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Follow all warnings, precautions and maintenance directions as described in this user’s manual.

⚠️ **Do not** disassemble the Laser Curtain Touch module.

⚠️ **Do not** use-, store- or leave the Laser Curtain Touch module near fire, or in places with high temperature, e.g. in direct sunlight or in sun-heated cars.

⚠️ **Use** the enclosed standard USB cable (maximum length: 5m). To extend the USB cable length over 5m a certified active extension USB cable is required.

⚠️ **Do not** allow liquid or foreign material to enter the Laser Curtain Touch module.

## Precautions

The IR camera on the projector receives an infrared signal from the Laser Curtain Touch module which is attached to the screen.

To operate normally:

> The IR camera should face the projected image area on the screen.
> Remove any obstacle between the IR camera and the projected image.
> Do not place other infrared communication devices, lighting equipment, residential heating equipment etc. nearby.
> Use only the enclosed interactive cable from the Laser Curtain Touch kit
> The screen surface non-flatness should be less than 5mm

**Maintenance!** Gently clean the optical port with a dust blower.

## How it works

> The Laser Curtain Touch covers the entire image with a thin fan-shaped area of IR light.
> When a finger or a stylus breaks the Laser Curtain Touch light area, IR light is reflected to the IR camera in the projector.
> The camera module tracks multiple touch points and reports positions to a PC or laptop via USB (multi-touch not available for Windows XP and Mac OS X).
Installation

Step 1: Install the Laser Curtain Touch

> Install the Laser Curtain Touch on the screen according to the installation manual.
> Connect the Laser Curtain Touch to the projector via the enclosed interactive cable. The L-connector should plug into the right side of the Laser Curtain Touch.
Step 2: Install Utility Software

A. System requirements

To ensure normal operation of the interactive function, follow below requirement:

<table>
<thead>
<tr>
<th>System requirement</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system</td>
<td>Microsoft Windows XP (SP3)/Windows 7 (32bit/64bit)/Windows 8/Windows 8.1 (.NET Framework 4.0 must be installed) Mac OS X(10.7~10.10)</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® Core™ i3 or above</td>
</tr>
<tr>
<td>Memory</td>
<td>2GB or more</td>
</tr>
</tbody>
</table>

B. Download the latest version of the software from www.dnp-screens.com and install on the PC.

C. A utility icon indicator as below will appear in the Windows/Mac OS taskbar when running the software utility.

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✅</td>
<td>Finger/Stylus</td>
</tr>
<tr>
<td>✅</td>
<td>Active Pen</td>
</tr>
<tr>
<td>⚠️</td>
<td>Disconnected</td>
</tr>
</tbody>
</table>

D. Connect the PC to the projector with the enclosed USB cable and a signal cable before proceeding.
Installation

Step 3: Initial Setup
For the first time setup, follow the Installation Guide to complete installation procedure (✓).
Step 4: Operation Mode

Select Finger/Stylus mode (右手) for using the Laser Curtain Touch. Windows 7 and Windows 8 operating systems support multi-point touch control. Switch to Active Pen Mode (左手) if you do not want to use the Laser Curtain Touch (will switch to IR pen use).

Only **single-point touch** is available for Windows XP and Mac OS X.
Step 5: Laser Beam Alignment

1. Press the top-center button to switch to visible light mode (The Red LED will blink continuously)

2. Ensure that PC and Projector are connected via USB cable (enclosed with the projector)
3. Turn the black and grey knobs clockwise until end-stop

4. Turn the grey knob counter-clockwise until both light beams are symmetrically at same level.

5. Turn the black knob counter-clockwise to move the beams downwards until they hit the frame.
Installation

6. Check the beam position with the alignment sticker. The beams should be positioned within the grey zone.

7. Press the top-center button again to switch back to IR mode (The Blue LED will stay solid)

<table>
<thead>
<tr>
<th>Mode</th>
<th>Blue LED</th>
<th>Red LED</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IR Laser mode</td>
<td>Solid</td>
<td>--</td>
<td>IR laser ON</td>
</tr>
<tr>
<td>Visible light mode</td>
<td>Solid</td>
<td>Blinking</td>
<td>Visible light ON (IR Laser OFF, touch disabled)</td>
</tr>
<tr>
<td>Error</td>
<td>--</td>
<td>Always ON</td>
<td>Error of LD module occurred.</td>
</tr>
</tbody>
</table>
8. Put top cover back on
Installation

Step 6: Touch Area Setting

A. Select Auto Touch Area Setting:

Note:

> Close all software applications
> Reduce ambient light
> Do not obstruct or shake the lens during Touch Area Setting
> Check if the projected image is clear. If not, adjust the focus to sharpen the image
> If an error message pops up after auto setting, check surroundings and redo
> If the error message continues to pop up, switch to Manual Touch Area Setting

B. Select Manual Touch Area Setting:
B-1. After the camera captures the projected image, a Touch Area window will pop up. The working touch area is defined by a green frame. If the captured image is not clear enough, re-select “Ambient light mode selection” from “Auto” to “Bright” or “Dim” according to the actual ambient light conditions.

