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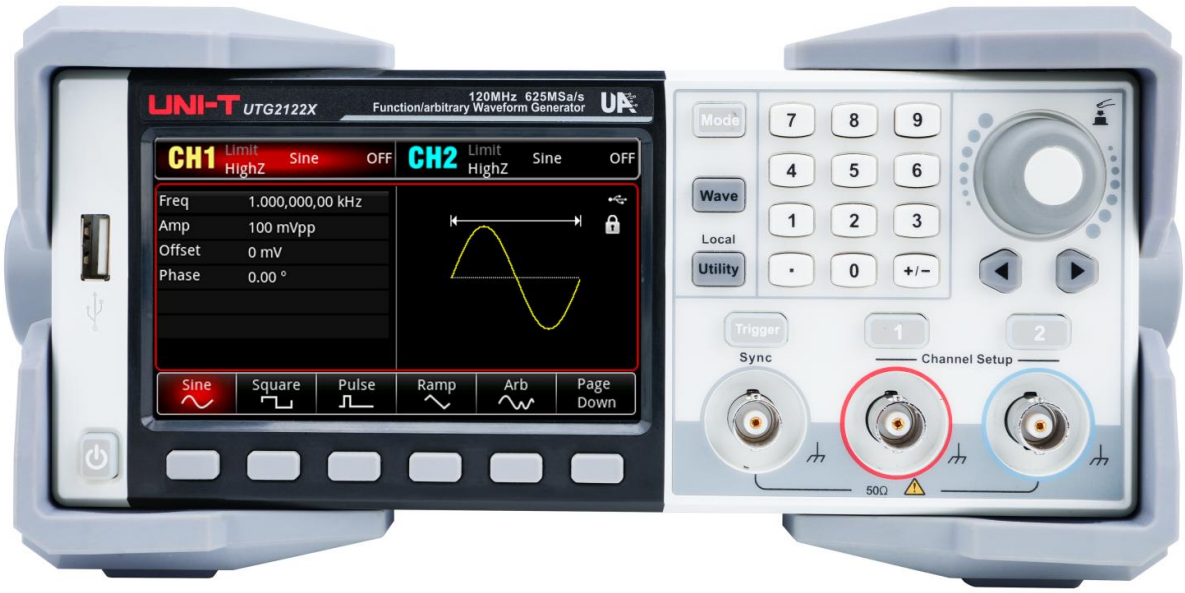
Instruments.uni-trend.com



UTG2000X

Series Function/Arbitrary Waveform Generator

Quick Guide

V1.1

2024.7

Foreword

Dear Users,

Hello! Thank you for choosing this brand new UNI-T instrument. In order to use this instrument safely and correctly, please read this manual thoroughly, especially the Safety Requirements part. After reading this manual, it is recommended to keep the manual at an easily accessible place, preferably close to the device, for future reference.

Copyright Information

Warranty Service

UNI-T warrants that the product will be free from defects for a three-year period. If the product is re-sold, the warranty period will be from the date of the original purchase from an authorized UNI-T distributor. Probes, other accessories, and fuses are not included in this warranty.

If the product is proved to be defective within the warranty period, UNI-T reserves the rights to either repair the defective product without charging of parts and labor, or exchange the defected product to a working equivalent product. Replacement parts and products may be brand new, or perform at the same specifications as brand new products. All replacement parts, modules, and products become the property of UNI-T.

The “customer” refers to the individual or entity that is declared in the guarantee. In order to obtain the warranty service, "customer" must inform the defects within the applicable warranty period to UNI-T, and to perform appropriate arrangements for the warranty service. The customer shall be responsible for packing and shipping the defective products to the designated maintenance center of UNI-T, pay the shipping cost, and provide a copy of the purchase receipt of the original purchaser. If the product is shipped domestically to the location of the UNI-T service center, UNI-T shall pay the return shipping fee. If the product is sent to any other location, the customer shall be responsible for all shipping, duties, taxes, and any other expenses.

This warranty shall not apply to any defects or damages caused by accidental, machine parts’ wear and tear, improper use, and improper or lack of maintenance. UNI-T under the provisions of this warranty has no obligation to provide the following services:

a) Any repair damage caused by the installation, repair, or maintenance of the product by non UNI-T service representatives.

b) Any repair damage caused by improper use or connection to an incompatible device.

c) Any damage or malfunction caused by the use of a power source which does not conform to the requirements of this manual.

d) Any maintenance on altered or integrated products (if such alteration or integration leads to an increase in time or difficulty of product maintenance).

