

# **Solution of Multimedia Digital Classroom**

## **(Electronic Whiteboard)**

### **“Class-Class Info-Interchange” System**

Date: December 17, 2018

#### **A list of equipment parameters**

##### **Push-pull combined writing board**

Item No. GY-ZHB02



##### **Specification:**

1. The green outer frame is luxury electrophoresis aluminum with thickness of less than 1.2mm and the weight of 0.41 kilograms per meter. Green plate for baking paint plate made by joint venture, plate thickness is less than 0.2mm, hardness is 8H, it has good writing and easy to wipe, good magnetic absorption, no reflection, and can effectively protect students' eyesight. The middle layer adopts multi-layer corrugated paper with good elasticity and comfortable feel when writing; The back plate is made of 0.2mm thick galvanized sheet of high quality, which can effectively prevent the blackboard from deformation.

The adhesive adopts superior quality strong adhesive to ensure no degumming and no foaming of the board surface.

2. The specification of internal frame is 20 x 20 (face size) x 1.2mm; Specification of external frame: 113 \* 45 (face size) \* 1.2mm beautiful and generous luxury electrophoresis aluminum, The hardness of electrophoresis aluminum is 14HRC.

3. Two fixed green boards are installed on both sides; Two movable green boards are on the track in front of the large frame.

The movable green board is equipped with a touch screen or an electronic whiteboard with latch protection. The overall size is 4000 x 1320 x 115mm (also can be customized according to the size of electronic whiteboard or LCD screen).The overall design is reasonable and generous, durable, elastic, comfortable to the hand when writing.

##### **Interactive electronic whiteboard**

Item No. GY-G80



**Software functions:**

Operation mode: by any opaque object such as hand or pen, left-click, double-click, and support right-click, to write by pen, pick up the eraser to erased;

Multi-touch support: double-point gesture can rotate or scale the object, and write in two different areas at the same time;

Annotation function: it supports Word and PPT annotation, ink stains and graphics embedding, and PPT toolbar appears automatically under the full screen in PPT;

Writing function: it has a variety of writing pens (hard pen, soft pen, brush, fluorescent pen, oil brush, crayon, color pencil, broad brush (specially developed for writing minority languages), and can edit the writing content (move, copy, delete, change the size and color, clone, unlimited clone, etc.).

Whiteboard (blackboard) function: support the establishment of various board formats, i.e. whiteboard, blackboard, green board and musical notation, board for Chinese characters and other boards.

Provide functions of screen occlusion, spotlight, photography, scraping, screen zoom in/out and etc.

Recording (photography): supports saving screen contents (and sounds) as multimedia files that can be played back immediately.

Multimedia support: support to insert common audio, video, pictures, FLASH and other multimedia resources; Support 3D resources, 3D text function;

Object animation: support object zooming, moving, flying in and out, fading in and out and other animation effects;

Chinese and English and geometric recognition function: non-third-party tool of Chinese and English and geometric automatic recognition conversion.

Diagnostic function: it can monitor the working status of whiteboard hardware at any time, timely detect and make fault report, and facilitate after-sales service technicians to timely solve problems for users. Support for multiple operating systems: Windows XP / 2003 / Vista/Windows 7, etc.

★ Note mode: different colors of pens can be used to mark on the screen

★ Eraser: the use of an eraser can erase the handwriting marked on the screen at any time (easy to erase the handwriting)

★ Rotation: the inserted courseware (picture) can be rotated 360 degrees

★ Spotlights: use spotlights to highlight the key parts

Function: can draw a variety of function graphics

★ Screen cover: use screen cover, you can achieve the display of up, down, left, right parts of the content of the screen

★ Set up various types of writing pages: easy to set up a variety of writing pages (staff chart, field grid, coordinate map, sports venues, Chinese writing paper, etc.)

