

## Knowledge Base

# Mounting SMART Board™ Interactive Whiteboard Systems and UF55 Projectors on a Back Board

### SMART Hardware

SMART Board™ 600i3 series interactive whiteboard systems and  
SMART Board 560, 580, 660, and 680 interactive whiteboards with UF55 projectors

## Overview

This document provides instructions for mounting your SMART Board interactive whiteboard system on walls with uneven surfaces or walls with irregular stud or unsuitable studs.

You can mount your SMART Board interactive whiteboard system using a back board if your installation wall has:

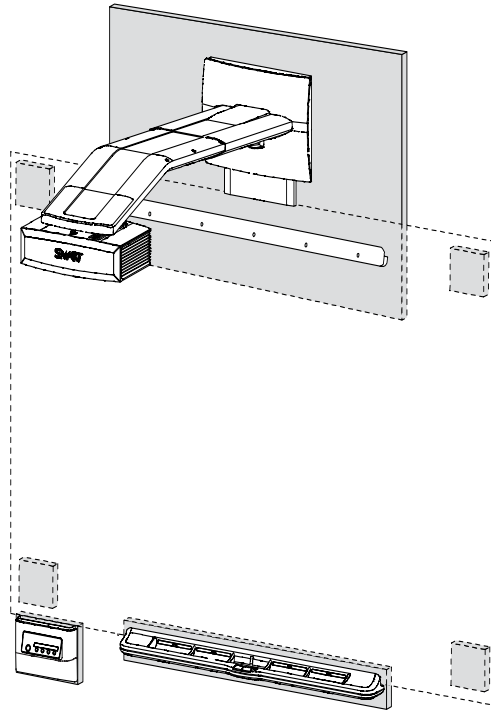
- no suitable central stud for mounting or if you want to mount the projector between studs
- stud construction with regular stud spacing greater than 16" (40.6 cm), or random stud spacing
- uneven surface treatments such as stucco or masonry construction

## Details

To mount the SMART Board 600i3 interactive whiteboard system on a back board, perform the following procedures:

- Prepare the back board and stabilizer boards.
- Install the UF55 projector bracket.
- Install the interactive whiteboard stabilizers.
- Install the pen tray spacer (600 series only).
- Install the extended control panel (ECP) spacer (optional).

### The UF55 Projector System Mounted on Back Boards



### Important Information

**⚠ WARNING**

- Before installing your SMART Board 600i3 interactive whiteboard system on a back board, consult with your local building authority regarding the mounting area's construction type, condition, stud spacing, and maximum holding strength.
  - Make sure an electrical socket is near your SMART Board interactive whiteboard system and remains easily accessible during use.
  - To attach the wall tether, use the appropriate hardware for your wall type. Failure to do so could result in injury if the unit detaches from the wall.
  - Two people are required to mount your SMART Board product because it may be too heavy for one person to safely maneuver.
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## Materials and Tools

### Materials Required

- One sheet of 3/4" (18 mm) plywood from which you will cut:
  - one back board piece for the projector and board mount, of variable size depending on your type of wall
  - four 3.5" × 3.5" (8.9 cm × 8.9 cm) pieces for the upper and lower board stabilizers
  - one 4" × 28" (10.2 cm × 71.1 cm) piece for the pen tray spacer (600 series only)
  - one 10 1/2" × 6 5/8" (26.7 cm × 16.9 cm) piece for the extended control panel (ECP) spacer (optional)
- Paper
- Safety equipment as recommended in your installation guides

### Materials Included with Your SMART Board Interactive Whiteboard

- UF55 projector mount bracket
- SMART Board interactive whiteboard wall-mount bracket
- Interactive whiteboard stabilizers
- Mounting template
- Toggler® hollow-wall anchors
- Concrete anchors and screws
- Installation Guide
- Configuration and User's Guide

### Tools Required

- Phillips® No. 1, 2 and 3 screwdrivers
- Electric drill
- Screws, anchors and drill bits suitable to your wall's construction type and the plywood back boards
- Wood screws (suggestion: #10 or #12 × 3/4")
- Countersink drill bits
- Electric saw
- Carpenter's level
- Tape measure

- Ruler
- Pencil
- Masking tape

## Preparing the Back Boards

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### To prepare the back boards and stabilizer boards

1. Cut the 3/4" (18 mm) plywood to the sizes indicated in the Materials Required list.
2. Paint or stain all of the support and stabilizer boards to match the wall or other colors in the room.