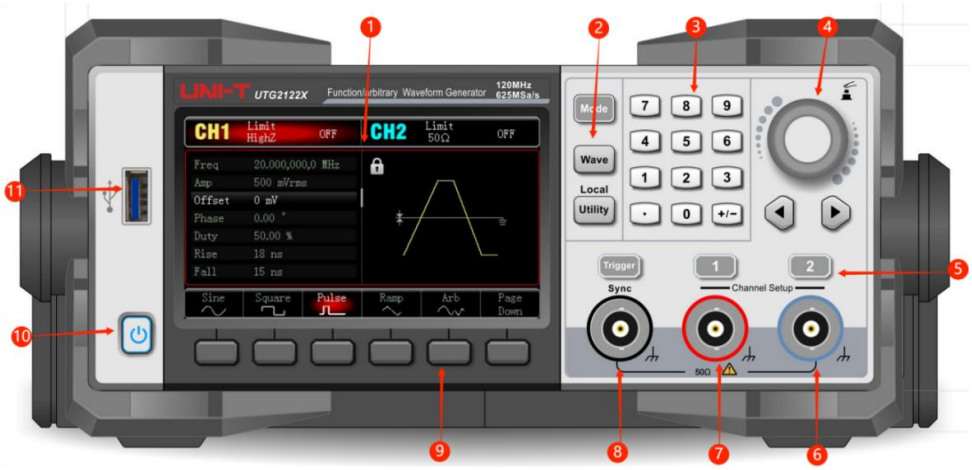
This warranty is written by UNI-T for this product, and it is used to substitute any other express or implied warranties. UNI-T and its distributors do not offer any implied warranties for merchant ability or applicability purposes.

For violation of this guarantee, regardless of whether UNI-T and its distributors are informed that any indirect, special, incidental, or consequential damage may occur, UNI-T and its distributors shall not be responsible for any of the damages.

Chapter 1 Panel Introduction

1.1 Front Panel

The product has a front panel of simple, intuitive and easy to use, as shown in the following figure.



1. Display Screen

   4.3 inch high resolution TFT color LCD is clearly distinguishes the output status of channel 1 and channel 2, function menu and other important information through different colors. The humanized system interface can make human-computer interaction become easier and improve work efficiency.

2. Function Key

   Mode, Wave, Utility key to set the modulation, carrier wave parameter and modulating parameter and auxiliary function.

3. Numerical Keyboard

   Digit key 0-9, decimal point ".", symbolic key "+/-" for input the parameter. The left key is used to backspace and delete the previous bit of the current input.

4. Multifunction rotary knob / Arrow Key

   Multifunction rotary knob is used for changing number (rotate clockwise to increase number) or as the arrow key, press the knob to select the function or confirm the setting.

   When using multifunction rotary knob and arrow key to set the parameter, it is used to switch the digital bits or clear the previous bit or move (to left or right) cursor position.

5. CH1/CH2 Output Control Key

   Quickly to switch the current channel display on the screen (The highlighted CH1 info bar indicates the current channel, the parameter list displays the relevant information of CH1, so as to set the waveform parameters of channel 1.) If CH1 is the current channel (CH1 info bar

is highlighted), press CH1 key to quickly turn on/off CH1 output, or press Utility key to pop out the bar and then press CH1 Setting softkey to set. When channel output is enabled, the indicator light will be illumined, the info bar will display the output mode ("Wave", "Modulate", "Linear" or "Log") and signal will output by output terminal. When CH1 key or CH2 key is disabled, the indicator light will be extinguished, the info bar will display "OFF" and turn off the output port.

6. Channel 2

   CH2 output interface.

7. Channel 1

   CH1 output interface.

8. Sync output interface

   When sync output interface of channel is enabled, it acts as an interface for the synchronous output signal of the channel.

9. Menu Softkey

   Select or view the contents of the softkey labels (at the bottom of the function screen) and set the parameters with the numeric keypad or multifunction rotary knobs or arrow keys.

10. Power Supply Switch

    Press the power supply switch to turn on the instrument, press it again to turn it off.

