# THUNDER™
# Real-Time Global Collaboration Solution

## User Guide

# Table of Contents

# Welcome to THUNDER!

Welcome to THUNDER™ the real-time global collaboration solution that provides your teams with the tools and environment to work or learn together regardless of physical location. With THUNDER, you can work in groups from any location, sharing the same information, working on the same project in real time.

THUNDER makes it easy to integrate information from analog and digital media into virtual flip-chart pages projected on the wall that are displayed, shared, updated, and captured in real time. Following a meeting, content can be seamlessly archived, emailed to all participants, and ready at the touch of an icon for retrieval from any location.

## Introducing THUNDER

- THUNDER is used as a flipchart, with a participant jotting notes and drawings, and sharing digital media onto a virtual "page."

- Multiple pages are "posted" (actually projected) onto the wall enabling all of the information to remain visible to all participants
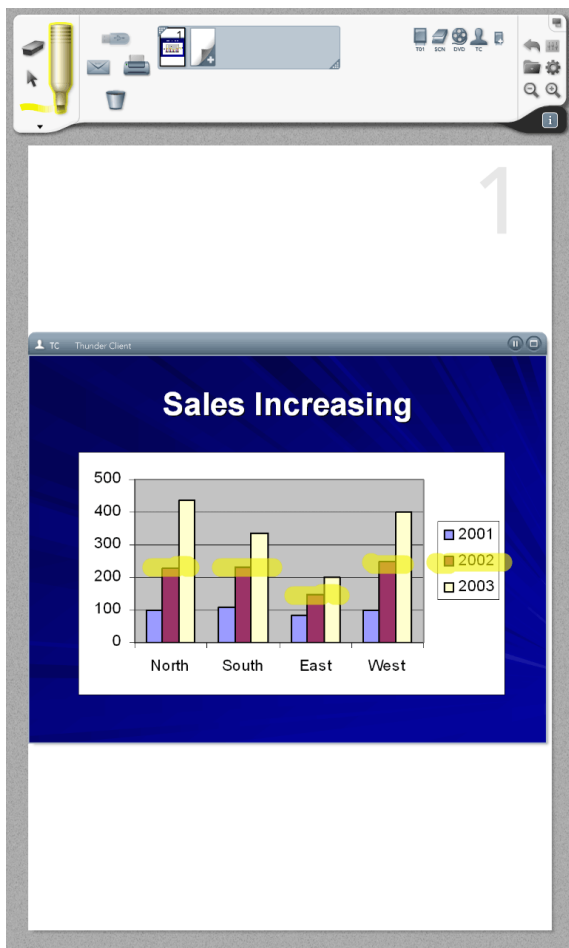
throughout the meeting, much like flipchart pages in a non-digital world.

- With the touch of an icon, participants in other locations can join a THUNDER conference, see all of the pages, exchange information, and share ideas.

- Each page can be saved on the system and displayed, edited, printed, or emailed; participants can leave the meeting knowing their information has been captured.

- Team members can join a THUNDER conference from any location via their computer on the network, and even these remote participants can view and interact with the session in real time.

- In addition, participants who join the conference from their computer can share content from their computer in real time, adding a whole new level of interactivity.

- THUNDER features instant page scanning, real-time video sharing, printing documents to THUNDER, and One-Click Publishing™ for simple, immediate distribution of content.

**i** Did you know...

THUNDER is an excellent collaboration tool even without remote participants.

## Three Ways to Collaborate

There are three kinds of THUNDER experience:

- **In-room**: participants in a THUNDER room collaborate using the THUNDER virtual flip-chart and can also connect their in-room laptops to the session with THUNDER client to share their computer screen, actively add content to the flipchart pages, and annotate content.

- **Room-to-room**: with a simple touch of a toolbar icon, THUNDER connects participants in another THUNDER room, giving them a live view of the same meeting so everyone can engage in an equal experience.

- **Remote participation**: participants can join the meeting via the LAN or Internet from anywhere with full multi-way participation using THUNDER client on their computer. Remote participants using THUNDER client can share their computer screen, actively add content to the flipchart pages, and annotate content that everyone in the THUNDER conference can view.

## THUNDER Pro and THUNDER Express

THUNDER Pro and THUNDER Express provide the same kinds of collaborative opportunities. If your room is equipped with THUNDER Pro, it is a dedicated system providing a THUNDER server, easel, and stylus for writing and sharing.

If your room is equipped with THUNDER Express, you may interact with THUNDER's virtual flipchart pages using an interactive whiteboard, interactive panel, tablet PC, touch-screen plasma monitor, or other input device that is connected to a computer running THUNDER Express.

The computer running THUNDER Express may also run other applications. If so, your THUNDER Express system may provide desktop sharing and print to THUNDER opportunities for your meeting. For more information, refer to "Application Sharing" on page 51 and "Printing to THUNDER" on page 57.

Regardless of which system you use, in this manual the THUNDER easel refers to the device you use to interact with THUNDER.

## About This Manual

This manual and others that support THUNDER are available on-line at: www.polyvision.com.
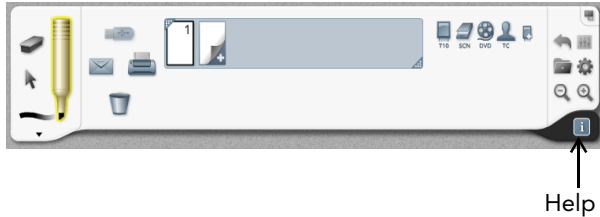
Help



i **Did you know...**

To get a quick understanding of how THUNDER works, tap the Help icon in the toolbar.

# Getting Started

Getting started with THUNDER is easy.

On THUNDER Pro, simply walk up and touch the easel screen. The system wakes up and is ready for use.

On THUNDER Express, double-click the "THUNDER Easel" icon on the desktop to start the application.



a    b    c                    d    e

## Introducing the THUNDER Toolbar

The THUNDER toolbar includes a number of icons that are grouped into sections. Each section has a unique purpose:

a   **Writing, erasing, and selecting tools**: Tap one of the three tool icons and then use the stylus (or your finger) for writing, erasing, or selecting.

b   **Targets**: What would you like to do with your page? Store it? Print it? Email it? Trash it? Drag it here to accomplish these tasks.

c   **Page thumbnails**: Tap the add page icon (the page icon with the white "+") to create a new page. For every page you create, you see another thumbnail in the toolbar.

To clear any existing meeting pages and start fresh, click the folder icon and tap "New." This closes any open pages and starts a new session with one blank page. If the previous session was not saved, THUNDER prompts you to save the session first.
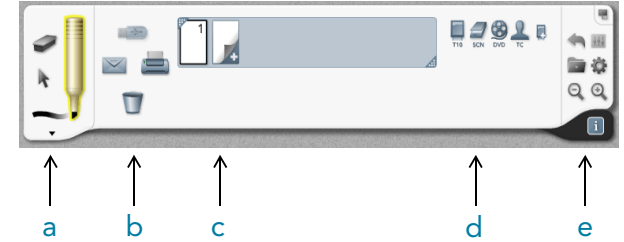
d  **Sources**: Collaborators who join your confer-
ence remotely each have their own icon with
a three letter monogram. Sources such as
your DVD or scanner are also shown here.

e  **System tools**: These tools enable you to
undo, zoom, save and recall your session;
change conference settings; control the
meeting room's other equipment, if installed,
including audio conferencing, lighting, video
sources, and wireless microphones; and pro-
vide you with help.

# Writing and Erasing

Using the stylus (or your finger), start writing on the THUNDER Pro easel. When you want to erase, just tap the eraser icon and then use the stylus or your finger to swipe across the pen strokes.

## The Pen Tool

While the pen tool is active you can write over anything in the workspace using the stylus or your finger. The pen cap is off and the pen glows yellow when it is active.

If the pen tool cap is already off, you're ready to write. If not, tap the pen tool to remove the cap.

To write with a different color or thickness:

1   Open the pen palette by tapping the pen tool or arrow below it. You have three choices for pen thickness in each color, plus highlighter or whiteout.

2   Tap a color in the pen palette. Now your stylus (or finger) writes with the selected color or thickness.
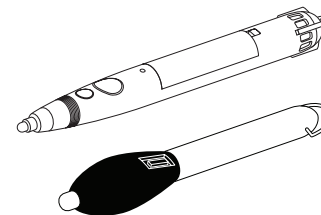
Your stylus will look like one of these.

pen tool cap on            pen tool cap off

pen palette⟶

eraser tool

## The Eraser Tool

When you want to erase pen strokes, tap the eraser tool. Use the stylus (or your finger) as an eraser on the easel. The eraser icon glows when it is the active tool. The eraser always removes whole pen strokes to make erasing easier.

## About the THUNDER Pro Stylus

You can use either your finger or the THUNDER stylus for writing, (including highlighting and whiteout) erasing, and selecting on the THUNDER Pro easel. You'll find that for extended periods of writing, the stylus is more comfortable to use. Using the stylus also makes your handwriting more legible. However, you can use your finger and the stylus interchangeably.

The stylus provides a shortcut for erasing while the pen pool is active; press the large button to change the stylus to an eraser.

The THUNDER Pro plasma display is touch sensitive, so clothing, ties, and jewelry can inadvertently make marks on THUNDER pages. Be sure your finger or the stylus is the only point of contact on the plasma display. Gripping the edge of the display while writing can also interrupt the stylus function.

THUNDER Pro

stylus erase button
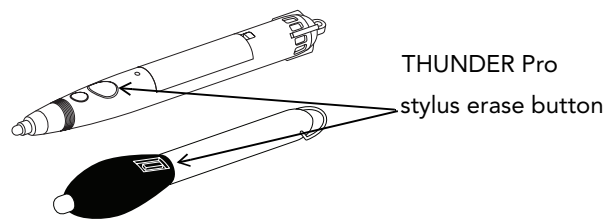
**i** Did you know...

While the pen tool is active, you can erase with the THUNDER Pro stylus. To do so, press the large button on the stylus so it works as an eraser.

**i** Did you know...

You can also make corrections by undoing any of your most recent actions. Refer to "Undoing Mistakes" on page 18.

**i** Did you know...

The THUNDER Pro stylus is battery operated and has a replaceable tip. When the stylus battery is depleted, the lines you draw may start to run together instead of keeping separate. The battery should last six months, depending on use. Refer to "Troubleshooting" on page 88.

## About the THUNDER Express Input Device

Each THUNDER Express installation may use a different input device (such as an interactive whiteboard, interactive panel, tablet PC, touch-screen plasma monitor, or other input device) for the easel. In most cases, the stylus or mouse can be used in exactly the same manner as the THUNDER Pro stylus. Holding the right mouse or right stylus button enables strokes to be easily erased.

thumbnails          add page icon

# Working with Pages
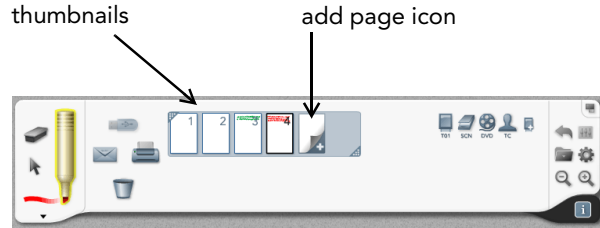
Like a flipchart, THUNDER makes it easy to share and record ideas during a meeting. Notes you write on the easel are easy to see from around the room. When you fill up a page, you can "post" it on the wall and start fresh with a blank page.

To add a new page:

- Tap the add page icon in the toolbar.

Your page appears projected on the wall, easy to see from around the room. THUNDER provides a new blank page ready for more ideas.

For every page you add, a consecutively numbered thumbnail appears in the toolbar.

## Editing Pages

Ideas flow easily onto a page and, unlike a flipchart, THUNDER makes it easy to change and reorganize your ideas as you work.

**i** Did you know...

Your pages can include scanned images, shared computer desktops, and even video in addition to writing. Refer to "Sources" on page 30.

**i** Did you know...

If you want to make changes to an existing page, tap its thumbnail and the page appears in the easel. Or you can drag the page thumbnail into the easel workspace.

## Selecting

When you want to edit what you've written or drawn, first select the individual pen strokes, words, or digital source.

To select writing and pen strokes:

1 Tap the select tool.

2 Tap the pen stroke or drag a box around a set of strokes.

To select a window containing a remote desktop view, scanned page, printed page, or video:

• Tap or drag across the window's title bar.

Selected items include small green "handles" at each corner.

select tool

handle          title bar
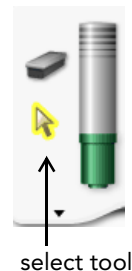
tap here to view the pen palette ⟶

## Changing the Color of Selected Pen Strokes

To change the color of pen strokes:

1 Tap the select tool.

2 Select the pen strokes by dragging a box around them.

3 Open the pen palette by tapping the arrow below the pen tool. (Don't tap on the pen tool, as that will de-select your strokes.)

4 Tap a new color in the pen palette.



pen palette ⟶

## Deleting and Erasing

It is easy to make changes by deleting or erasing.

To delete pen strokes:

1   Tap the select tool.

2   Select the strokes.

3   Drag them to the trash icon in the toolbar.

Or:

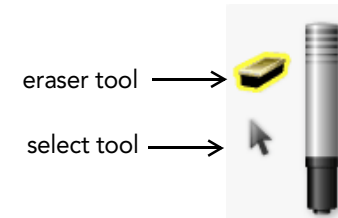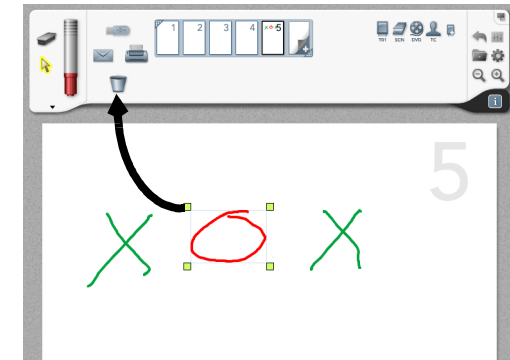• Press the Delete key from the keyboard.

To erase pen strokes:

1   Tap the eraser icon in the toolbar.

2   Drag through strokes to erase them

To delete a window containing a remote desktop view, scanned page, printed page, or video:

1   Tap the select tool.

2   Drag the title bar to the trash icon in the toolbar.

trash icon

eraser tool

select tool

handle

box around selected items
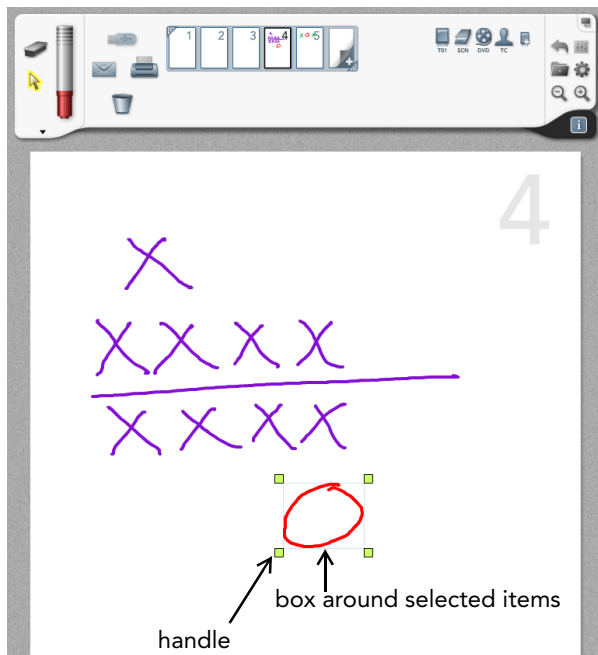
## Moving

To move pen strokes on the easel:

1 Tap the select tool.

2 Drag a box around the pen strokes to select what you want to move.

3 Drag the strokes to a new location, or drag them to the thumbnail of an existing page. If you move strokes to an existing page, the strokes may appear beneath the strokes that are already filling that page, but they remain selected.