#### **NOTE**

Let the boards dry completely before handling them again.

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## Determining Your Wall's Stud Spacing and the Size of the Back Board Required

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### To determine your stud wall spacing and the size of the back board required

1. Choose a location for your SMART Board interactive whiteboard that is central to the audience, meets the spacing requirements in your installation guide and doesn't contradict any of the environmental requirements mentioned in your included product documentation.



#### **NOTE**

For **masonry** walls, draw a vertical line on the wall for the center line of your installation position using the pencil and the carpenter's level, and then proceed to step 3.

2. Use the stud finder to locate the stud near the center of the wall where you want to mount the back board. Draw a vertical line on the wall to mark the center line of this stud (the *center stud*) using the pencil and the carpenter's level.
3. Draw a horizontal line (the *recommended install height line*) on the wall 78 1/2" (199.4 cm) from the floor using the carpenter's level and the tape measure, crossing the vertical line drawn in step 2.



#### **NOTE**

For **masonry** walls, measure a back board size of 36" × 24" (91.4 cm × 61 cm) on the plywood sheet, and then proceed to step 8.

4. Locate the first adjacent studs to the left and right of the center stud using the stud finder. Draw vertical lines on the wall to mark the centers of the studs along the *recommended install height line*.
5. Measure the spaces between the vertical lines, and record them on a sheet of paper.

6. Add the measurements and add an additional 4" (10.2 cm) to the width. This is the *back board width*.

Example 1:

A stud wall with regularly spaced studs at 18" (45.7 cm) requires  $18 + 18 + 4 = 40$  inches ( $45.7 + 45.7 + 10.2 = 101.6$  cm).

Example 2:

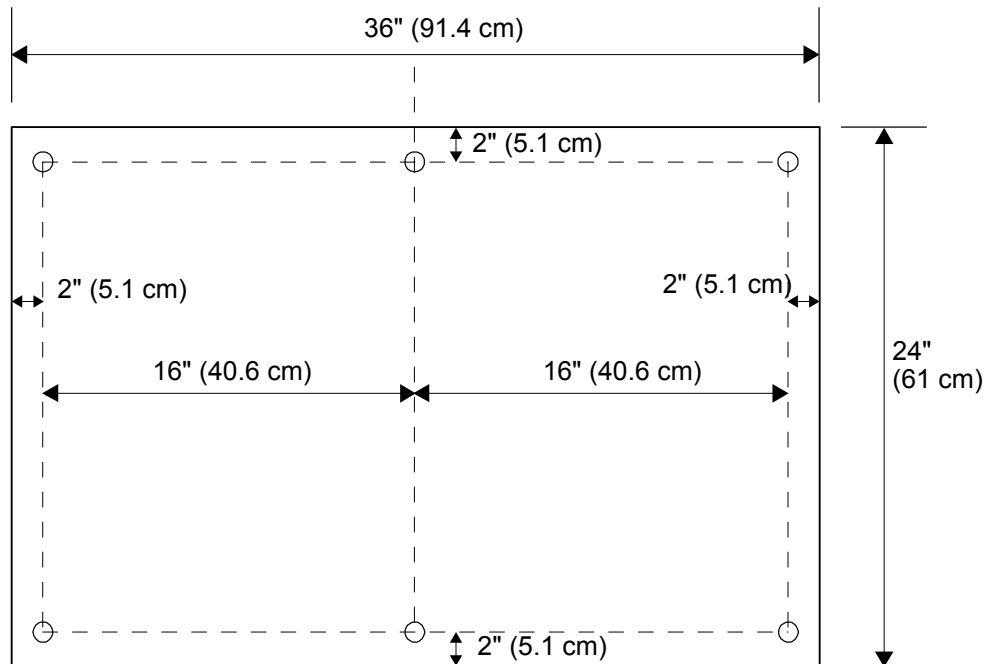
A stud wall with irregularly spaced studs at 18" (45.7 cm) and 12" (30.5 cm) requires  $18 + 12 + 4 = 34$  inches ( $45.7 + 30.5 + 10.2 = 86.4$  cm).

