

## FY3224S

# Generic DANIU FY3224S 24MHz Dual-channel Arbitrary Waveform DDS Function Signal Generator User Manual

Model: FY3224S (FFC-BG-1157268)

## 1. INTRODUCTION

This manual provides comprehensive instructions for the safe and efficient operation of the Generic DANIU FY3224S Dual-channel Arbitrary Waveform DDS Function Signal Generator. This device is designed to generate various waveforms, including sine, square, triangle, pulse, and arbitrary waveforms, with a maximum frequency of 24MHz. It also features frequency sweep and counter functions, making it suitable for a wide range of electronic testing and experimental applications.

## 2. SAFETY INFORMATION

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

- **Power Source:** Use only the specified power adapter and voltage. Ensure the power outlet is properly grounded.
- **Environment:** Operate the device in a dry, well-ventilated area, away from direct sunlight, high temperatures, humidity, and corrosive gases.
- **Ventilation:** Do not block ventilation openings.
- **Liquid Contact:** Avoid contact with liquids. Do not operate the device if it has been exposed to moisture.
- **Servicing:** Do not attempt to open or repair the device yourself. Refer all servicing to qualified personnel.
- **Cables:** Inspect all cables for damage before use. Do not use damaged cables.

## 3. PACKAGE CONTENTS

Verify that all items listed below are present in your package:

- DANIU FY3224S Function Signal Generator Unit
- Power Adapter/Cable
- BNC to Alligator Clip Cables (2 pcs)
- USB Data Cable

- CD with Software/Drivers (if applicable)



Figure 3.1: DANIU FY3224S Function Signal Generator and its accessories.

## 4. PRODUCT OVERVIEW

Familiarize yourself with the main components and controls of the signal generator.

### 4.1 Front Panel



Figure 4.1: Front Panel of the FY3224S.

1. **Power Switch (ON/OFF):** Toggles the device power.
2. **LCD Display:** Shows current settings, waveform parameters, and menu options.
3. **Control Knob:** Used for navigating menus and adjusting parameter values. Press to confirm selection.
4. **Directional Buttons (Left/Right):** Used for cursor movement or fine-tuning values.
5. **Function Buttons:**
  - **PARM:** Parameter settings.
  - **WAVE:** Waveform selection.
  - **COUNT:** Counter function.
  - **SWEEP:** Frequency sweep settings.
  - **SYS:** System settings.
  - **FUNCTION:** Additional function menu.
6. **Input Port:** For external signal input, typically for the counter function.
7. **Output Ports (CH1, CH2):** BNC connectors for waveform output.

## 4.2 Rear Panel

The rear panel typically houses the power input jack and potentially a USB communication port for PC connectivity.

## 5. SETUP

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1. **Power Connection:** Connect the provided power adapter to the power input jack on the rear panel of the signal generator. Plug the adapter into a suitable AC power outlet.
2. **Initial Power On:** Flip the ON/OFF switch on the front panel to the 'ON' position. The LCD display should illuminate, showing the startup screen and then the default waveform settings.
3. **Output Connection:** Connect the BNC output cables (CH1 or CH2) to your desired test equipment (e.g., oscilloscope, frequency counter, circuit under test).
4. **USB Connection (Optional):** If using PC software for control, connect the USB data cable from the signal generator's USB port to your computer. Install the necessary drivers and software from the provided CD or manufacturer's website.

## 6. OPERATING INSTRUCTIONS

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### 6.1 Basic Operation

- **Navigation:** Use the control knob to scroll through menu options or adjust values. Press the knob to select an option or confirm a value.
- **Parameter Adjustment:** When a parameter is highlighted, turn the knob to change its value. Use the left/right directional buttons for fine adjustments or to move the cursor within a number.
- **Channel Selection:** The device operates with two independent channels (CH1 and CH2). Ensure you are adjusting parameters for the correct channel.

### 6.2 Waveform Generation

1. Press the **WAVE** button to enter the waveform selection menu.
2. Turn the control knob to select the desired waveform type (e.g., Sine, Square, Triangle, Pulse, Arbitrary). Press the knob to confirm.

- 3. Press the **PARM** button to access waveform parameters.
- 4. Adjust parameters such as:
  - **Frequency (FREQ):** Set the output frequency.
  - **Amplitude (AMPL):** Set the peak-to-peak voltage.
  - **Offset (OFFSET):** Set the DC offset voltage.
  - **Duty Cycle (DUTY):** For square/pulse waves.
  - **Phase (PHASE):** For dual-channel synchronization.
- 5. Ensure the output channel (CH1 or CH2) is enabled if there's a dedicated button or menu option for it.

6.3 Frequency Sweep Function

- 1. Press the **SWEEP** button.
- 2. Set the **Start Frequency** and **End Frequency** using the control knob and directional buttons.
- 3. Set the **Sweep Time** (duration of the sweep).
- 4. Select the **Sweep Mode** (e.g., Linear, Logarithmic).
- 5. Activate the sweep function.

6.4 Counter Function

- 1. Connect the external signal to be measured to the **Input Port**.
- 2. Press the **COUNT** button.
- 3. The display will show the frequency or period of the input signal.
- 4. Adjust settings like gate time or coupling if available in the counter menu.

7. MAINTENANCE

- **Cleaning:** Disconnect power before cleaning. Use a soft, dry cloth to wipe the exterior of the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the device in a cool, dry place, away from dust and extreme temperatures, when not in use for extended periods.
- **Calibration:** Periodic calibration by qualified technicians may be required to maintain accuracy. Refer to the manufacturer's recommendations.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
Device does not power on.	Power cable not connected; power outlet faulty; power switch off.	Check power cable connection; try a different outlet; ensure power switch is ON.
No output signal.	Output channel disabled; incorrect parameters; faulty cable.	Ensure channel is enabled; verify frequency/amplitude settings; test with a different BNC cable.

Problem	Possible Cause	Solution
Incorrect frequency/amplitude readings on external device.	Improper impedance matching; external device calibration issue.	Ensure 50Ω termination if required; check external device settings and calibration.
Counter function not working.	Input signal too weak/strong; incorrect input connection.	Adjust input signal level; ensure signal is connected to the correct input port.

## 9. SPECIFICATIONS

- **Model:** FY3224S (FFC-BG-1157268)
- **Channels:** Dual-channel
- **Max Frequency:** 24MHz (Sine Wave)
- **Waveform Types:** Sine, Square, Triangle, Pulse, Arbitrary, etc.
- **Technology:** DDS (Direct Digital Synthesis)
- **Functions:** Waveform Generation, Frequency Sweep, Counter
- **Brand:** Generic (DANIU)
- **ASIN:** B0784RZ28Q
- **First Available Date:** 20 November 2017

## 10. WARRANTY AND SUPPORT

This product is covered by a standard manufacturer's warranty. For specific warranty terms, please refer to the documentation included with your purchase or contact the seller directly. For technical support, troubleshooting assistance beyond this manual, or inquiries regarding repairs, please contact the retailer or manufacturer's customer service department.