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# **TRU TOUCH 470**

## **User Manual**





V100.20130906

Please retain this manual properly for future reference.

This is the general manual for IR Touch LCD Display and there might be slight differences between the actual product and the descriptions.

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## Installation Requirements

### Load-bearing

#### Mounting Bracket

Please choose a wall-mounting bracket recommended by the manufacturer or your dealer. If a user prefer to use a custom made mounting bracket, please make sure it has a bearing capacity four times the actual weight bearing. Please securely fixed the **TRU TOUCH** to the mounting bracket that is installed on a wall.

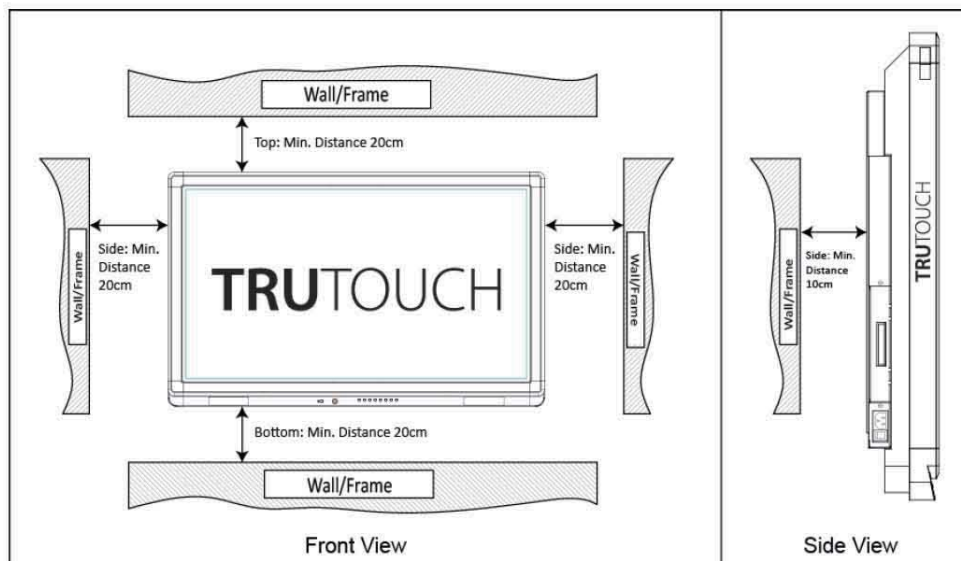
#### Mounting Surface

The mounting surface should be strong enough to hold 4 times the total weight of the **TRU TOUCH** and mounting bracket, such as solid brick, stone, concrete, etc. If the mounting surface is gypsum board, plaster board or other soft materials, please make sure the area of the mounting points are reinforced. Please consult a local certified installer for further assistance.

### Heat Ventilation

Ventilation Requirements	The distance from the mounting surface (cm)			
	Left /right side	Top	Bottom	Back
Above 100W	10	20	20	10

Tips: If a **TRU TOUCH** is framed by decorations or embedded in a box, please make sure the sides are perforated with venting holes area no less than 50% of each surface area.



## Warnings

- **TRU TOUCH** should be installed at a height that is out of children's reach.
- Do not use other power cords except for the official one as this could cause a fire hazard.
- Electrical Shock Hazard. Remove power before servicing. Please contact a qualified technician for servicing.
- Unplug the power if **TRU TOUCH** is not going to be used for an extend period of time.
- Must use the power plug is plugged into a grounded socket.
- Do not install or place **TRU TOUCH** near any heat sources, such as furnace, heating pipes, power amplifier, etc.
- Do not expose **TRU TOUCH** to direct sunlight, heavy dusting or high humidity environment.
- Do not expose the device to direct sunlight, it will affect the writing performance of **TRU TOUCH**.
- Do not install **TRU TOUCH** in any movable or vibrating surface.
- Disconnect the power immediately and unplug when there is abnormal sound or smell coming from **TRU TOUCH**. Have a qualified servicing personnel to inspect the machine.
- Should any liquid or other metal parts dropped inside **TRU TOUCH**, please turn it off and disconnect the power immediately. Call for qualified service.
- Do not use chemical thinner to clean **TRU TOUCH** as it may damage the surface finishing and the writing surface. Disconnect the power, and use a lightly damp clean soft cloth to clean the surface.
- After turning off the machine, please wait for 3 minutes before turn it on again.
- By setting the brightness and contrast level to middle can lengthen the life of **TRU TOUCH**.
- Do not write on the touch screen with hard objects. It might scratch the writing surface.
- Never mount or place **TRU TOUCH** on a table stand. It is not designed to be used on a table stand.



## Warnings

### FCC requirements

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- l Reorient or relocate the receiving antenna.
- l Increase the separation between the equipment and receiver.
- l Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- l Consult the dealer or an experienced radio/TV technician for help.

**CAUTION:** To comply with the limits of the Class B digital device, pursuant to Part 15 of the FCC Rules, this device is comply with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables may results in interference to radio or reception.

**MODIFICATION:** Any changes or modifications not expressly approved by the grantee of this device could void the user' s authority to operate the device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

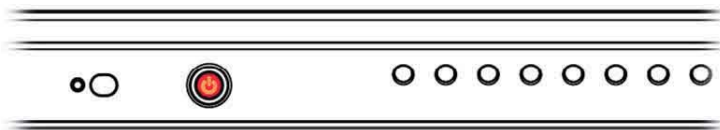
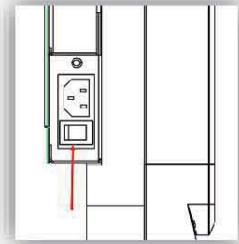
## Features

- Design for facilitating modern meeting needs and presenting multi-media presentations in a training room, conference room and classroom.
- 4-point touch and 1 pen writing
- High brightness and contract ratio display and clearly visible in bright indoor and outdoor environment.
- Auto brightness (5 levels)
- One key power saving mode (the backlight brightness is lowered to save energy).
- Advanced IR Grid scanning technology
- HID drive free, plug and play for Windows 7/Windows 8.
- High quality handwriting annotation graphics
- High compression and no distortion in handwriting recording.
- Vast choices of pen types, line widths and colors.
- Geo-Pen: Intelligent recognition of geometric figures.
- In-depth annotation editing.
- Choices of built-in backgrounds, or use customers' own background images.
- Insert images in any slide.
- Fingers/pen movement recognition.
- Annotation slides can be saved as PDF, GIF, PNG, TIFF and BMP etc.
- Touch operation.
- Dual-point touch and multi-finger roaming.
- User management – each user can have one's preference settings.
- Support other "touch" applications.
- Handwriting recognition.