11. USB Interface

    USB interface is used to connect with an external USB storage device. The instrument supports USB FAT32 32G. Through this interface, arbitrary waveform data files saved in USB can be read or imported. In addition, the system of the instrument can be upgraded through this interface. It can make sure that the program of function/arbitrary waveform generator is the latest released version.

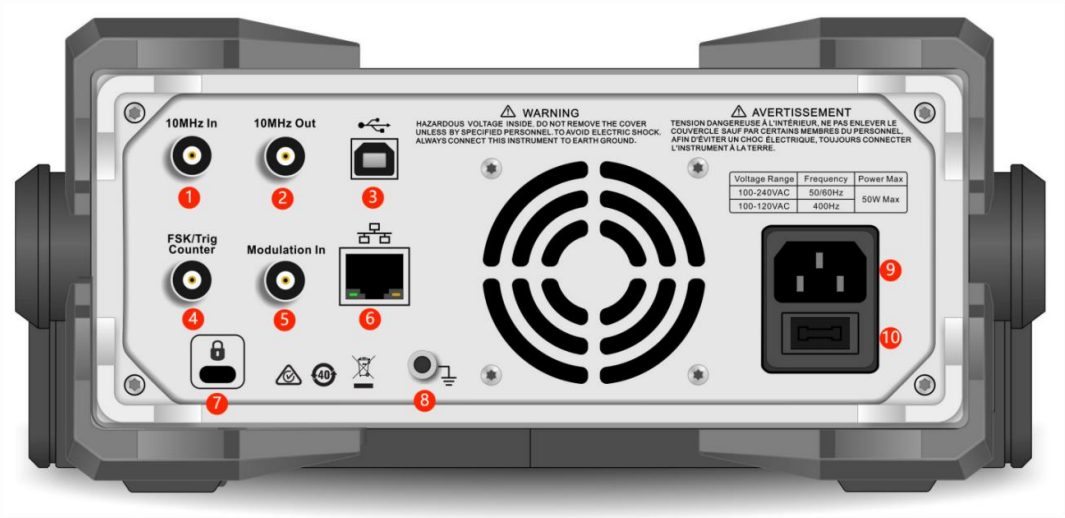
Note

The channel output interface has overvoltage protective function, it will be generated when one of the following condition is met.

- The amplitude of the instrument is larger than 4 Vpp, the input voltage is larger than | ±12 V | , frequency is less than 10 kHz.
- The amplitude of the instrument is less than 4 Vpp, the input voltage is larger than | ±5 V | , frequency is less than 10 kHz.

When the overvoltage protective function is enabled, the channel will automatically disconnects the output.

1.2 Rear Panel



1. External 10 MHz input interface

   Build synchronization between multiple function and arbitrary waveform generator or synchronizing with external 10 MHz clock signal. When the instrument detects a 10 MHz clock signal (input requirement: frequency is 10 MHz, amplitude is TTL), the signal will automatically be the external clock source, an icon EXT 10M will displayed at the upper right on the user page. If the external clock source is missing, over limit or not connected, the clock source will automatically switch to the internal and an icon EXT 10M will disappear.

2. Internal 10 MHz output interface

   Build synchronization between multiple function and arbitrary waveform generator or export the reference frequency with external 10 MHz clock signal.

3. USB Host

   This port is used to connect to the upper computer for remote control.

4. FSK/Trig/Counter (external digital modulation/trigger signal/frequency meter/signal output of sweep frequency and pulse string)

   In ASK, FSK, PSK, OSK, when the modulation source is external, a modulation signal (TTL) can be imported via the external digital modulation interface. The output amplitude, frequency and phase will be determined by the signal from the external digital modulation interface.

   When trigger source of sweep frequency is external, a TTL with specified polarity can be imported via the external digital modulation interface. This pulse signal can enable the sweep frequency.

   When the pulse string mode is gate, the trigger source of N cycle and infinite is external, a

gate signal can be imported via the external digital modulation interface. This pulse string can export the pulse string with specified number of cycles.

When the trigger source of sweep frequency and pulse string is internal or manual, the trigger source (square wave) can export via the external digital modulation interface. This signal is compatible with TTL.

When use the frequency meter function, a signal (compatible TTL) can export via the external digital modulation interface.

5. Modulation In (external analog modulation input interface)

   In AM, FM, PM, DSB-AM, SUM or PWM, when the modulation source is external, a modulation signal can be imported via the external analog modulation input interface. The modulating depth, frequency deviation, phase deviation or duty cycle deviation will be controlled by ±5V signal level of the external analog modulation input terminal.