- ★ Zoom in/out: can edit the content of vertical scaling, horizontal scaling, overall scaling, scaling rotation
- ★ Index page: save for each step of the operation on software at any time, you can view the contents of each page through the index page, the index page can be arbitrarily moved
- ★ soft keyboard: to call out the system soft keyboard at any time, easy to input text
- ★ Blackboard function: can open the blackboard by one key, the default display form is black background and white words
- ★ Writing without boundaries: you can drag the whiteboard interface to achieve no boundaries, can restore the initial page by the button, easy to find.
- ★ Text input: the input text function enables users to enter printed text on the page, or directly copy and paste text from other programs to the current page
- ★ Fluorescent pen: mark key parts with translucent lines, the transparency can be changed
- ★ Graphic function and intelligent recognition: the system has graphics of circle, triangle, rectangle, diamond, ellipse, square, pentagon, rectangular coordinate system and so on. Moreover, it can automatically recognize irregular shapes drawn by hand, such as circles and rectangles, as corresponding regular shapes
- ★Edit the setting of content properties: the transparency, drawing colors and writing thickness of all the content in the writing mode can be reset
- ★Video annotation function: in multimedia play, video playback can be marked, scaled, rotated and saved, and the whiteboard operation record can be saved.
- ★Recording screen: can record and save the teacher's writing process and language at the same time
- ★Play back the current page: play back the current page, play back the entire process of the page drawing and editing
- ★Clear the page: can clear all the contents written on the current page by a key
- ★Fill graph: used to fill a closed area on the page
- ★Save: the current ready-made picture can be saved as the original picture. Save as: save the displaying content on the current screen with the format of \*.Ds, BMP, JPG, GIF, PNG, HTML, PDF, PPT
- ★file import, export: support a variety of functions of data formats import, export
- ★Geometry: support drawing of straight line, circle, single arrow, double arrows, standard circle, quadrilateral, equilateral triangle, diamond, trapezoid
- ★Measuring tools: convenient for demonstrating and measuring various properties of written objects
- ★Camera: users can take screen shots in multiple modes
- ★Insert multiple types of grid source documents: pluggable format of BMP, JPG, GIF, PNG, HTML, PDF, PPT
- ★Extension tool: users can customize the personalized toolbar
- ★Software service: can provide with free upgrade of the software for the product for life

### **Hardware features:**

Dimensions: usable operating area and writing area not less than 84 inches, aspect ratio: 16:10

Touch sensing technology: optical image sensing technology

USB report resolution: 32767 \* 32767

Touch accuracy is less than 2.5mm

Cursor speed (sampling rate) is greater than 180 frames/SEC

Response time (scanning speed) : 6 ms or less, there is no delay

Size of induction objectΦ 5.0 mm or less, no writing blind area  
supports multi-touch

Have the product quality inspection report of provincial and ministerial authority

Interface: USB2.0, communication distance is not less than 10m

Calibration: one calibration is enough, without drift

Other features: can prevent glare and reflection, dust, dirt, water, riot, anti-light;

★Edge design: micro-arc design

★Border design: extruded aluminum alloy (solid)

★Panel material: aviation aluminum honeycomb board

Functional features

1. The audio system can be used alone when it is powered up, effectively extending the service life of projectors or LCD TVS and internal computers;

2. metal case, strong and durable, beautiful and high-grade, the size is not greater than

1230mm\*300mm\*60mm, easy to be embedded in the blackboard, integral installation with LCD TV or electronic whiteboard for use;

3. There are no screws or rivets on the outside of the case. The whole case is smooth, beautiful and elegant. Adopt the structure of the front dismounting, which is beneficial to the daily quick repair and maintenance of the equipment;

4. Except for the mechanical lock and handle of the warehouse door of the display platform, there is no protruding device on the front of the case for the easy opening and closing of the blackboard;

5. Two-digit digital tube is used to display various working conditions and parameters to facilitate users to monitor the use status of equipment;

6. Two kinds of projector control code input methods: pre-save 99 sets of projector 232 control

code for the user to call directly, reduce the trouble of the user to write code, at the same time, the model not included can be written freely by the user;

7. The initial volume is automatically adjusted, and the system automatically adjusts the volume from small to large to the set value when starting up after setting;

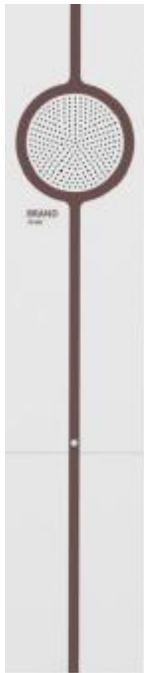
8. When power off, the projector's cooling period countdown function can effectively protect the projector.

9. control the system intelligently by a key, when switch "system switch" of the integrated machine, automatically step with switch of all devices i.e. projector, computer and central control, etc., the operation is more simple and convenient

10. The two boot modes of card swiping and key pressing coexist to effectively prevent the equipment from not able to turn on due to lost or damaged card keys.

