranty information for the VIGURTIME Music Spectrum Soldering Project Kit (MusicVT-17) is not provided in the product details. For any warranty claims, technical support, or inquiries regarding missing/damaged parts, please contact the manufacturer, VIGURTIME, directly through their official channels or the retailer where the product was purchased.