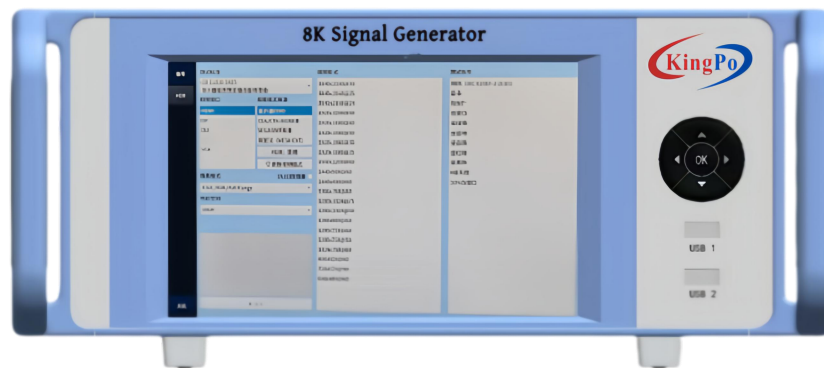


# RD-21520

## 8K signal generator



*Thank you for buying our products.*

*In order that you can use this product correctly and skillfully, please be sure to read this manual carefully before using it; and keep this manual properly for future reference.*

*In order to help you understand and use this product correctly, some graphics/images are used in this manual. It may differ from the actual product. Please refer to the actual product for details.*



### **Safety precautions**

- In the process of transportation and storage, this equipment should be prevented from heavy pressure, violent vibration and soaking and other incorrect operation methods.
- Prevent water or other liquids from flowing into the equipment to avoid accidents.
- This equipment uses 220V/50Hz AC power supply, and other power supplies must not be used. This equipment uses three-core power cord, please ensure that the ground wire of the power socket is well grounded.
- When wiping the liquid or dust on the shell, you should first unplug the power cord from the power socket.
- When not using this equipment for a long time, please unplug the power cord from the power socket.
- Please do not use this equipment beyond the specified temperature and humidity specifications.
- In use, all electrical safety standards must be strictly observed. Signal lines should be kept at a sufficient distance from high-voltage equipment or cables during signal transmission, and necessary safety protection measures such as lightning protection and surge protection should be taken for the equipment.
- This device is a special instrument, can only copy data signals to the

memory of the device, can not install any software, can not operate software unrelated to this device.

- This equipment is a special instrument, please do not delete or modify the software and data of the equipment.

- This equipment is a special instrument, please do not disassemble and replace the internal parts of this equipment, there are no parts for users to repair inside this equipment.

#### **declare**

- If the above safety precautions are not complied with, the equipment cannot work normally. The company is not responsible for warranty and maintenance.

- Without the permission of the Company, no individual or entity shall reproduce, reproduce in any form or by any means, or translate this Manual into other machine-readable electronic media in whole or in part.

- Any modification of this specification will not be notified separately.

- If the equipment structure is changed and does not conform to this manual, please refer to the actual product.

- If the software version upgrade is inconsistent with this manual, please refer to the software.

### 1 Overview

#### 1.1 Product Introduction

The RD-21520 8K signal generator meets the requirements of mainstream video testing, covers all test signals in the standard, and has the characteristics of multi-interface, high resolution, high refresh rate, etc., which can provide standard video test signals for energy efficiency testing of various displays.

#### 1.2 Application areas:

1. Energy efficiency test of ordinary display, commercial display, LED display, interactive all-in-one machine and other display equipment;

2. Display performance test of ordinary display, commercial display, LED display, interactive all-in-one machine and other display equipment.