7. Measure the plywood sheet using the *back board width* you calculated. Measure and mark a *back board height* of at least 24" (61 cm).
8. Cut the back board out of the plywood sheet according to your measurements using the electric saw.

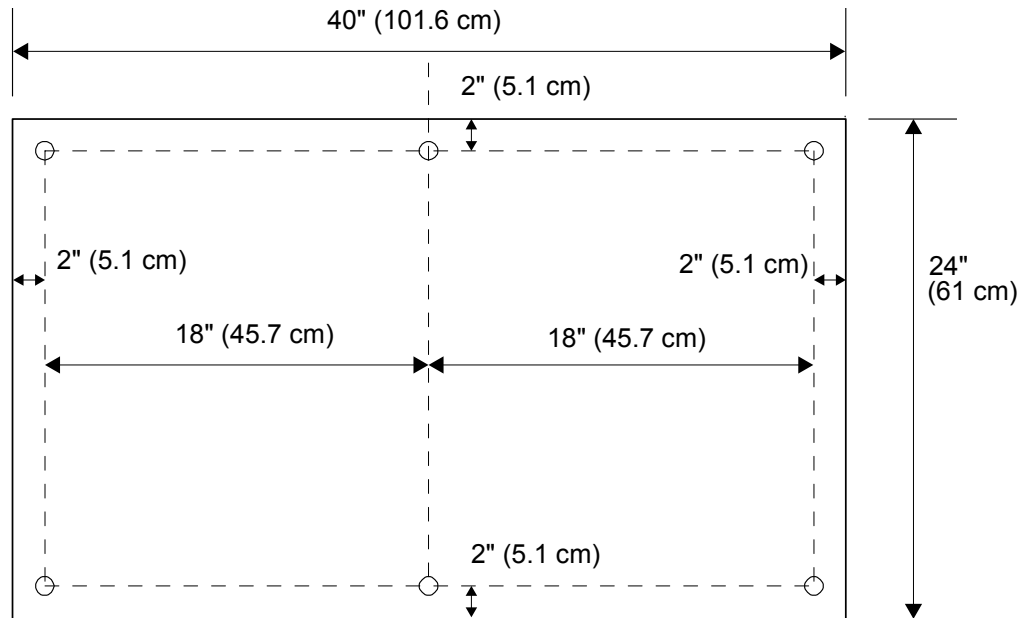
## Preparing and Installing the Back Board

In the following procedure you'll prepare the back board for installation by drawing guide lines and drilling pilot holes. Refer to the following examples for typical layouts.