6. LAN interface

   The instrument can connect to local area network via this port for remote control.

7. Safety lock (purchase separately)

   Lock the oscilloscope at fixed position.

8. Ground terminal

   Provides an electrical ground connection for connecting an anti-static wrist strap when moving the instrument or to reduce electrostatic damage (ESD) when connecting DUT.

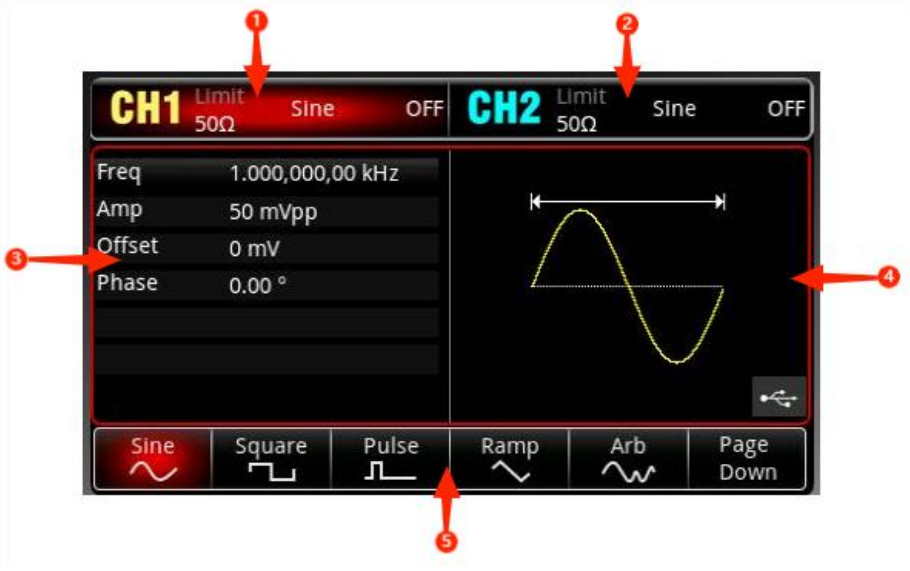
9. AC power input

   AC power specification of UTG2000X series, refer to the section of Connecting Power Supply.

10. Main power switch

    When the power switch is “I”, indicating that the instrument is power on. When the power switch is “O”, indicating that the instrument is power off (the power switch on the front panel does not work).

1.3 Function Interface



1. CH1 info, the currently selected channel will be highlighted.
   "50 Ω" indicates the impedance 50 Ω to be matched at the output port (1 Ω to 999999 Ω, or high impedance, the default is HighZ).
   "Sine" (Sine wave) indicates the current mode is sine wave. (In different working modes, it may be "AM ", "N cycle", "Gate", "Linear" or "Log".)
   Tap CH1 info label to switch the current channel and turn on the setup menu.
2. CH2 info is the same as CH1.
3. Waveform parameter list: the parameter of the current wave will be displayed in a list format. If an item indicates pure white in the list, then it can be set by the menu softkey, numerical keyboard, arrow keys and multifunction rotary knob. If the bottom color of the current character is the color of the current channel (it is white when the system is being set up), it means that this character enters the editing state and the parameters can be set with the arrow keys or numeric keyboard or multifunction rotary knob.
4. Waveform display area: display the current wave of the channel (it can distinguish the current belongs to which channel by the color or CH1/CH2 info bar, the wave parameter will be displayed in the list at the left side.)
   Notes: There is no wave display area when the system is being set up. This area is expanded into a list of parameters.
5. Softkey label: to identify the function menu softkey and the menu operation softkey.
   Highlight: It indicates that the right center of the label displays the color of the current channel or the gray when the system is being set up, and the font is pure white.

Chapter 2 User's Guide

This manual is to introduce the safety requirements, installment and the operation of UTG2000X series function/arbitrary generator.

2.1 Inspecting Packaging and List

When you receive the instrument, please make sure to check the packaging and list by the following steps.

- Check packing box and padding material whether is extruded or teased caused by external forces, and further checking the appearance of the instrument. If you have any questions about the product or need consulting services, please contact the distributor or local office.
- Carefully to take out the article and check it with the packing list.