## Wall-mounted integrated teaching system

Item No. GY-DMT018



Basic configuration and parameters

1. Wall-mounted structure, sheet metal thickness is greater than 1.2mm
2. When opening the control door of the physical display stand, the air bar will pop up the door and keep it horizontally placed. The A4 size textbook can be displayed on it. The display stand is hidden when the door closed.
3. High integration of multi-functional wireless microphone, multimedia teaching host and physical display stand, stereo amplifier, intelligent central control system, delay shutdown system and speaker as one;
4. Computer configuration: CPU: Intel Core i5 processor, hard disk: hard disk: more than 500G solid SSD 32G, 4G memory, wireless network card (optional). Solid state disk and wireless network card are on-board PCI-E interfaces, and USB or SATA interfaces are not accepted.
5. In response to the national policy of energy conservation and emission reduction, the power of the whole machine is less than 150W;
6. Built-in 2.4G multi-functional wireless microphone can be held by hand or equipped with head-mounted microphone to speak, and different frequency points can be automatically selected to meet the teaching needs of non-interference when used in 100 classrooms at the same time; Multi-function wireless microphone with laser pointer, PPT up/down page function button and volume adjustment button, wireless control of the computer running up/down PPT pages, and microphone volume.
7. Built-in 2x20W stereo digital power amplifier adopts DSP digital chip and BLP digital feedback amplification technology, intelligent detection sampling, automatic detection and adjustment of microphone volume gain, automatic search of noise

frequency point to complete the suppression of sound feedback. It has power output and audio output interface.

8. built-in delay power off function, when the "power" button is pressed, you can leave while the device is directly turned off, no need to wait for the projector bulb cooling for power off, the system will automatically delay 90 seconds after power off.

10. Built-in physical display platform: shooting size: A4(210mm\*297mm)/ scanning speed: 1 second/resolution: 5 million/image color: 24 bits/image format: JPEG,TIF,PNG,GIF,BMP/ video format: AVI format/interface: USB2.0, No external power/light source: natural light +LED light (service life: 3000 hours)/image control: brightness adjustment, exposure adjustment, sharpness adjustment, color adjustment, gain control, etc. / text recognition: OCR recognition function/can write or annotate the presentation notes directly on the screen or electronic whiteboard.

11. Device interface: VGA IN\*2, VGA OUT\*1, HDMI IN\*1, HDMI OUT\*1, Audio IN\*2, Audio OUT\*2, USB\*6, LAN\*1, AC IN\*1, AC OUT\*1

#### Qualification requirements

1. The product has passed 3C, ISO9001, ISO14001, ISO18001 certification and CE FCC, ROHS certification, video booth software Copyrights;

### **Short focus projector**

Item No. PT-X3260STC



#### **Basic parameter:**

Projection technology: 3LCD, LCD panel size is greater than 0.63 inches;

▲ The standard brightness is greater than 3200 lumens (ISO21118 standard);

▲ The contrast is greater than or equal to 16000:1.

Standard resolution 1024\*768 (XGA), compatible with 16:10,16:9;

▲ The projection ratio: 0.46:1; projecting 80 inches (4:3) at a distance less than or equal to 75CM;

▲ The light bulb power is greater than or equal to 230W UHM light bulb, the power consumption of the whole machine is less than or equal to 295W, under the energy-saving mode the standby power is less than or equal to 0.5w;

▲ The service life of the bulb is more than 5000 hours, the service life of the bulb is more than 10000 hours in energy-saving mode

Machine weight is greater than or equal to 3.8KG;

Illumination uniformity greater than 80%; Built-in speaker is greater than 2W;

Interface HDMI\*1, RGB IN\*1, RGB OUT\*1, RS-232C\*1, VIDEO IN\*1

Audio input \*2, audio output \*1, USB-B \*1

Functional features:

▲ Strong light sensing function: for brightness of the projected image, tone and contrast adjust so that the details of dark areas in the bright environment can be clearly reproduced;

Straight through exhaust and heat dissipation system;

▲ Organ folding structure dust filter net is adopted for the longest replacement period up to 10000 hours.

Vertical trapezoid correction function;

The bottom of the whole closed dustproof structure design, effectively prevent dust invasion, more suitable for lifting;

▲ Simple personalized boot LOGO setting, no need to go through the software, simple operation can be achieved on the machine menu;

▲ remote control the set ID, the maximum can be set up to 6 ID, at the same time, remote control of 6 projectors;

Replace the bulb at the top and the filter screen at the side;

A variety of color board mode and blackboard mode, can make image correction while projected on the colored board and blackboard;

Security hook design;

Direct shutdown, power off protection;

Screen freeze function, screen zoom function, shutter function, demo counter function, fast cooling function, can set 0 seconds of cooling;

can automatically enter the sleep mode in case of no signal, can automatically wake up with signal re-input;

