CU-SeeMe Help Contents

To learn how to use Help, press F1.

System Requirements

A full listing of hardware, software, and connection requirements for running CU-SeeMe.

How To...

Step-by-step instructions on using CU-SeeMe and all of its features.

Troubleshooting

Solve typical problems encountered when running CU-SeeMe quickly and easily.

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Information on contacting White Pine Software for   technical support.

System Requirements

CU-SeeMe Help Contents

There are many ways to use Enhanced CU-SeeMe, depending on the hardware and software you have, your system's connections and what audio and video capabilities you desire.

The first thing you'll need is a Network Identity, in this case, an IP Address. You can have your own IP address, or be assigned one dynamically through an Internet provider (not America Online, CompuServe, Prodigy, etc.).

Click on each of the following topics to see your other requirements.

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Make a Connection

This help topic guides you through a basic connection, explaining the various ways you can conference using Enhanced CU-SeeMe: seeing, hearing and talking to other users and typing text to them. For more detailed information about Enhanced CU-SeeMe features, refer to the **See also** section at the end of this topic.

Seeing

If you're looking for a conference, try connecting to White Pine Software, where we have a dedicated reflector set up for Enhanced CU-SeeMe users. Chances are you'll meet many other Enhanced CU-SeeMe users on our Reflector. In addition, you'll meet some of the White Pine employees working to bring you new and improved versions of Enhanced CU-SeeMe!

To make a connection and view other users:

1. Choose Phone Book from the Conference menu or select the Phone Book icon on the toolbar.
2. Enter 192.233.34.5 or White Pine Software from the Phone Book.
3. Click the Call button. The local video window status changes to "Connecting." (Note: If a message appears stating that there are too many participants, try again in a few minutes.)
4. When a Message off the Day appears from the reflector, read it and then click OK. You may also get a list of available conferences from which to choose.

Each person sending video to the White Pine Software reflector appears in a separate remote video window. The number of remote video windows you see may be limited by the number of windows specified by your Conferencing dialog tab. See How to Change Preferences.

Once you are connected to a conference, try to chat with the other users. This is a way to communicate with other users if you don't have a microphone or if your connection is too slow to carry audio. You may also want to use the Chat Window to let other users know that you are testing your microphone and speakers.

To start a chat session:

1. Choose Chat from the Conference menu or click the Chat icon on the main menu button bar.
2. Type text in the Chat Window and press Return to send the text.

Your text appears in the top half of the window with your name. Anyone who has a Chat Window open will see your text and you will see the text that other users are typing.

Hearing

To hear other participants who are transmitting audio, that is, to listen to other people talk, your computer must be equipped with speakers or a headset (some computers have them built in). See System Requirements for a complete list of system requirements.

To listen to other users:

1. Open the Audio window by selecting Audio from the Window menu (or click the Audio icon on the main button bar).
2. Type a message in the Chat window asking another participant to talk. Other participants who have their Chat windows open will see your message.

Watch the indicator under the speaker in the Audio window. You'll see the audio level indicator rise as a person talks. If your audio is correctly set up, you should hear sounds when the indicator rises above the diamond marker. If not, try the volume control. You can easily identify the person speaking by watching for a highlighted bar in the Participant Window.

You may need to adjust the speaker levels. See:

CU-SeeMe Windows and Their Components

Audio Preferences

Talking

To talk to some of the remote video users, you need to have a microphone. See System Requirements for a complete list of what you need.

To talk to other users:

- Click and hold the Push To Talk button in the Audio window. The button changes to Transmitting so you can talk to the other users.

- To talk directly to a particular user, click on the microphone icon in his or her window.

You may need to adjust the audio levels in the Audio window. See Audio Window .

Other Conferences to Contact

An Internet community of CU-SeeMe users has evolved, growing with each new release of CU-SeeMe freeware from Cornell University and Enhanced CU-SeeMe from White Pine Software. People have found exciting uses for CU-SeeMe including broadcasting the Global School Network, NASA-TV, and various concerts. Some places you may want to connect to are:

- White Pine Software - 192.233.34.5 (cu-seeme.com)

- White Pine Software - 192.233.34.20 (goliath.wpine.com)

- Cornell University - 132.236.91.204

- Utopia - 137.130.65.31

- Internet Cafe/Nantucket - 204.249.164.2

- EDEN - 199.171.21.1

- NASA TV - 139.88.27.43

Periodically, White Pine Software sponsors events for organizations interested in videoconferencing. For example, White Pine has sponsored an ABC World New/Global SchoolHouse event. ABC's World News Now is the first regularly scheduled newscast on the Internet. From 2 AM to 4 AM Eastern Standard Time, you can view the overnight news program by connecting to 192.215.2.250 for the U.S. Reflector and to 158.36.33.3 in Europe. This is an ongoing project so you may want to connect to http://www.gsn.org/gsn/event.abcwnn.html for the latest information. Check out the White Pine Software Internet web pages at http://www.wpine.com for other events.

See also:

CU-SeeMe Windows and Their Components

Use the Chat Window

Enhanced CU-SeeMe Icons

Audio Window

Make a Person-to-Person Call

Person-to-person (or point-to-point) is the simplest form of videoconferencing where one person conferences directly with another person. The two computers, both running Enhanced CU-SeeMe, can be connected over a modem or over a private network.

To make a person-to-person call:

1. Choose Phone Book from the Conference menu or select the phone book icon. (It is the first icon on the tool bar.)
2. Enter the IP address of the person you are calling.
3. Click the Call button.   The local video window status changes to "Connecting."

When you are connected to the person you are calling, his or her remote video window appears on your desktop (if they are sending video).

See also:

<u>How to Make a Connection</u>

<u>How to Set Up the Phone Book</u>

<u>Locate Other Users Online</u>

Locate Other Users Online

White Pine, in collaboration with Four11 Corporation, provides a Web-based directory services which will enable you to find other users of Enhanced CU-SeeMe, see if they are online, and make a direct videoconference connection to them.

When you installed Enhanced CU-SeeMe on your computer, you were presented with an opportunity to register yourself in the directory services. If you chose this registration option, you are now listed in this directory and other users will be able to see when you are online using Enhanced CU-SeeMe. They can then choose to call you directly. You will also be able to locate other registered users.

To access the directory services:

- Double-click on the Four11 icon in the CU-SeeMe program group.

  - or -

- Click on the Directory Services button in the Phone Book.

Either of these methods will launch your default Web browser (if you have one installed on your computer) and connect you to the directory services search page. You can then enter the name of the person you want to look up, and click on the Search button.

See also:

Register Yourself in Directory Services

Set Up the Phone Book

Register Yourself in Directory Services

⬜ <u>How To</u>

When you installed Enhanced CU-SeeMe on your computer, you were presented with an opportunity to register yourself in the directory services. If you chose this registration option, you are now listed in this directory and other users will be able to see when you are online using Enhanced CU-SeeMe. They can then choose to call you directly. You will also be able to locate other registered users.

To register yourself in directory services:

- Double-Click on the Registration icon in the CU-SeeMe program group.

- or -

- Go directly to the Four11 home page on the Web at:
  http://www.four11.com/

You can use the Web-based directory service to search for other users of Enhanced CU-SeeMe. Then you can find out whether or not they are currently online, and you can automatically launch a connection to them. Even if you are not registered, you can still search for other users. When you do register, you allow other people to find you, check whether or not you are online, and let them connect directly to you.

See also:

Locate Other Users Online

Set Up CU-SeeMe on a Web Page

Receive a Broadcast Connection

 How To

One-way (or broadcast) conferencing is similar to television broadcasting. One computer, running Reflector software, transmits audio and video to connected users. Other users cannot transmit audio, text, or graphics; they can only receive broadcast data. Some examples of one-way conferencing are Internet radio stations that broadcast audio, NASA-TV that broadcasts video and audio about space shuttle missions, and tradeshows that broadcast audio and video of keynote speakers.

To receive a broadcast:

1. Choose Phone Book from the Conference menu or select the phone book icon.
2. Enter the IP Address of the broadcast source in the IP Address text box. (For example, NASA is 139.88.27.43)
3. Click the Call button. The local video window status changes to "Connecting."
4. From the reflector's conference dialog box, select one of the offered conferences--if there is more than one--and click OK.

See also:

Other Conferences to Contact

How to Set Up the Phone Book

Become a Good Network Citizen

<u>How To</u>

Observing network etiquette, or "netiquette," is not only neighborly, it can actually improve performance for yourself and for other network users. If, however, you choose not to follows these hints, you may annoy other participants and you may not be allowed to connect to certain Reflectors! Here are some rules to follow both for good netiquette and good performance:

Disconnecting When Not In Use

One of the easiest ways be become a good network citizen is to disconnect yourself from a Reflector while you are out of your office for an extended period of time or when you are not using it.

Minding Your Transmission Speed

Transmission rates are set in the Preferences dialog box. See <u>How to Change Preferences</u>. The default maximum transmitting speed is 80 kbps. However, if you are transmitting with a 28.8k modem, you will be limited to a transmission rate of 28kbps.

You may be tempted to increase transmission speed for better performance, especially when bandwidth isn't a problem. White Pine Software recommends only doing so for person-to-person connections. If you increase your transmission rate for Reflector sessions (broadcast or group conferencing), you will be using more than your share of Reflector resources slowing down Reflector response time. To prevent this, some Reflectors won't allow you to connect if you are transmitting at more than 80 kbps.

See <u>How to Set Transmission and Reception Rates</u>.

Sending Empty Video

Broadcasting the contents of an empty office or work area is not good network behavior since some reflectors have limits on the number of connected users. By sending video of your empty office, you may be preventing others from using the reflector.

Leaving Enhanced CU-SeeMe Running

Leaving your office with live video windows running on your computer consumes network bandwidth. This can actually be more of a network offense than sending empty video. To be a good network citizen, you should close all visible windows when you are not using Enhanced CU-SeeMe for an extended period of time.