#### 1.3 Functional Features:

Multi-interfaces: with HDMI, DP, DVI, USB-C, VGA a total of 5 video output interfaces, covering the vast majority of display interfaces;

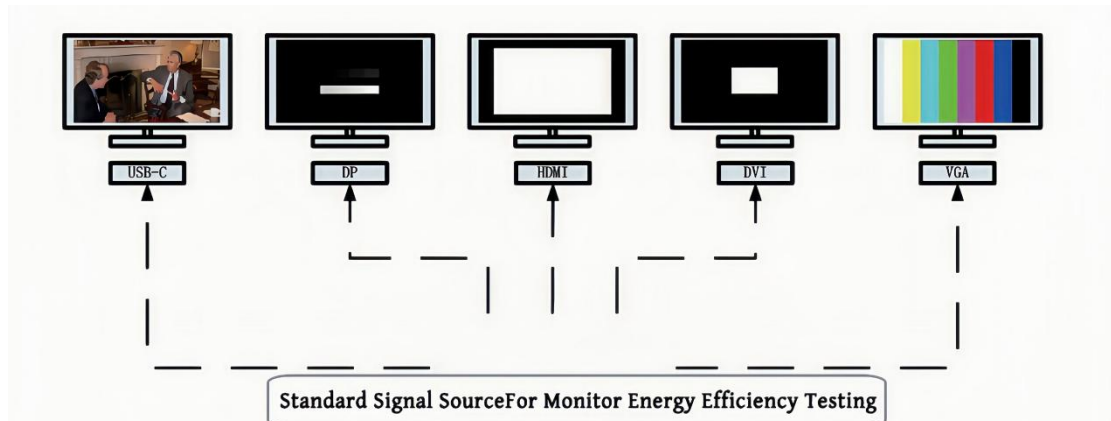
High resolution: up to 7680 x 4320 resolution, meet the requirements of 8K display test;

High refresh rate: up to 300Hz refresh rate, meet the requirements of high performance display testing;

Rich test signals: built-in 8bit, 10bit, RGB, YUV and other multi-pixel formats of standard video test signals, fully covering GB 21520-2023 standard;

Friendly human-computer interaction: equipped with 8-inch LCD capacitive touch screen, providing friendly human-computer interaction interface;

Multiple working modes: Supports two working modes, reading EDID and ignoring EDID. In the reading EDID mode, the video resolution supported by the tested display can be listed for selection output.

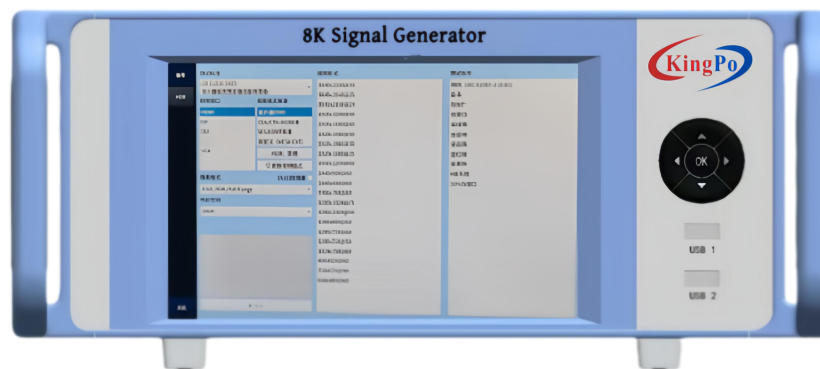


#### 1.4 Technical Specifications:

applied code	GB 21520-2023 Energy efficiency limit value and energy efficiency grade of display
Video interface	HDMI、DP、DVI、USB-C、VGA
Pixel format	8bit RGB444 Full Range、8bit RGB444 Narrow Range、8bit YUV422 Narrow Range、10bit RGB444 Full Range、10bit RGB444 Narrow Range、10bit YUV422 Narrow Range
Color gamut space	ITU-R BT.601, ITU-R BT.709, ITU-R BT.2020, etc
brightness range	SDR、HDR
test signal	A. Dynamic video signals specified in IEC 62087-2; B. 8 level gray scale test signal; c. White window test signal; D. Full field signals, including full white field, full black field, full red field, full blue field and full green field; e. 10% white window signal.
HDMI	HDMI2.1 is forward compatible, supports FRL/TMDS mode, and

	supports video formats up to 8K@60Hz, 4K@160Hz, and below.
DP	DP-1.4 standard, forward compatible, supports video formats up to 8K@60Hz, 4K@160Hz and below.
USB-C	Supports 4K@60Hz and lower video formats.
DVI	Supports video formats up to 1920x1200 60Hz.
VGA	Supports video formats up to 1920x1200 60Hz.