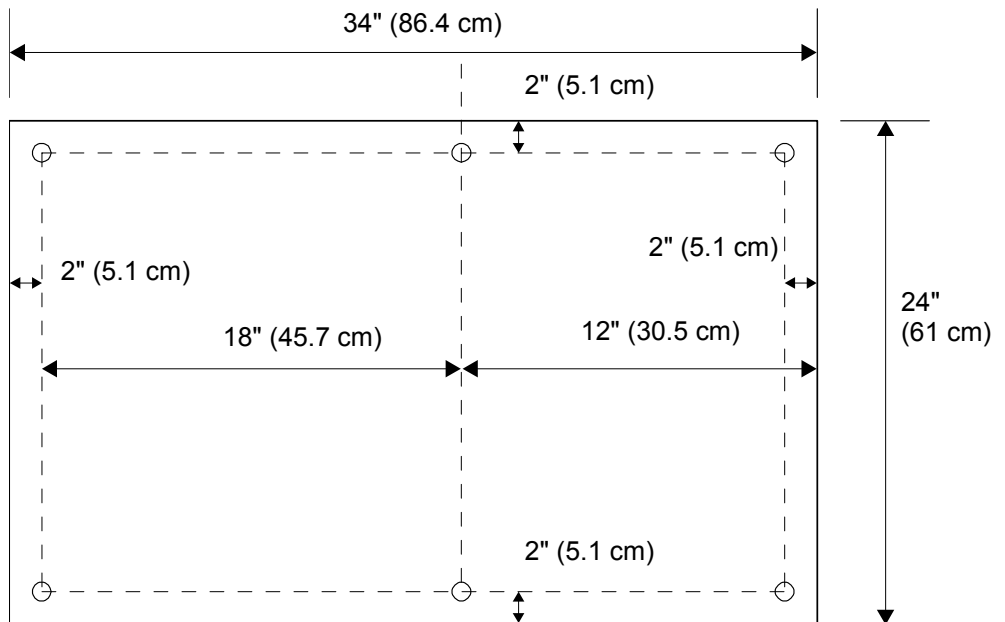
### Example 1: Dimensions for the Back Board Centered on 16" Center-to-Center Studs



**Example 2: Dimensions for the Back Board Centered on  
18" Center-to-Center Studs**



**Example 3: Dimensions for the Back Board on *Unevenly* Centered Studs**



**To prepare the back board for installation**

1. Draw vertical lines for each stud on the back board using your measurements from the previous set of instructions. Keep a 2" (5.1 cm) space between the outer stud lines and the edge of the board. Refer to the examples on pages 5 and 6 for typical layouts.



**NOTE**

For **masonry walls**, draw a central vertical line on the back board. Draw lines on the back board as in Examples 1 through 3, and then proceed to step 4.

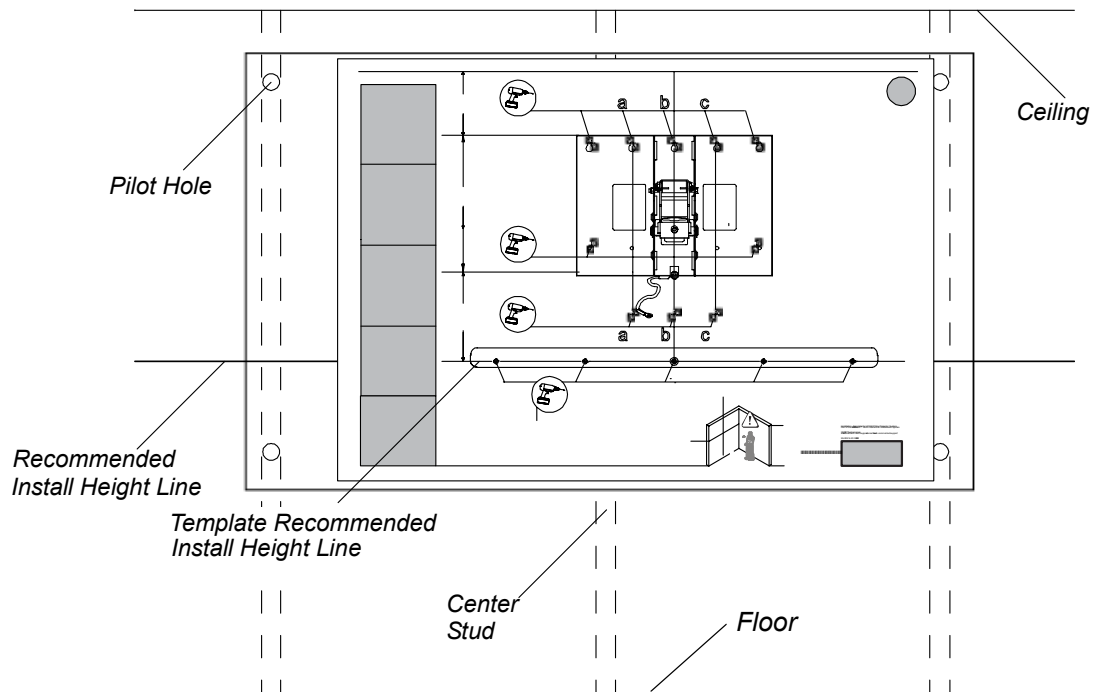
2. Draw a horizontal line 2" (5.1 cm) from the top edge and another line 2" (5.1 cm) from the bottom edge of the back board.
3. Draw circles where the stud lines cross the horizontal lines (six total).
4. Drill six pilot holes into the back board at the circled cross lines using an appropriate drill bit.