See also:

<u>How to Change Preferences</u>
<u>How to Select Audio Compression</u>
<u>How to Send Color or Grayscale Video</u>

Send Color or Grayscale Video

 <u>How To</u>

Enhanced CU-SeeMe supports color and/or grayscale video. Before you select the type of video you want to send, you should consider the factors listed below:

Sending Color Video	**Sending Grayscale Video**
Uses less CPU power	Uses more CPU power
Displays video at a higher frame rate than grayscale	Displays video at a slower frame rate than color
Uses less bandwidth	Uses more bandwidth
Uses more application memory	Uses less application memory
Your video will be seen only by users of Enhanced CU-SeeMe. Users of freeware CU-SeeMe will not be able to see your video, although you will still see their video. However, you will be able to hear, talk, and chat with all users.	You will have full video and audio conferencing with all users.

To select color or grayscale video:

1. Choose Preferences from the Edit menu or click on the Preferences icon in your local video window.
2. Click the Video tab.
3. Select a video codec from the Compression Codec list. Select WhitePine color to send color video or CU-SeeMe Gray to send grayscale video.
4. Set the quality of the video for color, or brightness/contrast for grayscale by dragging the slider, then click OK.

See also:

<u>How to Change Preferences</u>

<u>Video Preferences</u>

<u>Audio Preferences</u>

<u>Configure Dialog Box</u>

Disconnect from a Session

 How To

When you are connected to a conference, its IP Address is listed in the Conference Menu box, in the Hang Up selection. For example, if you are connected to the White Pine reflector, the menu selection would read, Hang Up From 192.233.34.5.

There are three ways to disconnect from a conference session:

- Choose Hang Up From... from the Conference Menu or
- Press Ctrl+K on your keyboard, or
- Click the Hang Up icon on the Main Window toolbar. (It is the second icon on the toolbar.)

The connection is terminated and you are returned to the CU-SeeMe Main window.

Use the Chat Window

 How To

If you or the person you're conferencing with don't each have a camera or microphone, or if your bandwidth connection is too limited to carry audio, you can use the Chat Window to type messages to other participants.

To use the Chat Window:

1. Choose Chat from the Conference menu or click on the Chat icon on the toolbar. The Chat Window appears.
2. Type text in the lower portion of the Chat Window and press the Enter key to send the text.

Your text appears in the top portion of the window with your name as it appears in your video window. Anyone with a Chat Window open will see your text.
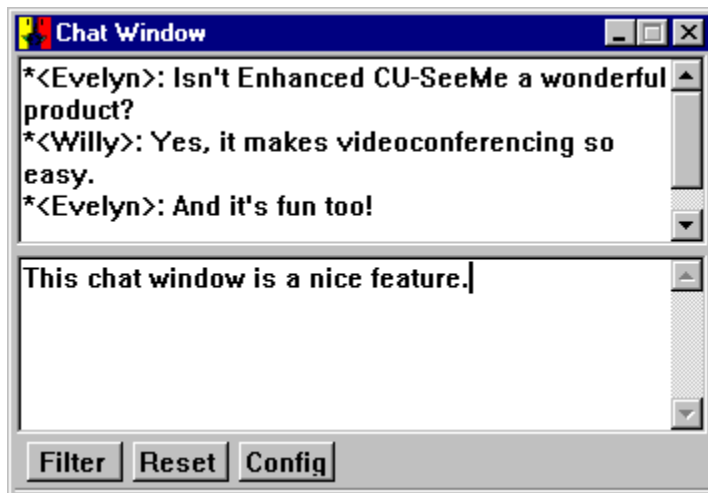
You can modify the appearance and use of the Chat Window in the following ways:

Filtering Other Participants

There are times when there may be too many conversations happening in the Chat Window. It may be useful to prevent text from certain people from appearing in your Chat Window.

To filter text in the Chat Window:

1. In the Chat window, double-click the name of the user you want to filter out. The Chat Window Filter dialog box appears.
2. Select the filter check box and click OK.
3. Click Filter at the bottom of the Chat Window to start filtering the text. Text from the user you filtered will not appear in your window.
4. To stop filtering text, click Filter again. The Filter button toggles filtering on and off.
5. Click Reset to clear all names from the filter.

Setting Font and Font Size

As a default, the Chat Window uses the system font to display text in the Chat Window. You can change the type of font and size using the Configuration feature.

To change the appearance of the text:

1. Click Config in the Chat Window. The Chat Window Font dialog box appears.
2. Select the font settings you want to display in the Chat Window.
3. Select the font size from the Size pop-up menu.
4. Click OK.

All text in the Chat Window changes to the font you selected.

Resizing the Chat Window

The default size of the Chat Window shows three lines of text in the typing area and four lines of text in the display area. You can resize the window to display more text:

- To change the size of the window, position your cursor on the lower right corner of the window. When the cursor changes to a double-arrow, click and drag to resize the window.

- To change the size of the text portions of the window, click on the horizontal line separating the two portions of the window and drag up or down.

Use the Listener

 How To

Communicating with other users over the Internet using Enhanced CU-SeeMe may become as commonplace as using the telephone. However, it may not be practical to leave Enhanced CU-SeeMe running at all times because its use of your system resources. To make sure you don't miss an incoming call, you can run the Listener to alert you of an incoming call by:

- Displaying an alert message

- Playing a system sound

The Listener is an application built into Enhanced CU-SeeMe. It can let you know if someone is trying to call your computer, even when you are already connected to a conference or another call. The Listener can also be running on your computer when you are not using Enhanced CU-SeeMe. It will listen for anyone who may try to connect to your computer and it will notify you. You can accept or deny the connection. If you accept the connection, the Listener automatically starts up Enhanced CU-SeeMe so you can begin conferencing with the caller.

To set up the Listener:
1. Double-click the Listener icon in the Enhanced CU-SeeMe folder.
2. Select a method to alert you of an incoming call. You can change this method later by selecting Preferences from the Edit menu or clicking the Preferences icon in your local video window. If you are setting preferences from within the Enhanced CU-SeeMe application, click the Listener tab.
3. Keep the Listener running in the background while you do your work.

To answer an incoming call:
1. The Connection Request window appears when another user is requesting a connection to your computer. Make the Listener application active by clicking the window.
2. The default is to send and receive video and audio when answering the call. To change the video and audio options, click the down arrow to display a list of communications options.

   If any of these options appear grayed out, this indicates that either you or the caller do not have video or audio capability, therefore you may want to use the Chat Window or the WhitePineBoard for two-way communication.

3. Click the Answer button (with the telephone icon) to answer the call. If the button is dimmed, this indicates that you already have a connection open. Choose Hang Up from the Conference menu (or click the Hang Up button on the main button bar) to close the existing connection.

If you choose to refuse the call (by clicking on the "No Answer" button) or if you exit Enhanced CU-SeeMe before responding to the incoming call, the Listener notification will notify the caller by displaying a Connection Refused message on the caller's display.

See also:

How to Change Preferences

How to Use the Chat Window

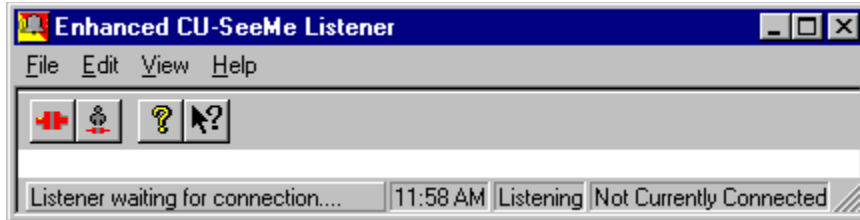How to Use the WhitePineBoard

How to Use the Standalone Listener

Use the Standalone Listener

How To

You can use the Listener either with or without Enhanced CU-SeeMe running.

Click on the icons or the status buttons of this picture of the Standalone Listener to see what each one does. The Listener menus are described below.

File Menu

CU-SeeMe connect... (Ctrl+N)   Select to launch Enhanced CU-SeeMe.

Exit (Ctrl+Q)   Select to exit CU-SeeMe.

Edit Menu

Preferences (Ctrl+R)   Select to access the Preferences dialog box, shown here. (Click on the areas of the image for more information.)
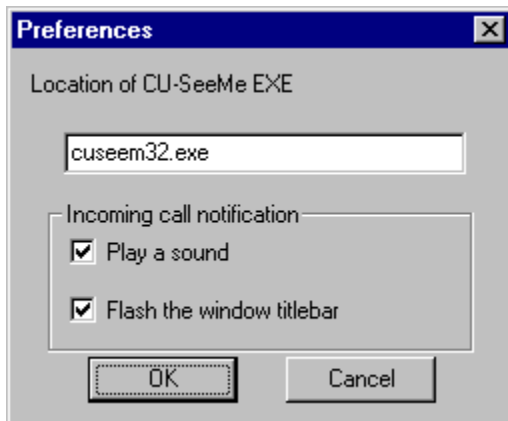
View Menu

Use the View Menu to choose whether you want to display the **Toolbar** and the **Status Bar** on the Listener main window. A check mark next to the selection indicates that it will display.

Help Menu

Index   Select to access a list of Listener help topics.

Using Help   Select to get help on using the help system itself.

About Listener   Select to access product information about the Listener.

See also:

[How to Use the Listener](#)

Location of CU-SeeMe Exe

This box displays the name of the Enhanced CU-SeeMe executable file. The path of the file may also be specified here.

Incoming Call Notification

Choose here how you want the Standalone Listener to notify you of an incoming call. A check in the box indicates the option is active.

Set Up the Phonebook

 How To

After using Enhanced CU-SeeMe to contact individuals or join conferences, you may wish to create a list of addresses for calls you frequently make using Enhanced CU-SeeMe. The Enhanced CU-SeeMe Phone Book provides a means of storing these addresses with nicknames that you can choose. For example, you can store the IP address of an individual user or the IP address of a reflector and assign it a nickname.