NOTE! The captured image shows the actual camera view, which is reversed from the projected image. For example: P1 is lower right corner, P2 is lower left corner etc.

B-2. Touch Area Boundary Fine-tuning

Step 1: Click on P1; use the mouse to drag the green corner P1 just outside the corner of the projected white frame.

Step 2: Adjust P2 to P4 accordingly; ensure that the adjustable green zone (the working touch area) completely covers the projected white frame.

Step 3: Double-check that the green frame is perfectly outside the projected white frame. If not, fine-tune again.

B-3. When the Touch Area is correctly set click exit.
Step 7: Calibration

A. Select Auto Calibration to automatically calibrate. Do not obstruct the camera view while auto-calibrating.

![Auto Calibration Menu]

**Note:**
If the Auto Calibration was not successful, follow below steps to troubleshoot and run the Auto Calibration again.

- Close all software applications
- Reduce ambient light
- Do not obstruct or shake lens during calibration
- Check if the projected image is clear. If not, adjust the focus to sharpen the image

If you are not satisfied with the calibration result or if an Auto Calibration error message continues to pop up on the screen, switch to Manual Calibration.
B. Select Manual Calibration to manually adjust the touch accuracy:

![Manual Calibration Interface](image)

**Note:** Manual Calibration is suggested for better accuracy.

Four calibration points are used to adjust the touch accuracy. Use finger or stylus to calibrate.

**Step 1:** The calibration target is displayed on the screen (start in upper left corner).

**Step 2:** Press and hold in the center of the target until the center changes color, which indicates the point is set.

**Step 3:** Release. The next calibration target will display.

**Step 4:** Redo steps 2 and 3 until calibration is complete.
Installation

If calibration is not successful do the following:

- Close all software applications
- Reduce ambient light
- Do not obstruct or shake the lens during calibration
- Check if the projected image is clear. If not, adjust the focus to sharpen the image
- Check that the Touch Area completely covers the screen
Step 8: Touch Sensitivity

When touch function is unresponsive or writing is intermittent. You can adjust the sensitivity by adjusting Touch Sensitivity level:

- Default: 4
- Max.: 10 (most sensitive)
- Min.: 0 (least sensitive)

Note: Touch Sensitivity is not adjustable under Active Pen Mode.
Installation

Step 9: Trouble-shooting Viewer

Sometimes infrared light (IR light) from ambient light sources interfere with touch performance. The troubleshooting viewer shows real time images for debugging purposes. Any light interference is marked in green. If a green obstacle appears within the image area locate the source and prevent it from interfering.

Note: The interactive function is disabled under troubleshooting viewer, use the computer mouse to click exit.
Appendix A: Troubleshooting

Q1 Why can the PC not boot when connected to the projector by the USB cable?
A:
1. Unplug USB cable from PC; or
2. Go to BIOS setup page of PC and modify the “Boot priority order.” Choose Hard disk as top priority, save the change and reboot PC.

Q2 What to do when Windows system cannot identify the USB device?
A:
1. Unplug/re-plug in the USB cable and check again.
2. Switch to another USB port and check again.
3. Restart your computer and check again.
4. Go to Power Options in the Control Panel, check the USB selective suspend settings status in USB settings under Advance Settings. Switch to “Disabled”.
5. Go to the official website of the laptop/PC manufacturer, and update the USB driver to the latest version.
6. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.
7. The USB port of your computer may not work properly. Please contact your IT staff.
Q3 Why is the utility icon red (✅), not green (✅/✅)?
A: A red icon (✅) indicates a failed connection. This may be caused by the following:
  1. Check if the interactive function is enabled in the OSD.
  2. Unplug/re-plug in the USB cable and check again.
  3. Switch to another USB port and check again.
  4. Restart your computer and check again.
  5. Go to Power Options in Control Panel; check the USB selective suspend settings status in USB settings under Advance Settings. Switch to “Disabled”.
6. Go to the official website of the laptop/PC manufacturer, and update the USB driver to latest version.
7. Go to the official website of the laptop/PC manufacturer, and update the BIOS driver to latest version.
8. Use the USB cable included with your projector and check again. If an USB extension is needed, please contact your distributor.
9. The USB port of your computer may not work properly. Please contact your IT staff.

Q4 What to do when there is only single touch point?
A:
1. Re-plug USB cable from PC.
2. Go to “Control Panel” and make sure “Tablet PC Components” is selected.
Appendices

Q5 When should “Calibration and Touch Area Setting” be done?
A: Please perform Calibration and Touch Area setting during first installation. If projector or screen is moved, Touch Area Setting and Calibration should be performed again.