4 Drag the strokes to the add page icon (the thumbnail with the white "+") to create a new page that includes a duplicate of those strokes.

**i** Did you know...

To move a scanned page or remote desktop view, drag the title bar to a new location.

Resizing

THUNDER makes it easy to resize items on the easel. For example, if you need more space to continue adding ideas to a page, you can shrink items in the workspace. Alternatively, you can emphasize an item by enlarging it so it is easy to see.

To resize specific items in the workspace:

1   Tap the select tool in the THUNDER toolbar.

2   Select the item or items with the stylus or your finger.

3   Drag one of the green handles to shrink or enlarge the selected item.

## Zooming In and Out

If you want to resize everything on the current page, THUNDER provides the zoom tools. When you zoom in or out, everything on the page shrinks or enlarges. The stylus works best with the zoom tools.

To magnify your page for better visibility:

- Tap the zoom in tool.

To shrink your page to make space for more information:

- Tap the zoom out tool.
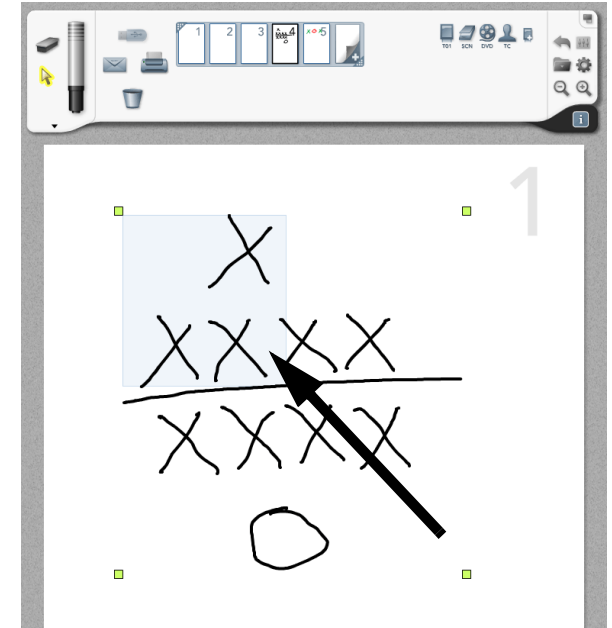
zoom in & zoom out tools

## Undoing Mistakes

undo tool

If you make a mistake while using THUNDER, the toolbar includes the undo tool so you can return to the previous state. The undo tool provides multiple steps back through your edits.

To undo:

- Tap the undo tool once for each action you want to undo.

You can undo any action, including dragging pages to the trash can, resizing, even scanning images. Only saving and opening cannot be undone.

## i Did you know...

You can also resize any item, such as pen stokes, by selecting them and dragging a handle. For scanner, video, or remote desktop views, you can also use the maximize and restore buttons on the window (see "Working with Windows" on page 34).

## Working with Toolbar Thumbnails

For every page you create, a consecutively numbered thumbnail appears in the toolbar. You can create as many pages as you need.

THUNDER can use projectors to display pages on the room's walls or screen. The number of pages that you can display or "post" on the wall at one time depends on the number of THUNDER projectors in the room. You can display any page from your session on the wall at any time.

a **Add page icon**: When you tap the add page icon, a blank page appears on the easel, and the toolbar includes a new thumbnail. Pages are numbered consecutively in the order that you add them.

b **Current page**: You can always tell what page you are viewing on the easel by looking for the black box surrounding the thumbnail. Switch the easel to another page by tapping the thumbnail of that page.

c **Sliding projection box**: The gray outline around a group of thumbnails indicates which pages are currently "posted" on the walls.

d **Grab handles**: The handles you select to move the sliding projection box to view other pages projected on the wall.
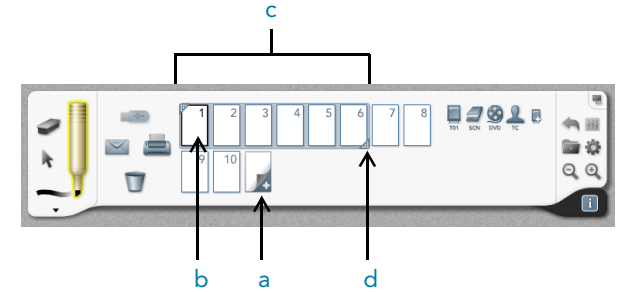
![i] **Did you know...**

You can rotate the THUNDER Pro easel from portrait to landscape orientation. For each projector in your system, THUNDER displays two pages in portrait orientation or one larger page in landscape orientation. Refer to "Landscape and Portrait Orientation" on page 63.
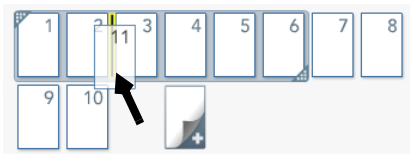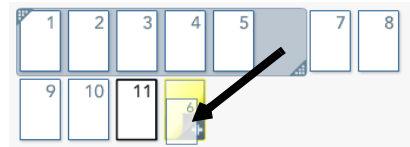
## Organizing Pages

THUNDER supports the creative spirit by enabling you the freedom to view, copy, and rearrange pages at will.

a **Rearranging**: Pages can easily be rearranged. Simply drag the thumbnail to a new position.

b **Discarding**: To discard a page, drag the thumbnail to the trash can icon. The page crumples away.

c **Displaying**: To display, or "post," a page on the meeting room wall, drag its thumbnail into the gray sliding projection box in the toolbar. To stop displaying a page, drag the page's thumbnail out of the gray area.

d **Copying**: To copy any page, drag it's thumbnail over the add page icon.

**i** Did you know...

Use the trash icon to throw away any selected object or pen strokes, disconnect participants, disconnect other THUNDER rooms, discard a live video view, or discard a scanned page.

**i** Did you know...

Dragging a page into the gray area moves the page out of the original order. Another way to display pages is to drag the sliding projection box.

## Did you know...

Another way to post a page on the wall is to drag its thumbnail into the gray sliding projection box. This moves the page out of its original order.

## Did you know...

THUNDER projectors can be shared with other video sources such as cameras or computers. When a THUNDER projector is redirected to another video source, the number of pages posted on the wall is reduced. You can restore a projector to THUNDER at any time. Refer to "Recovering Shared THUNDER Projectors" on page 23.

## Viewing Pages

Your THUNDER session can include any number of pages, with up to 16 pages "posted" on the wall for view at any one time.

The sliding projection box indicates the set of consecutive pages that currently appear on the wall.

You can view a different set of pages by grabbing one of the handles on the sliding projection box and dragging it to a new location.

To view another set of pages on the wall:

- Drag one of the grab handles of the sliding projection box left, right, up, or down to display another set of pages.

sliding projection box
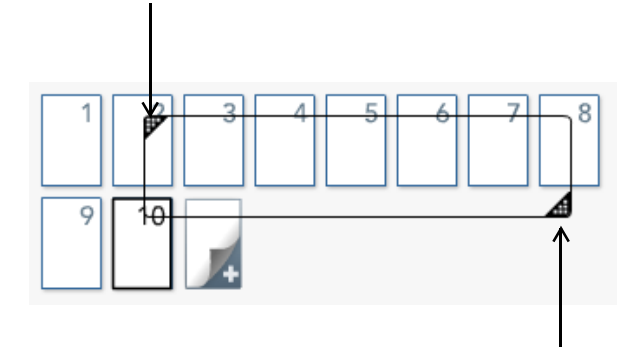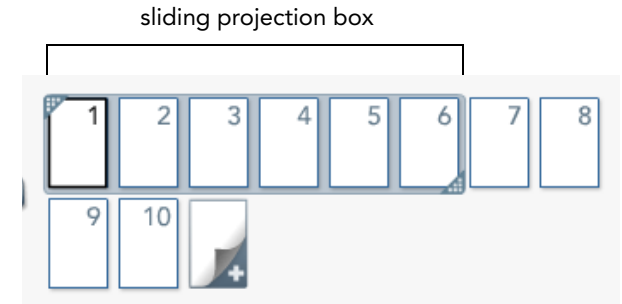
drag one of the handles to move the sliding projection box

## Pages During a Conference

During a conference, you can collaborate freely in real time with participants in remote locations who are also using THUNDER. All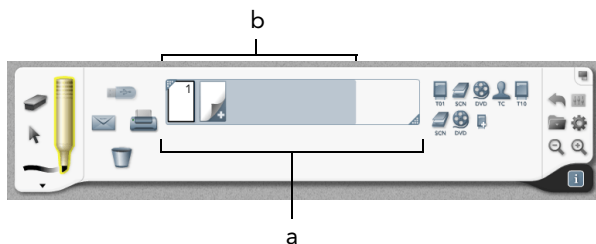 participants share the same view and the ability to manipulate pages (unless the conference has been designated as "read only" by the meeting organizer).

If your conference includes participants in a remote location where there is a different number of projectors, the easel toolbars in each location make it clear what pages are in view.

a **Maximum projected pages**: Projected pages that can be seen by participants in the meeting rooms that have the most projectors.

b **Minimum projected pages**: Projected pages that can be seen by participants in every location.

### i Did you know...

THUNDER enables you to collaborate in real time with remote participants who may be using another THUNDER easel, using THUNDER client software on their computer, or using THUNDER Express with a whiteboard, interactive panel, or other input device.

### i Did you know...

The number of pages you can "post" on the wall depends on the number of projectors in your system. The maximum is eight projectors and 16 projected pages, but there is no limit to the number of pages that you can create.
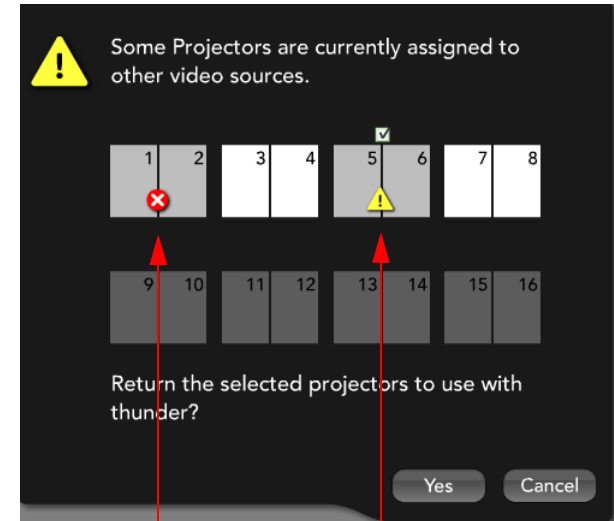
## Recovering Shared THUNDER Projectors

THUNDER projectors can be shared with other video sources that are not part of THUNDER, such as video conferencing systems, a camera, or a computer for PowerPoint presentations, making them unavailable for THUNDER pages.

Depending on your hardware configuration, THUNDER can automatically detect when shared projectors are no longer available and reduces the size of the sliding projection box accordingly.

The THUNDER toolbar makes it easy to recover the use of shared projectors. When a THUNDER projector is shared, the sliding projection box shrinks and a warning icon appears to alert you that the projector is unavailable for THUNDER. You can recover a shared projector at any time.

To recover a shared THUNDER projector:

1 Click the shared projector warning icon in the toolbar. You see a dialog box that identifies each projector's status. Shared projectors are indicated by a yellow warning symbol and check mark.

2 Click to remove the check mark for each shared projector you do not want to recover.

3 Click "Yes."



shared projector warning icon
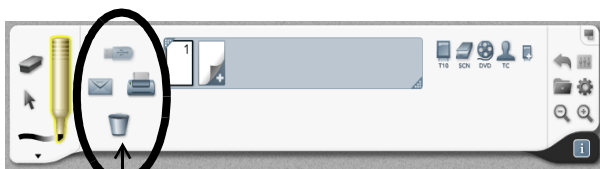


disabled projector

shared projector

**ⓘ Did you know...**

Projectors that are disabled due to a faulty bulb, network connection or other fault are indicated by a red X.

targets for pages

# Targets

The four icons on the toolbar representing email, trash, printer, and USB key are called "targets" because they represent four easy ways to distribute THUNDER pages.

The ideas and notes that you create during a meeting include valuable information that can be important to save or to share with others. THUNDER makes this easier than ever by providing targets on the toolbar for each way you can output your pages, including printing, emailing, or storing pages to a USB mass storage device.

You can distribute individual pages one at time, or all the pages from your session simultaneously.

## Printing

THUNDER enables you to print one page at a time or all the pages from your session.

To print an individual page:

- Drag the page thumbnail over the print icon in the toolbar.



print icon

To print all the pages from your session:

- Tap the print icon in the toolbar. You see the Print dialog.

Or:

1. Tap the folder icon. You see the Session menu.

2. Tap "Print." You see the Print dialog.

## Printing During a Conference

During a conference, THUNDER makes it easy to print pages for participants regardless of whether they are meeting with you in the same room or participating remotely. You can send pages to print in their location just as easily as using your own printer.

Whether you print one page at a time or all the pages in the session, during a conference the Print dialog displays a list of the default printers of every THUNDER system currently in the conference.

THUNDER gives you a choice of where to print the pages, enabling you to print to some or all of the participants' printers simultaneously.

folder
icon
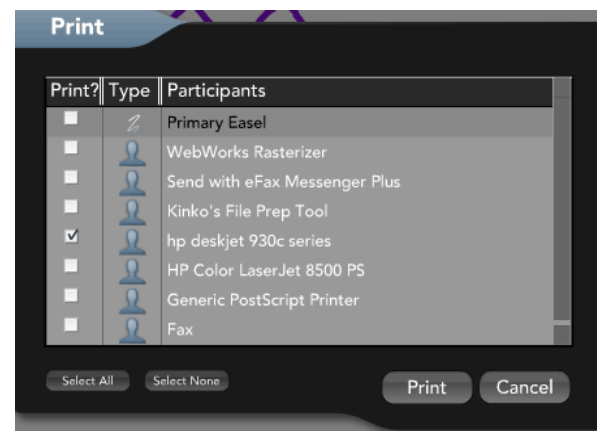
To choose where to print during a conference:

- Tap a check mark beside the desired printers in Print dialog, then tap the "Print" button.

## Emailing

email icon

At any time during your scheduled meeting, you can email an individual page or the entire session. Plus, emails are delivered automatically to everyone listed as a meeting invitee when you make your room reservation using RoomWizard, the reservation system that integrates with THUNDER. You can also type other email addresses where you want to send THUNDER pages.

THUNDER emails the pages or session as a PDF file attachment.

folder icon

To email one page to invitees (requires RoomWizard):

- Drag any page thumbnail over the email icon. Email is automatically sent.