Using the phone book, you can:

- Add nicknames to the Call submenu in the Conference menu
- Make calls directly
- Add, delete, change addresses and nicknames

To add names to the phone book:

1. Select Phone Book from the Conference menu or click on the Phone Book icon from the CU-SeeMe toolbar. The Phone Book dialog box appears.
2. Click New to create a new entry. The Creating a Nickname dialog box appears.
3. Type a nickname for the connection in the Name box.
4. Type the IP Address of the connection in the IP Address box.
5. Select Send Video to send your video to the connected user. Select Receive Video to receive the video from other users.
6. Select Add to Call Menu to add the nickname to the Call submenu.
7. Click OK to add the nickname to the phone book.
8. Click Close in the Phone Book dialog box.

To change a phone book entry:

1. Choose Phone Book from the Conference menu or click on the Phone Book icon from the CU-SeeMe toolbar.
2. Select a name from the list of nicknames.
3. Click Edit.
4. Change the values as desired and click OK.
5. Click Close in the Phone Book dialog box or select Save from the File menu to save the changes to the phone book.

To delete a phone book entry:

1. Choose Phone Book from the Conference menu or click on the Phone Book icon from the CU-SeeMe toolbar.
2. Select the entry to delete from the list of nicknames and click Remove.
3. Click Close in the Phone Book dialog box or select Save from the File menu to save the changes to the phone book.

To make a call using the phone book:

1. Choose Phone Book from the Conference menu or click on the Phone Book icon from the CU-SeeMe toolbar.
2. Select the name of the person or conference to which you want to connect.
3. Specify the conference ID for the conference you want to join. Most conferences use the default 0. If a private conference has been set up, obtain the conference ID from the Conference Administrator. When you save a conference in the Phone Book, the Conference ID is also saved.
4. Click Call.

Enhanced CU-SeeMe attempts to make a connection to the conference you specified. If the connection is successful, the person or conference you connected to appears in a remote video window(s).

See also

How to Make a Connection
Locate Other Users Online

Arrange Your CU-SeeMe Windows

 How To

With the audio, chat, participant and video windows displayed, your desktop may appear cluttered at times. Enhanced CU-SeeMe helps you to organize these windows by letting you show all video windows, close all video windows, and even save window positions so your choice of locations can be restored each time you use Enhanced CU-SeeMe.

To arrange the video windows:

- Choose Cascade Video Windows from the Windows menu to stack the windows on top of each other starting in the upper left corner of your display. You can also click the Cascade Video Window icon on the toolbar.

- Choose Tile Video Windows from the Windows menu to arrange the windows in a grid starting at the upper left corner of your display. You can also click the Tile Video Window icon on the toolbar.

To toggle the video window size:

Click the Zoom button on the Video window to make the window small (160x120) or large (320x240).

To save window positions:

1. Select Preferences from the Edit menu or click the Preferences icon in your local video window.
2. Click the General tab.
3. Select the Save Windows Positions on Exit option.
4. Click OK.

To open specific windows or bring them to the front:

- Select Participants, Audio or Local Video from the Windows menu.

- Click on a participant from the Participants List.

To display or close all remote video windows on your desktop:

- Select Show All or Close All from the Windows menu.

- Select Close All Except Front from the Windows menu to close all windows in the background. To redisplay them, choose Show All.

 Note: Show All only displays the number of video windows specified in the Conferencing Preferences (default is 8).

To display a single participant's window:

- Click the participant's name from the list of hidden users in the Participants Window.

To limit the number of windows that appear on your desktop:

1. Select Preferences from the Edit menu or click the Preferences icon in your local video window.
2. Click the Conferencing tab.
3. Select the number of windows in the Maximum Video Windows box by clicking the arrows.

See also:

CU-SeeMe Windows and Their Components
Changing Preferences

Select Audio Compression

 How To

Enhanced CU-SeeMe provides several audio codecs, offering different audio compression options. Your choice will depend on your computer environment, especially whether you are communicating using a modem, a LAN, or an ISDN line. Use the information below to choose the best audio codec for your environment.

You can use this audio codec	If you are using this means of communication...			
	14.4 modem	28.8 modem	LAN	ISDN
DigiTalk (8.5kbps)	x	x	x	x
Voxware (2.4kbps)	x	x	x	x
Delta-Mod (16kbps)		x	x	x
Intel® DVI (32kbps)			x	x

The kbps figures for the audio codecs are bandwidth requirements. In general, the more bandwidth consumed, the better the quality of the connection.

The DigiTalk and Voxware audio codecs both work well with low bandwidths, and therefore are both usable with modems, however they perform differently:

- DigiTalk is able to transmit voice and music.

- Voxware is able to transmit voice only.

Voxware and DigiTalk audio codecs are not available on Macintosh or in the Cornell freeware of Enhanced CU-SeeMe. If you use the Voxware or Digitalk codecs, Macintosh users and Cornell freeware users will not hear your audio.

To select audio compression:

1. Choose Preferences from the Edit menu or click on the Preferences icon in your local video window.
2. Click the Audio tab.
3. Select an Audio Codec from the Compression Codec list. Some codec choices may be dimmed. This indicates they are not usable for your computer.
4. Select a Default Performance setting. If you are using a low-bandwidth audio codec, you can choose between the Standard and High audio settings. The Standard setting is recommended.
5. If the audio card in your computer is full-duplex, select the Full Duplex checkbox. If you don't know whether your audio card is full-duplex, consult the manufacturer's documentation.
6. If the Echo Reduction checkbox is selected, then the echo reduction slider will be added to the Audio Window. Echo reduction can be used to eliminate audio feedback.
7. Select the Recording Device and Playback Device. Usually, your computer will select the right devices automatically. If you are unsure about the correct devices, consult your sound card documentation.
8. Click OK. to confirm your settings.

Each audio codec provides additional configuration options. See Audio Preferences .

See also:

[Changing Preferences](#)

Set Transmission and Reception Rates

How To

You can set the rate at which you send and receive video and audio data to maximize performance. Here are some general guidelines for setting transmission and reception rates:

When using...	Set transmission and reception rates to...
Modem	Match the speed of your modem, such as 14kbps or 28kbps.
LAN	80kbps or higher, depending on the configuration of your LAN.
ISDN	40kbps or higher, depending on the properties of your ISDN line.

Enhanced CU-SeeMe selects 80kbps as the default transmission rate. If you are on a LAN or have a connection with higher bandwidth, you can increase this rate for better performance. However, if you are transmitting with a 28.8k modem, you will be limited to a transmission rate of 28kbps.

The reception options set the rate at which you receive audio and video. Limiting reception may be important if you have a 28.8K modem connection. If you are set to receive 30k, you will not be able to send any data out.

Tip

When participating in a group conference, you may find that many reflectors disconnect you if your transmission rate is higher than 80 kbps, and may prevent you from reconnecting for up to 10 minutes.

To set the transmit and receive rates:
1. Choose Preferences from the Edit menu or click on the Preferences icon in your local video window.
2. Click the Communications tab if it isn't already displayed.
3. Set the minimum and maximum values for transmitting and receiving by clicking the arrows or by typing values.

See also:

How to Become a Good Network Citizen

How to Change Preferences

How to Increase Your Performance

Increase Your Performance

 How To

One of the ways to tailor your Enhanced CU-SeeMe connection sessions for better performance is to adjust the compression, transmission, and reception options.

Each window you have open on your screen requires memory. The more memory Enhanced CU-SeeMe has available, the more efficiently it will run. If you find that Enhanced CU-SeeMe is somewhat sluggish, try closing some of the windows that are open. Note that video windows take up the most memory. Open video windows also use bandwidth which can cause sluggish performance.

See the following "How to" topics:

Become a Good Network Citizen

Change Preferences

Select Audio Compression

Send Color or Grayscale Video

Set Transmission and Reception Rates

Create a Multicast Conference

 How To

Enhanced CU-SeeMe allows you to conference with multiple users (Windows users only at this time) in a multicast conference. In a multicast conference, you send a stream of video, audio, and conference control data over a network to many users simultaneously. Joining a multicast conference is similar to connecting to a Reflector. Only users of   Version 2.1 (or later) of Enhanced CU-SeeMe for Windows can participate in a multicast conference.

Multicast is a relatively new technology. Many network interface cards, TCP/IP stacks, routers, and Internet Service Providers do NOT yet support multicast conferences. Multicast features may not work for many modem users. Please consult your hardware supplier and Internet Service Provider to find out if they support multicast conferencing.

There are two types of multicast conferences:

- Group Conference - an interactive conference where all users who are connected can send and receive audio and video, and can use the other features of Enhanced CU-SeeMe, such as the Chat Window and the WhitePineBoard.

- Broadcast - a one-way conference where only the conference creator can send out video and audio. Others who are connected can see and hear the broadcasted audio and video, but they cannot send audio and video.

Before you can create a multicast conference, you must be sure that your computer is set to enable a multicast.

To enable a multicast conference:

1. Select Preferences from the Edit menu or click on the Preferences icon in your local video window.
2. Select the Communications preferences group.
3. Select the Enable Multicast checkbox.

To create a multicast conference:

1. Select Create Multicast Conference from the Conference menu. The Create Multicast Conference dialog box appears.
2. Enter the information in the blank fields.
3. Select an area from the Area drop-down list box. These areas determine how far your multicast will reach.
4. You may choose to click on the More button to enter advanced settings, but this is optional.
5. When you have completed this dialog box, click on the Start button.

You are now connected to a multicast IP address. You can begin the conference by calling a participant using the Call button in the Phone Book.

See the following "How to" topic:

Join a Multicast Conference

Join a Multicast Conference

Any user can join your multicast conference by connecting to the conference using the Join Conference dialog, or by connecting to any participant that has already joined the conference. The participants list will display all participants that are connected to the IP address of the multicast conference (up to a maximum of 32 users).

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3. Select the Enable Multicast checkbox.

To join a multicast conference:

1. Select Join Multicast Conference from the Conference menu. The Join Multicast Conference dialog box will appear.
2. Select a conference from the Active Group Conferences List.
3. Using the checkboxes, select whether you wnat to send video and receive video in this multicast conference.
4. If the conference is password protected, you will be prompted to enter a password in the Conference Password text box.
5. Click on the Join button to join the multicast conference.