**IMPORTANT**

Use a countersink drill bit so that the screws and attachment hardware do not interfere with the interactive whiteboard installation.

5. Vertically center the mounting template (included with your SMART Board 600i2 interactive whiteboard or UF55 retrofit kit) on the back board using the carpenter's level. Attach the mounting template to the back board using masking tape. Extend the line on the template out to the edges of the board.
6. Align the *recommended install height line* with the same line on the template and board, and then align the back board's central holes with the central line on the wall. Mark the pilot holes on the wall.



7. Drill the marked pilot holes using a suitable drill bit for your installation screws and hardware.
8. Install the back board using suitable anchors, screws or Toggler hollow-wall anchors.



#### **IMPORTANT**

The back board's six holes must align with studs when installing on stud walls.

- Use the included Toggler hollow-wall anchors if the wall has metal studs.
- Use the supplied concrete anchors if you are installing on a concrete wall.
- Provide your own screws if you are installing on wood stud walls (Suggestion: #10 ×2 1/2").

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## Installing the UF55 Projector Bracket

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### **To install the UF55 projector bracket**

1. Drill the UF55 projector's five wall-mount bracket holes and the safety tether hole into the back board using a suitable drill bit, according to the locations indicated on the mounting template.
2. Drill the SMART Board interactive whiteboard's five wall-mount bracket holes into the back board using a suitable drill bit, according to the locations indicated on the mounting template.
3. Remove the mounting template.
4. Install the projector bracket and safety tether using six wood screws, in the order specified in your installation guide.
5. Mount the projector on the bracket and continue with the projector installation as directed in your installation guide.
6. Attach the interactive whiteboard's wall-mount bracket to the back board using five wood screws, in the order specified by your installation guide.

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## Installing the Interactive Whiteboard stabilizers

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### **To install the interactive whiteboard stabilizers**

1. Measure the width of your interactive whiteboard. Divide the number in half, then subtract 1/2" (1.3 cm) and record the measurement on a sheet of paper as the *stabilizer install width*.