> When Laptop/PC resolution is changed, calibrate again.
> For better accuracy, please do Manual Calibration.
> If an overlarge offset is observed, please perform Manual Calibration and see Step 6 Calibration for troubleshooting.

Q6 What to do when Auto Calibration and Auto Touch Area Setting both failed?
A:
1. Check “Orientation” OSD setting first. The interactive function supports Ceiling Mode only.

When a projector OSD message is shown, this may result in failure to Auto Calibrate and Auto Touch Area Setting. Wait until the OSD message disappears before performing Auto Calibration and Auto Touch Area Setting.

Please follow below trouble-shooting steps to perform Auto Calibration and Auto Touch Area Setting again.
a. Quit all software applications  
b. Reduce ambient light  
c. Do not obstruct or shake the lens during Calibration  
d. Check if the projected image is clear. If not, adjust the focus to sharpen the image.  
e. If the “Auto Touch Area Setting failed” or the “Auto Calibration failed” messages pop up on the screen again, switch to Manual Mode for Touch Area Setting and Calibration.

2. Check the Projector Lamp Power Mode selection. Lower lamp brightness (ECO mode) may affect both Auto Touch Area Setting and Auto Calibration. Switch to Normal mode to complete Touch Area Setting and Calibration.

3. Check the Projector Color Mode selection. To ensure accuracy of both Auto Touch Area Setting and Auto Calibration, it is suggested to switch Color mode to Bright Mode.

Q8 What to do when the mouse cursor (стрелка) flashes or jumps on the screen, or when the Touch function does not work well at a certain projection area?

A:
1. Check if there is strong light reflected on the screen. If yes, turn off the light.  
2. Check if there is any foreign object on the screen. If yes, remove the object.  
3. Refer to Step 5 Laser Beam Alignment for detailed procedures, to see if laser beam is al.  
4. Refer to Step 6 Touch Area Setting for detailed procedures, check if the Manual Touch Area frame is set properly.

Q9 What to do when the projection area corner is insensitive or intermittent lines are observed?

A:
1. Adjust the level of Touch Sensitivity to enhance sensitivity, see Step 8 Touch Sensitivity for trouble-shooting.  
2. If the Touch function remains insensitive, check the camera lens condition. If dust or particles are observed, gently clean the optical port with dust blower.
Q10 What to do when touch function is not accurate?
A: Touch accuracy may be impacted when Windows default display setting under Windows has been changed.

1. Go to the setting page <Start menu/Control Panel/Appearance and Personalization>

2. Select “Smaller - 100 % (Default) ” and click “Apply”.

![Control Panel Appearance and Personalization settings](image_url)
## Appendix B: Specifications

### I. Laser Curtain Touch Touch Module

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser Safety</td>
<td>Class 1</td>
</tr>
<tr>
<td>Curtain to Screen Distance</td>
<td>20mm ~ 100mm</td>
</tr>
<tr>
<td>LED Indicator</td>
<td>Blue/Red</td>
</tr>
<tr>
<td>I/O Port</td>
<td>Interactive Jack x1</td>
</tr>
<tr>
<td>ID Size(W<em>L</em>H)</td>
<td>150.0 (W) x 50.0 (L) x 40.0 (H) mm</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt;330g</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>12V/0.3A</td>
</tr>
<tr>
<td>Operation Temperature</td>
<td>0°C~+40°C (without cooling fan)</td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20°C~+60°C</td>
</tr>
</tbody>
</table>

### II. General Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calibration</td>
<td>Auto Calibration, Manual Calibration</td>
</tr>
<tr>
<td>Multi-touch</td>
<td>10-touch points (Win 7 and Win8 compliant)</td>
</tr>
<tr>
<td>Display mode</td>
<td>Support Ceiling mode only</td>
</tr>
</tbody>
</table>

### III. Installation Software

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>OS Required:</td>
<td>Microsoft Windows XP (SP3): Mouse mode supported. Windows 7/Windows 8: Touch mode-10 touch points supported and Mouse mode supported (Windows: .NET Framework 4.0 installation is required) Max OS X (10.7~10.10)</td>
</tr>
<tr>
<td>Processor Type</td>
<td>Intel Core™ i3 or above</td>
</tr>
<tr>
<td>RAM</td>
<td>2GB or More</td>
</tr>
</tbody>
</table>
Appendices

Appendix C: Content

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Laser Curtain Touch Module</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Screw M3x8 (to fix LCT module to bracket)</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Screw M5x5 (to fix bracket to screen)</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Bracket</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Interactive cable</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Alignment sticker</td>
<td>2</td>
</tr>
</tbody>
</table>