



深圳市灵畅互动科技有限公司
SHENZHEN FREE INTERACTIVE TECHNOLOGY Co.,Ltd

Specification of interactive whiteboard

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Address: RmB507-508,Spaceflight Technology Innovate Academe Keji south
10th Road, High-tech Industrial Park, Nanshan district, Shenzhen. China

TEL:+86-755-33319166

Url: <http://www.fitouch.com.cn>

FAX:+86-755-33319155

Email: fitouch@126.com

Specification of Interactive Whiteboard

In 21st century, the multi-media information technology is spreading at an alarming rate. Rich, wonderful, a variety of polytrophic computer culture is blowing which makes the traditional education of modern school has been badly hit. The traditional education system still at the "chalk, Pointer and paper" inherent pattern by extremely limited in time and space which can not meet the needs of the times, so the interactive whiteboard came into being.

Recalling the development course of teaching model, we can be clearly divided into three stages:

1st Phase: Chalk + blackboard + paper phase, this phase was the longest time and now in a wide range of applications till now. This mode is not able application to multimedia tools and low efficiency teaching due to less information , it cannot meet the current demand, much needed to make up the introduction of new tools. Meanwhile, because of its low cost and easy to use, it can fully represent teachers' personal charisma, the teacher' s body language and course content as one of the advantages, it cannot be completely replaced by other means.

2nd Phase: PC+ Projector phase, this phase has been classroom in about 10 years ago, we put this phase as traditional multimedia teaching mode, the projection system fixed teacher to the computer desk firmly, lead to teacher has to change the teaching habit for thousands of years. From teacher change to mouse clicker, the more important is loss of interactive classroom and lack of communication between teachers and students. This phase would be gradually withdrawn from the market with the emergence of interactive multimedia teaching method.

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3rd Phase: Multimedia interactive learning phase, the application of interactive whiteboard brings us a new dawn. Interactive whiteboard to facilitate both the blackboard writing feature, but also closely linked with the computer network technology. Easy operation and strong interactions, also friendly connection with a variety of teaching resources. Teacher will be liberation from the computer, the teacher does not change in the traditional habits, to make the contents of teaching more vividly, imagery and concretization. Overcome the old precision, students are easy to understand and accept with audio-visual teaching method. Interactive teaching environment is greatly improved students' attention and enthusiasm of learning, improve learning efficiency and achievement as well. Making full use of modern teaching equipment to improve the quality of teaching role, easing the labor intensity of school teacher, improve the utilization of various equipment more greatly.

Interactive whiteboard at the core of multimedia interactive teaching mode has become a trend, it was a wide range to uses in both of domestic and abroad, Connected together organically multimedia computer, multimedia video-tablet, multimedia projectors and advanced audio-visual equipment to constitute a modern interactive audio-visual teaching environment.

At present, in line with the use of whiteboard, short-focus projector is used in teaching more and more because the advantage of less projection shadow.

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Typical applications:



Technology comparison:

Interactive whiteboard can be used to achieve a variety technical means, the current mainstream has following 3 solutions:

1. Pressure sensing type(resistive)

With two-resistance film on the surface of pressure sensing whiteboard. Two-resistance plus voltage, the film is insulation with each other when it does not work. When the finger touch the whiteboard, the two conductive layer will have a touch on the touch point position. Resistance changes to generate the signal in both direction of X and Y, then send to the controller. The controller to detect the

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touch and calculate the (X,Y)position, then running with the simulation mouse mode. This is the most basic principles of pressure sensing whiteboard.

Pressure sensing whiteboard can use any objects to operation without special pen but the surface easy to damage and it does not work after injury.

2. Electromagnetic induction

Electromagnetic induction technology requires a special pen, the distribution criss-cross copper net in the board body as antenna, when the special pen close to the board or press, the pen issued electromagnetic waves by fixed-frequency, which judging by the strongest one signal from X,Y direction through receiver, the cross point is the location of the pen.

The surface of electromagnetic induction whiteboard is not so easy to damage, but it needs special pen and does not work no battery or lost.

3. Infrared induction

Infrared sensing whiteboard use infrared optical sensor way, the infrared transmitting tube and infrared receiver tube around the board, adopt matrix of light formed on the surface of the board body. It will block the corresponding infrared light when objects touch the board to achieve positioning.

Infrared sensor technology requires no need special pen also not afraid to damage the board, it is the best solution.