## Basic Operations

### Power On

- Connect the power cord to **TRU TOUCH**, plug the power plug to 100~240V 50/60Hz AC.
- Turn on the switch next to the power cable, located at the bottom of rear size of **TRU TOUCH** (below the power interface). The power indicator in the front should turn to "red".

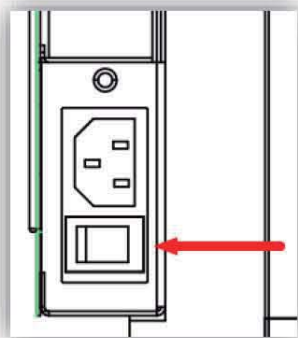


- To turn on the **TRU TOUCH**, Press "Power" button in the lower center front on **TRU TOUCH** or "Standby" on the remote control. The indicator light should turn to green now. Press "Computer" to turn on the computer (only applicable to the model with built in PC).



### Power Off

- Press "Power" on **TRU TOUCH** to power it off (standby mode). Press "OPS" on the panel to turn off the computer (only applicable to the model with built in PC).
- To completely turn off the **TRU TOUCH**, turn off the switch at the bottom of the rear side of **TRU TOUCH** (below the power interface), then unplug the power cord.  
\* For the model with built in PC, please turn off the PC first before disconnecting the power.



## Software Installation

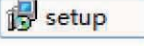
### Minimum system configuration:

CPU: Inter(R) Core i3 2.27GHz or AMD CPU with same performance

RAM: 2G

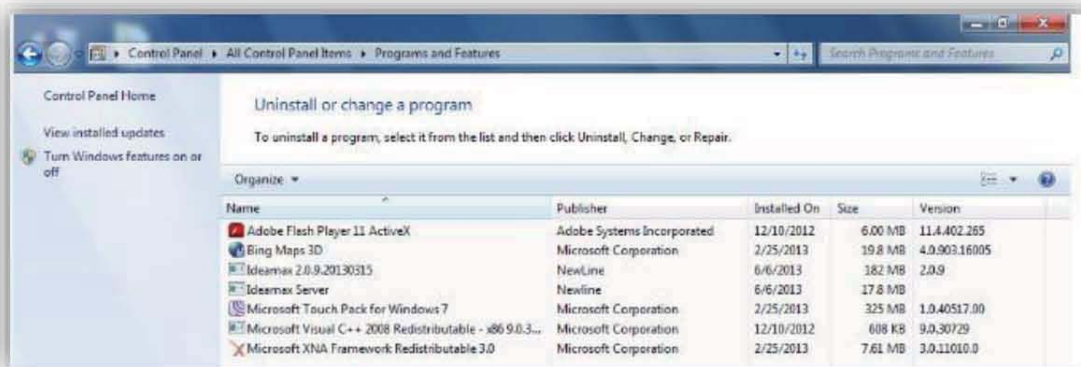
Hard disk: 1G free space

Video card: Support DirectX 9 or higher

- ➔ HID drive free touch function is only applicable to Windows Vista, Windows 7 or later version. For Windows XP, please install our latest driver.
- ➔ Plug the USB cable into the USB ports of the computer and **TRUTOUCH** corresponding USB port.
- ➔ Insert the software installation disk into the computer.
- ➔ Double click the icon  , follow the instructions and complete the installation of **TRUTOUCH** software.
- ➔ Restart the computer.

## Software Un-installation

To uninstall the **TRUTOUCH** software, click "Add or Remove Programs" in the "Control Panel" under Windows operating system. Choose "Ideamax" and click "Modify/Delete" to uninstall.





## Touch Calibration

### Calibration for **TRU TOUCH** Driver

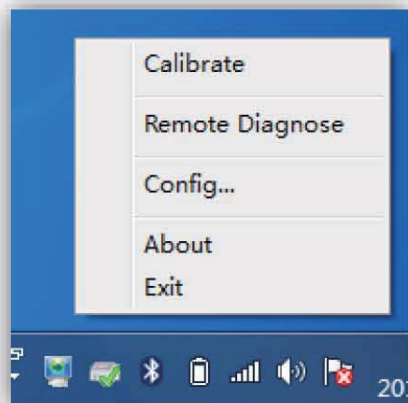
If you have installed our driver, please run the calibration once to make sure the scanning matrix is accurately configured. In the following scenarios, users need to do the calibration:

- ➔ **TRU TOUCH** is used with the driver for the first time.
- ➔ The drive has been reinstalled.
- ➔ A computer is connected to **TRU TOUCH** for the first time.

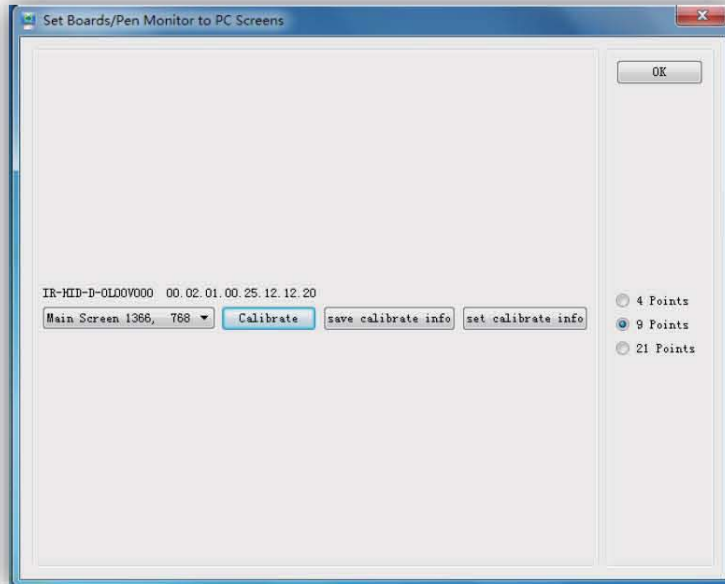
The calibration is based on a nine-point positioning. Please follow the following steps:

1. Make sure the software and driver are installed in the PC.
2. Connect the VGA/HDMI cable and USB cable between the PC and **TRU TOUCH**.
3. Select the corresponding source on **TRU TOUCH**.