2.2 Safety Requirements

This section contains information and warnings that must be followed to keep the instrument operating under safety conditions. In addition, user should also follow the common safety procedures.

Safety Precautions

Warning	**Please follow the following guidelines to avoid possible electric shock and risk to personal safety.**
	Users must follow the following conventional safety precautions in operation, service and maintenance of this device. UNI-T will not be liable for any personal safety and property loss caused by the user's failure to follow the following safety precautions. This device is designed for professional users and responsible organizations for measurement purposes.
	Do not use this device in any way not specified by the manufacturer. This device is only for indoor use unless otherwise specified in the product manual.

Safety Statements

Warning	"Warning" indicates the presence of a hazard. It reminds users to pay attention to a certain operation process, operation method or similar. Personal injury or death may occur if the rules in the "Warning" statement are not properly executed or observed. Do not proceed to the next step until you fully understand and meet the conditions stated in the "Warning" statement.
Caution	"Caution" indicates the presence of a hazard. It reminds users to pay attention to a certain operation process, operation method or similar. Product damage or loss of important data may occur if the rules in the "Caution" statement are not properly executed or observed. Do not proceed to the next step until you fully understand and meet the conditions stated in the "Caution" statement.
Note	"Note" indicates important information. It reminds users to pay attention to procedures, methods and conditions, etc. The contents of the "Note" should be highlighted if necessary.

Safety Sign

	**Danger**	It indicates possible danger of electric shock, which may cause personal injury or death.
	**Warning**	It indicates that you should be careful to avoid personal injury or product damage.
	**Caution**	It indicates possible danger, which may cause damage to this device or other equipment if you fail to follow a certain procedure or condition. If the "Caution" sign is present, all conditions must be met before you proceed to operation.
	**Note**	It indicates potential problems, which may cause failure of this device if you fail to follow a certain procedure or condition. If the "Note" sign is present, all conditions must be met before this device will function properly.
	**AC**	Alternating current of device. Please check the region's voltage range.
	**DC**	Direct current device. Please check the region's voltage range.
	**Grounding**	Frame and chassis grounding terminal
	**Grounding**	Protective grounding terminal
	**Grounding**	Measurement grounding terminal

○	**OFF**	Main power off
|	**ON**	Main power on
⏻	**Power Supply**	Standby power supply: when the power switch is turned off, this device is not completely disconnected from the AC power supply.
CAT I		Secondary electrical circuit connected to wall sockets through transformers or similar equipment, such as electronic instruments and electronic equipment; electronic equipment with protective measures, and any high-voltage and low-voltage circuits, such as the copier in the office.
CAT II		CATII: Primary electrical circuit of the electrical equipment connected to the indoor socket via the power cord, such as mobile tools, home appliances, etc. Household appliances, portable tools (e.g. electric drill), household sockets, sockets more than 10 meters away from CAT III circuit or sockets more than 20 meters away from CAT IV circuit.
CAT III		Primary circuit of large equipment directly connected to the distribution board and circuit between the distribution board and the socket (three-phase distributor circuit includes a single commercial lighting circuit). Fixed equipment, such as multi-phase motor and multi-phase fuse box; lighting equipment and lines inside large buildings; machine tools and power distribution boards at industrial sites (workshops).
CAT IV		Three-phase public power unit and outdoor power supply line equipment. Equipment designed to "initial connection", such as power distribution system of power station, power instrument, front-end overload protection, and any outdoor transmission line.
CE	**Certification**	CE indicates a registered trademark of EU
UKCA	**Certification**	UKCA indicates a registered trademark of UK
ETL Intertek 4007682	**Certification**	Conforms to UL STD 61010-1, 61010-2-030, Certified to CSA STD C22.2 No. 61010-1, 61010-2-030.
	Waste	Do not place equipment and its accessories in the trash. Items must be properly disposed of in accordance with local regulations.
40	**EFUP**	This environment-friendly use period (EFUP) mark indicates that dangerous or toxic substances will not leak or cause damage within this indicated time period. The environment-friendly use period of this product is 40 years, during which it can be used safely. Upon expiration of this period, it should enter the recycling system.