To email all the pages in your session to invitees (requires RoomWizard):

1 Tap the folder icon in the toolbar. You see the Session menu.
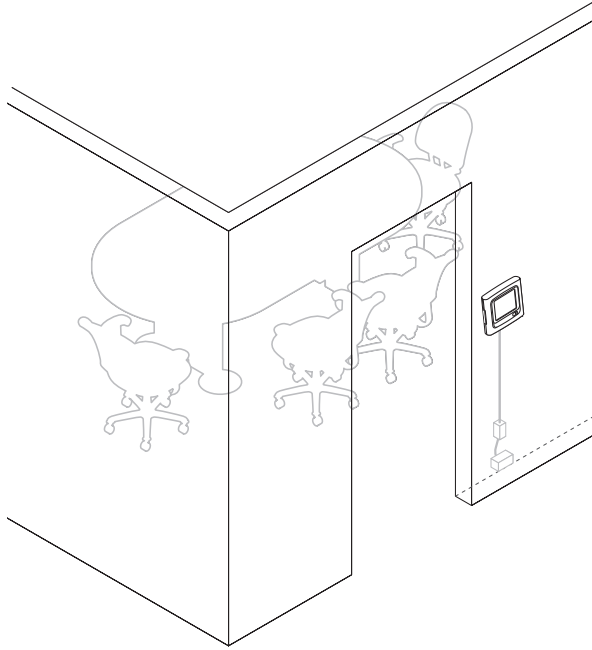
2 Choose "Email" from the menu.

To email all the pages in your session to any email address:

1 Tap the email icon in the THUNDER toolbar. You see the "Email" address dialog.

2 Enter the recipients' email addresses using the keyboard.

  Tap "Check Mail ID" to validate email addresses against your organization's email directory.

3 Tap "Send."

email icon

## Emailing Options in RoomWizard

The participants who automatically receive pages emailed from THUNDER are all the invitees of the meeting that you scheduled through RoomWizard or your corporate calendar system.

The RoomWizard room reservation appliance that you see outside the door of your meeting room is a web-based system that networks directly with THUNDER. When you plan a meeting during which you expect to use THUNDER, use RoomWizard to schedule the meeting and invite participants. RoomWizard can be configured so meeting invitees receive THUNDER pages in emails automatically at the end of your meeting.

Your system manager can configure RoomWizard to operate in one of two ways. To make a room reservation, you may access RoomWizard's own web pages (RoomWizard in classic mode) or you may access RoomWizard through your corporate calendar system (synchronized mode).

For more information about RoomWizard, check with your system manager or refer to the RoomWizard manuals available on-line at: www.polyvision.com.

## Saving Pages on a USB Device

Ideas and notes from your meeting are easy to carry away in PDF format with a USB storage device.

The THUNDER Pro easel provides an easily accessible USB port where you can connect a USB mass storage device (also called a USB "key" or memory drive). This port is located just below the monitor on the front of the easel.

To save an individual page as a PDF file:

1  Insert your USB key in the USB connector in the front of the THUNDER Pro easel or on your THUNDER Express computer.

2  Drag any page thumbnail over the USB icon.

To save all the pages from your session in one PDF file onto the USB drive:

1  Insert your USB key in the USB connector.

2  Tap the USB icon.

Or,

2  Tap the folder icon in the toolbar. You see the Session menu.

3  Choose "Save to USB." All the pages from your session are saved as a PDF file on the USB storage device.
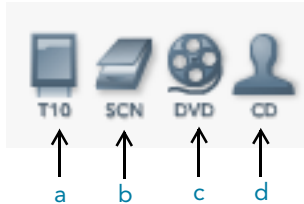
USB icon

folder icon

# Sources

Besides writing notes on a page, THUNDER makes it easy for you to include a variety of sources of digital media and content for complete creative flexibility in your meetings. Sources of information that you can view and interact with include other THUNDER systems, scanned pages, video, and networked THUNDER client participants:

a  **Easels:** THUNDER enables you to hold a conference with participants in a different location who are using another easel. Refer to "Conferencing with Other THUNDER Systems" on page 60.

b  **Scanned pages**: If someone at your meeting has information to share from a printed page, they can scan the page using a scanner connected to the THUNDER system. The scanned page appears on the THUNDER workspace to become a part of the discussion for everyone. Refer to "Using a Scanner" on page 32.

c  **Video**: THUNDER integrates with video devices such as VCRs, DVD players, or camcorders. You and connected participants can

source icons

a  b  c  d

view video on THUNDER pages. Refer to "Displaying Video" on page 34.

d   **Participants**: Individuals using THUNDER client software, whether they are in a remote location or in the THUNDER room, can connect to a conference by networking their computer to the THUNDER easel. In addition, if a participant has information to share from their computer, THUNDER provides the option to view and control the computer's desktop in real time. Refer to "Participating with THUNDER Client" on page 44. Participants can also print documents to THUNDER so each document page appears in its own THUNDER page. Refer to "Printing to THUNDER" on page 57.

THUNDER operates within your network so groups in remote locations can view and fully collaborate in real time. If your THUNDER conference includes multiple THUNDER rooms, your workspace may include writing, scanned images, video, printed pages, or shared computers from anywhere in the same conference. Refer to "Conferencing with Other THUNDER Systems" on page 60.
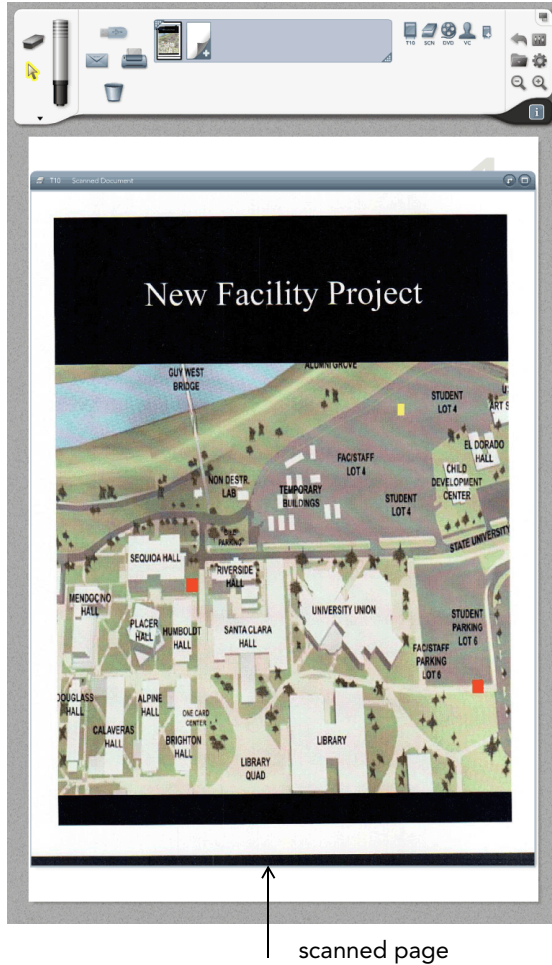
scanned page

## Using a Scanner

THUNDER enables you to quickly share information from a printed page with everyone participating in the meeting by using a scanner that is in the room with THUNDER. Your system manager has the option to add an auto-feed or flat-bed scanner to THUNDER.

### Using an Auto-Feed Scanner

If your system includes an auto-feed scanner, you can display a scanned image as follows:

1   Tap the add page icon if you want to start with a blank page on the easel.

2   Insert your page into the scanner. The scanner starts automatically and, when scanning is complete, the scanned page appears in its own window on the easel.

**i  Did you know...**

The scanned page appears in the workspace in its own window that you can move, resize, and write over.

## Using a Flat-Bed Scanner

If your system includes a flat-bed scanner or any other scanner that is not auto-feed, then the process of adding the scanned page to the easel is different from that of an auto-feed scanner.

To display scanned pages if the scanner is not an auto-feed scanner:

1 Tap the add page icon if you want to start with a blank page on the easel.

2 Insert the page in your scanner.

3 Drag the scanner source icon into the easel workspace. A window for the scanned image appears on the page.

4 When scanning is complete, the scanned image appears in its own window on the page.

scanner icon

add page icon
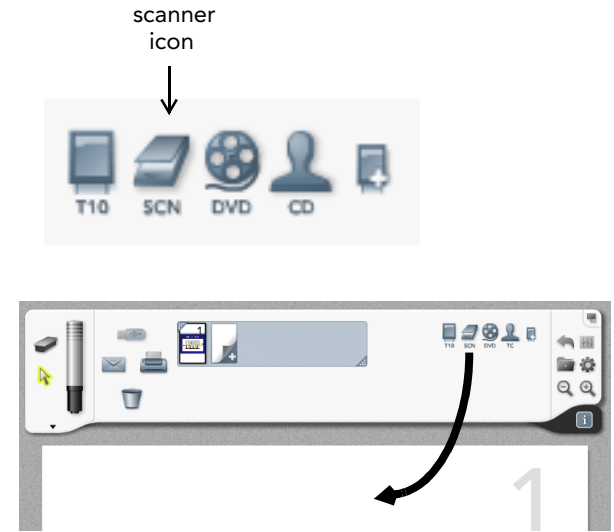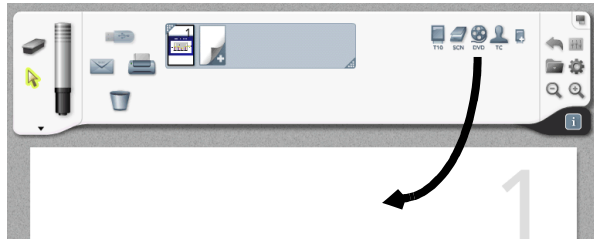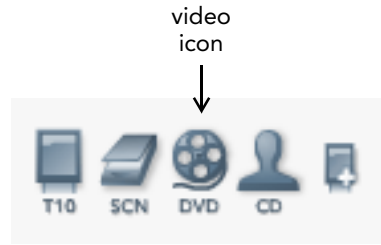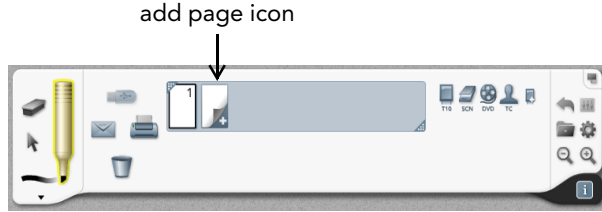
video
icon

## Displaying Video

THUNDER provides the option of integrating video so you can show information from DVDs, web cameras, document cameras, or other video sources in your meeting.

If your THUNDER system is connected to a video source, the toolbar includes a video source icon. To display a video on the easel:

1   Tap the add page icon if you want to start with a blank page on the easel.

2   Drag the video source icon onto the page. A new video window appears on the page.

3   If necessary, start your video source and play the media. The live video appears in the video window.

## Working with Windows

The THUNDER virtual flipchart enables you to integrate information from digital sources such as video, scanned pages, printed pages, and remote desktop views. These digital sources appear in the workspace in their own window that you can move, resize, delete, and write across.

### ℹ️ Did you know...

You can move, resize, and write over a video window, as well as pause and play the video.

### ℹ️ Did you know...

Your room might include multiple video sources, such as a DVD player and a VCR. To change video sources, refer to "Video Sources" on page 82.

### ℹ️ Did you know...

Pausing a video does not stop the video, it simply makes a snapshot at that point in time.

### ℹ️ Did you know...

From a participating computer, you can print to THUNDER to share documents with the conference. Refer to "Printing to THUNDER" on page 57.

You can move windows anywhere in the workspace or from the workspace to any other page thumbnail.

To move a window containing video, a scanned page, printed page, or remote desktop view:

1   Tap the select tool.

2   Drag the window title bar to a new location. You can move it around in the workspace, move it to any other page's thumbnail in the toolbar, or delete it by dragging it to the trash icon.

You can shrink the window to make more space on the page, or enlarge it for easier visibility in the meeting room.

To resize a window:

1   Tap the select tool.

2   Tap the window title bar or drag across it to make the select handles appear.

3   Drag one of the handles in the corner to resize the window.

handle

selected remote desktop window

maximize button



restore button
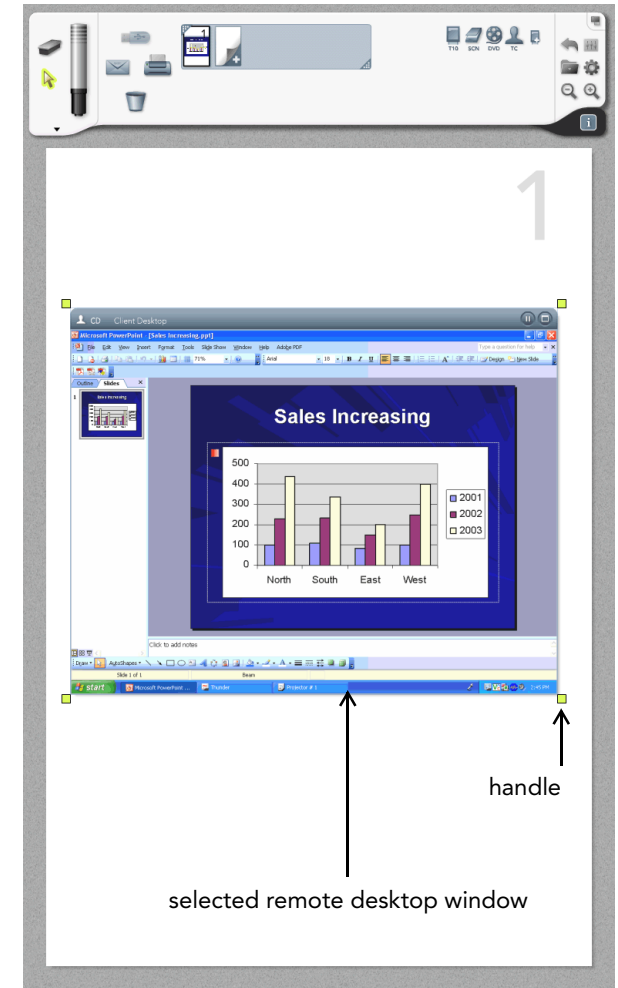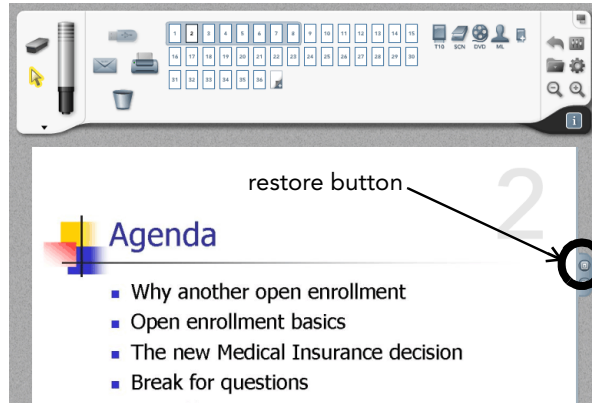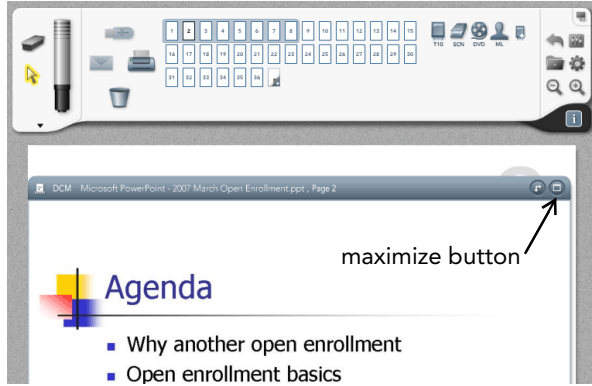
You can also maximize the window size to display the image as large as possible.