▲ The machine panel, interface and remote control are all identified in English

Authorization certificate

▲ Provide bidding authorization, quality guarantee, certificate of supply and inspection report of the authority

▲ 3C certification, energy saving certification, environmental protection certification

## **Short focus projector hanger**

Item No. GY-DJL01



### **1. Material specification of telescopic main bar**

Short focus projector hanger is independently designed and produced by Gengyun Company, with two elliptic tubes (2mm thick wall of high-strength aluminum profile) that can be freely stretched back and forth, and the stretching length range is within 60 cm - 1.3 m; The specification of the plate fixed to base is 240mm x 280mm stamping steel plate with a thickness of 3.0mm; The base cover is die-cast with plastic mould and the material is engineering plastic

(ABS), the surface with high strength and hardness is smooth and easy to remove dust and scrub.

## 2. Fixture specifications

Projector fixture can be horizontal (back and front, left and right), free adjustment of the direction of the upper and lower, in addition to the traditional features, its feature is that it can be rotated up and down  $\pm 15$  degrees. Fixed claw frame parts used 1.5mm steel plate is rammed, with high strength, hardness and durability; Surface paint (black) does not fade and easily wash. Horizontal (front, back, right and left) free range of adjustment is almost suitable for the installation of all projectors on the market, easy to install, easy to adjust, wide applicable range, well received by users.

## **Auxiliary materials and system integration**

National standard

### **Wire specification:**

1. The power line adopts the national standard of three-core anaerobic copper wire RVV3\*1.0;
2. The signal line of VGA line adopts professional tin-plated signal line VGA signal extension cord (3+6 lines);
3. RVV2\*0.3 is adopted for the control line of the projector and the central control line;
4. The network cable adopts standard UTP-5 and standard crystal head.

The wire groove is protected by 39\*19PVC wire groove and fixed with #8 expansion tubes and expansion screws. All the above wires: meet the national standard, meet the transmission requirements, power sockets meet the national standard, meet the connection requirements; Metal or plastic wire groove and buckle, in line with national safety standards, all lines are protected by steel or PVC wire groove as required;

Remove dirt and water in the groove before wiring: (waterproof; should lay electro-insulating rubber for anti-creeping on the surface of area where people pass often).

Before laying the cable, check the model, specification, program, route and position in accordance with the design requirements.

3. The total cross-sectional area of conductors, including insulation, in the same groove shall not exceed 80% of the internal cross-sectional area; Cable placement should be flat, do not produce twisting, winding and other phenomena, should not be subjected to external force extrusion and damage;

The cable shall be labeled at both ends before laying to indicate the starting and ending positions, and the label shall be clearly, uprightly and correctly written;

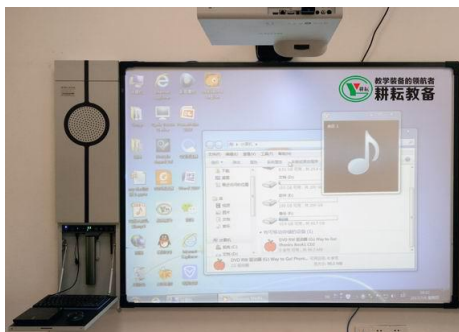


Power cables, signal cables, audio-visual cables and cables of other weak current systems in the building shall be distributed separately. There should be redundancy when laying cables. The reserved length of the cable is 0.3 to 0.6 meters; If there are special requirements, the length shall be reserved according to the design requirements; The network wire and the power line are separated at least 5 cm above each other to prevent electromagnetic interference. The traction force of laying the cable shall be less than 80% of the allowable tension of the cable. The cable in the groove shall be straight, not crossed as far as possible, and the cable shall not overflow out of the groove. The cable shall be tied and fixed at the corner of the groove.

In addition, the connection between the power line and the power plug board, the inlet and outlet lines of the stabilized voltage power supply and the air switch should be firmly connected in accordance with the standard to ensure that there is no heating, poor connection and other faults. The power line in the machine room must be reliably grounded. Install surge arrester with module type power supply in the distribution box of the professional classroom, the equipment conforms to “Computer information system lightning protector”(CA173-1998), the design of the integrated wiring system shall conform to GB/T 50311-2007 “Code for engineering design of integrated wiring systems for buildings and building complex”. Acceptance of general wiring system engineering shall conform to GB/T 50312-2007 “Code for acceptance of building and building complex cabling system engineering”. Specific system integration can be seen in the construction scheme.

### **Solution of Multimedia Digital Classroom (Electronic Whiteboard)**

#### **Example photos:**





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