Safety Requirements

Warning	
Preparation before use	Please connect this device to AC power supply with the power cable provided; The AC input voltage of the line reaches the rated value of this device. See the product manual for specific rated value. The line voltage switch of this device matches the line voltage; The line voltage of the line fuse of this device is correct. It not used for measuring the main circuit,
Check all terminal rated values	Please check all rated values and marking instructions on the product to avoid fire and impact of excessive current. Please consult the product manual for detailed rated values before connection.
Use the power cord properly	You can only use the special power cord for the instrument approved by the local and state standards. Please check whether the insulation layer of the cord is damaged or the cord is exposed, and test whether the cord is conductive. If the cord is damaged, please replace it before using the instrument.
Instrument Grounding	To avoid electric shock, the grounding conductor must be connected to the ground. This product is grounded through the grounding conductor of the power supply. Please be sure to ground this product before it is powered on.
AC power supply	Please use the AC power supply specified for this device. Please use the power cord approved by your country and confirm that the insulation layer is not damaged.
Electrostatic prevention	This device may be damaged by static electricity, so it should be tested in the anti-static area if possible. Before the power cable is connected to this device, the internal and external conductors should be grounded briefly to release static electricity. The protection grade of this device is 4 kV for contact discharge and 8 kV for air discharge.
Measurement accessories	Measurement accessories are of lower class, which are definitely not applicable to main power supply measurement, CAT II, CAT III or CAT IV circuit measurement. Probe subassemblies and accessories within the range of IEC 61010-031 and current sensor within the range of IEC 61010-2-032 can meet its requirements.
Use the input / output port of this device properly	Please use the input / output ports provided by this device in a properly manner. Do not load any input signal at the output port of this device. Do not load any signal that does not reach the rated value at the input port of this device. The probe or other connection accessories should be effectively

	grounded to avoid product damage or abnormal function. Please refer to the product manual for the rated value of the input / output port of this device.
Power fuse	Please use power fuse of specified specification. If the fuse needs to be replaced, it must be replaced with another one that meets the specified specifications by the maintenance personnel authorized by UNI-T.
Disassembly and cleaning	There are no components available to operators inside. Do not remove the protective cover. Maintenance must be carried out by qualified personnel.
Service environment	This device should be used indoors in a clean and dry environment with ambient temperature from 10 °C ~ +40 °C。 Do not use this device in explosive, dusty or humid air.
Do not operate in humid environment	Do not use this device in a humid environment to avoid the risk of internal short circuit or electric shock.
Do not operate in flammable and explosive environment	Do not use this device in a flammable and explosive environment to avoid product damage or personal injury.
Caution	
Abnormality	If this device may be faulty, please contact the authorized maintenance personnel of UNI-T for testing. Any maintenance, adjustment or parts replacement must be done by the relevant personnel of UNI-T.
Cooling	Do not block the ventilation holes at the side and back of this device; Do not allow any external objects to enter this device via ventilation holes; Please ensure adequate ventilation, and leave a gap of at least 15 cm on both sides, front and back of this device.
Safe transportation	Please transport this device safely to prevent it from sliding, which may damage the buttons, knobs or interfaces on the instrument panel.
Proper ventilation	Poor ventilation will cause the device temperature to rise, thus causing damage to this device. Please keep proper ventilation during use, and regularly check the vents and fans.
Keep clean and dry	Please take actions to avoid dust or moisture in the air affecting the performance of this device. Please keep the product surface clean and dry.
Note	
Calibration	The recommended calibration period is one year. Calibration should only be carried out by qualified personnel.

2.3 Environmental Requirements

This instrument is suitable for the following environment.

- Indoor use
- Pollution degree 2
- Overvoltage category: This product should be connected to a power supply that meets Overvoltage Category II. This is a typical requirement for connecting devices via power cords and plugs.
- In operating: altitude lower than 2000 meters; in non-operating: altitude lower than 15000 meters
- Unless otherwise specified, operating temperature is 10 to +40°C; storage temperature is -20 to +60
- In operating, humidity temperature below to +35°C, ≤90% RH. (Relative humidity)
- In non-operating, humidity temperature +35°C to +40°C, ≤60% RH. (Relative humidity)

There are ventilation opening on the rear panel and side panel of the instrument. So please keep the air flowing through the vents of the instrument housing. To prevent excessive dust from blocking the vents, please clean the instrument housing regularly. The housing is not waterproof, please disconnect the power supply first and then wipe the housing with a dry cloth or a slightly moistened soft cloth.

2.4 Connecting Power Supply

The specification of input AC power.