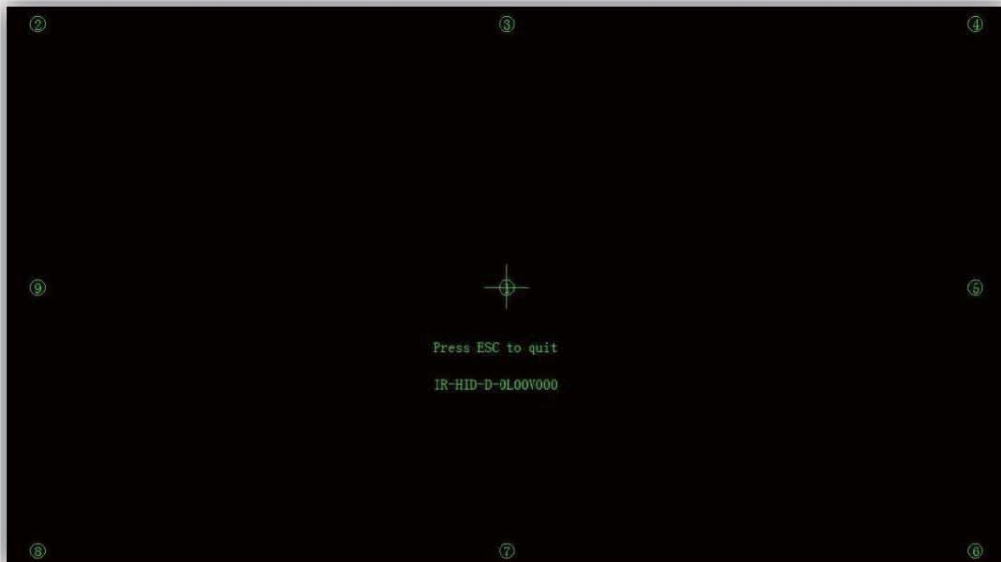
4. Use a mouse to click the drive icon  at the bottom right of the screen. An option menu will pop up.



- Choose "Calibrate", and select "9 Points", then click "ok":

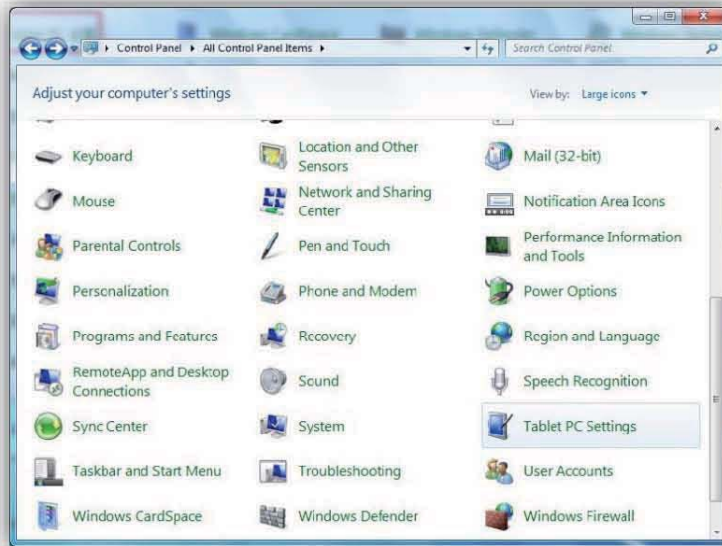


- Vertically touch the center of the flashing "+" with a provided **TRU TOUCH** pen; hold still until the flashing "+" move to the next calibration point. Repeat the same until all nine points are recognized by the program. The software will return to desktop automatically once calibration completed.

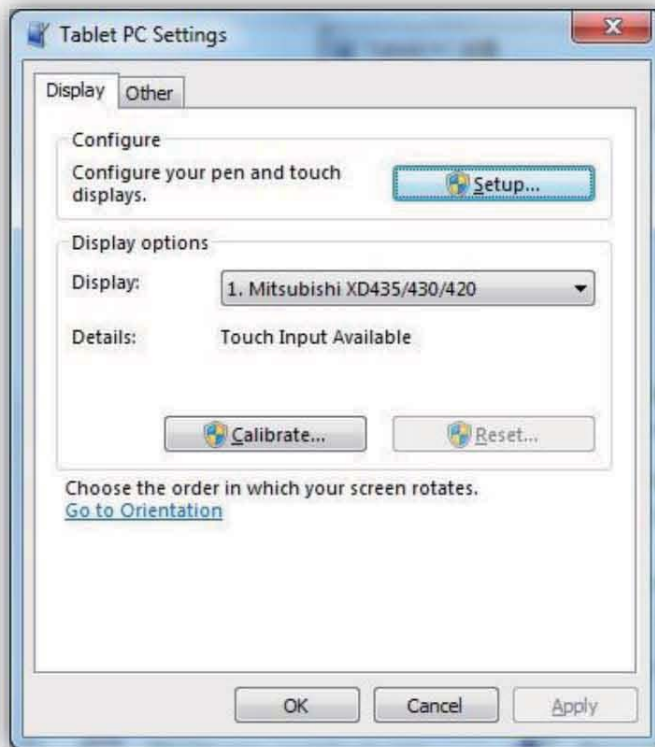


### Calibration for Windows 7/8

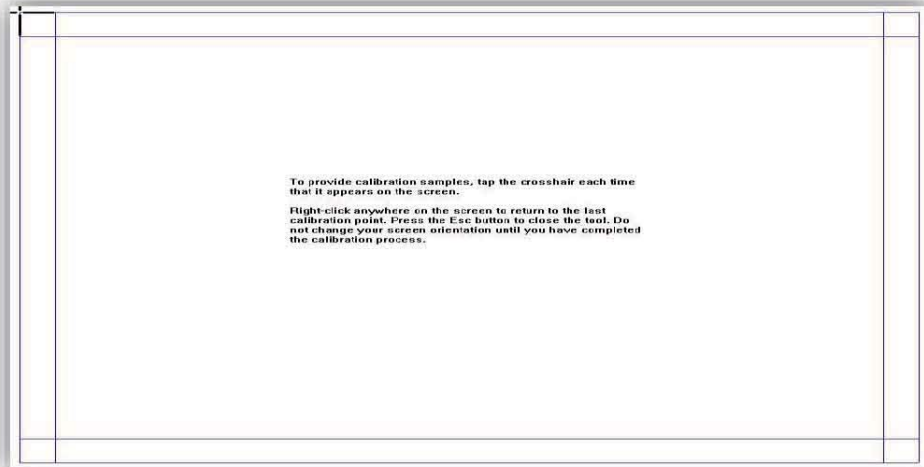
1. Connect the PC and writing screen touch USB port with the provided USB cable.
2. Choose "Tablet PC Settings" in "Control Panel".