To maximize a window:

- Tap the maximize button on the upper right corner of the window. The window borders disappear and the image completely fills the workspace.

To restore a maximized window to its original size:

- Tap the restore button that appears near the upper right corner of a maximized window.

To delete a window:

1 Make sure that the window is not maximized. If necessary, click the restore button as described above.

2 Tap the select tool.

3 Drag the title bar to the trash can icon in the toolbar.

THUNDER enables you to highlight or annotate the image when the pen tool is active. You can write across the window just as you would on any other page.

 Did you know...

You can rotate the THUNDER Pro easel to either portrait or landscape orientation. Landscape orientation can be better for displaying video. After you physically rotate the THUNDER Pro easel monitor, tap the rotate icon in the upper right corner of the toolbar. See "Landscape and Portrait Orientation" on page 63.

## Play and Pause

Live video and remote desktop windows in the workspace include a play/pause button in case you want to pause the live action to examine or annotate it. Tap the play/pause button to toggle between play and pause.

Handwriting can become jerky when the easel includes multiple or large live video or desktop sharing windows. Pause live videos and remote desktops for best performance.

When you pause a video window, THUNDER captures it as a snapshot. It does not pause the video source, so you should control it separately, if necessary. Refer to "Video Sources" on page 82.



play/pause button

restore THUNDER to a window
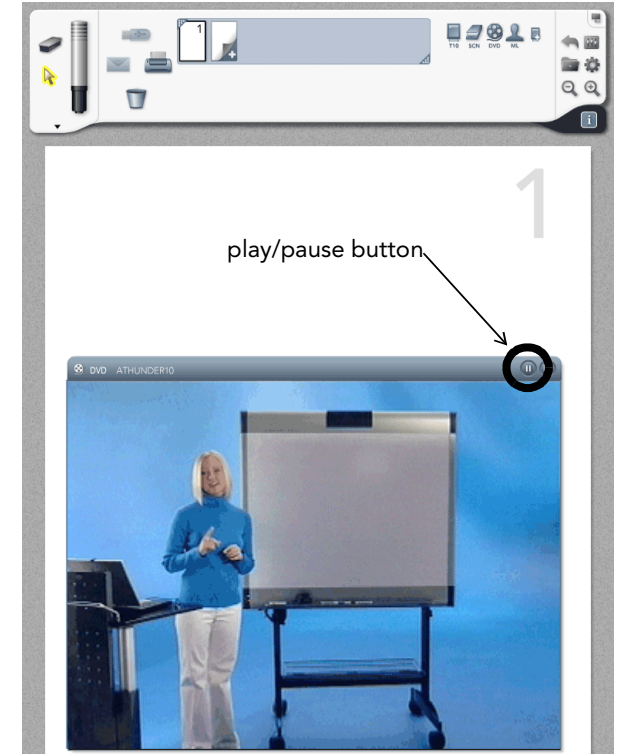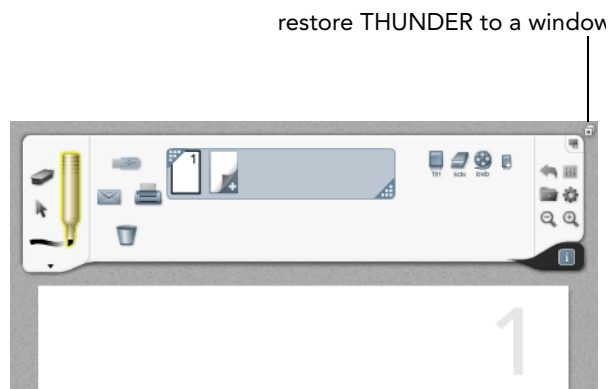
## THUNDER Express Full-Screen Windows

For THUNDER systems using the THUNDER Express option, the application occupies the full Windows desktop screen and includes a new button for restoring the THUNDER application to a window that you can move or minimize.

This enables you to access the desktop on a computer where a THUNDER Express system is operating.

This button only appears when THUNDER is configured for Windows desktop operation and the application occupies the full screen.

## Using a Template

THUNDER makes it easy for you to enhance meeting notes with a template. A template can be as simple as a logo or confidentiality notice on each page, or it can provide the outline of an entire meeting such as a disaster preparedness session that spells out the seven vital areas to monitor for every disaster.

A template is a THUNDER session that underlays the pages in the current session. When used as a template, these pages are "read-only." The active session on top of the template remains editable.

Any previously saved session can be used as a template. You can add a template to your current session in one place, or repeat the template on all the existing and new pages in your session.

Since templates are sessions, they can include the same sources of information that any session includes: scanned images, videos, pen strokes, or desktop images.



company logo template
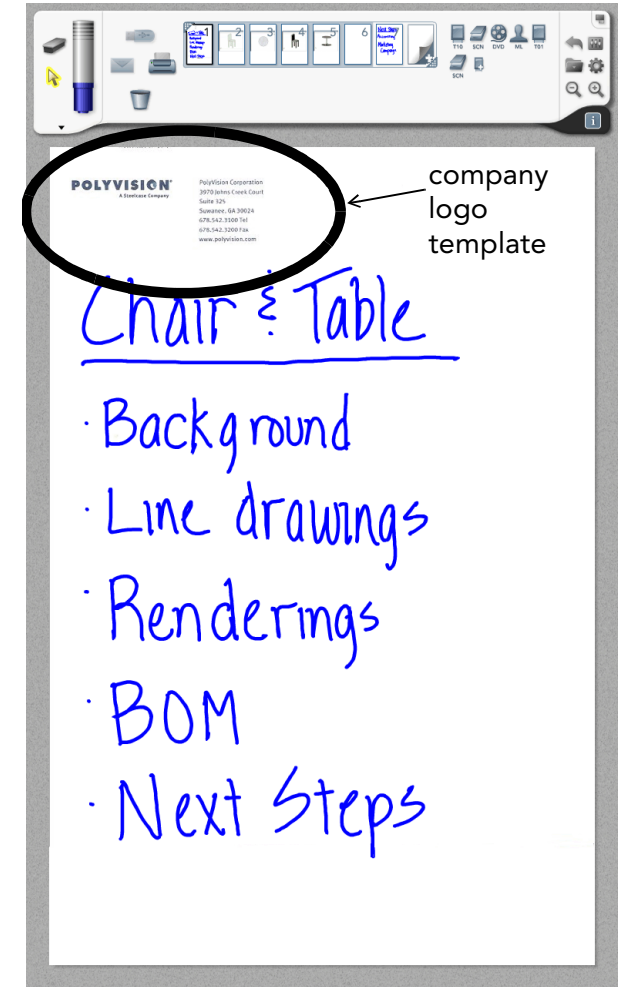
For example, if you want a template for your company logo, you could start a new session, scan a paper copy of the logo with the THUNDER scanner, save that page as a session, and use that session as a template that is repeated on every page.

In another example, you might open an existing session that includes several pages of an outline you want to repeat in other meetings. You could edit the existing session to erase unwanted information, and save the session with a new name. Then you can apply it as the template in future sessions.

Creating a Template

To create a template:

- Save a session containing the page or pages with information you want to repeat on other pages, including scanned images, video, pen strokes, or computer desktop images. A template can be one page or any number of pages.

**i** Did you know...

When you save a session, you can add a description that appears whenever you open a session. (Refer to "Saving a Session" on page 70.) To help you remember which sessions might be used as templates, add a meaningful description when you save a session that you want to use a template.

## Applying a Template

You can apply a template to your pages at any time whether you are starting a new session or you are already working in a session. You can apply a template so it appears only once in your session, or have it repeat from the current page onward. You can also apply more than one template to a session.

To apply a template:

1   Select the page in your session where you want the template to start.

2   Tap the folder icon. You see the Session menu.

3   Choose "Apply Template." You see the Apply Template dialog.

4   Choose the THUNDER system where the template was saved. If your THUNDER easel is conferencing with other easels, the session that you want to use as a template can come from any of them.

5   Choose the session that you want to apply as a template.

folder icon

Session menu
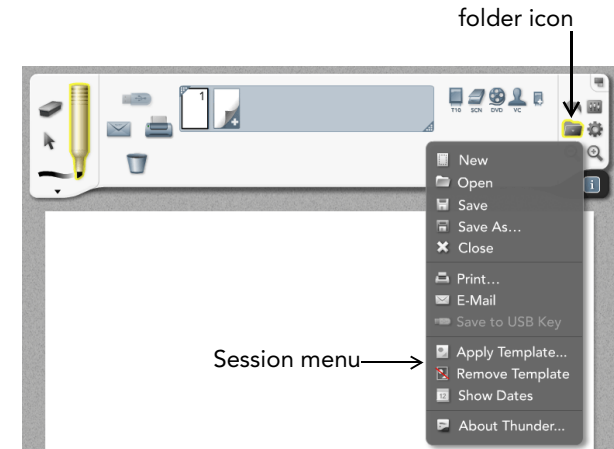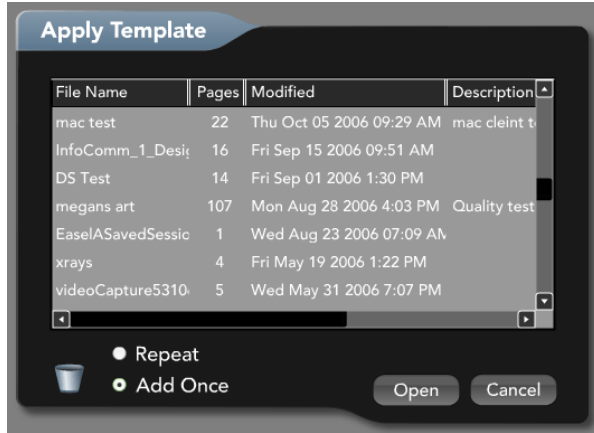
6 Tap the "Add Once" radio button when you want the contents of the template to appear once in your current session starting on the current page, or tap the "Repeat" radio button to repeat the template on every page in your session, including each new page that you add.

7 Choose "Open."

To remove a template from your session:

1 Select a page in your session where the template appears so it is the current page in your easel.

2 Tap the folder icon.

3 Choose "Remove Template."

## Template Strategies

Consider the following as you take advantage of THUNDER templates:

- Multiple "Add Once" templates can be applied to a session but there can be only one "Repeat" template. If you apply a new "Repeat" template, it replaces the existing "Repeat" template.

- A session can include multiple "Add Once" templates and one "Repeat" template. A new "Add Once" template overlays a previously applied "Add Once" template.

- If you apply a template and are not satisfied with the results, tap the undo icon.

- When you use the "Remove Template" option in the Session menu, the template that you see on the current page is the template that is deleted from your current session.

- When you save your session, any templates you applied are saved with it. If you edit a template, any existing sessions which used that template remain unchanged.
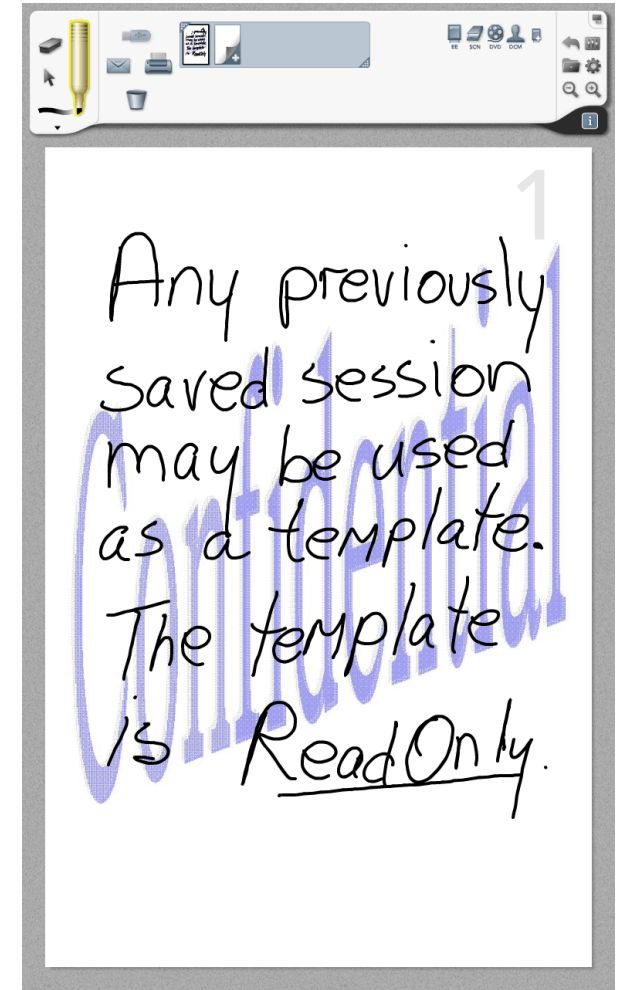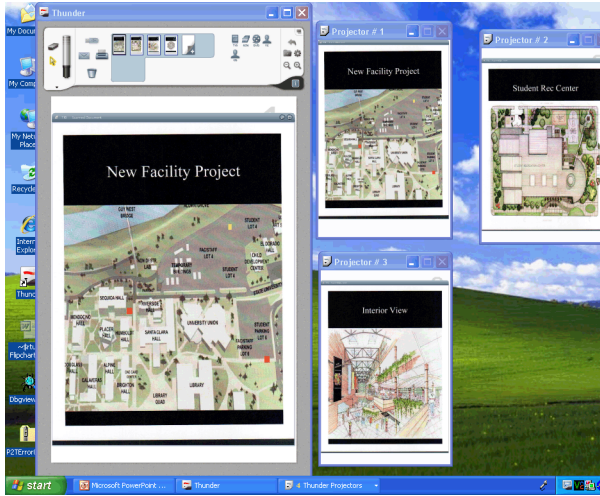
# Participating with THUNDER Client

THUNDER broadens conference options by enabling participants to join in from their personal computers using THUNDER client software. With THUNDER client, you can join in a conference from your computer, either in a remote location or in the same meeting room. Connecting a desktop or laptop computer to THUNDER enables you to share information from your computer, and enables others in the meeting to interact with information from your computer:

- **Viewing a session remotely**: Using the THUNDER client software installed on your computer, you are able see and control everything that everyone else in the conference views. For instance, you can use the THUNDER client to switch the workspace to page 3 by clicking the page 3 thumbnail on your computer just as easily as tapping the same thumbnail on the easel. This synchronization ensures that there is one discussion rather than multiple conversations.

You can add writing to the pages using your mouse when the pen tool is active, bring in computer content from another source, scan a document remotely, print a document to THUNDER, or play a video in real time.

- **Remote desktop view**: Using THUNDER client to connect to a conference, you can also share your computer applications (such as presentations, spreadsheets, documents, and web sites) with everyone in the conference and even allow others to control your applications remotely, if you wish.

You can join a THUNDER conference by connecting to it via your network. Refer to "Joining a Conference" on page 48.

THUNDER client software on your computer enables you to connect to a conference, view the workspace and all the projected pages, and participate in real time.