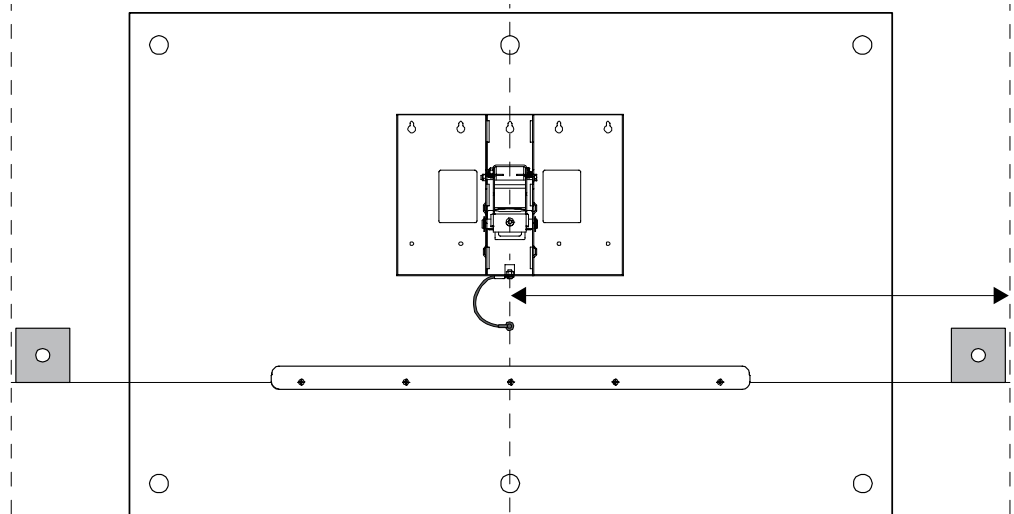


#### **NOTE**

For 600 series interactive whiteboards, align the board stabilizers on the wall with the round spacers on the upper left and bottom right side of the back of the interactive whiteboard, then proceed to step 9.

2. Measure the *stabilizer install width* from both sides of the center vertical line on the back board using the carpenter's level and measuring tape, and draw vertical lines at their location on the *recommended install height line*.

- Place the top two stabilizers directly above the *recommended install height line*, and directly inside the *stabilizer install width* line, so that the stabilizer will be hidden behind the SMART Board interactive whiteboard.



- Mark the stabilizers' locations, and drill a pilot hole through the stabilizer into the wall.

 **IMPORTANT**

Use a countersink drill bit so that the screws and attachment hardware don't interfere with the interactive whiteboard installation.

- Attach the stabilizers to the wall using suitable anchors and screws.

- Measure the height of your interactive whiteboard. Subtract 1/2" (1.3 cm) and record the measurement on a sheet of paper as the *bottom stabilizer install height*.

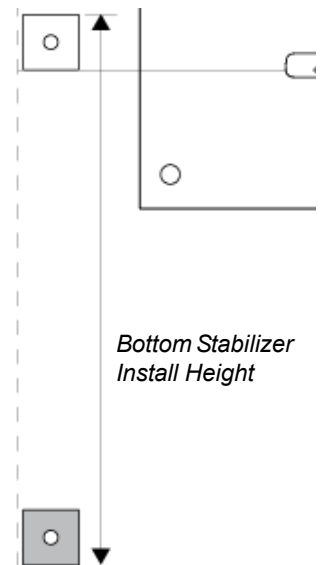
- Measure the *bottom stabilizer install height* from the top sides of the two upper stabilizers towards the floor, using the carpenter's level and measuring tape. Mark the locations on the wall.

- Place the bottom two stabilizers directly above the *bottom stabilizer install height* line and directly inside the *stabilizer install width* line, so that the stabilizer will be hidden behind the SMART Board interactive whiteboard.

- Mark the stabilizers' location, and drill a pilot hole through the stabilizer into the wall.

 **IMPORTANT**

Use a countersink drill bit so that the screws and attachment hardware don't interfere with the interactive whiteboard installation.



10. Attach the stabilizers to the wall using suitable anchors and screws.

 **IMPORTANT**

If you have a 600 series interactive whiteboard, you must install the pen tray spacer, *after* you install your interactive whiteboard, to prevent unnecessary movement and keystone effects on the projected image. See *Installing the Pen Tray Spacer* on page 10 for instructions.

11. Continue with the installation as directed in your installation guide.

 **NOTE**

For the 600 Series, don't secure the pen tray directly to the wall. Continue with the pen tray spacer installation first.

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## Installing the Pen Tray Spacer (600 Series only)

If you have a 600 Series interactive whiteboard, you need to install the pen tray spacer after you install your interactive whiteboard.