See the following "How to" topic:

Create a Multicast Conference

Set Up CU-SeeMe on a Web Page

 How To

Enhanced CU-SeeMe can be launched directly from any Web browser. By setting up Enhanced CU-SeeMe for access from a Web page, you can access additional information that wouldn't be feasible if you were to use Enhanced CU-SeeMe by itself. For example, you may want to set up a camera to display a classroom. Although this could be done using Enhanced CU-SeeMe by itself, you could provide additional materials to viewers, such as text and graphics, by placing this material on a Web page.

Setting up Enhanced CU-SeeMe for access from a web page requires:

- Web Page Creation: Create a Web page that points to a file used to launch an Enhanced CU-SeeMe conference.
- Web Site Administration: Configure an http daemon on a web server
- End User: Configure web browser to launch Enhanced CU-SeeMe.

Creating the File that Launches a Conference

To launch Enhanced CU-SeeMe from a web page, you need to create a web page with a hot link to a file that defines the IP address and Conference ID of the Reflector to which you want to connect. Place this file, with the other html files, on the Unix host.

To create the file:

Create a file with a ".cu" or ".csm" extension which contains the following parameters, each on its own line:

ip_address
conference_id
file_options
where:

ip_address is IP address of the Reflector or Enhanced CU-SeeMe host that you would like to connect to using Enhanced CU-SeeMe.

conference_id   is the conference ID used by the Reflector.

file_options are the optional configuration items found in the Enhanced CU-SeeMe preferences file. These settings override the defaults in your preferences file.

An example of this file is shown below (note that you must include the section headers), for a file named "whitepine.cu", which is used to launch a connection to a reflector on machine 192.233.34.5.

filename: whitepine.cu
192.233.34.5
0
[Settings]
Max Windows=n   **n** is the number of video windows you want visible on the screen
[Flow Control]
MaxCap=n   **n** is the maximum sending rate
MinCap=n   **n** is the minimum sending rate

UseFlowControl=	**Yes** to enable flow control
	No to disable
[Connect Options]	
IWillSendVideo=	**Yes** to send video
	No to send none
IWillRecvVideo=	**Yes** to receive video
	No to receive none
IWillSendAudio=	**Yes** to send audio
	No to send none
IWillRecvAudio=	**Yes** to receive audio
	No to receive none

Configuring a Web Server

When a Web browser downloads a .cu or .csm file, the http daemon in the Web server needs to inform the browser that the file it is sending is an x-cu-seeme file.

To set up your web server:

1. Edit the mime.types file typically located in the /http/conf/ directory to include the following line:

   application/x-cuseeme   cu csm

   This tells the http daemon that if it receives a file with either the cu or csm extension, that it is type x-cu-seeme.

2. Restart the http daemon.

Configuring a Web Browser

Your browser must know how to launch Enhanced CU-SeeMe when it receives the Enhanced CU-SeeMe file described above. Your browser may prompt you to launch Enhanced CU-SeeMe, or you may set up your browser to automatically launch the Enhanced CU-SeeMe application when it detects the x-cu-seeme type.

To set up your browser to automatically launch Enhanced CU-SeeMe:

1. Locate the dialog box to add new file types in your browser, typically in a preferences dialog box. For example, in Netscape™, choose General Preferences from the Options menu, then select Helper Applications. In Microsoft Internet Explorer, choose Options from the View menu, then select the File Types tab.
2. Click the Create New Type button.
3. Specify the mime type: application.
4. Specify the mime subtype: x-cuseeme
5. Specify the file extensions: cu, csm
6. Specify Enhanced CU-SeeMe as the application.
7. Make sure Enhanced CU-SeeMe is in your path, or specify the full pathname for the cuseeme executable.
8. Set the action to launch the application.

Change Preferences

 How To

Many of the default settings in Enhanced CU-SeeMe can be changed through the Preferences dialog box.

To change a preference setting:

1. Choose Preferences from the Edit menu or click on the Preferences icon in your local video window.
2. Select a Preferences group by clicking on a tab.
3. Select one of the following topics to find out what settings can be changed and what effect those changes will have on the operation of CU-SeeMe.

See also:

Listener Preferences

General Preferences

Conferencing Preferences

Communications Preferences

Audio Preferences

Video Preferences

Listener Preferences

 How to Change Preferences

Use this set of preferences to instruct the Listener how to respond to an incoming call.

Enable Listener Notification:

If this box is checked (or, On), the system will notify you of an incoming call at all times, whether or not you are currently connected. If unchecked (or, Off), incoming calls are automatically accepted if you are not currently connected. If you are connected, incoming calls are automatically refused.

Notification Method:

Choose how you want to be notified of an incoming call by selecting one or more of the following:

Flash window

Flashes the CU-SeeMe icon and title bar when there is an incoming call.

Beep

Beeps (or rings) when there is an incoming call.

See also:

How to Use the Listener

General Preferences

 How to Change Preferences

Use this set of preferences to tailor the appearance of CU-SeeMe windows on your desktop.

Video Windows:

Decide whether to show the Toolbar and/or the Status Bar on your video windows by selecting the following:

Show Toolbar

Show Status Bar

A checkmark in the box indicates the selection will be displayed.

Main Window:

Decide whether to show the Toolbar and/or the Status Bar on the main Enhanced CU-SeeMe window by selecting the following:

Show Toolbar

Show Status Bar

Save windows position on exit

Check this selection to save the position of your windows when you exit Enhanced CU-SeeMe.

Buttons "Click" when pressed

Check this selection if you want the system to make an audible "click" when you click on a CU-SeeMe button.

Auto-tile remote video windows

Select to override the saved positions of remote windows and tile them.

See Also

Changing Preferences

Conferencing Preferences

 How to Change Preferences

Use this set of preferences to define the characteristics of your CU-SeeMe connections.

Local Video Window:

Title

The title that appears on your local video window. Use this text box to make any changes to the title.

Remote Video Windows:

Open and Close video windows automatically

Check one or both boxes to automatically open/close a remote video when a call comes in and when the caller disconnects.

Click When Participants Join

Check this selection if you want the system to make an audible "click" when participants join the connection.

Maximum video windows

Enter in this box the maximum number of remote videos you want to have open on your desktop. You can also click on the up and down arrows to increase or decrease this number. Because it will use up less bandwidth, limiting the number of windows can help improve performance

Note: These changes do not take place immediately. You need to close all the open remote video windows (click the Close All icon), and then open them again (click the Show All icon) for the new maximum allowance to take effect.

Communications Preferences

 How to Change Preferences

Use this set of preferences to establish CU-SeeMe transmission and reception rates.

Transmission Rate:

Maximum

The maximum rate at which you want to transmit, measured in kbps. You can change the number in this box by typing in a new number or by using the up and down arrows to increase or decrease the number.

Minimum

The minimum rate at which you want to transmit, measured in kbps.

Reception Rate:

Maximum

The maximum rate at which you want to receive communications, measured in kbps.

Minimum

The minimum rate at which you want to receive communications, measured in kbps.

See Also

Select Audio Compression

Video Preferences

How to Change Preferences

Use this set of preferences to select values relating to your video.

Video Compression

Compression Codec

Choose to send **WhitePine Color**, which will transmit your video picture in color or **CU-SeeMe Gray**, which transmits in gray.

Quality:

Set the quality of the color video for the White Pine Color Codec or the brightness/contrast for CU-SeeMe Gray by dragging the button along the scale.

About...

Version and copyright information on the selected video codec.

[Configure Dialog Box](#)

Configure the video options of the WhitePine Color Codec.

Video Capture

Capture Device

If you have more than one digitizer installed on your system, you can make your selection from this scrolling list.

Format... Source... and Display... Buttons

These buttons access video driver and device dialog boxes provided by other vendors. Refer to their documentation for information.

Invert Gray Table

Click this box to reverse dark and light pixels, thereby turning a negative image to a positive one and vice versa.

Invert Image

Click this box to flip the video image vertically.

Audio Preferences

 <u>How to Change Preferences</u>

Use this set of preferences to select values relating to your audio.

Compression Codec

Choose among the audio compression codecs, for example: Digitalk (8.5 kbps), Intel/DVI (32 kbps), Delta-Mod (16 kbps) or VoxWare (2.4 kbps). Remember that the fewer kbps you use, the more bandwidth can be freed up for video. Also remember that as kbps is reduced, so is the quality of the sound.

Settings:

Set the sampling rate for the audio codec, for example: 100 mSec or 200 mSec. mSec stands for milliseconds, so a sample rate of 200 mSec (sample every 200 milliseconds) will have a lower quality than 100 mSec (sample every 100 milliseconds).

Recording Device, Playback Device

These boxes list hardware supplied by other vendors. Refer to their documentation for information.

See Also

Select Audio Compression

Configure Dialog Box

 [Video Preferences](#)

Use this dialog box to configure the WhitePine Color Codec. The specific features are described below. A good general rule for those wishing to change the appearance of their video is to modify the values of the codec in this dialog and see how those changes affect the performance of the video.

Smeared "I" Frame Rate

Your video data is transmitted as a series of frames, which are updated continuously. In order to get the smoothest possible video with the least amount of data loss, the video codec looks at the changes from one video frame to the next, compresses this changed data, and then adds this data to the previous frame. The result is that the video image you transmit is updated as you move in front of your camera. Unfortunately, there is usually some unavoidable loss of data as your video image is sent across a network. To compensate for this loss and to make sure unwanted "noise" won't build up on the connection, a full frame (containing ten times more data than a typical frame which only includes the changes since the previous frame) is periodically distributed (or "smeared") over a number of frames. This number of frames is specified by the Smeared "I" Frame Rate. The Smeared "I" Frame Rate determines the timing of this insertion. A lower number means that this full frame is inserted more often.

The default Smeared "I" Frame Rate is 45, which takes into account the amount of noise on a typical Internet connection. For connections over a LAN, where there is much less noise, the rate of insertion can be increased, which means changing the setting to a lower number.

Gamma Correction Factor

The Gamma Correction Factor is similar to the brightness control on a television set. On the Gamma Correction Factor scale, the higher the number, the brighter the picture.