Participants can be anywhere that a network connection is possible. A participant can be connected while attending the conference in the same room or dialing into the conference via an Internet connection with Virtual Private Networking (VPN). Check with your system administrator to determine what networking connections are possible.
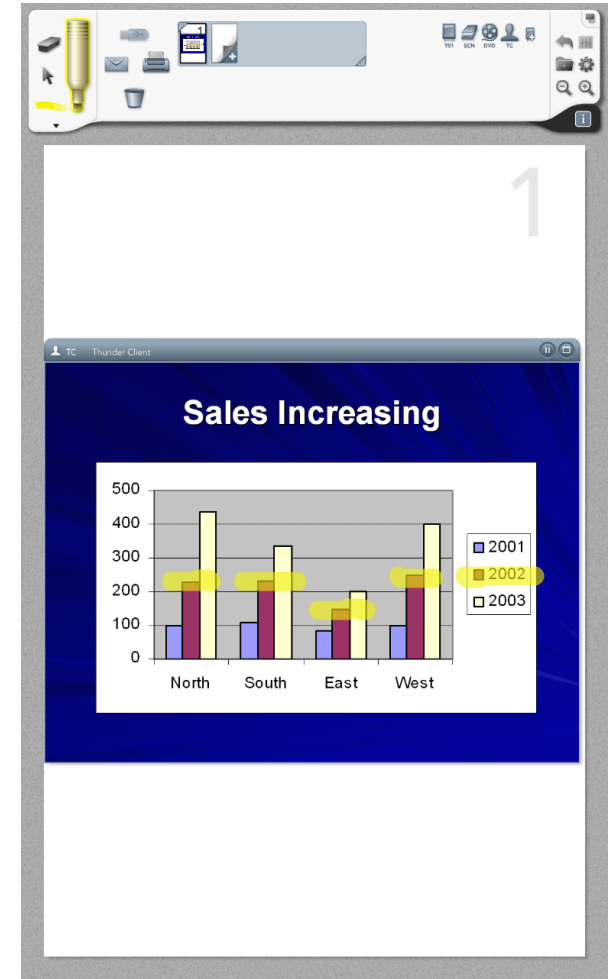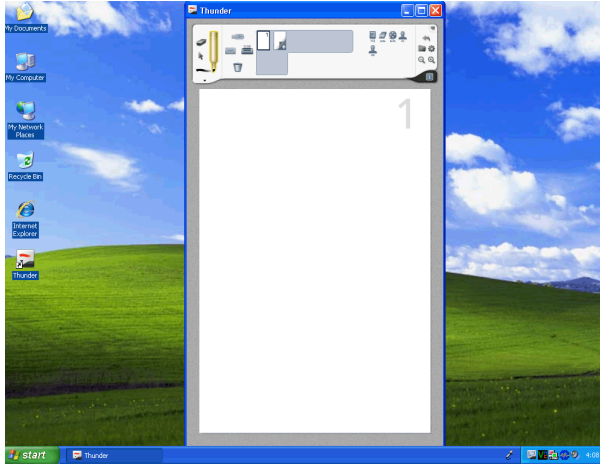
THUNDER client in Windows

## Requirements for THUNDER Client Conferencing

To participate in a THUNDER conference, a computer needs three things:

- A compatible operating system: Windows® 98SE, ME, 2000, XP, or Vista. Macintosh® OSX (Power PC or Intel platform).

- THUNDER client software.

- Access to the same network where your THUNDER system resides (LAN, WAN, VPN or Internet). Your system manager can tell you which of these connections your THUNDER system supports.

Only one THUNDER client at a time can run on a single computer.

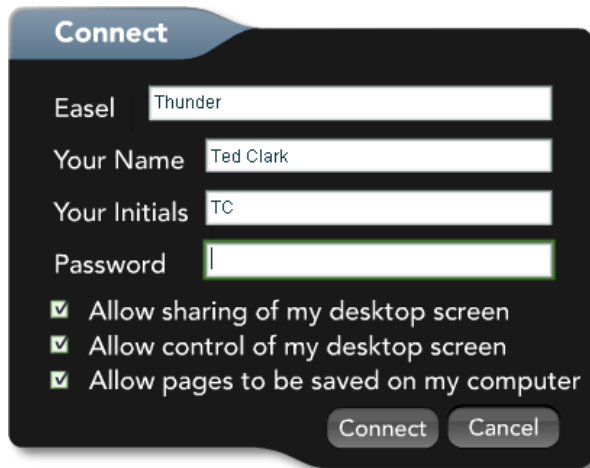## Installing the THUNDER Client on Your Computer

The THUNDER client is a one-time installation. Once the software is installed, you can connect to any THUNDER system any time you have access to the appropriate network connection.

You can obtain the THUNDER client software in any of these ways:

- Download the THUNDER client from: www.polyvision.com/thunder.

- A conference is organized in advance by using RoomWizard to reserve the meeting room and invite participants. Invitees automatically receive an email meeting reminder that also includes a link that enables invitees to download the THUNDER client. Click the link to obtain the THUNDER client software and install it on your computer.

- It may be an option to download THUNDER from your organization's internal web site. Your system manager can tell you about this option.
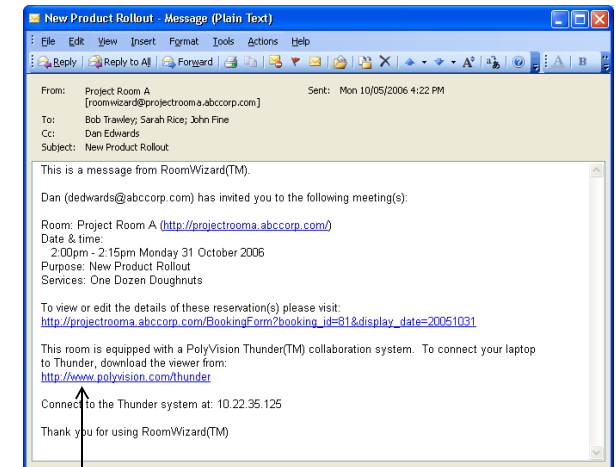


link to THUNDER client software in RoomWizard email

## Joining a Conference

To connect to a THUNDER conference using THUNDER client:

1 Make sure you are connected to the same network where the THUNDER system resides (LAN, WAN, VPN or Internet).

2 Launch the THUNDER client (Choose **Start** > **Program Files** > **THUNDER**). The Connect dialog appears.

3 Enter the easel name or IP address of a THUNDER easel in the conference. Any easel that is already part of the conference provides the same access to the conference. (The name or IP address you use from a public Internet connection may differ from the one you use from inside your own network. Check with your system administrator.)

4 Enter your name and initials. While your computer is connected to the conference, an icon with your initials appears on all the THUNDER toolbars (on easels and other connected computers) connected to the conference.

5 If the conference is password protected, enter the password. You should learn of the

participant's icon

password when you receive notification of the meeting or you may receive it by telephone from the meeting organizer at the beginning of the meeting or class.

6   Decide your preference for sharing your computer desktop screen. Checking the "Allow sharing of my desktop screen" box does not automatically show everyone your computer screen. You or someone in the conference must drag your source icon to the workspace to share your desktop in the conference. If someone does, you will know it because you see everything that happens in the workspace from the THUNDER client on your desktop.

7   Decide your preference for sharing control of your desktop screen. Checking the "Allow control of my desktop screen" box enables other conference participants to manipulate your shared desktop screen. For example, someone at the easel might scroll forward and backward through slides that are shared from your computer.

**Connect**

| Easel | Thunder |
| Your Name | Ted Clark |
| Your Initials | TC |
| Password | |

☑ Allow sharing of my desktop screen
☑ Allow control of my desktop screen
☑ Allow pages to be saved on my computer

Connect   Cancel
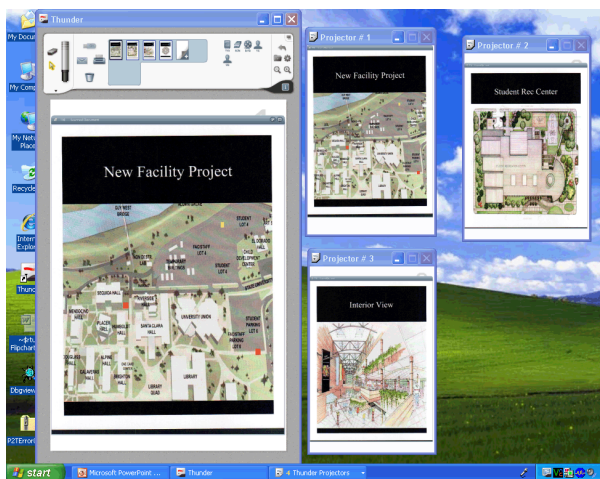
8 Decide your preference for allowing pages to be saved on your computer. If you leave the "Allow pages to be saved on my computer" box unchecked, you or remote users are unable to save pages to the My Documents folder on your computer.

9 Click "Connect."

**i** Did you know...

Participants at a remote location should also join the conference by phone or video conference.

## Viewing Projected Pages on Your Computer

When you open THUNDER client and connect to a conference, one window is added to your desktop that displays a view of the easel and includes the THUNDER toolbar. Pages that are projected on the wall in the meeting room also appear in the form of additional windows in your desktop. By default the windows are minimized. Only the easel window is editable. The other windows are for viewing purposes only.

To view the projected pages in your desktop:

- Click the corresponding projected page windows in your taskbar (Windows) or dock (Macintosh).

To tile the projected pages in your computer desktop (Windows only):

- Right-click in a blank part of your Windows taskbar and choose "Tile Vertically" or "Tile Horizontally."

## Application Sharing

THUNDER provides an environment and tools to work or learn together, regardless of physical location. THUNDER enables you to work on the same project in real time and share the same



THUNDER client window

projected pages minimized in your Windows taskbar
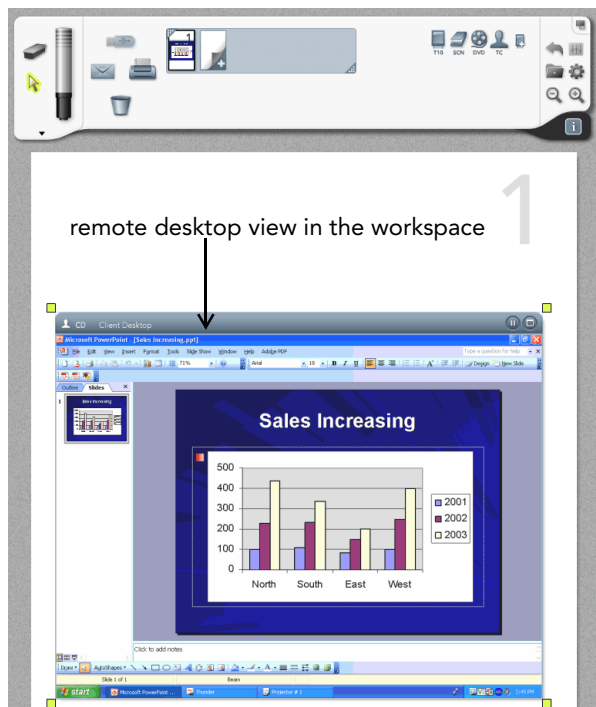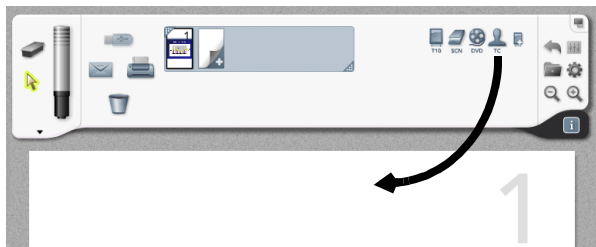
information. Together, a THUNDER conference can help your team edit a spreadsheet, drive a presentation, compose a text document, or manipulate a CAD program.

If you choose to allow sharing of your computer desktop when you connect to a conference using THUNDER client, then you or someone in the conference can add a live view of your computer desktop to a page. If someone else does, you will know it because you are watching the conference in the THUNDER client on your desktop.

To provide all the members of the THUNDER conference with a live view of a computer desktop:

- Drag the participant's icon from the THUN-DER toolbar into the workspace. A new window appears in the page showing a live view of the computer desktop.

The remote desktop view appears in the workspace of all conference participants. Remote participants can not only see the remote desktop view, they can share control the computer remotely. This is possible if the remote participant clicks the "Allow control of my desktop screen" check box in the Connect dialog when they join conference.

remote desktop view in the workspace

**i Did you know...**

With THUNDER Express systems, you can share applications in a THUNDER conference in the same way as with THUNDER client.

**i Did you know...**

Your computer's screen saver may appear in the THUNDER conference if the computer is inactive for long periods.

## Did you know...

You can rotate the easel from portrait to landscape orientation to better match the dimensions of a computer display. Refer to "Landscape and Portrait Orientation" on page 63.

## Working with Shared Applications

You can move, resize, delete, and annotate the remote desktop view.

To move the view:

1 Tap the select tool.

2 Drag the remote desktop view's title bar as needed. You can move it around on the workspace, move it to any other page's thumbnail in the toolbar, or delete it by dragging it to the trash can icon.

You can shrink the remote desktop view to make more space on the page or enlarge it for easier visibility.

To resize:

1 Tap the select tool.

2 Tap the title bar.

3 Drag a handle.

You can also maximize the size of the remote desktop view to display the image as large as possible.
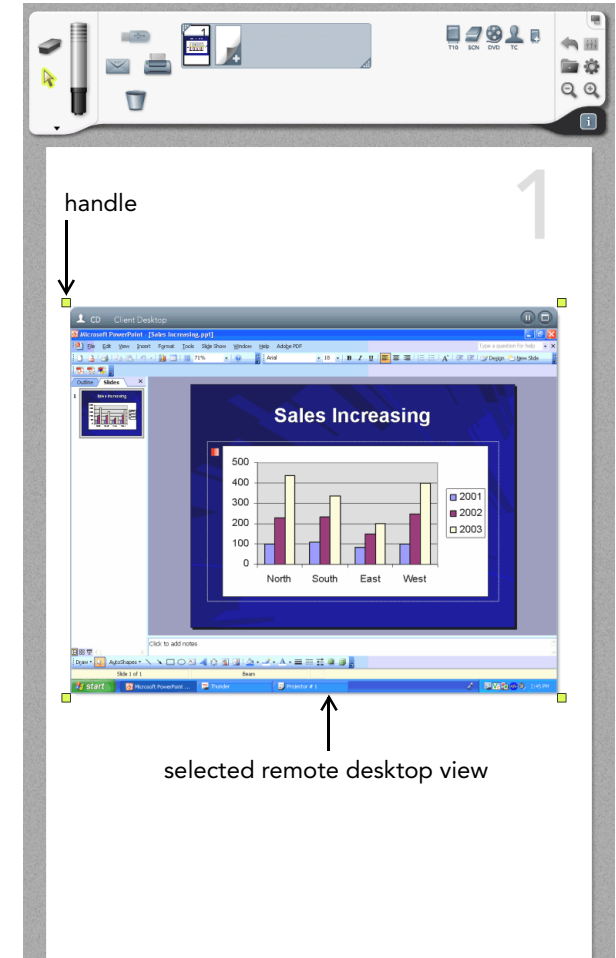
handle

selected remote desktop view

maximize button
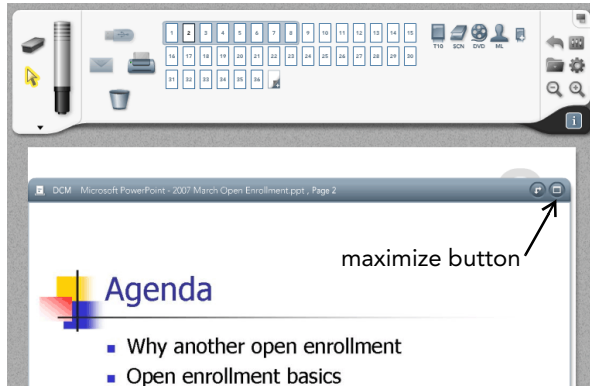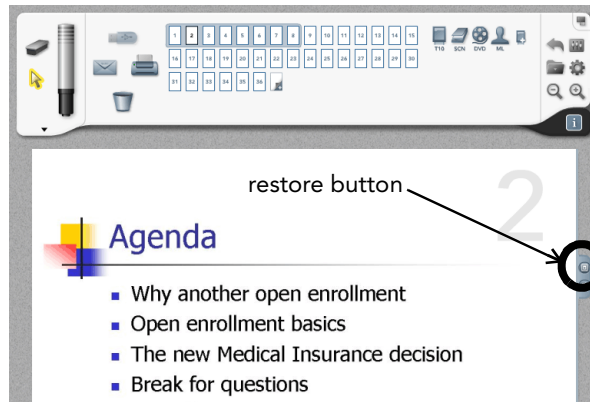
To maximize a window:

- Tap the maximize button on the upper right corner of the window. The window borders disappear and the image completely fills the THUNDER page.