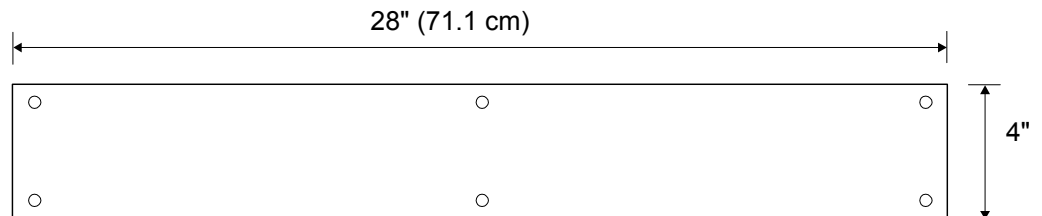
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### To install the pen tray spacer

1. Drill six pilot holes into the 4" × 28" (10.2 cm × 71.1 cm) pen tray spacer according to the following diagram.

 **IMPORTANT**

Use a countersink drill bit so that the screws and attachment hardware don't interfere with the interactive whiteboard installation.



- Put the pen tray spacer on the wall behind the interactive whiteboard's pen tray brackets. Mark the pilot holes on the wall.
- Remove your SMART Board interactive whiteboard from its wall-mount bracket if it is already on the bracket.

 **NOTE**

Don't remove the Unifi projector.

4. Check the marked pilot hole with the stud finder. If there are no studs, drill the six holes to accommodate wall anchors.

**▲ CAUTION**

If your installation hole overlaps a wood stud in a wall, do not use an anchor as recommended in the previous step. Instead, drill the screw directly into the stud.

5. Install the pen tray spacer using appropriately sized screws.
6. Place your SMART Board interactive whiteboard back on its wall-mount bracket.
7. Turn on the projector and center the board to image as directed in your installation guide.
8. Bend the metal tabs located in the center of each pen tray bracket so that they rest against the pen tray spacer.

**i NOTE**

Make sure the SMART Board interactive whiteboard is parallel to the back board, as this will prevent keystone effects on the projected image.

9. Screw the metal tabs to the pen tray spacer using the appropriate Phillips screwdriver and screws.
10. Continue with the installation as directed in your installation guide.

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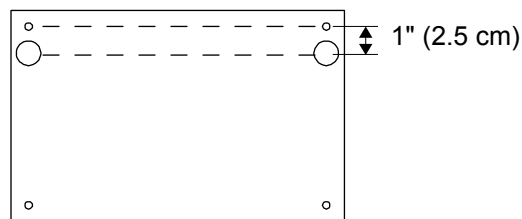
## Installing the Extended Control Panel Spacer (Optional)

You can also mount the extended control panel (ECP) on a spacer board to fill in the gap between the back of the interactive whiteboard and the ECP.

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### To install the ECP spacer

1. Center the extended control panel (ECP) template on the ECP spacer board. Attach the template using masking tape.
2. Measure and mark two points 1" (2.5 cm) below the upper ECP installation points on the ECP spacer board using a ruler, according to the following diagram



3. Drill the two additional points using an appropriate drill bit for the type of screws you will use.

**👉 IMPORTANT**

Use a countersink drill bit so that the screws and attachment hardware don't interfere with the interactive whiteboard installation.

4. If you have installed a pen tray spacer, position the ECP spacer board adjacent to the pen tray spacer using the carpenter's level. Otherwise, position the ECP spacer board under the interactive whiteboard. Mark the two installation holes on the wall with the pencil.
5. Check the pencil marks with the stud finder. If there are no studs, drill the two points to accommodate wall anchors, and place a wall anchor into each hole.

 **CAUTION**

If your installation hole overlaps a wood stud in a wall, do not use an anchor as recommended in the previous step. Instead, drill the screw directly into the stud.

6. Attach the ECP spacer board to the wall using an appropriately sized screw.
7. Drill the ECP spacer board's four installation points using a 5/64" (2 mm) drill bit.

 **NOTE**

Disregard the recommended 3/16" (4.8 mm) drill bit on the ECP template.

8. Attach the ECP to the ECP spacer board using the screws specified in your installation guide.
9. Complete the installation as directed in your installation guide.

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