The default setting is 33, which means there is no Gamma Correction. The Gamma Correction affects only the video windows that you see on your computer monitor. It does not affect the video that you transmit to others.

Apply Noise Reduction Filter

The hardware components of some low-end cameras generate a lot of static noise, which is difficult to compress. When the Apply Noise Reduction Filter box is checked, an extra operation is added in which noise is filtered before going through the codec (COmpression-DECompression) process. The result is a picture that is received with less noise. The picture will also use less bandwidth if the noise is filtered out. Note that this filter will only affect how other users see your video image. Using this filter uses some CPU power from your computer, but it can be helpful to clean up the image sent by your camera.

Lossless Options

The term lossless means a perfect replication of a picture so that the picture, after it has been compressed and decompressed, is exactly the same as it was before entering this process. That is, no quality is lost in the picture.

There are three lossless options:

- Luminance - preserves brightness and contrast
- Chrominance - preserves color
- Quality - preserves clarity (no blurring)

You can transmit in high quality lossless mode by checking these options and setting Quality to100% (on the Video preferences tab). Check Lossless Luminance to transmit lossless grayscale; check both Lossless Luminance and Lossless Chroma for color.

Achieving this high quality mode is expensive in terms of the amount of bandwidth used. A perfect picture replication is possible, but it can reduce your frame rate. The default for both options is to be turned off.

ME Search Radius

Use the ME (Motion Estimator) Search Radius to establish the neighborhood in which the WhitePine Color codec's Motion Estimator compares motion between one video frame and the next. The Motion Estimator looks in a search radius (or neighborhood) of X pixels of the video subject, where X is the number of pixels entered in the ME Search Radius box. The default is 8 pixels.

If there is going to be a lot of motion in your video, a wider radius means a smoother picture. This uses less bandwidth, however, it can be expensive in terms of the amount of CPU used.

Bit Stream Data

The default transmission mode for the WhitePine Color codec is, appropriately, color. You can, however, choose to use the WhitePine Color codec but transmit in gray images by clicking on the Gray Scale radio button in this dialog box. Typically, removing the color information from the bit stream in this way results in a 10%-20% reduction in the bandwidth requirements.

CU-SeeMe Connection

Click here to launch Enhanced CU-SeeMe.

View Connection

Click here to find out where Enhanced CU-SeeMe is connected.

About the Listener

Click here to see information in the Listener About box, e.g., serial number, version number, copyright, etc.

Context-sensitive Help

Click here to access context-sensitive help on the Listener. The information called up on the screen will reflect the part of the product you are currently using.

Listener Status

The current status of the Listener, for example, waiting or connecting.

Time

Shows the current time.

Listener state

Shows the state of the Listener, either Listening or Inactive. If Enhanced CU-SeeMe is running, the status of the Listener is Inactive.

Connection

Shows the conference to which you are connected or it displays Not Currently Connected.

Add Overlay Text to Your Local Video Window

<u>How To</u>

To send additional information, such as your location or a brief greeting, to other users when you are sending video, you can overlay a text message on your video window, such as in the example below.

To add overlay text to your video window:

1. Click on your local video window to make it the active window.
2. Type text. Your message will appear in your video window.

To remove the overlay text:

- Press Enter when your local video window is active.

Modifying Overlay Text

Your overlay text can contain as many as 256 characters, although if you type a long message, it will not fit in your window. In this case, you can scroll the text across the screen. You can also choose to fix your text in one location.

As a default, the overlay text is displayed in the system font. You can, however, change the font type and size. You can also have your text message appear at the top or bottom of your video window.

To change the font of the overlay text:

1. Press the F8 key to display the Font dialog box.
2. Select the font settings you want for your overlay text.
3. When done, click OK.

The overlay text will now appear in the font you selected.

To move the overlay text within your video window

The default is for the overlay text to be at the bottom of the window. To move it to the top of your window, or to scroll it across the screen, use the arrow keys and function keys on your keyboard, as described below:

Press this key	To do this
Up arrow key	Move overlay text to top of window
Down arrow key	Move overlay text to bottom of window
Left arrow key	Scroll overlay text from left to right
Right arrow key	Stop scrolling overlay text
F6 function key	Increase speed of scrolling text
F7 function key	Decrease speed of scrolling text

See Also

[Local Video Window](#)

File Menu

 Reference Information

Use the File Menu to exit CU-SeeMe.

Exit (Ctrl+Q) Select to exit CU-SeeMe.

Edit Menu

 <u>Reference Information</u>

Use the Edit Menu to edit selected text and to change preferences.

The Edit Menu is active when you are using any CU-SeeMe windows that involve text. For example, you can edit the list of nicknames in the Phone Book using this menu. First highlight the text you want to edit, then select one of the following edit options.

Copy (Ctrl+C)

Copy text from a CU-SeeMe window, list or dialog box.

Paste (Ctrl+V)

Paste selected text to another location.

Clear

Clear highlighted text.

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Preferences...

Select this menu item to change how CU-SeeMe operates and how it appears on your desktop. For example, you can select the Audio/Video Preferences tab to change the video compression codec from color to grayscale. The other Preferences tabs are: Listener, General, Conferencing and Communications.

See <u>How to Change Preferences</u> for a full description of the values of each tab.

View Menu

 Reference Information

Toolbar and Status Bar

Use the View Menu to choose whether you want to display the Toolbar and the Status Bar on the CU-SeeMe main window. A check mark next to the selection indicates that it will display.

Conference Menu

 Reference Information

Use the Conference Menu to access, maintain or change your connections with conferences.

Phone Book (Ctrl+B)

Access the Phone Book.

Call

Bring up a list of places or conferences you can call, call yourself (useful for testing your connections) or create a new location to call.

Hang Up (Ctrl+K)

Terminate your connection to a conference.

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Create Multicast Conference

Bring up the Create Multicast Conference dialog box, enabling you to create a mulitcast conference.

Join Multicast Conference

Bring up the Join Multicast Conference dialog box, enabling you to choose an existing multicast conference.from a list, and join that conference.

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Stop Sending Video

Stop transmitting your video image to other participants of a conference. This is a toggle button.

Stop Receiving Video

Stop receiving video from other participants of a conference. This is a toggle button.

_____

Chat

Bring up the Chat Window, for sending and receiving text to and from other participants of a conference.

WhitePineBoard

Bring up the WhitePineBoard.

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See also:

How to Set Up the Phone Book

Window Menu

 <u>Reference Information</u>

Use the Window Menu to arrange CU-SeeMe windows on your desktop, to access the Participant Window and the Audio Window.

Show All (Ctrl+H)

Display all video windows.

Close All

Close all active video windows.

Close All Except Front

Close all but the front, active window.

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Cascade Video Windows

Arrange the active video windows in a cascade pattern.

Tile Video Windows

Arrange the active video windows in a tile pattern.

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Participants

Display the list of participants involved in a conference.

Audio

Display the audio window, where you can talk to other participants and adjust audio levels.

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Local Video (Ctrl+L)

Choose to display or not display your own video window. A check mark indicates the window will be displayed.

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See also:

<u>How to Arrange Your CU-SeeMe Windows</u>
<u>How to Make a Connection</u>

Help Menu

 Reference Information

Use the Help Menu to access help on how to use CU-SeeMe.

Contents

Display the CU-SeeMe Help Table of Contents

Search for Help On...

Search for help on a topic by entering a key   word.

Index

Display an index of words used in the help system.

———

About CU-SeeMe...

Display product and version information about Enhanced CU-SeeMe. You can also use this box to change your Enhanced CU-SeeMe serial number.

Change Your Serial Number

To change your Enhanced CU-SeeME serial number:

1. Select About Enhanced CU-SeeMe from the Help menu on the Main window. The About box is displayed.
2. Click the More button. The More Information dialog box is displayed.
3. Click the Change Serial Number button. The Serial Number dialog box is displayed.
4. Enter your new Enhanced CU-SeeMe serial number in the text entry box.
5. Click OK.

Glossary

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Local Area Network (LAN)

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Lurkers

MOTD

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Netiquette

Participant Window

PhoneBook

Point-to-Point Connection

PPP

Audio Window

The   window that allows you to manage sound coming into and going out of your system.

Bandwidth

The capacity a connection has to send information. It is usually measured in bits per second (bps).

Broadcast

A conference or program via Enhanced CU-SeeMe.

Browser

A software program that allows a user to access the many Internet resources.

Chat

To exchange messages with other participants by typing text in the Chat Window.

Chat Window

A feature of Enhanced CU-SeeMe that allows users to converse using text messages.

Codec

COmpressor/DECompressor. Hardware or software that compresses audio and video data.

Conference Administrator

The person responsible for setting up and monitoring the Reflector.

Conference Identifier

A number between 1 and 32768 that is provided to attendees of a private conference session. This identifier is needed to log into your server.

Data Compression

A technique that system uses to save bandwidth by eliminating empty fields, gap redundancies, and unnecessary data to reduce the size and length of the records being sent.

Enhanced CU-SeeMe

Desktop video conferencing software for both Macintosh and Windows computers. Enhanced CU-SeeMe consists of audio and video streams. It is the commercial version of CU-SeeMe, from White Pine Software.

Full-Duplex

Allows both parties to send and receive audio at the same time. This only affects the receiver.

Half-Duplex

Allows only one person to talk at a time. This affects the receiver only.

Internet

A global network that uses the TCP/IP protocol.

Internet Service Provider

A company that provides the ability to connect to the Internet for a fee.

IP Address

The unique numeric address for every machine that is connected to the Internet. It has four sections separated by a dot, for example, 100.1.1.1.s An IP address can be dynamic and is often provided by Internet service providers.

IP Name

The unique name for every machine that is connected to the Internet.

ISDN

Integrated Services Digital Network - A high bandwidth network used to move large amounts of data over phone lines.

kbps

kilobits per second

Listener

An Enhanced CU-SeeMe feature that alerts you of an incoming call.

Local Area Network (LAN)

A network made up of two or more computers connected together. They are usually within the same building or within a very short distance (a mile or less) to each other.

Local Video Window

The window containing your video that appears when you start up CU-SeeMe.