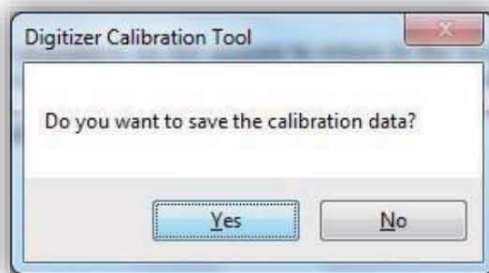
3. Choose  in "Tablet PC Settings" window.



- Vertically touch the center of the flashing "+" with the writing screen pen tip until the flashing "+" move to the next calibration point. Repeat the same for all calibration points.



- Click "Yes" to complete calibration.



 Notes:

- ➔ To make sure the writing accuracy, please use the **TRU TOUCH** pen to do the calibration. Do not calibrate with your finger.
- ➔ Poor calibration will lead to poor touching experience. In this case, please run the calibration program again.
- ➔ Pressing "ESC" during calibration can cancel the current calibration operation.



## Installation an Open Pluggable Specification [OPS] PC (optional)

1. Insert the OPS PC to the card slot, tighten the M4 screws on both sides



2. Remark: **TRU**TOUCH does not support the hot-plug of OPS PC. Please turn off **TRU**TOUCH before plugging an OPS PC.
3. An OPS PC will use its own “Touch” channel. One does not need to use a USB cable to connect the OPS PC to “Touch 1” or “Touch 2”.
4. If you need to connect another external PC, please use VGA, HDMI1 or HDMI2 ports.

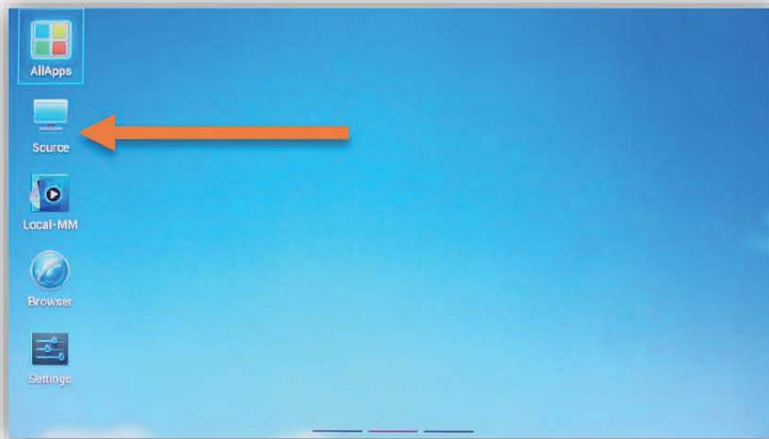
## On Screen Display (OSD) Menu

Operation of OSD under different signal sources

### Selecting Sources

There are three ways to select sources:

1. Press "Source" icon on the home screen



2. Press "▲" icon by drop-up menu on the bottom of the screen. Scroll a finger from the bottom of the screen will call out the "drop-up" menu.



3. Press "Signal Source" button on the front panel or the remote control.

Either one of the above three options will bring out the "Source" selection menu.

To select a source, you can either


1. "Touch" directly on the screen
2. Press the "Signal Source" button on the front panel.
3. Press the ▲▼ keys on the remote to choose the source, then press the "OK" button to confirm.



## Settings Menu

### Call Out the Settings Menu

1. Pop-up picture setting menu can be brought out in two ways

1.1 Click the “” icon on the drop-up menu:



1.2 Press the “Menu” key on the remote control

2. Select a setting category by

2.1 Touch the icon directly on the screen

2.2 Press the ▲▼ buttons to choose. (Contents of the Setting Menu: picture, voice, tuning, adjust, function)

### Picture

1. Touch the “Picture” icon directly

2. Press ▲▼ on the remote to select, then press ► to enter the submenu section, then use ◀▶ keys to adjust the value. Click “Return” to go back.



## Sound

1. Touch the “Sound” icon directly
2. Press ▲▼ on the remote to select, then press ► to enter the submenu section, then use ◀▶ keys to adjust the value. Click “Return” to go back.



## Adjust

1. Touch the “Adjust” icon directly
2. Press ▲▼ on the remote to select, then press ► to enter the submenu section, then use ◀▶ keys to adjust the value. Click “Return” to go back.





## Function

1. Click the “Function” icon directly
2. Press ▲▼ on the remote to select, then press ► to enter the submenu section, then use ◀▶ keys to adjust the value. Click “Return” to go back.

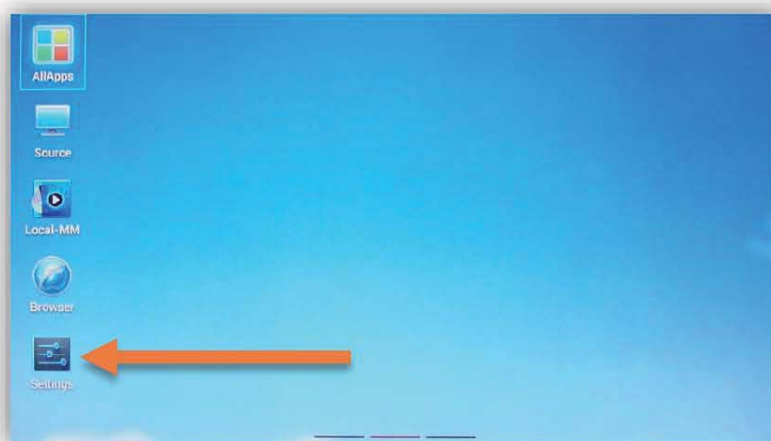


## Network Settings in Android Mode

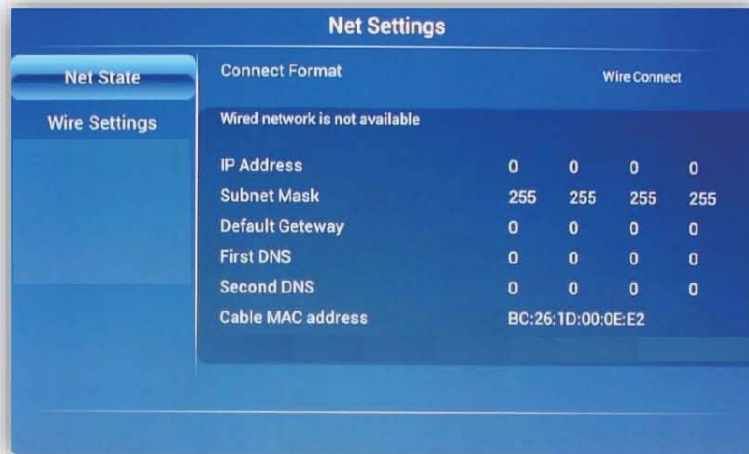
Press “Home” key to switch into Android mode.