FITOUCH interactive whiteboard, the use of advanced infrared matrix positioning technology, positioning accuracy, up to 300 dots coordinates / sec to make writing more fluent, and fast track writing without distortion. A number of innovative technologies to an international leader in quality.

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1. Fault-tolerant design, automatic detection and reset function design, high reliability.
2. Anti-glare, anti-dust, anti-static, anti-electromagnetic interference, can be used for multiple use environment.
3. High-speed, up to 300 dots coordinates / sec, track smooth, responsive, and high accuracy.
4. Long life of up to 100,000 hours, not limited for frequency use.
5. Proprietary structure, feel more real.
6. Proprietary anti-ray decline of circuit design, effectively prevent product performance go down caused by the optical devices to aging.

FITOUCH interactive whiteboard in the selected materials are also very particular:

The panel material using composite extruded plate, it is high-density extruded intermediate plate in the middle of the board, steel plate of surface painting high polymer nano-material on both of sides which ensures structural strength, also maintaining a low weight, no bright spots after projection and other features.

Whiteboard frame made of aluminum alloy material, light weight, high strength and oxidation of the surface by drawing, nice and easy to clean. The parts of the corner of the whiteboard are made by metal casting to ensure the quality.

On the hand of electronic devices are use in line with ROHS standard and raw material of domestic or international famous brand, carried out in strict according with ISB9000 standards. And developed a variety of test tools and software specially for production, using computer to testing and management and records of producing data to ensure under control of each production chain for each machine.

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1. Size table:

Model	Frame size(mm)	Touch size(mm)	Projection ratio
FIT-TBI81	1640x1265x35	1520x1145	4:3
FIT-TBI92	1860x1425x35	1740x1305	4:3
FIT-TBI99w	2160x1265x35	2040x1145	16:9

2. Parts list:

	Touch screen	1pcs
	CD Drive	1pcs
	USB cable	1pcs
Optional accessories	Wall pieces	1set
Mobile stand	Mobile stand	1pcs

3. Touch parameters

Sensor objects :	Finger, pen or any opaque objects
Sensor size :	Diameter \geq 5mm, \geq 7mm recommended
Resolution :	4096*4096

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Response time :	3msThe first dot(click): 8ms, continuous (writing): 3ms
Cursor speed :	Up to 300dot/s
Life-time :	≥60,000,000 times click

4. Power Parameters

Power :	USB power supply (4.6-5V,DC)
Power consumption :	≤1W

5. Environmental parameters

Storage temperature:	-30 °C to 60 °C
Storage humidity:	0~95%
Working temperature:	-20 °C to 50 °C
Working humidity:	20% to 90%
Viewing angle:	Up and down, left and right with 175 degree
Light resistance test:	220V/100W incandescent lamp, just above the 0.35 meters in a normal work
Anti-static test:	Anti-Static 4000 V, 6000 V electrostatic can be resume
EMC	Meet CE, FCC EMC requirements

6. Others

PC port :	USB 2.0
OS :	Windows operating systems (including 64-bit)

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Software features:

Offers three different operating modes to the user: the blackboard solution, window solution and playback solution.

Blackboard solution: Provides a screen blackboard can be written on the board immediately, support to import ppt, xls, pdf, html,xls, doc, jpeg, bmp, txt, png and other formats. Can be also recording synchronously with teacher' s image, voice, operation and handwritten comments contents.

Window solution: under the Windows operation tie in any application(Powerpoint, Word, Excel, Outlook...),to achieve the object labeling and operation. Can be also recording synchronously with teacher' s image, voice, operation and handwritten comments contents.

Playback solution: This solution can choose the recorded files before replay. Recorded files are 1024*768or more high resolutions. It uses the MPG4 compression method to record the smallest files and will not affect the image quality also will not distortion.

Writing function: to provide three different pens as writing tools, namely pencil, brush and highlighters, can click the pointer toggle pencil or cursor functions in the writing process.

Eraser function: choose two kinds of erasers to correct page, select clear all to clear handwriting or selected lines.

Magnifier function: Four districts shortcuts amplification function. A key to achieve screen magnification, optional any region display.

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Screen capturing function: using the capturing shortcut key put the screen switch to the Windows operating environment, can not only operate the Windows applications also can capture all or part of the screen image as a commentary and post on the board to use.