Lurkers

Participants who don't have a camera on their computers.

MOTD

Message of the Day   - A dialog box that appears to when users access an Enhanced CU-SeeMe reflector. It can provide information about the Reflector, current and upcoming broadcasts, etc.

Multicast

The transmission of the same data to a selected group of destinations. Multicast configurations send one stream of information (audio, video, or data) across the Internet instead of multiple streams to a specific server.

Netiquette

Network etiquette. Using "good netiquette" allows faster and better conferences.

Participant Window

A window containing the list of visible users, hidden users and lurkers connected to the conference.

PhoneBook

An Enhanced CU-SeeMe feature that works just like a hard copy phone/address book. It allows you to keep track of nicknames and IP addresses.

Point-to-Point Connection

A connection between two users without the use of a reflector.

PPP

Point-to-Point Protocol - A protocol that allows a computer to make a TCP/IP connection to the Internet using a telephone line and a modem.

Protocol

Allows programs on different machines to communicate.

Reflector

A UNIX or Windows-based software program that allows multiple users to view and send video and audio streams.

Remote Video Window

The window that contains the video sent by another participant in the conference.

SLIP

Serial Line Interface Protocol - a protocol that allows a computer to make a TCP/IP connection to the Internet using a telephone line and a modem.

TCP/IP

Transmission Control Protocol/Internet Protocol - The protocol that defines the Internet.

Videoconferencing

Software and hardware that allows users to see and hear each other over their computer systems.

WhitePineBoard

A feature of Enhanced CU-SeeMe that allows users to view, create and/or share the same document at the same time.

Wide Area Network (WAN)

A large network made up of connected LANs.

CU-SeeMe Windows and Their Components

 Reference Information

Click on one of the following help topics to learn about Enhanced CU-SeeMe windows, their functions and associated parts.

CU-SeeMe Main Window

Local Video Window

Remote Video Window

Audio Window

Participant Window

CU-SeeMe Icons

Remote Video Window

Click on any of the buttons or bars in this image to get a description of what they do.

Each remote video window contains a button bar, the status of the connection, and video images being sent by another participant in the conference.

Tips

If you click the right mouse button on the video window, you will see a pop-up window listing menu options.

Pressing the Home key brings the main application window to the front.

See also:

Local Video Window

Your Window Open/Closed

Indicates whether the participant in the Remote Video Window has your video window open or closed. An open eye means your window is open on their desktop; a closed eye, as in this example, means your window is unopened on their desktop and, therefore, they cannot see you.

You Can Hear

You can hear the participant in the window.

User Can Hear

The participant can hear you.

Display Transmission Data

Click to display transmission data.

User Information

Click to display the participant's IP address, send and receive settings, video codec information, and CU-SeeMe version.

Frames Per Second

The number of frames per second (fps) you are receiving.

KilobitsPer Second

The number of kilobits per second (kbps) you are receiving

Audio Window
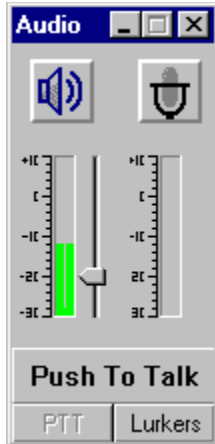
Click on any of the icons or the indicators in this image to get a description of what they do.

The audio window allows you to control the sound coming in and going out of your computer. Open the Audio Window by selecting Audio from the Windows menu or by clicking on the Audio Window icon on the Main Menu toolbar. Using the audio window, you can:

- Turn your speakers and microphone on and off

- Select whether you must push a button to talk or have your audio transmitted constantly

- Filter out incoming noise when receiving audio and background noise when transmitting audio

Note

If the audio indicator bar turns yellow, that means your computer is having trouble compressing your audio signal. The result is that your audio signal is not being sent. Wait briefly and then try again. If you continue to see yellow bars, you should select a different audio codec. For more information, see Audio Preferences .

Tips

When both indicators are set to 0, the output level at the receiving computer matches the input at the sending computer. When the indicator goes above 0, sound is lost.

Use the Control key to activate Push-to-Talk instead of clicking the button.

Speakers

Click to turn on/off speakers.

Volume

Drag to adjust the volume of your speaker.

Audio Level

Indicates the audio level received.

Transmit Audio

Click to transmit audio without pressing the Push-to-Talk button

Microphone

Click to turn on/off microphone

Microphone Sensitivity

Drag to adjust the sensitivity of your microphone

Level Being Transmitted

Indicates the level being transmitted, affected by the sensitivity setting and how loud you speak

Talk

Click and hold to talk to other participants

Display Audio Options

Click to display Audio options

Turn Off Lurker Audio

Click to turn off all lurker audio.

Participant Window
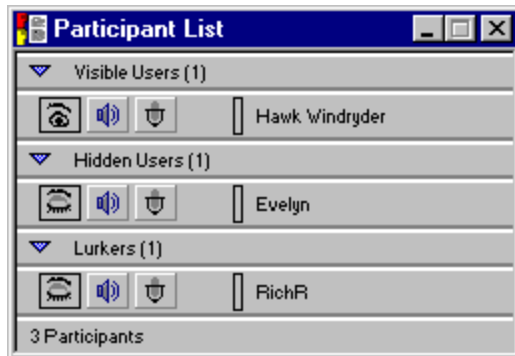
Click on any line in this image to get a description of what it does.

The participant window lists the participants in a conference. Participants may be <u>visible</u>, <u>hidden</u>, or <u>lurkers</u>. You can open the Participant Window by selecting Participants from the Window Menu or by clicking on the Participants icon button on the button bar. Using the Participant Window, you can select which users you will speak to and view.

To get information about each user (visible users, hidden users, and lurkers) in the Participant List window:

1. Click the right mouse button on the name of a participant. The Show Info button is displayed.
2. Click the left mouse button on the Show Info button. A pop-up window now displays the IP address of the user, their transmission setting, and the version of CU-SeeMe they are using.

You can also display the information window this way:

1. Click and hold the right mouse button on the name of a participant. The Show Info button is displayed.
2. Drag the mouse pointer over the Show Info button and then release the right mouse button.

Notes

Enhanced CU-SeeMe uses bandwidth to maintain the information displayed in this list. Showing the maximum users can use up most of a 28.8 modem connection. Therefore, keeping the users hidden will free up bandwidth. (In low bandwidth environments, you may wish to view only selected users so as to conserve bandwidth.)

A green outline indicates the last person who spoke.

Tips

To send your audio to an individual participant only, click on his or her microphone icon.

You can click on the bottom right corner of the Participant List Window and drag to expand the participants list.

For a description of the icons that can appear on the Participants window (as well as all the other Enhanced CU-SeeMe icons, see <u>Enhanced CU-SeeMe Icons</u>.

Hide/Display List

Click on the triangle to hide/display the list.

Visible User

Click a visible user to hide his/her video window.

Display Video Window

Click to display the video window; turns a hidden user into a visible user.

Lurker Window

Click to display the lurker's window (without their video).

Number of Participants

Total number of participants connected to your conference.

Enhanced CU-SeeMe Icons

❏ <u>Reference Information</u>

There are many icons that appear in the Enhanced CU-SeeMe user interface. To use the product the most effectively, you should become familiar with these icons and their use.

Local Video Window Icons

Flips the video image; for local viewing only.

Hides/shows status line.

Freezes video transmission. Click again to start video movement.

Displays the Preferences dialog box.

Audio Icons

You accept audio from the other user. Click to turn audio off.

On your Audio window, this icon means you have turned off audio reception from all users. That is, you will hear from no one. If it appears on a user's remote video window or next to his or her name on the Participant's list, it means you have turned off audio reception for that user or the user is not able to send audio. In cases where you have turned off audio reception, click on this icon to turn it back on.

User can hear you speak. For a private conversation with this user, click on this icon.

You are speaking to this user in a private conversation.

The user will not hear you speak because he or she has turned off audio reception from you.

The user has turned off all audio reception or is not capable of receiving audio (for example, the user's computer is not equipped with speakers).

User can't hear you because you singled out another user for a private conversation

More Information on Audio Icons

General Status Indicator Icons

The user has your video window open on their desktop.

Your video window is not open on the user's desktop.

Shows transmission statistics.

Displays the IP address of the user, their transmission settings, the codec they are using, and the version of CU-SeeMe they are using.

See also

Audio Window
Participant Window
Remote Video Window

Keyboard Shortcuts

You can use keyboard shortcuts for some of the menu options in Enhanced CU-SeeMe. Listed by menu, these shortcuts are:

File Menu

To exit   Press Ctrl+Q

Conference Menu

Access Phone Book   Ctrl+B

Hang Up   Ctrl+K

Window Menu

Show All   Ctrl+H

Local Video   Ctrl+L

Tile Video Windows   trl+T

Visible users

Users whose remote video windows are currrently displayed on your desktop.

Hidden users

Users whose remote video windows are not currently displayed on your desktop.

More Information on Audio Icons

To turn off audio functions for all windows, click on the speaker or microphone icon in the Audio Window. To turn off audio reception from an individual user, click on his or her speaker icon on their remote video button bar or the icon next to their name on the participant list. That user will see an ex-ed out microphone icon on their remote video window of you, which means that you won't hear them when they speak.

To establish a private conversation with a user, click that user's microphone icon on their remote video button bar or the icon next to their name on the participant list. The microphone icons next to all the other names on the participant list (and on all the other remote video windows) will show a \ (slash) indicating those users won't hear you talk. Click the microphone again to return to general conference conversation.

A green \ (slash) on an icon indicates that you have initiated a change (for example you have turned off your microphone) and you have the ability to change that state. A red x on an icon indicates that another user has initiated a change (for example a user has stopped receiving audio from you) and only he or she has the ability to change that state.

Hardware/Software Requirements

System Requirements

- 486 processor with 66mhz clock or better

- 10 MB of hard disk space

- 8 MB RAM minimum

- Windows 3.1, 3.11, Windows NT or Windows 95

- TCP/IP (Winsock Compliant)

Windows 3.1, 3.11

Win95 — built in

Note: Your computer's processing power greatly affects the speed at which Enhanced CU-SeeMe will run. For example, a Pentium™ processor will run much faster and you'll have better results than if you use CU-SeeMe on a 386 processor.