To restore a maximized window to its original size:

- Tap the restore button that appears near the upper right corner of a maximized window.



restore button

## Did you know...

You can also remove the view by dragging the page thumbnail to the trash icon on the toolbar. If you drag the remote participant's icon to the trash, you disconnect the user from the conference.

To delete the remote desktop view from the page:

1   Make sure the window is not maximized. If necessary, click the restore button as described above.

2   Tap the select tool.

3   Drag the title bar to the trash icon in the toolbar.

While a remote desktop appears in the easel workspace, THUNDER enables you to highlight or annotate the image using the stylus or your finger when the pen tool is active. You can write on top of a remote desktop view, just as you would on any other page. Refer to "Writing and Erasing" on page 9.



drag the remote desktop view to the trash
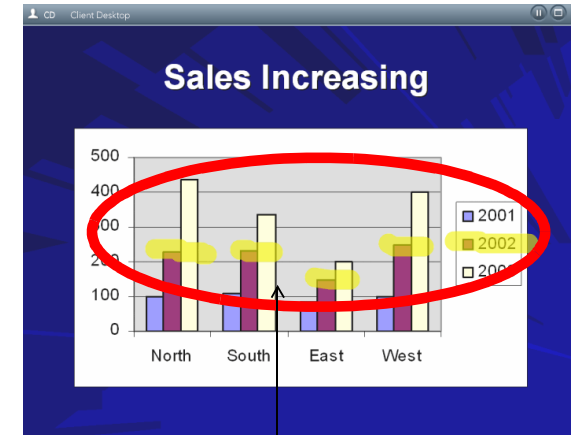


highlighting the remote desktop view

## Using Play/Pause
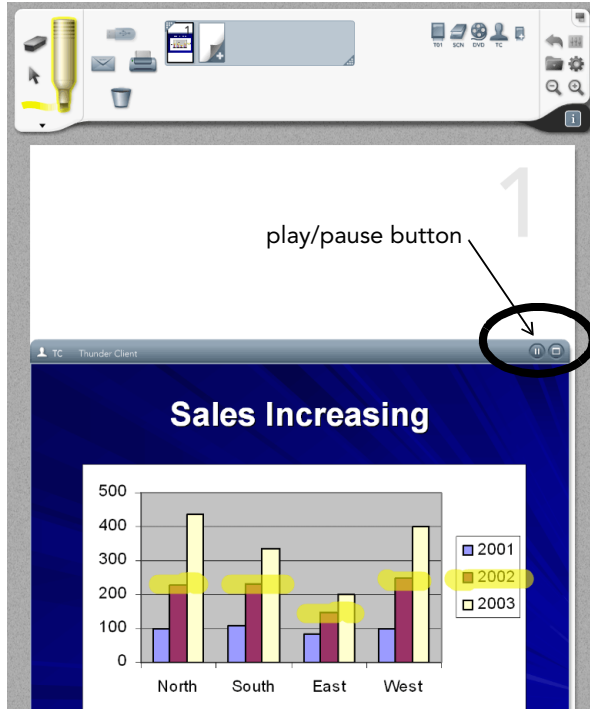
While sharing a live view of a desktop in a conference, anyone can pause or play the live view.

To do so:

- Tap the play/pause button in the remote desktop view title bar.

While the live view of the desktop is paused, the participant's activity is hidden; the remote participant can change what is on their screen without affecting the conference.

Tap the play/pause button to resume the live view of the shared computer.

## Using the Stylus as a Mouse

With a remote desktop view, the easel's stylus acts as a mouse to share control of the computer so regardless of physical location, the group can work on the same computer.

To use the easel's stylus as the mouse in a remote desktop view:

1 Tap the select tool in the toolbar.

2 Make sure that the remote desktop view is **not** selected (i.e. no green handles in the corners).

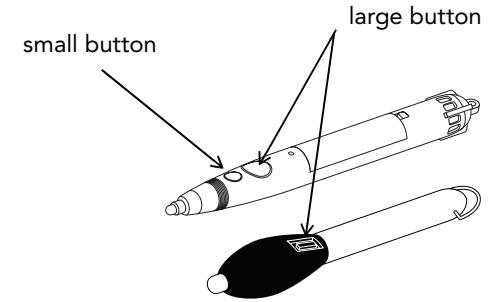**i** Did you know...

If you want to disconnect all participants from your conference, tap the gear icon and choose "End Conference."

3   Move the stylus over the remote desktop view. The stylus functions as a mouse as follows:

- Control the cursor by dragging the stylus.
- Tap once to left-click.
- Tap twice rapidly to double-click.
- Press the large button on the stylus to right-click.
- Press the small button on the stylus (if your stylus has one) to center-click.

small button

large button

## Printing to THUNDER

THUNDER client and THUNDER Express add a new printer to the list of installed printers on your computer. This enables you to share any documents on your computer with the conference by printing the pages to THUNDER the same way you would print to them to a physical printer. You can print to THUNDER from the applications on your computer only when the THUNDER software is running on your computer and your computer is connected to a THUNDER conference.
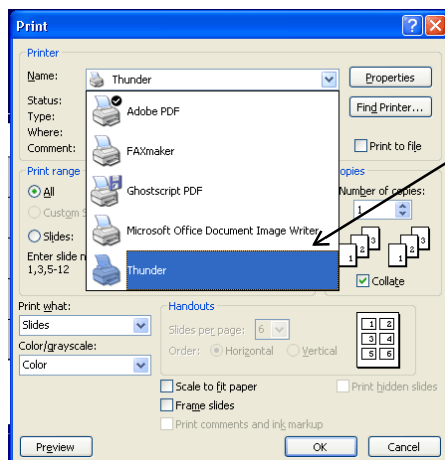
choose THUNDER from the list of active printers

When you participate in a THUNDER session from your computer, you can print to THUNDER by choosing the "Print" option in the "File" menu of your document's native application. Each page that you print adds a new THUNDER page to your session.

The printed pages are inserted in the THUNDER session beginning after THUNDER page that is selected when you print. Each printed page appears in its own window that you can write over, move, delete, copy, and resize, just as you can with other windows in THUNDER. By default, the window is maximized to fill the entire page. Refer to "Working with Windows" on page 34.

To print to THUNDER:

1   Select the page in the THUNDER toolbar that you want the printed pages to follow.

2   From a computer that is conferencing with a THUNDER session, open the document that you want to share.

3   Choose "Print" from the File menu.

4   Choose "THUNDER" from the list of active printers.

5   Click the "Print" button.

 Did you know...

When you print to THUNDER from your computer, each page occupies a THUNDER page that you can use just like a scanned document. Refer to "Working with Windows" on page 34.

## Terminating a Connection

Remote participants in a THUNDER conference can independently join and terminate their connection to the conference at any time whether they are participating from another THUNDER room or a networked computer. In addition, any participant can close all connections to their meeting.

Every participant has equal ability to disconnect themselves or others from the conference.

To terminate any connection to a THUNDER conference:

- Drag the participant's icon to the trash icon in the toolbar.

You have two ways to terminate your own connection to a THUNDER conference using THUNDER client software on your computer:

- Close the THUNDER client application by clicking the close box in the upper corner of the window.

- Drag your participant icon to the trash icon in the toolbar.
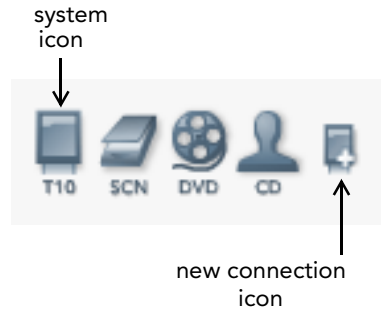
## Did you know...

If you want to remove a participant without disconnecting all participants, simply drag that participant's icon to the trash can icon in the toolbar.

THUNDER client close box

drag the icon to the trash

# Conferencing with Other THUNDER Systems

Conferencing with two (or more) easels enables distantly located groups to create and share information as though they were in the same room.

Each group can add writing to the pages, bring in computer content from a remote source, scan a document, or play a video. The pages displayed on the wall and the easel are the same in every room. (If room A changes the active workspace to page 3, then all rooms change the active workspace to page 3.) This synchronization ensures that there is one discussion rather than multiple conversations.

In a multiple-system conference, there is always one primary system. The primary system is the one to which others connect. The primary system is usually the one where the meeting organizer is located.

system icon

new connection icon

## Establishing a Connection

To connect your THUNDER system to a conference:

1   Tap the new connection icon (an easel with a white +) in the toolbar. You see the Connect dialog which prompts you for the name (or IP address) of the remote THUNDER system.

2   Enter the name (or IP address) of the THUNDER system in the "Easel" field. If there is already more than one THUNDER system in the conference, you can connect to any of them.

3   Enter the name and three letter monogram by which your system will be identified. While your system is connected to a conference, an icon with your easel monogram appears in the toolbars of all participants.

4   If the conference is password protected, enter the password.

5   Click the "Connect" button to establish the connection. Once you have established the connection, the toolbar includes an icon for your system and an icon for all the other sources in the conference. Sources may include other easels, THUNDER client users,
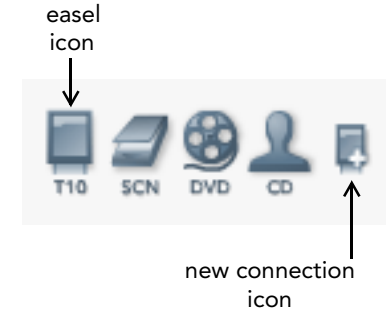
i **Did you know...**

Each source in a THUNDER conference is represented by an icon in the toolbar.

easel
icon

new connection
icon

and the scanners and video sources from all of the connected locations.

Each connected easel sees every part of the THUNDER conference. In addition, every THUNDER easel collaborates equally during the conference and can add to and modify the conference content instantly.

Every easel in a conference must have network access to every other easel in the conference. If not, you may not be able to perform some function on THUNDER.

## Terminating Your Connection to a Conference

Each participant (including each easel) can independently join and terminate their connection to a conference at any time. In addition, any participant can close all connections to their meeting. Refer to "Ending a Conference" on page 65.

To disconnect an easel that is participating in a THUNDER conference:

* Drag the toolbar icon representing that easel to the THUNDER trash can icon.



### Did you know...

The pages displayed on the wall and the workspace are always the same in every room. (If room A changes the active page to page 3, then all rooms change to page 3.)
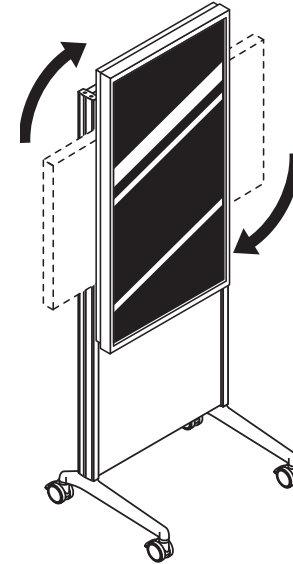
# Landscape and Portrait Orientation

THUNDER pages are normally in portrait orientation, as a flipchart would be. You can rotate to landscape orientation to facilitate viewing a shared computer desktop, scanned pages, or video.

To change the orientation from portrait to landscape:

1  Tap the rotate icon in the THUNDER toolbar. The display contents rotate.

2  Physically rotate the THUNDER Pro monitor counterclockwise for portrait to landscape, and clockwise for landscape to portrait. Use care to avoid damaging your monitor; do not force the easel.

After rotating from portrait to landscape and back to portrait, some items in the workspace may appear smaller. You can magnify them using the zoom icon or magnify button as needed.

rotate icon
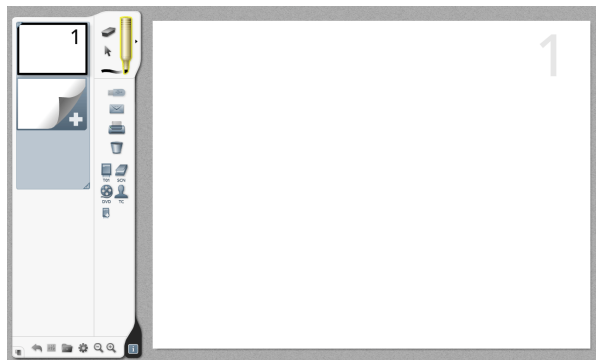
landscape orientation

Landscape orientation is best when viewing participants' computer content or video. Portrait orientation is best when writing pages or viewing portrait scanned images.

When you change the screen orientation, THUNDER resizes the content for the best fit.

In landscape orientation, each projector displays only one page instead of two. Half of the previously projected pages remain projected.

# Securing Your Conference

A THUNDER conference is a meeting that includes networked participants, be they in a remote location or in the same room connected via their computer. To secure your conference, you can disconnect a system from the conference at any time, protect it with a password, and choose to make it read-only or private. As you save a session, you can also password protect the saved information.



drag participant's icon
to the trash icon

## Ending a Conference

At any time, you can disconnect your system from a conference or disconnect all participants.
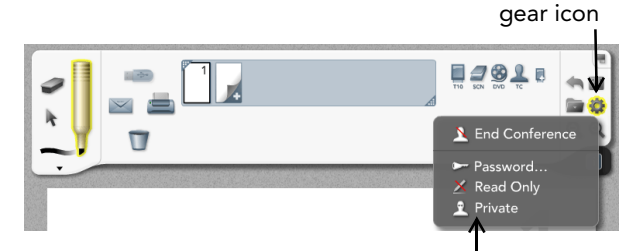
To disconnect any participant from a conference:

- Drag the participant's toolbar icon to the trash can icon.