Drawing function: To provide line, rectangles, circles, wavy and shortcut drawing tools.

Page search function: To provide page searches window, to facilitate editing, view the contents of the file. Put the pen move to the left page, it will jump out of a preview window allows you to move the page more quickly.

Background page function: loading on the board with JPG,GIF,BMP,WMF image files etc., as a remark.

Recording and player function: use of DCM+MPG4 compression technology to in step recording, handwriting, voice and video, save the space and does not affect the speaker to operate computer.

File input function: input Windows files, such as Doc, XLS,PPT,PDF and so on, remark and writing after input.

Projection function: CCD camera image capture device can be written with installed video capture equipment, and display recording surrounding environment simultaneously, such as writing or audience' s video or as a kind used as a projection.

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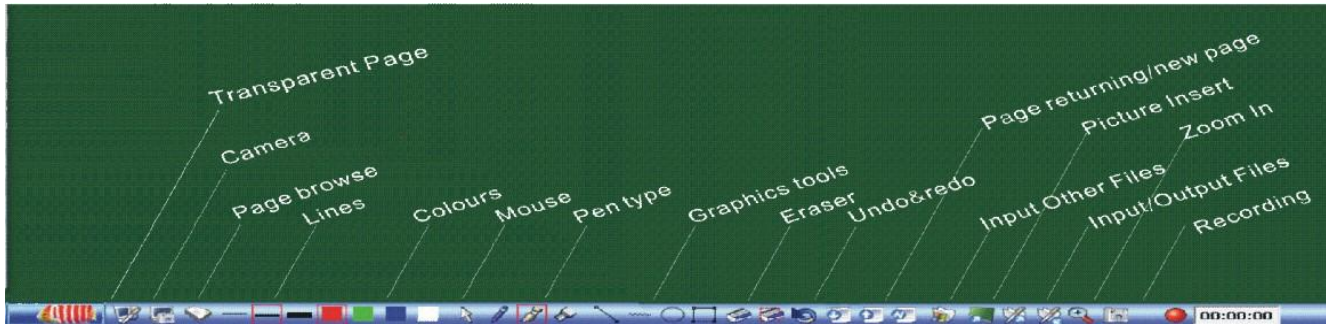
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Software interface:



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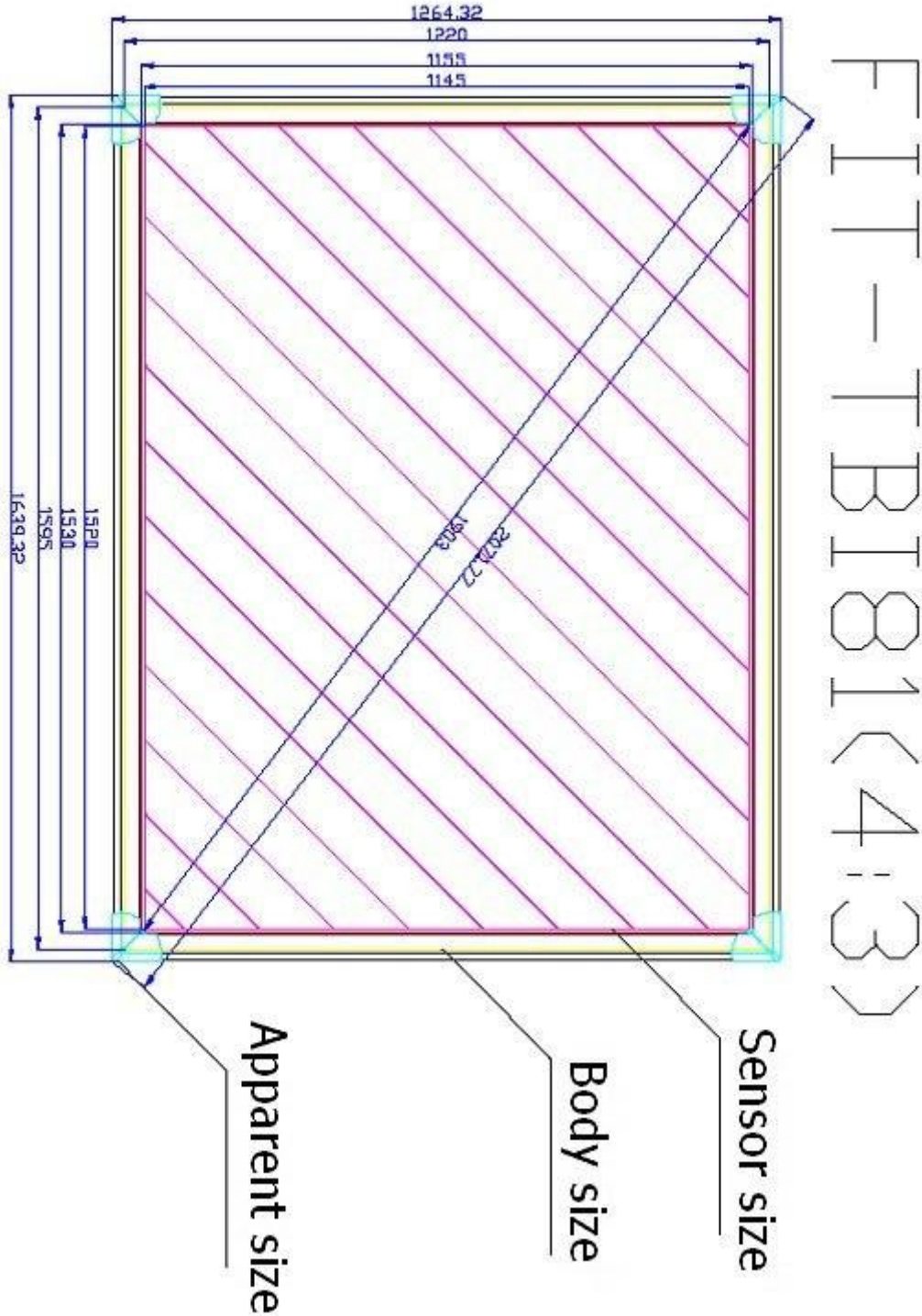
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Size chart:



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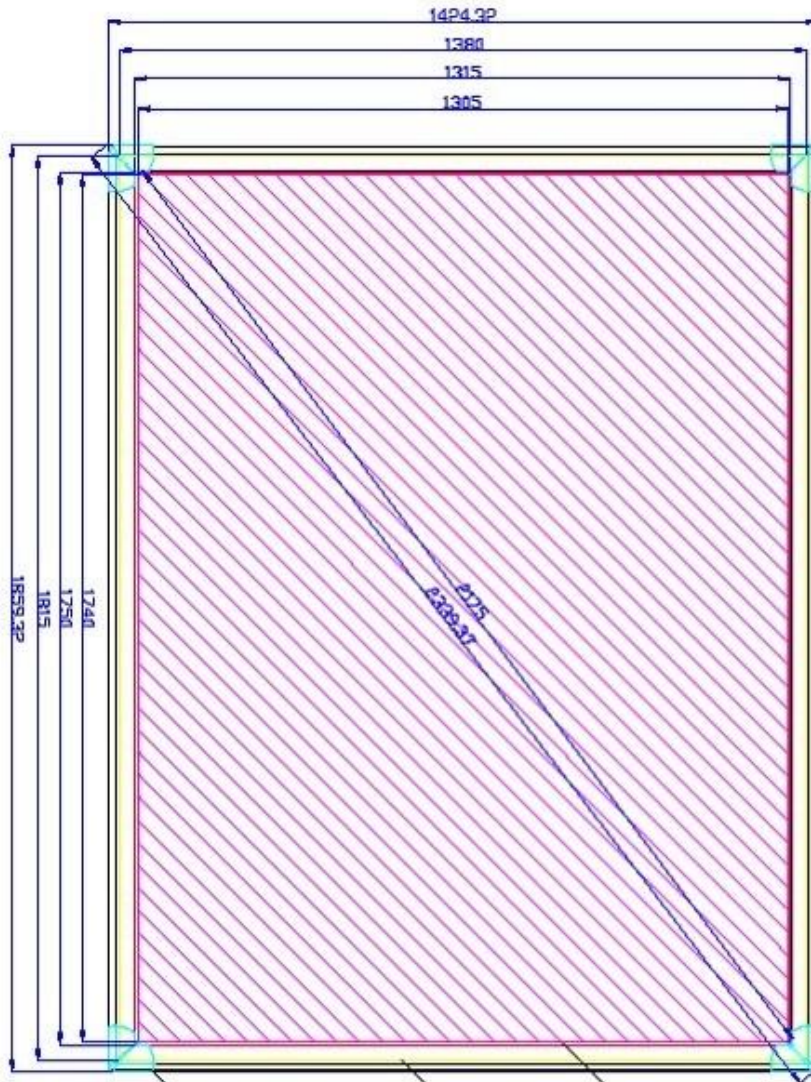
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LC-TBI92(4:3)