### Touch Mode:

1. Touch the “Settings” icon will open the setting menu. .



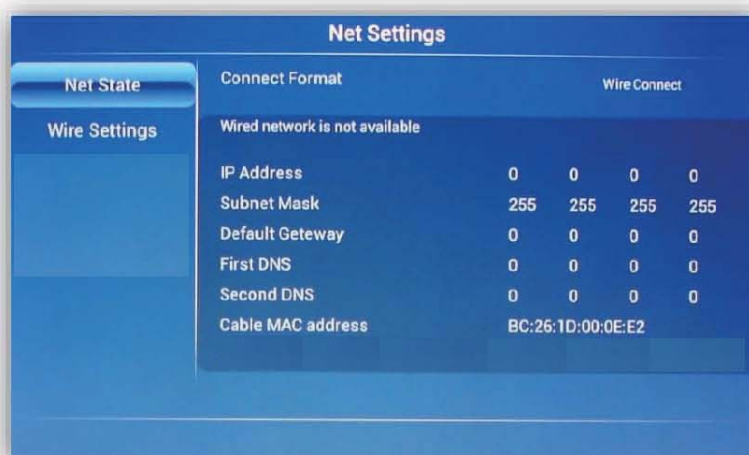
2. Select the “Network Settings”, then you can do the network settings in the submenu.



3. Choose the way of network connection

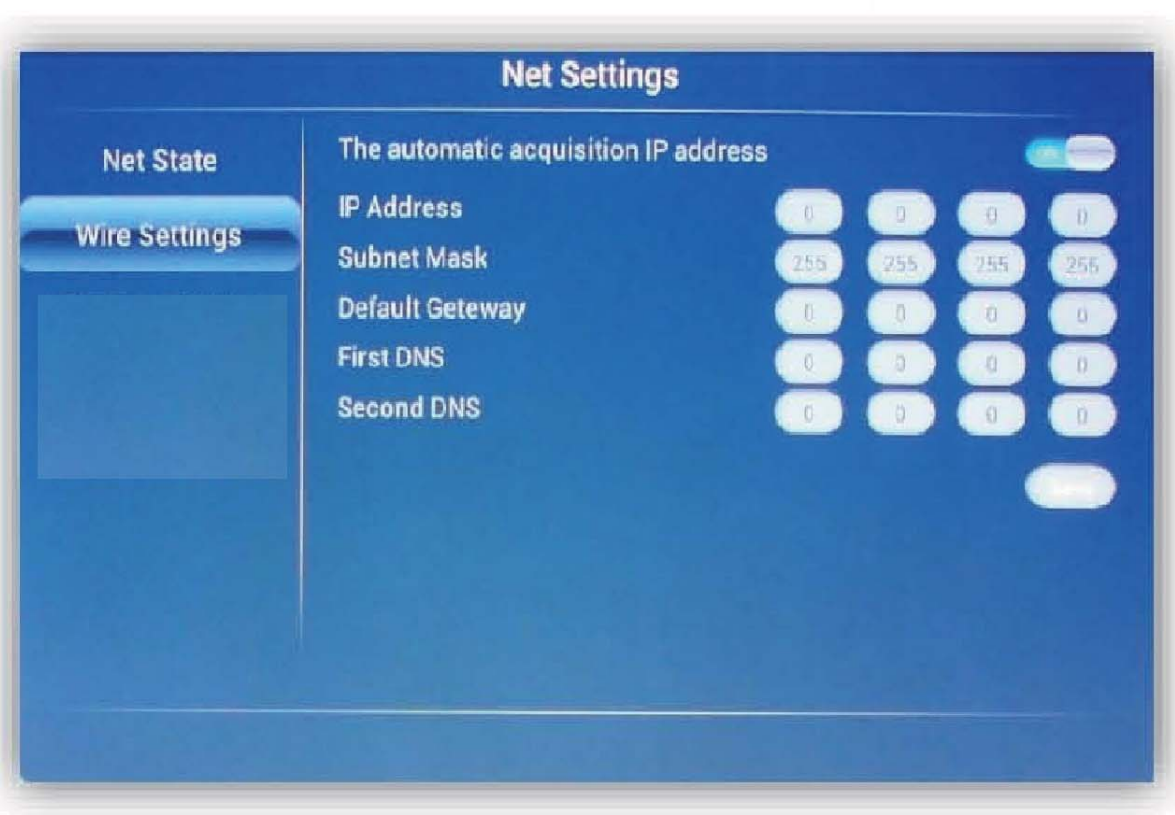
#### By Using Remote Control

1. Press the “HOME” button to reach the main menu,
2. Press ▲▼◀▶ to choose the “system settings”, press “confirm” button to reach the submenu,
3. Press ▲▼ to choose “network settings”, then press “confirm” button.
4. Press ▲▼ to choose network state, wired or wireless, then setup the network.



## Wired Network Settings

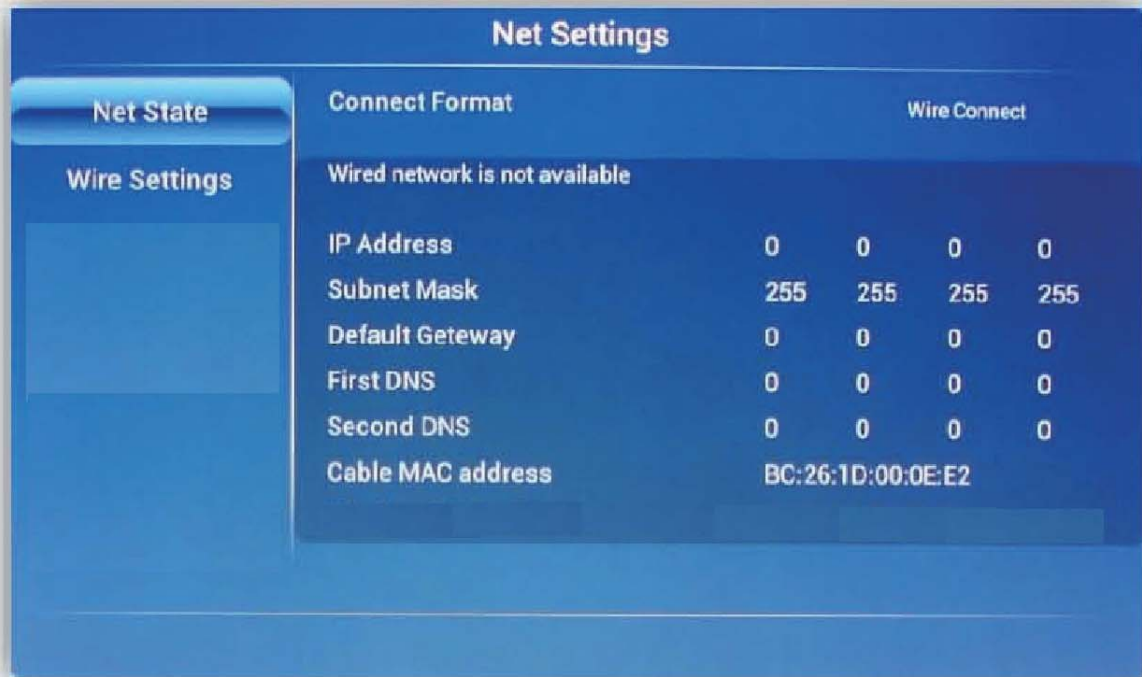
1. All values would be set automatically if **TRU TOUCH** is connected to a DHCP enable network.
2. If you'd like to set the network manually, please do as follow:



3. Press ◀▶ button to obtain IP address automatically
4. Press ▲▼◀▶ to choose the values you'd like to change, press numeric keys to input the IP address, subnet mask, default gateway, DNS server.
5. Press ▼ to choose "SAVE", then press "confirm" to finish the IP address settings.

### Network Status View

View the current status of the network connection and the detailed parameters





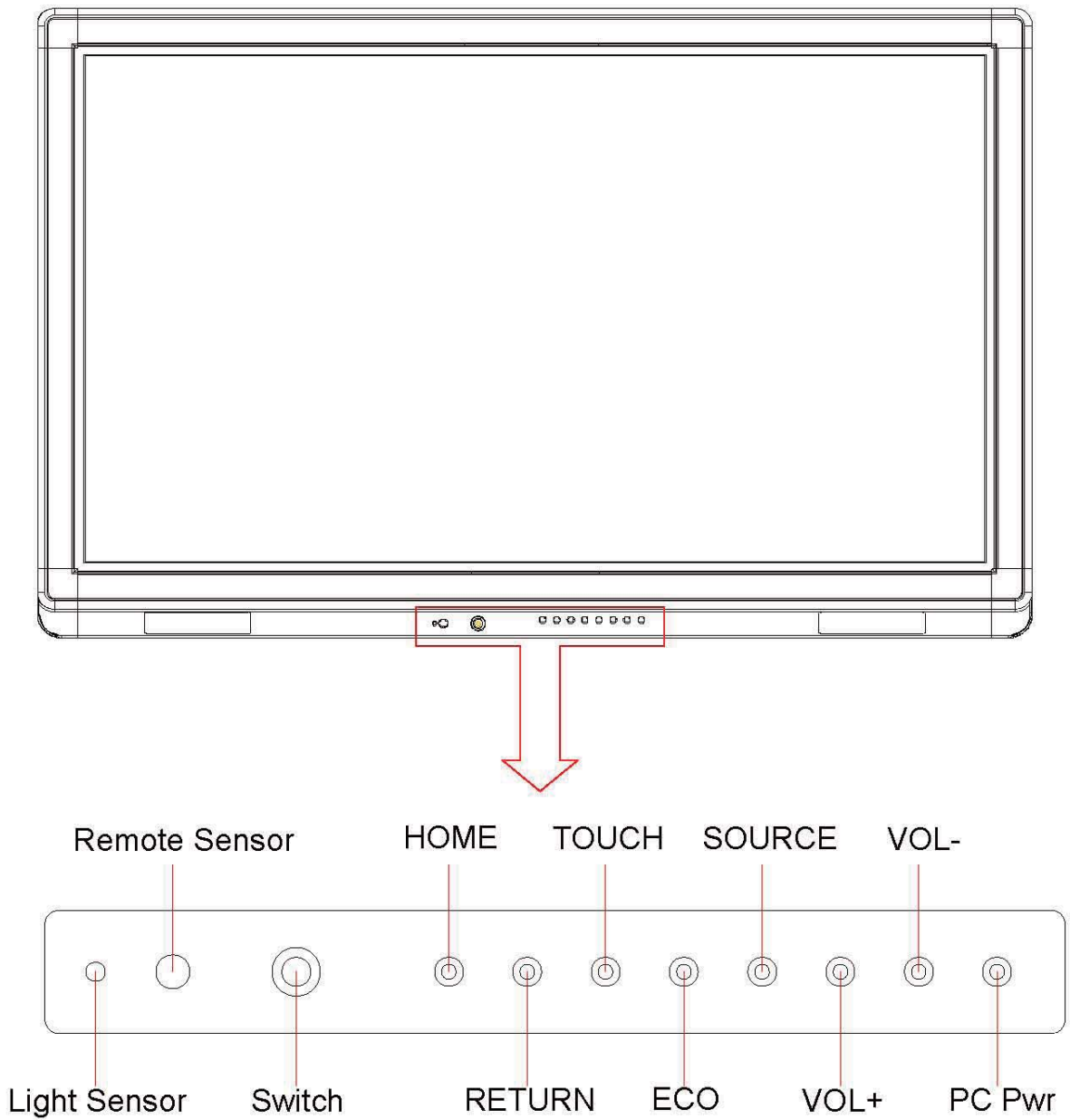
## Remote Control Functions

- 1) Power on/off
- 2) Mute/Unmute Audio
- 3) 0-9 numbering key:  
TV channel selection or number input
- 4) Go to Android Home Page
- 5) Return to previous page/menu
- 6) Enter/Exit menu
- 7) Enter/Exit signal source menu
- 8) Up/Down/Left/Right
- 9) Audio Only/ Video Mute On/Off
- 10) Switch the "Touch" between Android and PC
- 11) Confirm/Enter
- 12) Adjust Speaker Volume
- 13) Channel Up/Down
- 14) RED/GREEN/YELLOW/BLUE: function keys,  
with different function in different application
- 15) Screen Display: display the screen information
- 16) Screen Capture: Capture the current page (SD  
card need to be inserted before screen shot)
- 17) AUTO: Image automatic adjustment
- 18) Freeze: Freeze the screen.
- 19) ECO: Toggle energy saving mode:  
standard/saving/automatic photosensitive  
mode
- 20) Notes App
- 21) PC1/PC2/PC3: Direct select PC signal source
- 22) Page selection: up/down
- 23) Wifi on/off