Connection Requirements

System Requirements

Remote Connections

- 14.4 modem (for audio only)
- 28.8 modem (for audio and video)
- PPP (included in kit)

Direct Connections

- Ethernet or ISDN

Audio and Video Capabilities

🖳 <u>System Requirements</u>

To Send Video

- Digital camera
- Video Digitizer

Note: Video digitizer not required for Connectix QuickCam Cameras.

To Send Audio

- Microphone
- Sound board and drivers

To Receive Audio

- Sound Board and drivers
- Speakers or headset

Technical Support Policy

▢ Technical Support

White Pine Software provides telephone support to all Registered users after registering the product. Only purchased copies of the product can be registered, meaning that you cannot register any of the freeware versions available through Cornell University.

You can contact technical support using the conventional methods (see Contacting White Pine Software) or through the White Pine Software Web pages.

Before Contacting Technical Support

🔲 Technical Support

First, refer to Troubleshooting in this online help. It contains a Troubleshooting guide, which has been prepared to help you solve your problem.

If you still require assistance, White Pine Software provides Technical Support to registered users. Return your user registration card promptly or register Enhanced CU-SeeMe using White Pine's on-line registration (WWW Technical Support). Product registration guarantees you new product notification and product upgrades.

To get your problems solved as quickly as possible, Technical Support requires as much pertinent information as possible. If you can supply us with this information at the time of your call, we can understand and resolve your problem much faster. You should have this information ready and be at your computer when you call Technical Support and be ready to reproduce the problem while talking to Technical Support.

Please have the following information handy before calling:

Serial #:

_____

Product:

_____

Version:

_____

Date Purchased:

_____

Original Purchaser:

_____

PC Configuration

Make and Model:

_____

DOS Type and Version:

_____

Microsoft Windows Version:

_____

Disk Space:

_____

Memory (RAM):

_____

Video card manufacturer and model:

_____

Video capture card manufacturer and model:

_____

Sound card manufacturer and model:

_____

Camera manufacturer and model:

_____

Microphone manufacturer and model:

_____

Contents of the following files:

- Network configuration files, if applicable (for example, TCP.CFG or NET.CFG)
- WIN.INI
- SYSTEM.INI
- CUSEEME.INI
- AUTOEXEC.BAT
- CONFIG.SYS

Communications Configuration

Internet Connection:

Ethernet: _____ ISDN: _____ Modem: _____

Modem Manufacturer and Model:

_____

Model of your Ethernet board:

_____

Network drivers and other communication software installed on your system:

TCP/IP Driver:

_____

Dial-up (if using a modem) PPP/SLIP:

_____

Contacting White Pine Software

White Pine Software provides telephone technical support to our registered users after they have registered the software. You can only register purchased copies of the product, not the freeware versions available through Cornell University.

If you are a registered user, please see your registration card or the e-mail confirmation of your registration for the support phone number.

If you have an evaluation copy, support is available through the World Wide Web at http://www.cu-seeme.com.

Sales Hot Line

For more information about all White Pine Software products, please contact our sales department. Demos and product information are also available on the WWW.

U.S. E-Mail: info@wpine.com

International E-Mail: euro_info@wpine.com

Phone: 1-800-241-PINE (7463)

WWW: http://www.cu-seeme.com

WWW Technical Support

Technical Support

White Pine's World Wide Web pages offer a variety of information about our company, our products, and demo versions of our released software, in addition to technical support.

The Technical Support pages offer online registration, technical support through an interactive form, and a list of Frequently Asked Questions (FAQs) about using Enhanced CU-SeeMe on both the Windows and Macintosh platforms.

To reach the technical support and FAQ Web pages, use the following URL:

http://www.cu-seeme.com

Frequently Asked Questions

How can I help to conserve bandwidth?

Each window open on your desktop consumes a portion of the bandwidth that Enhanced CU-SeeMe is using for communication.   Therefore, it is important that you monitor the number of windows you have open to reduce bandwidth consumption when using Enhanced CU-SeeMe.   You can close remote video windows by clicking the close box on each video window. If you want to keep the window open, choose Stop Receiving from the Conference menu.

Broadcasting the contents of an empty office or work area is not good network behavior since some reflectors have limits on the number of connected users. By sending video of your empty office, you may be preventing others from using the reflector.

Leaving your computer with live video windows running consumes network bandwidth. To be a good network citizen you should close all visible windows when you are not using Enhanced CU-SeeMe for an extended period of time.

What kind of bandwidth is required for fluid motion?

Fluid motion generally requires about 100 kbps. There are 75 kbits in an uncompressed 120 x 160 frame, which translates to about 45 kb/frame compressed. If we define 15 frames/sec as fluid motion, and each frame was completely different from the previous frame, you would need 675 kbps. Experiment with transmission rates in your environment to obtain motion that you consider acceptable.

Note: Many reflectors have a cap of 80 kbps.

What limits my frames-per-second output?

The kbps rate cap setting and your network limit your frames-per-second. The default cap is 80 kbps. This is reasonable for most networks and acceptable to most Reflectors. The cap is also automatically adjusted on the basis of packet-loss reports returned by each person receiving your video. Depending upon other network activity and available bandwidth, you could probably set the cap much higher. Then, the processing speed of your computer becomes the limiting factor. For example, you can run Enhanced CU-SeeMe on a Pentium or PowerMac processor and set the cap high enough to transmit about 20 fps with a lot of motion.

Is it possible to get double-digit frames-per-second on a modem connection?

Enhanced CU-SeeMe only transmits the portions of a picture that have changed significantly from the preceding frame. If the picture is not changing that much, it is possible to get double-digit frames-per-second on a modem connection.

Troubleshooting

How come my name does not appear on my Participants Window List?

Under normal circumstances, the name you assign to your local video window will not appear in your Participants Window. Your name will only appear in your Participants Window if the Reflector sends it back. Your name   will appear in the Participants Window of the other conference participants.

The audio that I am getting is broken and at times I get no audio at all.

You may need to change the audio codec you are using. Choose Preferences from the Edit menu. Click the Audio tab, then select another video codec. You can also try freezing your video by clicking the freeze button in the local video window. Pausing the video frees up bandwidth for clearer audio communication.

See also:

Audio Preferences

When I talk over Enhanced CU-SeeMe, I can't hear other users, or when they are talking they can't hear me.

You probably have a half-duplex sound card. When using a half-duplex sound card, only one person can talk at a time, similar to talking over a walkie-talkie. If you want communications to happen at the same time, similar to a telephone, you need a full-duplex sound card. See your sound card documentation to check if it is half or full duplex.

Why am I getting network error messages when using Enhanced CU-SeeMe on Windows 95?

If you have installed the Enhanced CU-SeeMe 32-bit application, make sure that you have a 32-bit TCP/IP stack. If you do not have a 32-bit stack, try installing the Enhanced CU-SeeMe 16-bit application instead.

Why am I getting "get hostname" errors?

Every machine on the Internet has an IP number.   The IP address needs to have an IP name assigned to the IP address.   This is typically done by a system administrator.

Create a HOSTS file or edit the HOSTS file on your computer and add the IP address of your connection a name (any name will do).   For example:

    200.20.20.20   Willy

If you are using a dial-up connection, the IP number may change for each connection and is usually provided when you first connect.   Therefore, you'll have to change the HOSTS file each time prior to using Enhanced CU-SeeMe.

CU-SeeMe Main Window

☐ CU-SeeMe Windows and Their Components
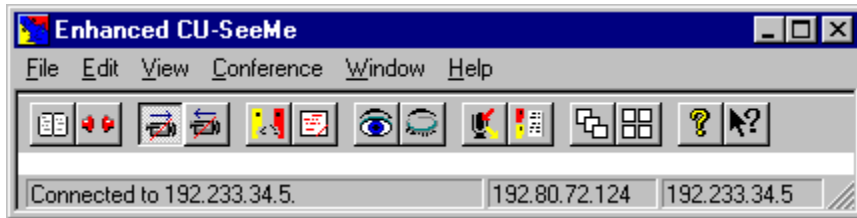
Click on any of the icon buttons in this image to get a description of what they do.

The main application window appears when you start Enhanced CU-SeeMe. It has a menu bar, a button bar, and a status bar. By choosing commands from the menu bar or from the button bar, you can access the many features of Enhanced CU-SeeMe.

Hang Up

Disconnect from a conference.

Stop Sending Video

Stop sending your video image to other participants in a conference.

Stop Receiving Video

Stop receiving remote video images from other participants in a conference.

Chat Icon

Access the Chat Window.

Phonebook Icon

Access the phonebook feature.

WhitePineBoard

Access the WhitePineBoard feature.

Show All

Show all video windows.

Close All

Close all video windows.

Audio Window Icon

Accesses the Audio Window.

Participants Window Icon

Accesses the Participants Window, which displays a list of those participating in the conference.

Cascade Icon

Cascade the video windows on your desktop.

Tile Icon

Tile the video windows on your desktop.

Help Contents Icon

Accesses the Enhanced CU-SeeMe Help table of contents.

Context Sensitive Help Icon

Click here to activate Enhanced CU-SeeMe's context sensitive help feature.

Status Message

Shows the status of your connection. The message may be "Waiting..." or "Opening Connection..." or, as in this example, the IP address of the conference to which the user is connected.

Your IP Address

Shows the IP address of your computer.

Connected Address

Shows the IP address of the conference to which you are connected.

Local Video Window

☐ CU-SeeMe Windows and Their Components

Willy

5 fps | 0.0 kbps (80 cap)
Receiving: | 7 (300 cap)

Click on any of the buttons or bars in this image to get a description of what they do.

The local video window appears after you start Enhanced CU-SeeMe. If your camera is properly connected, your picture will appear in the window along with a button bar and status bars. If you do not have a camera, or if your camera is not working, only the button bar and status bars appear.