To end the conference and disconnect everyone:

1 Tap the gear icon. You see the Conference menu.

2 Choose "End Conference." All participants are disconnected from your system.

gear icon



Conference menu

gear icon



## Password Protecting a Conference

A meeting organizer can limit participation by password protecting the conference. If a conference password is set, remote participants and systems are required to enter the password before joining in. The password can be changed from one conference to the next, can be left set to a single password, or can be removed entirely at the discretion of the host.

These security alternatives guarantee the maximum flexibility for the host. For sensitive information, use a complex password.

You can choose to add a password to your conference if your easel is the primary system, the system to which others are connected.

To password protect a conference:

1   Tap the gear icon. You see the Conference menu.

2   Choose "Password..." You see the Password dialog.

3   Check "Turn On Password."

4   Enter and confirm a password that participants in other locations must use to join the conference.



**i** Did you know...

The primary easel is the easel associated with the meeting host or organizer. It is the easel to which participants connect.

The password remains in effect until it is changed or removed, regardless of how many sessions you open or save.

It's a good idea to clear out the password at the end of a conference. To do so, choose "Password" from the Conference menu, uncheck the "Turn On Password" option, and tap "OK."

## Read-Only Conferences

In some situations a meeting host wants participants to view a conference but not be able to alter or control the conference. This is often the case in classroom settings when many remote student participants or other classrooms are involved. To prevent remote control, a host chooses "Read Only" from the Conference menu.

This protection can be turned off or on at any time during a conference. For instance, a professor can make a presentation in a read-only conference and then remove the protection to take questions from the remote participants. Remote participants can then change the workspace to a different page or circle a section of a professor's slide.

gear icon



Conference menu
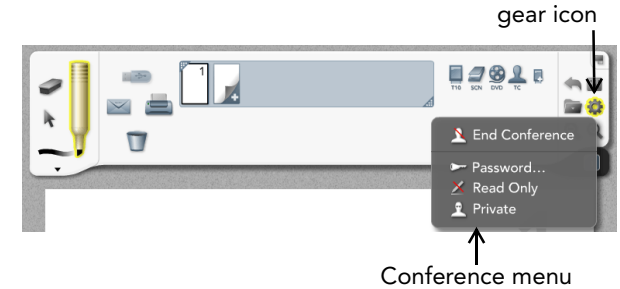
gear icon

In a "read only" conference, other easels and participants can join the conference, but they are unable to modify or affect the session in any way.

To make a conference read only:

1  Tap the gear icon.

2  Choose "Read Only." The presence of a check mark indicates that the conference is read only.

## Private Conferences

Private conferences are the strongest application-level security a host can apply. By making a conference private, no new remote participants or other systems can join the conference. The conference is only viewable by participants who have already joined.

Some types of meetings are meant to be private, such as a board of directors meeting. By choosing "Private Conference," no one new can access the conference from inside or outside the room.

**TIP**: Connect remote participants or other easels, then make the conference private. Only those already connected can participate in the conference.

gear icon

End Conference
Password…
Read Only
Private

Conference menu

**i** Did you know...

The primary easel can change the conference to read-only and remove read-only status at any time during the conference.
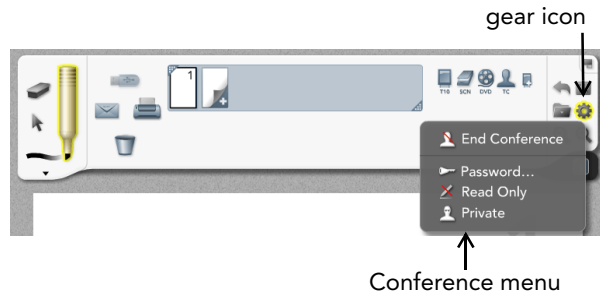
To make a conference private:

1  Tap the gear icon to open the Conference menu.

2  Choose "Private." No additional participants are able to connect to the conference. The presence of a check mark indicates that the conference is private.

## Session Passwords

A session is set of saved pages on one or more THUNDER easels. (Think of them as files on a traditional operating system.) When sessions are saved, the host can specify a password to keep prying eyes out. Refer to "Managing Sessions" on page 70 for more information.

folder icon



folder icon

Session menu →



# Managing Sessions

Following a meeting, your THUNDER pages can be seamlessly archived and then ready at the touch of an icon for immediate retrieval, whenever desired, and from any participating location.

THUNDER enables you to name and save a session, including all pages, so you can open it later.

## Saving a Session

To save your THUNDER session:

1   Tap the folder icon. You see the Session menu.

2   Choose "Save As..." A dialog box opens prompting you to enter a session name.

3   Use THUNDER's keyboard to name your session.

4   Option: You can password protect your session to limit who can open and view the pages.

Don't forget to record the password somewhere or choose a password that is easy for you to remember. Without the password,
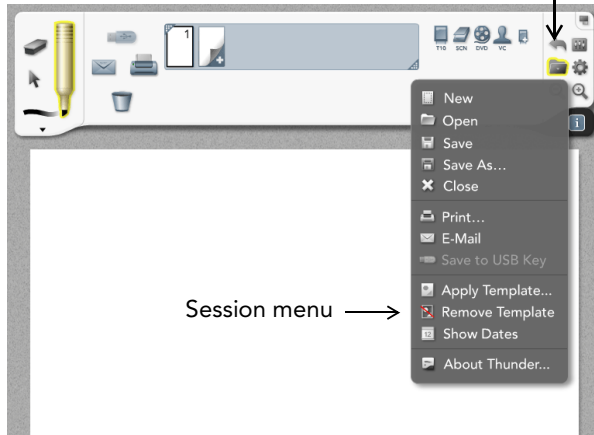
**i** Did you know...

Your session is saved on all the connected easels, but not on connected laptops.

**i** Did you know...

A saved session can be opened and edited, or can be used as a template for other sessions. Refer to "Using a Template" on page 39.

your session may not be opened, even by a system administrator.

5  Enter a session description that enables you and others to locate and retrieve the session later.

If you are saving a session during a conference, the pages are saved on all the connected easels (but not on connected computers). However, during read-only conferences, sessions are saved on the primary easel only.

## Closing a Session

At the end of a conference, you can close your session with or without saving the pages. When you close a session, connected users remain in the conference.

To close your THUNDER session:

1  Tap the folder icon.

2  Choose "Close." A dialog box opens asking if you would like to save your session. If you choose to save your session, the Save dialog box opens prompting you to enter a session name and optional password or description.

folder icon

Session menu →
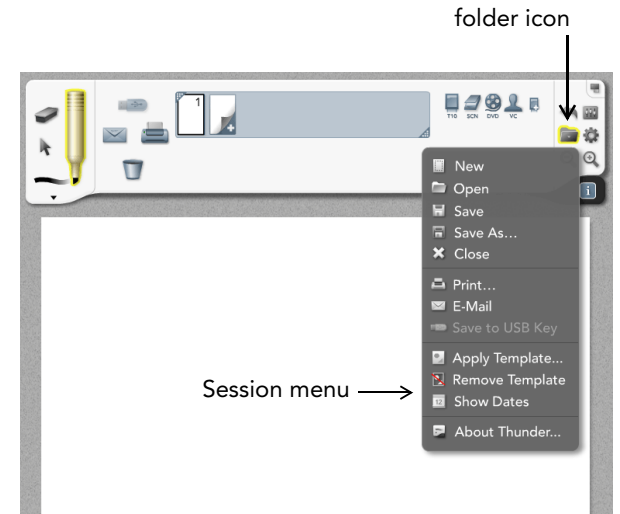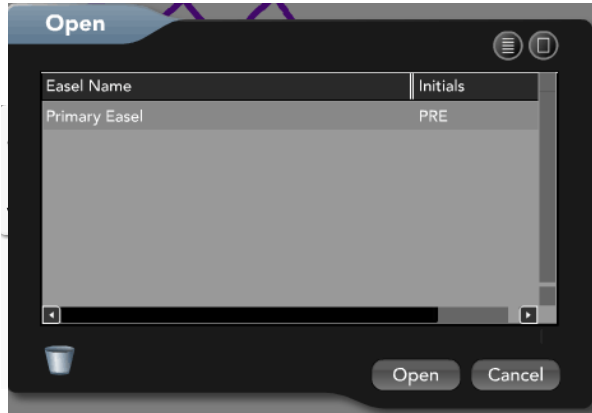
Closing a session is a great way to clear off a session you no longer need since when you close one session a new session with a blank page automatically opens.

## Opening a Session

To open an existing THUNDER session:

1  Tap the folder icon.

2  Tap "Open" in the Session menu. If you are not in a conference with another easel, only your easel is shown. If you are in a conference with other easels, you see a list of the connected easels. You can open sessions from any of the conferenced easels.

3  Tap the THUNDER easel from which you want to open the session, and then tap "Open."

   A list of saved THUNDER sessions appears.

4  To help you identify a session, you can tap the column heading for name, date, or description and re-sort the list by that column. Tapping a second time sorts the column in reverse order.

5  To delete a saved session, drag it to the trash can icon that appears in the lower left of the Open dialog.
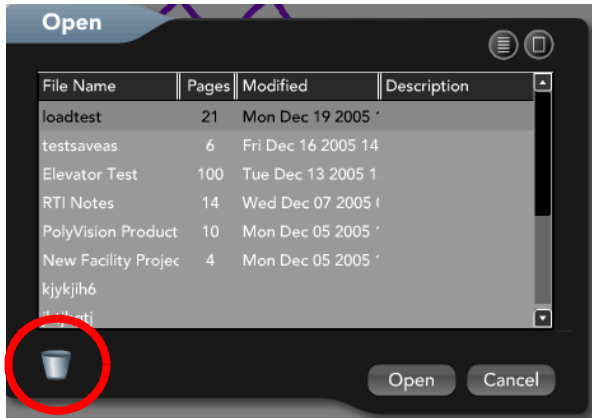
## Did you know...

THUNDER enables you to open previously saved sessions and begin right where you left off.

6    To open a session, tap the session name and tap "Open."

To create a new blank session:

1    Tap the folder icon.

2    Tap "New" in the Session menu. Only one session can be open at a time. If the current session has not been saved, you are asked to save or close without saving.

# Room Control

THUNDER systems integrate with the room environment to maximize your ability to work or learn together. Some THUNDER systems include a room control system that manages other equipment in the room such as audio speakers, microphones, conferencing telephones, video sources, and lighting. Your installation may include all, some, or none of these features.

You can interact with all these devices directly from the THUNDER easel to maximize the learning and sharing experience for participants and minimize the effort of controlling the room environment.

To control devices in your meeting room environment:

- Tap the room control icon in the THUNDER easel toolbar.

THUNDER displays a pop-up window with tabs to control audio conferencing, audio volume, lighting, microphones, video sources, and equipment diagnostics. If this option is not installed, only a blank window appears.

room control icon

## Introducing THUNDER Room Control

The THUNDER room control system includes tabs with these controls:

a   **Audio conferencing**: To conference with a remote participant, you can answer or dial the room's conferencing telephone from the easel.

b   **Audio levels**: Adjust the volume of all devices in the room.

c   **Wireless microphone**: If your room includes a wireless microphone, the channel and volume settings are available here.

d   **Video source**: From the THUNDER easel, you can control up to four separate video sources that are integrated with the easel.

e   **Lighting control**: You can choose from up to six different lighting scenes, including three that can auto detect THUNDER's status.

f   **Diagnostics**: At a glance, you can view warnings and messages about the status of your THUNDER equipment.
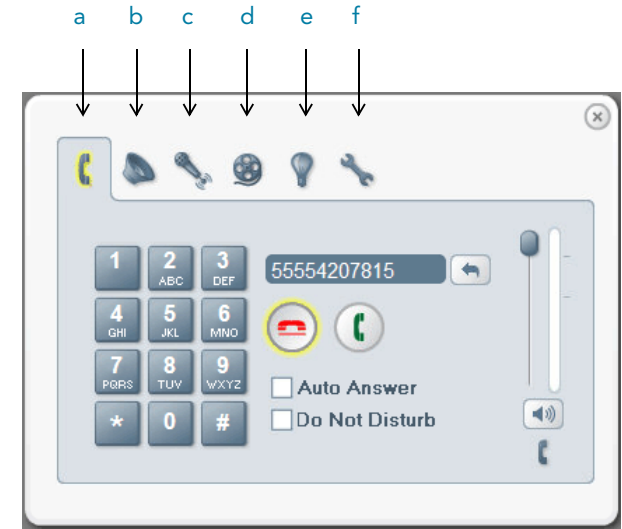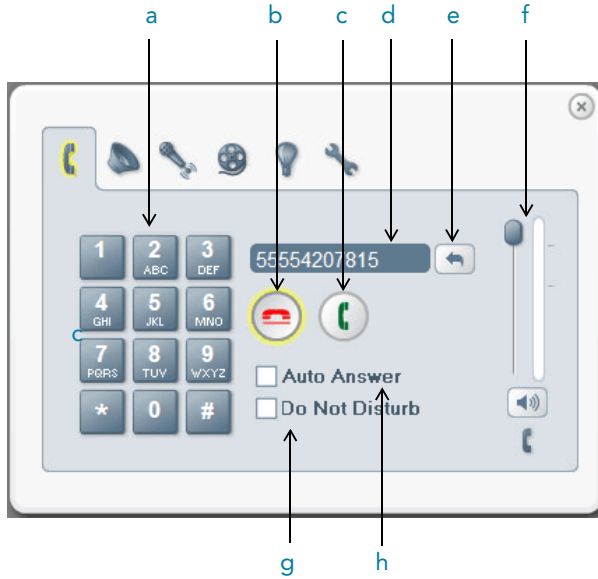
## Audio Conferencing

Because THUNDER enables you to combine groups or participants in any location to work on the same project in real time, your meeting may involve conferencing remote participants for voice contact via the room's conference telephone.

If your room control system includes a conferencing option, you can answer, dial, hang up, and control the phone volume directly from the easel.

The room control audio conferencing tab includes these features:

a   **Keypad**: You can initiate a phone conference from the THUNDER easel by dialing a number using the keypad.

b   **Phone hang-up**: To hang up, tap the phone hang up icon.

c   **Phone off-hook**: To initiate a call or to answer an incoming call, tap the phone off-hook icon.

d   **Number display**: You see the number here if you dial a phone number prior to tapping the phone off-hook icon. You can use the backspace key to correct mistakes.

e   **Backspace**: Tap to delete from the number display.

f   **Volume control**: Adjust the incoming phone volume by dragging the slider up or down. The indicator displays the audio level in the current call. Try to keep the volume level in the green or yellow range. To adjust your outgoing volume, use the audio levels tab for the microphone inputs.

g   **Do not disturb**: To ensure an uninterrupted conference, be sure a check mark appears here. The conferencing phone does not ring and cannot be answered.

h   **Auto answer**: If you want incoming calls on the room's conferencing telephone to be answered automatically, be sure a check mark appears beside this option. An incoming call rings twice before it is answered.

To place a call on the room's conferencing telephone from the THUNDER easel:

1   Tap the room control icon in the easel toolbar. You see the THUNDER room control pop-up window and the audio conferencing tab.

2   You can either tap the phone off-hook icon and dial the number using the keypad, or first dial the number, using the backspace key to correct mistakes, then tap the phone off-hook icon.

You can hang up at any time by tapping the phone hang-up icon.