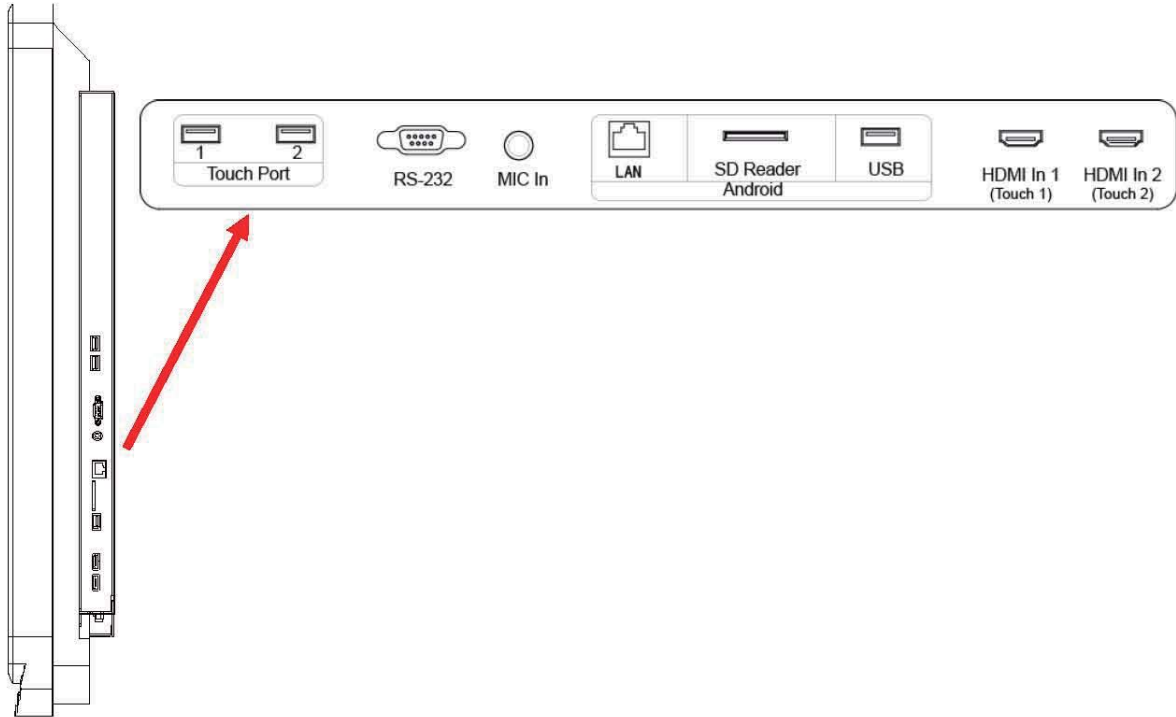
## Front Control Panel

### Front Keys

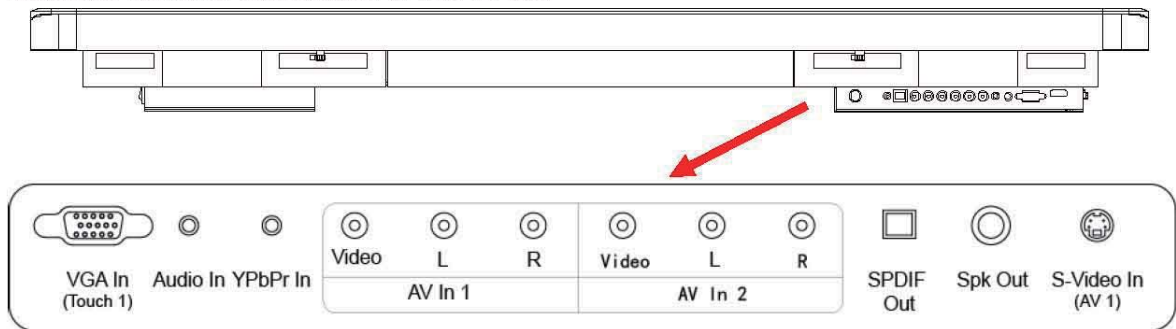


## Interface Panel

Interface Panel on the right side of the screen



Interface Panel at the bottom of the screen



## Signal Switching



Input Source	Video In	Audio In	Touch Port
AV 1	AV In 1	AV In 1	N/A
AV 2	AV In 2	AV In 2	N/A
Component	Component	AV In 1	N/A
S-Video	AV In 1	AV In 1	N/A
HDMI1	HDMI1	HDMI1	Touch1
HDMI2	HDMI2	HDMI2	Touch2
VGA	VGA	AV In 1	Touch1

When you switch the source to “VGA”, Audio In in AV In 1 and Touch1 USB port will be connected.

When you switch to HDMI, “HDMI1” will use “Touch 1” USB port; “HDMI2” will use “Touch 2” USB port.

HDMI 3 is reserved for OPS PC.



## PC Mode (VGA Input) Specifications

Index	Standard	Resolution Ratio	Refresh Rate (Hz)	Horizontal Frequency (Khz)	Vertical Frequency (Hz)	Horizontal/Vertical Sync Polarity (TTL)
1	VESA	640X480	60	31.5	60	N/N
2	VESA	640X480	72	37.9	72	N/N
3	VESA	640X480	75	37.5	75	N/N
4	VESA	800X600	56	35.1	56	P/P
5	VESA	800X600	60	37.9	60	P/P
6	VESA	800X600	72	48.1	72	P/P
7	VESA	800X600	75	46.9	75	P/P
8	VESA	1024X768	60	48.4	60	N/N
9	VESA	1024X768	70	56.5	70	N/N
10	VESA	1024X768	75	60	75	N/N
11	VESA	1280X960	60	60	60	N/N
12	VESA	1280X960	75	75.159	75	N/N
13	VESA	1280X1024	60	64	60	P/P
14	VESA	1280X1024	75	80	75	P/P
15	VESA	1600X1200	60	75	60	P/P
16	VESA	1920X1080	60	66.547	59.988	P/P

## Supporting Formats for USB Mode

Multi-media Type	File Format	File Extension
Image	JPEG、BMP、PNG	.jpg、.jpeg、.bmp、.png
Movie	MPEG1、MPEG2、MPEG4、H264、RV8、RV9、RV10、MJPEG、Divx、Xvid	.avi、.mpg、.dat、.vob、.mov、.mkv、.rm、.rmvb、.mp4、.ts、.trp
Music	WMA、MP3、M4A、(AAC)	.wma、.mp3、.m4a、.aac
Text	TXT	.txt