## 2 Front panel description



### System display screen

The display system controls the software interface with touch screen function. key

It consists of navigation keys (up, down, left and right) and confirmation keys (OK), which is convenient for users to operate and control the software.

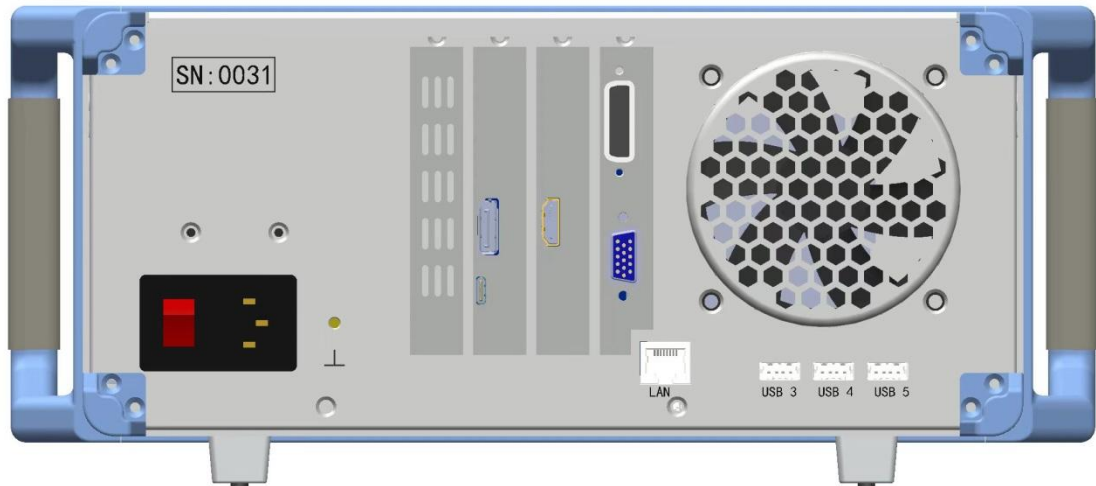
logo

Terryte instrument logo.

USB joggle

It is convenient for users to connect external devices such as mouse and keyboard.

## 3 Rear panel description



**Video output port**

It consists of 5 video output interfaces, including HDMI, DP, DVI, USB-C and VGA, which are used to send video test signals.

**internet access**

Used for automatic control and remote control.

**USB joggle**

It is convenient for users to connect external devices such as mouse and keyboard.

**System power interface and switch**

Connect and control the power supply.

**4 Technical indicators**

joggle	video parameter	standard value	margin of error
analog interface (RG B three channels )	Video level-0%	0 mV	±5 mV
	Video level-5%	35 mV	±6 mV
	Video level-10%	70 mV	±6 mV
	Video level-15%	105 mV	±7 mV
	Video level-85%	595 mV	±11 mV
	Video level-90%	630 mV	±12 mV
	Video level-95%	665 mV	±12 mV
	Video level-100%	700 mV	±12 mV
digital	Video level-0%	0	±1

interface (RG B three channels )	Video level-5%	13 (8bit) 、 51 (10bit)	±1
	Video level-10%	26 (8bit) 、 102 (10bit)	±1
	Video level-15%	38 (8bit) 、 153 (10bit)	±1
	Video level-85%	217 (8bit) 、 870 (10bit)	±1
	Video level-90%	230 (8bit) 、 921 (10bit)	±1
	Video level-95%	242 (8bit) 、 972 (10bit)	±1
	Video level-100%	255(8bit)、1023(10bit)	±1