Apparent size

Body size

Sensor size

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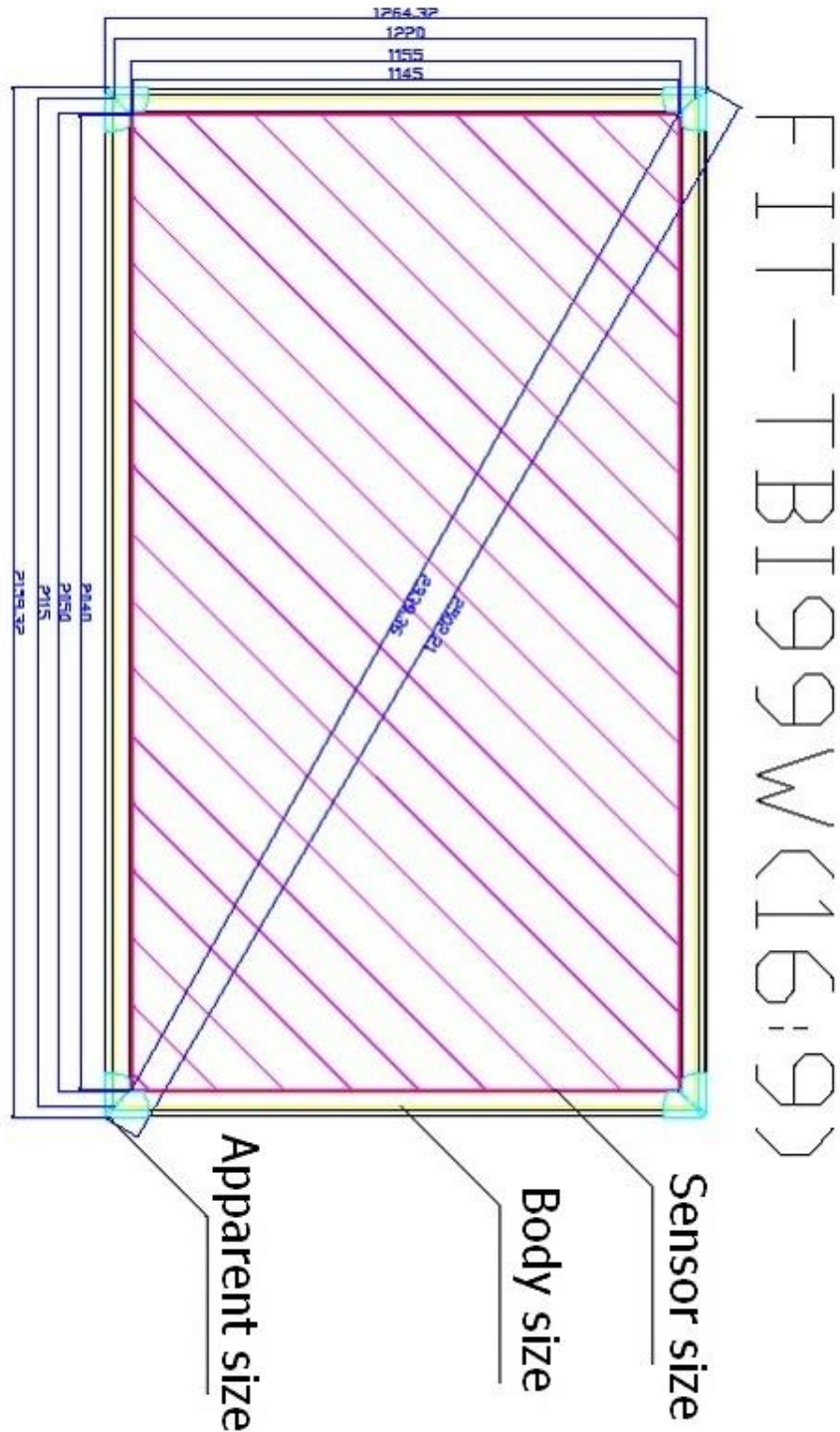
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a) Physical image:



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