Voltage Range	Frequency
100-240 VAC (fluctuant ±10 %)	50/60 Hz
100-120 VAC (fluctuant ±10 %)	400 Hz

Please use the attached power lead to connect to the power port.

Connecting to service cable

This instrument is a Class I safety product. The supplied power lead has good performance in terms of case ground. This spectrum analyzer is equipped with a three-prong power cable that meets international safety standards. It provides good case grounding performance for the specification of your country or region.

Please install AC power cable as follow.

- Ensure the power cable is in a good condition.
- Leave enough space for connecting the power cord.
- Plug the attached three-prong power cable into a well-grounded power socket.

2.5 Electrostatic Protection

Electrostatic discharge may cause damage to component. Components can be damaged invisibly by electrostatic discharge during transportation, storage and use.

- The following measure can reduce the damage of electrostatic discharge.
- Testing in anti-static area as far as possible.
- Before connecting the power cable to the instrument, inner and outer conductors of the instrument should be briefly grounded to discharge static electricity.
- Ensure all the instruments are properly grounded to prevent the accumulation of static.

2.6 Preparation Work

1. Connect the power supply wire, plug the power socket into the protective grounding socket; adjust the alignment jig according to your view.
2. Press the software switch  on the front panel to boot-up the instrument.

2.7 Remote Control

UTG2000X series function/arbitrary waveform generator supports communication with the computer via USB, LAN interface. User can use SCPI via USB, LAN interface and combined with programming language or NI-VISA to remote control the instrument and operating other programmable instrument which is also supports SCPI.

The detailed information about the installation, remote control mode and the programming, please refer to *UTG2000X Series Programming Manual* at the official website http:// www.uni-trend.com

2.8 Help Information

UTG2000X series function/arbitrary waveform generator has built-in help system for each function key and menu control key. Long press any softkey or button to check help information.

Chapter 3 Quick Start

3.1 Output Basic Waveform

3.1.1 Output Frequency

Default waveform: a sine wave with frequency 1 kHz, amplitude 100 mV peak-to-peak (connect with 50 Ω port)

The specific steps to change the frequency to 2.5 MHz are as follows.

Press Wave →Sine →Freq key in turn, use the numerical keyboard to enter 2.5 and then select the unit of the parameter to MHz.

3.1.2 Output Amplitude

Default waveform: a sine wave with amplitude 100 mV peak-to-peak (connect with 50 Ω port)

The specific steps to change the amplitude to 300 mVpp are as follows.

Press Wave →Sine → Amp key in turn, use the numerical keyboard to enter 300 and then select the unit of the parameter to mVpp.

3.1.3 DC Deviation Voltage

The DC deviation voltage is a sine wave of 0 V by default (connect with 50 Ω port).

The specific steps to change the DC deviation voltage to -150 mV are as follows.

Press Wave →Sine → Offset key in turn, use the numerical keyboard to enter -150 and then select the unit of the parameter to mV.

Note: This parameter can also be set by multipurpose rotary knob and arrow keys.

3.1.4 Phase

The default phase is 0°.

The specific steps to change the phase to 90°are as follows.

Press the softkey Phase, use the numerical keyboard to enter 90 and then select the unit of the parameter to °.

3.1.5 Duty Cycle of Pulse Wave

The default frequency of pulse wave is 1 kHz, the duty cycle is 50 % (limited by a minimum pulse width specification of 22 ns)

The specific steps to set duty cycle to 25 % (limited by a minimum pulse width specification of 22 ns) are as follows.

Press Wave →Pluse → Duty key in turn, use the numerical keyboard to enter 25 and then select the unit of the parameter to %.

3.1.6 Symmetry of Ramp Wave

The default frequency of pulse wave is 1 kHz.

The specific steps to set the symmetry to 75 are as follows.

Press Wave →Ramp → Symmetry key in turn, use the numerical keyboard to enter 75 and then select the unit of the parameter to %.

3.1.7 DC Voltage

The default DC voltage is 0 V.

The specific steps to change the DC voltage to 3 V are as follows.

Press Wave →Page Down → DC key in turn, use the numerical keyboard to enter 3 and then select the unit of the parameter to V.

3.1.8 Noise Wave

The default noise wave Gaussian noise with amplitude of 100 mVpp, DC deviation is 0 V.

The specific steps to set Gaussian noise amplitude 300 mVpp, DC deviation 1 V are as follows.