**ⓘ Did you know...**

Room control settings from a THUNDER conference are saved and carried over to the next conference.
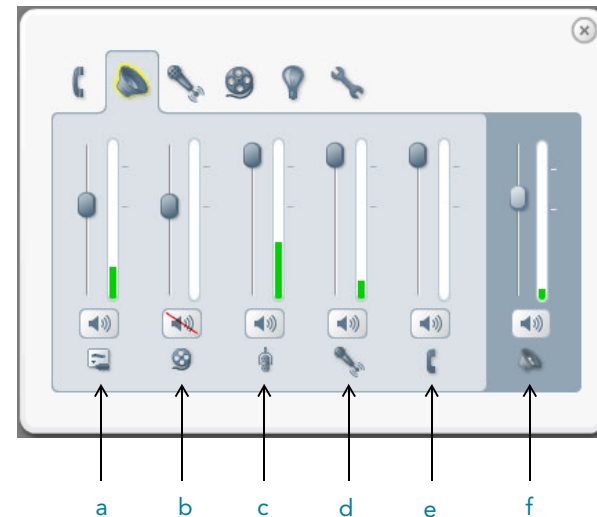
## Audio Levels

You have quick access to mute or adjust the volume of THUNDER and all the devices that are integrated with the room control system using the audio levels tab of the room control dialog.

You can adjust or mute individual components or control them all at once with a master control. The level indicator gives you a quick idea of the current volume. You should try to keep the level in the green or yellow range.

a  **THUNDER audio**: Adjust the volume of sounds that initiate from the THUNDER system by dragging this slider up or down. These sounds include the THUNDER Help audio, sound effects, and audio that is being shared from a remote site, such as from a remote DVD player.

b  **Video**: Adjust the volume of an in-room video source that is integrated with THUNDER by dragging this slider up or down.

c  **Microphone**: Adjust in-room microphone volume (ceiling or table-top microphones) by dragging this slider up or down.

d  **Wireless microphone**: Adjust wireless microphone volume by dragging this slider up or down.

> **i  Did you know...**
>
> The phone, microphone, and video tabs also include volume controls.



a    b    c    d    e    f

room
control
icon

e  **Audio conferencing**: Adjust incoming volume of the room's conferencing telephone by dragging this slider up or down.

f  **Master control**: Adjust the volume of all devices by dragging this slider up or down.

To mute or adjust the volume of THUNDER and devices that are integrated with the THUNDER room control system:

1  Tap the room control icon in the THUNDER easel toolbar.

2  Tap the audio levels tab.

3  Drag the corresponding slider up (louder) or down (quieter) or tap a mute icon.

mute
icon

**i** Did you know...

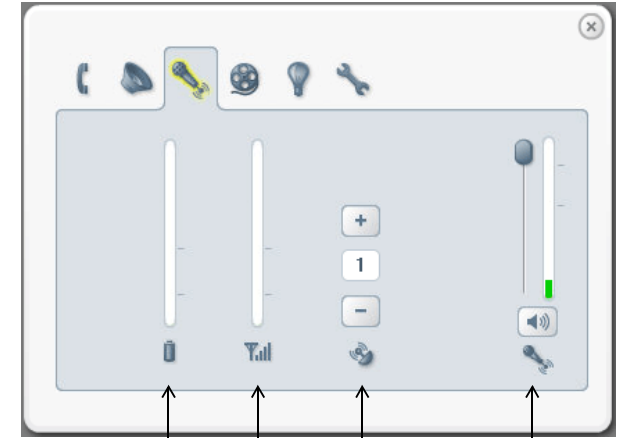Incoming volume control for the conferencing telephone is also on the audio conferencing tab.

## Wireless Microphone Control

If you are presenting information using a wireless microphone that is integrated with the THUNDER room control system, you have quick access to information and controls through the THUNDER easel.

a   **Battery life**: The wireless microphone battery life appears in the indicator. Change the battery when the indicator shows yellow or red.

b   **Signal strength**: The wireless microphone signal strength appears in the indicator. The better the signal, the higher the indicator.

c   **Channel selection**: You can change the wireless microphone channel by tapping "+" or "-" button.

d   **Volume**: Adjust the wireless microphone volume by dragging the slider up or down, or tap the mute icon.

To control a wireless microphone integrated with THUNDER room control:

1   Tap the room control icon in the THUNDER easel toolbar.

2   Tap the wireless microphone tab.



a    b    c    d

room
control
icon



---

![i] Did you know...

The audio levels tab also enables you to control the volume of a wireless microphone.

## Video Sources

THUNDER enables you to choose which video source is currently active on your THUNDER system.

THUNDER's room control system supports up to four video sources, such as DVD, web camera, document camera, or VCR. You have quick access to play one at a time from the THUNDER easel.
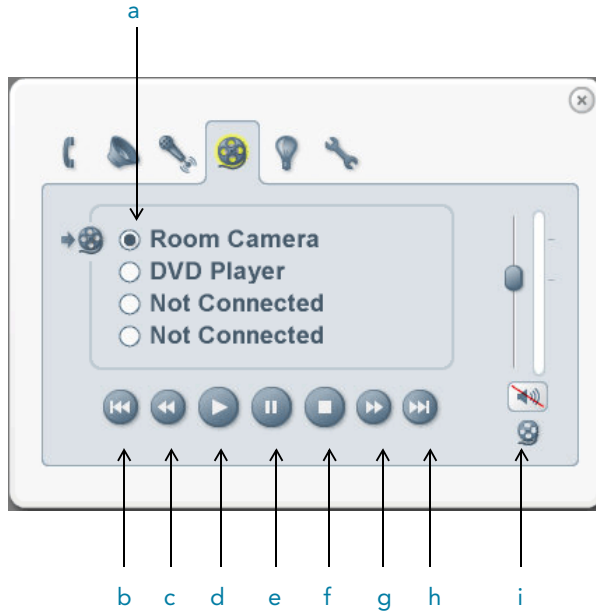
a   **Video source**: Tap a radio button to select which video source is live on THUNDER.

b   **Previous chapter**: Tap this icon to go back one chapter on a DVD.

c   **Rewind**: Tap this icon to rewind the video.

d   **Play**: Tap here to play the video on the device.

e   **Pause**: Tap this icon to pause the video device.

f   **Stop**: Tap this icon to stop the video device.

g   **Fast forward**: Tap this icon to fast forward the video.

h   **Next chapter**: Tap this icon to go to the next chapter on a DVD.

i   **Volume control**: Drag the slider to control the video source volume or tap the mute icon.

> **i Did you know...**
>
> If your THUNDER system is connected to a video source, the toolbar includes a video source icon. Refer to "Displaying Video" on page 34.

> **i Did you know...**
>
> The availability of controls "b" through "h" depends upon the type of video source you choose and how your equipment was originally installed.

**Did you know...**

Before a video source can play on THUNDER, first be sure that the source is turned on, loaded, and ready to play.

To control video sources in your meeting room:

1 Tap the room control icon in the THUNDER easel toolbar.

2 Tap the video source tab.

3 Select a video source.

4 Tap an icon for play, pause, stop, fast forward, rewind, previous chapter, next chapter, or slide the volume control up or down.
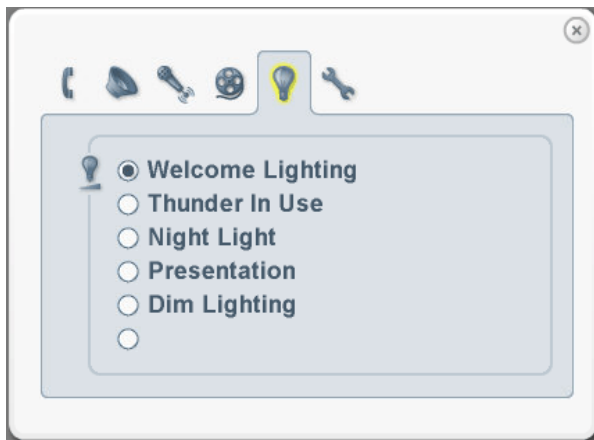
room control icon

## Lighting Control

If installed, THUNDER's room control system provides up to six different lighting scenes that you can control from the easel to optimize the environment for learning and sharing. Three of the scenes are reserved for the THUNDER system. Your system manager has the option to customize all six lighting scenes.

If you select one of the first three lighting scenes and if your room includes a lighting control panel with a motion detector, the three THUNDER lighting scenes are self-selecting. If your room lacks a motion detector, then THUNDER's built-in hibernation detector chooses between the first and second scenes.

The names of your scenes will vary, but the THUNDER built-in lighting scenes include:

- **Scene 1**: The room is occupied but no one is using the THUNDER system. THUNDER is hibernating.

- **Scene 2**: The THUNDER system is in use.

- **Scene 3**: The room is unoccupied (a night light).

**i** Did you know...

If your THUNDER system is hibernating and you touch the easel, then the second lighting scene is activated.

Your system manager has the option to program lighting levels for each of the six scenes. The remaining three scenes can be used for general lighting. If you select one of these scenes, it remains in effect until you manually change to another scene. For example, you may have a lighting scene created especially for presentation from a podium, for a reception, and for a meeting.

To control lighting in your meeting room:

1   Tap the room control icon in the THUNDER easel toolbar.

2   Tap the lighting tab.

3   Tap a lighting scene radio button.

room control icon

## Room Control Diagnostics

THUNDER's room control system provides help-ful diagnostics that enable you to troubleshoot potential problems or perform regular mainte-nance.

The diagnostics tab presents information con-cerning:

a   **Projector status**: For each active projector, you see the number of hours the bulb has been in use. The projector lamp indicator turns to red when the bulb has reached 75% of its life. A check mark indicates normal com-munication with the THUNDER server and there are no problems detected. A red "X" indicates that the system is communicating but there is a problem with the projector. A warning symbol indicates no communication to the projector.

b   **Audio status**: A check mark indicates normal communication with the THUNDER audio processor and there are no problems detected. A red "X" indicates that the audio processor is communicating but there is a problem. A warning symbol indicates no com-munication with the audio processor.

c   **Audio conferencing status**: A check mark indicates normal communication with the
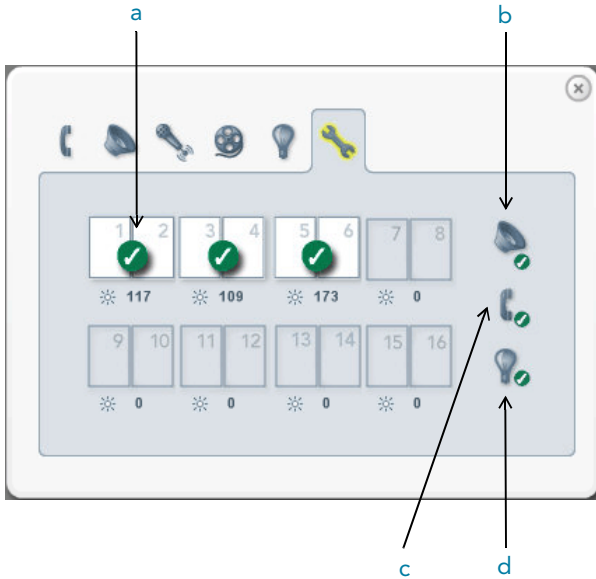
THUNDER audio conferencing system and there are no problems detected. A red "X" indicates that the audio conferencing system is communicating but there is a problem. A warning symbol indicates no communication with the audio conferencing system.

d  **Lighting status**: A check mark indicates normal communication with the lighting controller and there are no problems detected. A red "X" indicates that the lighting controller is communicating but there is a problem. A warning symbol indicates no communication with the lighting controller.

To view the room control diagnostics:

1  Tap the room control icon in the THUNDER easel toolbar.

2  Tap the diagnostics tab.

room control icon

# Troubleshooting

| THUNDER PRO ISSUE | RESOLUTION |
|---|---|
| When I draw, my stylus is a quarter to a half inch away from the line I draw. | Press the "Auto Setup" button on the edge of the easel's plasma monitor. If this does not correct the problem, contact your system manager to solve the issue. |
| The stylus behaves erratically. | Replace the stylus tip. If the problem persists, replace the stylus battery. |
| | If your stylus has a large and small button, you can confirm the stylus battery charge by fully depressing the small button on the stylus. If the battery is fully charged, an LED indicator on the stylus lights brightly. If the LED does not light or is dim, then the battery should be replaced. |
| The stylus tip is deformed or writing quality has deteriorated. | The tip should be replaced. Contact your system manager. |
| | Continued use of a worn tip can damage the THUNDER easel. |
| A portion of the easel touch screen is not responding. | Make sure that the perimeter and the surface of the easel monitor is clean and free of debris. |
| When I draw with my finger, the lines are sometimes jagged. | The easel monitor is touch sensitive. Make sure that your other fingers, your tie, or coat are not getting near the easel monitor. Your other fingers can interfere, even if they are not touching the monitor. |
| When I use the stylus, the characters are connected together with a line. | The stylus battery should be replaced. |

| THUNDER PRO ISSUE | RESOLUTION |
|---|---|
| The easel menus are sideways. | The easel can operate in either portrait or landscape orientation. To change the easel's orientation, you can physically rotate the easel or tap the rotate icon in the easel toolbar. Refer to "Landscape and Portrait Orientation" on page 63. |
| **GENERAL** | **RESOLUTION** |
| When I try to email a page or session, nothing happens. | Make sure that you specified a valid email address for yourself and invitees when you made the room reservation using RoomWizard. Also make sure that the "Send Whiteboard Notes" checkbox in the reservation is checked. If both of these conditions are met, consult your system manager. |
| Cannot connect to a THUNDER easel from another easel or a laptop. | There may be a networking problem. Consult your system manager. |
| I paused a DVD in the video window on the easel, but I still hear the audio from the DVD. | If other pages in your session also include the DVD in a live video window, you need to pause each of them to silence the audio. If you paused all the DVD windows and still hear the audio, your system may not have the THUNDER Audio option installed. If your system lacks the audio control option, contact your system manager. |
| I can see a remote desktop view, but I cannot control it. | Assure that the remote desktop view is not paused, that the participant has enabled remote control, and that the conference is not read-only. |

# Index

sliding projection box **21**
sounds
    volume control **79**
sources **8**, **30**
    easels **30**
    participants **30**
    scanned pages **30**
    video **34**
speaker
    volume **80**
stop video source **82**
stylus **9**, **10**
    battery **10**
    using as a mouse **56**

## T

targets **7**, **24**
thumbnails **19**
    when conferencing **22**
Thunder
    and RoomWizard **4**
    client software **5**, **44**, **46**
    features **3**
    installing client software **47**
    Thunder Express **38**
    Thunder Pro and Thunder Express **6**
Thunder Express
    and application sharing **6**
    and printing to Thunder **6**

toolbar
    features **7**
troubleshooting **88**

## U

undo tool **8**, **18**
USB storage **29**

## V

video **83**
    pause and play **37**
    room control system **75**
    sources **34**, **82**
    volume **79**
volume
    microphone **80**
    phone **77**
    Thunder **80**
    video **80**
    wireless microphone **81**

## W

wireless microphone **75**, **81**
    battery life **81**
    channel selection **81**
    signal strength **81**
    volume **79**, **81**
worksession
    saving **70**
writing **7**, **9**

## Z

zoom tools **8**, **18**