## Trouble-shooting

Symptoms	Presumable Causes	Solutions
Driver service cannot connect to the PC	The drive is not correctly installed.	Re-install the drive.
	The USB port (cable) is not connected or working.	Change a new USB cable; Use a shorter USB Use a USB repeater/booster
	The IR lights are blocked.	Make sure there is no obstacle blocking the IR light covers.
The device requires recalibration every time it is powered on.	The computer is installed with recovery protection card.	Turn off the computer protection program and recalibrate the service program.
Incorrect calibration of service program	Incorrect calibration.	Press the "Auto" button on the remote, and run the calibration with the writing pen again.
There is a shake or leap of the handwriting.	Incorrect writing.	Write with the writing pen. The angle between the pen and the screen should be large than 60degrees (the sleeves or wrist should not be closed to the screen).
	Strong light source or IR source interferences.	Remove the interferences lighting fixtures or move to a place without interferences.
Breaking gaps of the handwriting (part of the handwriting can be shown normally)	Incorrect writing.	Write with the writing pen. The angle between the pen and the screen should be large than 60degrees (the sleeves or wrist should not be closed to the screen).
	The covered place is not big enough as required during writing or the pen tip is too tapering.	Change the pen tip or use a writing pen with bigger pen tip.
	The IR lights are blocked.	Check if there is any obstacle on the IR light covers.
	Strong light source or IR source interferences.	Remove the interferences or move to a place without interferences.
Cannot write	The handwriting color is same or similar to the background color.	Use the pen with other colors.
	The palm(s) or other objects are touching the screen surface.	Write with the writing pen. The angle between the pen and the screen should be large than 60degrees (the sleeves or wrist should not be closed to the screen).
	Strong light source or IR source interferences.	Remove the interferences or move to a place without interferences.
	Incorrect writing	Write with the writing pen. The angle between the pen and the screen should be large than 60degrees (the sleeves or wrist should not be closed to the screen).

Symptoms	Presumable Causes	Solutions
No sound or image	<ol style="list-style-type: none"> <li>1. Check if the power cable is connected to the power socket and powered.</li> <li>2. Check if the power switch is turned on.</li> <li>3. Check if the standby is enabled</li> <li>4. Check if the cables of video and audio input are working.</li> <li>5. Check if the device has the correct signal source input.</li> <li>6. Check the setting of image brightness and contrast ratio, etc.</li> <li>7. Check the volume.</li> </ol>	
Image works but no sound	<ol style="list-style-type: none"> <li>1. Check the volume.</li> <li>2. Check if the Mute button on the remote control is activated.</li> <li>3. Check if the audio connection between the computer and TruTouch is correct.</li> </ol>	
No image or image is black and white	<ol style="list-style-type: none"> <li>1. Adjust the color settings.</li> <li>2. Check the color system.</li> </ol>	
No image or the sound is interfered	<ol style="list-style-type: none"> <li>1. Find out the interference devices around TruTouch and move it away.</li> <li>2. Do not use the same power socket with the interference device.</li> </ol>	
The remote control is not working.	<ol style="list-style-type: none"> <li>1. Change the battery.</li> <li>2. Clean the emitting port on the top of the remote control</li> <li>3. Clean the battery's contact points.</li> </ol>	
OSP PC cannot be turned on (only for the model with computer inside)	<ol style="list-style-type: none"> <li>1. Check if the power adapter connection working or not and the device is powered or not.</li> <li>2. Check if the connection between the computer and touch LCD display correct or not.</li> </ol>	

## Serial Port Control

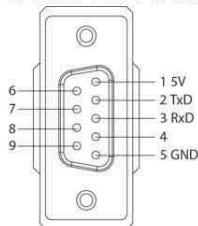
Connect the RS232 port with the computer or central control device. Turn on the RS232 serial connection and set as follow:

Port:COM1(set according to the port of the computer or central control device)			
Bit rate:	19200	Parity check:	NON
Data bit:	8	Stop bit:	1

Button control codes are as follow and the button functions are the same as the remote Control:

POWER ON	99 A2 B3 C4 02 ff 01 00	POWER OFF	99 A2 B3 C4 02 ff 01 01
MUTE	99 A2 B3 C4 02 ff 01 02	TOUCH	99 A2 B3 C4 02 ff 01 03
WIFI	99 A2 B3 C4 02 ff 01 04	NOTES	99 A2 B3 C4 02 ff 01 07
SOURCE	99 A2 B3 C4 02 ff 01 06	DISPLAY	99 A2 B3 C4 02 ff 01 09
HDMI1	99 A2 B3 C4 02 ff 01 0A	HDMI2	99 A2 B3 C4 02 ff 01 0B
HDMI3	99 A2 B3 C4 02 ff 01 0C	VGA	99 A2 B3 C4 02 ff 01 0D
YPBPR	99 A2 B3 C4 02 ff 01 10	AV1	99 A2 B3 C4 02 ff 01 11
AV2	99 A2 B3 C4 02 ff 01 12	Pg Up	99 A2 B3 C4 02 ff 01 13
Pg Dn	99 A2 B3 C4 02 ff 01 14	AUDIO ONLY	99 A2 B3 C4 02 ff 01 15
ECO	99 A2 B3 C4 02 ff 01 16	V-	99 A2 B3 C4 02 ff 01 17
V+	99 A2 B3 C4 02 ff 01 18	P-	99 A2 B3 C4 02 ff 01 19
P+	99 A2 B3 C4 02 ff 01 1A	MENU	99 A2 B3 C4 02 ff 01 1B
HOME	99 A2 B3 C4 02 ff 01 1C	RETURN	99 A2 B3 C4 02 ff 01 1D
SEARCH	99 A2 B3 C4 02 ff 01 1E	CAPTURE	99 A2 B3 C4 02 ff 01 1F
AUTO	99 A2 B3 C4 02 ff 01 20	1	99 A2 B3 C4 02 ff 01 21
2	99 A2 B3 C4 02 ff 01 22	3	99 A2 B3 C4 02 ff 01 23
4	99 A2 B3 C4 02 ff 01 24	5	99 A2 B3 C4 02 ff 01 25
6	99 A2 B3 C4 02 ff 01 26	7	99 A2 B3 C4 02 ff 01 27
8	99 A2 B3 C4 02 ff 01 28	9	99 A2 B3 C4 02 ff 01 29
0	99 A2 B3 C4 02 ff 01 2A	←	99 A2 B3 C4 02 ff 01 2C
→	99 A2 B3 C4 02 ff 01 2D	↑	99 A2 B3 C4 02 ff 01 2E
↓	99 A2 B3 C4 02 ff 01 2F	OK	99 A2 B3 C4 02 ff 01 30

RS-232 Port definition:



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