Press Wave →Page Down → Noise → Amp key in turn, use the numerical keyboard to enter 300 and then select the unit of the parameter to mVpp, press Phase key, use the numerical keyboard to enter 1 and then select the unit of the parameter to V.

3.1.9 Harmonic Wave

The default frequency of harmonic wave is 1 kHz.

The specific steps to set the total harmonic times to 10 are as follows.

Press Wave →Page Down → Harmonic → Order in turn, use the numerical keyboard to enter 10 and then press Type key to select All.

3.1.10 PRBS

The default frequency of PRBS is 100 bps.

The specific steps to set PN7, edge time to 20 ns are as follows.

Press Wave →Page Down → PRBS → PNCode key in turn, select PN7, press Edge Time key, use the numerical keyboard to enter 20 and then select the unit of the parameter to ns.

3.1.11 Expression

An expression is a combination of numbers, operators, numerical separators (brackets), free variables, etc. that describes the output waveform in a meaningful arrangement that can result in a numerical value, the basic format is Vout =f(x), such as f(x) is (x-1)*x*(x+1).

Since the signal source output is a repetition of the signal over a finite period of time, the variable range in the expression f(x) should be defined, x is defined by Exp Start and Exp End. The expression has 18 kinds of function mixed operation, press the Exp Str key to enter the expression editing menu, press the Page Down key to cycle switch between the operator or expression.

The default formula of expression is sin(x), and the default start value is 0. Take the formula "cos(x), the end value is 6.2831852, the frequency is 200 kHz, and the amplitude is 200 mVpp" as an example, the specific steps are as follows.

Press the Wave →Page Down →Exp →Exp Str key in sequence, and use the arrow key to clear the expression text box, and select cos in expression menu, and select x and press the rotary to enter.

Press the Exp End key and use the numerical keyboard to enter 6.2831852, and press the Freq key and use the numerical keyboard to enter 200, and select the unit to kHz, finally, press the Amp key and use the numerical keyboard to enter 200, and then select the unit to mVpp complete the setting.

Chapter 4 Troubleshooting

Possible faults in use of UTG2000X and troubleshooting methods are listed below. Please handle fault as the corresponding steps. If it cannot be fixed, please contact with the distributor or local office and provide the model information (press Utility →System →About key in turn to check the model info).

4.1 No Display (Blank Screen)

If the waveform generator is blank screen when press the power switch on the front panel.

1) Inspect whether the power source is properly connected.
2) Inspect whether the power button is pressed.
3) Restart the instrument.
4) If the instrument still can't work, please contact with the distributor or local office for product maintenance service.

4.2 No Waveform Output

The setting is correct but the instrument has no waveform output.

1) Inspect whether BNC cable and the output terminal is properly connected.
2) Inspect whether CH1, CH2 button is turned on.
3) If the instrument still can't work, please contact with the distributor or local office for product maintenance service.

Chapter 5 Appendix

5.1 Maintenance and Cleaning

(1) General Maintenance

Keep the instrument away from the direct sunlight.

Caution

Keep sprays, liquids and solvents away from the instrument or probe to avoid damaging the instrument or probe.

(2) Cleaning

Check the instrument frequently according to the operating condition. Follow these steps to clean the external surface of the instrument:

a. Please use a soft cloth to wipe the dust outside the instrument.

b. When cleaning the LCD screen, please pay attention and protect the transparent LCD screen.

c. When cleaning the dust screen, use a screwdriver to remove the screws of the dust cover and then remove the dust screen. After cleaning, install the dust screen in sequence.

d. Please disconnect the power supply, then wipe the instrument with a damp but not dripping soft cloth. Do not use any abrasive chemical cleaning agent on the instrument or probes.

Warning

Please confirm that the instrument is completely dry before use, to avoid electrical shorts or even personal injury caused by moisture.

5.2 Contact Us

If the use of this product has caused any inconvenience, if you in mainland China you can contact UNI-T company directly.

Service support: 8am to 5.30pm (UTC+8), Monday to Friday or via email. Our email address is infosh@uni-trend.com.cn

For product support outside mainland China, please contact your local UNI-T distributor or sales center.

Many UNI-T products have the option of extending the warranty and calibration period, please contact your local UNI-T dealer or sales center.

To obtain the address list of our service centers, please visit our website at URL: http://www.uni-trend.com