Tips

If you click the right mouse button on the video window, you will see a pop-up window listing menu options.

Pressing the Home key brings the main application window to the front.

To change the name of your local video window:

1. Select Preferences from the Edit menu or click the Preferences icon in your local video window. The Preferences dialog box appears.
2. Select the Conferencing tab.
3. In the Title box, type the name you want to appear in the title of the local video window. This is typically your name, company name, country, or e-mail address.
4. Click the OK button.

You can also overlay text information on your local video window. See Add Overlay Text to Your Local Video Window.

See also:

Changing Preferences

Minimize Window

Click to minimize the window.

Expand Window

Click to expand the window.

Close Window

Click to close the window.

Flip Image

Click to flip the image. (Image does not transmit this way.)

Hide Status Line

Click to hide the status line.

Freeze

Click to freeze the video transmission.

Display Preferences

Click to display the Preferences dialogbox.

Frames Per Second

The number of frames per second (fps) being transmitted.

KBPS Being Received

The number of kilobytes per second (kbps) you are receiving; the maximum number you can receive.

KBPS Being Transmitted

The number of kilobytes per second (kbps) being transmitted; the maximum number you can transmit.

Main Menu Toolbar

Click on any of the Toolbar icons in this image to get a description of what it does.

Beginning a WhitePineBoard Session

Using the WhitePineBoard, you can share drawings and documents with other participants in a videoconference. When you are connected with other computers using WhitePineBoard, documents you create, open, or import are automatically displayed on other computers. You can then mark the document and changes are visible instantly on the other connected computers.

When you are finished, all connected users can print, save, and close the document. When a WhitePineBoard document is saved, comments are saved and WhitePineBoard remembers the changes made by each participant.

See the WhitePineBoard User Manual for additional information on this topic. This manual is available as WPBoard.pdf, an online document in Adobe Acrobat Reader format.

To start a WhitePineBoard session:

1. Select WhitePineBoard from the conference menu, or click the WhitePineBoard icon on the main button bar
2. Choose New from the File menu (Ctrl-N). The document is created on all connected computers simultaneously
3. To import an existing document, choose Open from the File menu and select the document you want to open. See <u>Importing Documents in WhitePineBoard</u>.
4. Instruct other conference participants to start up WhitePineBoard. <u>Alert messages</u> appear on the participant screens.
5. Edit the WhitePineBoard document. You can select tools from the WhitePineBoard tool bar. See <u>Using WhitePineBoard Tools</u>.
6. You can print this document or close it for later use. See <u>Printing Documents</u> and <u>Saving Documents</u>.

Importing Documents into WhitePineBoard

You can import documents from many common applications. To learn how to import documents from specific types of applications see:

[Importing Presentations](#)

[Importing Word Processing Documents](#)

[Importing Spreadsheets](#)

[Importing Graphics](#)

You can also capture an image of a document from your screen. Use [Copy](#), [Paste](#), or [Paste Image](#) for a quick and easy solution for importing from many programs.

Printing Documents

Select Print (or Ctrl-P) from the File menu to print a WhitePineBoard document and the comments from your session. You can print a document at any time. When you print a document, WhitePineBoard prints the markup objects together with the document image, if any.

If you have selected More Features from the Edit menu, you can use the Layout dialog box on the Drawing menu to set features that affect the way your document prints. You can change the size of the document and the printing sequence.

See also:

Changing the Document Size

Changing the Print Sequence

Print Last Page First

Changing the Document Size

The Drawing Size box represents the potential size of a WhitePineBoard document. Each page is represented in the box by a small white rectangle. Place the Selection Arrow over a white page   symbol and drag to add or subtract pages.

If you select Page Setup from the File menu, to increase the size of a page, the larger page size is reflected in the Drawing Size box. For example, if you increase the paper size, the white rectangles representing a page are proportionately larger and fewer pages will fit in the gray square.

Changing the Print Sequence

To change the print sequence for a multi-page document, click the button next to the desired sequence:

- The left button selects printing by rows, across the top of the document first.
- The right button selects printing by columns, along the left side of the document first.

Print Last Page First

To reverse the printing order of your document pages, click the checkbox labeled Print Last Page First in the Layout Dialog Box You can open the Layout Dialog Box from the Drawing Menu when you have selected More Features from the Edit menu.

Using Fewer/More Features

WhitePineBoard provides two levels of tools and other features. You access them by selecting Fewer Features or More Features from the Edit menu.

Fewer Features provides a document window with a four-tool palette, short menus and one overlay. You may with to use Fewer Features when you are beginning to learn to use WhitePineBoard. With Fewer Features selected, the document window has two parts: the background into which you can import a document image, and one overlay transparent layer placed over the document image in which you make comments.

More Features gives you access to the full power of WhitePineBoard for sharing and marking up document images. More Features provides five overlays on which you can hide and show comments, as well as additional menu commands and an expanded tool palette.

When you choose More Features on the Edit menu, the document window still has two parts: the background and one overlay, but that one overlay can be selected from a choice of five overlays. In addition, you can switch from one overlay to another. You can make a different set of comments on each overlay.

When you are using More Features, several menus are expanded. In addition, the Drawing menu is added to the Menu Bar.

See also:

WhitePineBoard File Menu

WhitePineBoard Edit Menu

Drawing Menu

Collaborate Menu

Saving Documents

Any participant can save a WhitePineBoard document. You can reopen the WhitePineBoard document later and review it by yourself or with others.

To save a document:

1. Select Save As from the File menu. The Save As dialog box appears. If you opened a document created in another application, enter a new document name so you do not overwrite the original.
2. Click Save.

Using WhitePineBoard Tools

WhitePineBoard provides you with all the tools you need to draw on the markerboard or to mark up a document. The tools include basic drawing tools, such as a marker and a Post-it note tool (text tool), and a panning tool. More advanced tools include line tools with arrows, and tools that make basic shapes, such as rectangles, circles and polygons.

Using Five Overlays

When you are using More Features, you can use five overlays. WhitePineBoard always displays one overlay at a time.

When you have five overlays, you can view and draw on each overlay, one at a time. For example, while collaborating, you can make comments regarding flow charting on one overlay, business plans on another, and scheduling on a third. In this way you can keep each set of comments separate.

When you print from WhitePineBoard, you print the currently displayed overlay and the comments in that overlay. To print another overlay and its associated comments, you must first display it.

All five overlays and their comments are saved with a WhitePineBoard document. You can reopen the document with its overlays later to view and print it, or to share the comments with another person in another session.

To use additional overlays follow these steps:

1. Choose More Features on the Edit menu. The bar at the bottom of the document window shows the number of the overlay being displayed, for example,
   Overlay 1 of 5.

   | Overlay 1 of 5 | Show Comments: All ▼ | 100% |
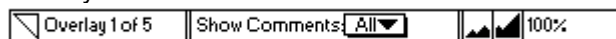
2. Using the symbol at the left end of this bar, click the triangle on the top right to go forward through the overlays; click the triangle on the bottom left to go backward through the overlays.

Comments made on an overlay are hidden when you display another overlay. Switch back to that overlay to see its comments. When your views are linked, any switch to another overlay occurs simultaneously on all computers.

See Showing and Hiding Comments

Showing and Hiding Comments

When you are using [More Features](#), you may selectively hide or display a person's comments so you can clearly see what each person has suggested.

Use the Show Comments Pop-up menu to show and hide comments and to see whose comments are on an overlay. This menu is located in the bar at the bottom of the document window.

To use the Show Comments pop-up menu:

1. Click and hold on Show Comments to display the pop-up menu. The names of all persons connected are listed in the Show Comments pop-up menu.
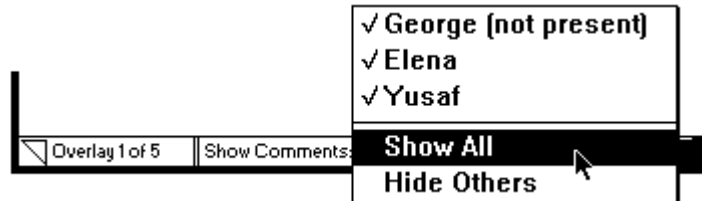
Note: When a person who has marked up the document is not currently looking at the document because that person has closed the document or is no longer connected, the person's name appears on the list with a (not present) notation. For example, if George is listed with (not present) after his name, his comments are displayed and can be hidden even though he is not connected.

2. Drag to hide or show the comments you want to see. Remember, if the name of a person is checked, their comments are currently shown.

3. To hide the comments of one person, drag and release on the name of that person.

4. To redisplay the comments, drag and release the name of that person. Choose Show All to show the comments of everyone who has made comments in the overlay. Choose Hide Others to hide all comments except your own.

File formats

You can import the following file formats into WhitePineBoard:
BMP, EPS, GIF, PCX, PICT, TGA, TXT, TIF, and WMF.

Messages

The WhitePineBoard originator receives a message stating who is connecting to the conference. The other participants receive a message specifying the name of the document originator.

Importing Presentations

You can import documents from presentation applications by saving the slides, capturing a slide from the screen, and pasting a selection as a document image or an object in the overlay.

To import from Microsoft PowerPoint or Aldus Persuasion:

1. Display a slide or select the slide in Outline mode.
2. Choose Save As from the PowerPoint or Persuasion File menu.
3. Select the WMF format
4. Click OK.

In WhitePineBoard, use Open to open the scrapbook as a Browser. Repeat this process for each slide. Then, in WhitePineBoard, group the slides into a Browser for easy presentation.

Importing Word Processing Documents

You can import text from a word processing program.

To import from WordPerfect or Microsoft Word:

1. Open a document in WordPerfect or Microsoft Word.
2. Save the document as a text (ASCII) file and close it.
3. Switch to WhitePineBoard.
4. Choose Open from the WhitePineBoard File menu.
5. Choose the document you want to open.
6. Click OK.

The document opens into the current overlay.

Importing Spreadsheets

You can import spreadsheets into WhitePineBoard. Capturing an image of a spreadsheet is a reliable method. You can also open Microsoft Excel and Lotus 1-2-3 documents using WhitePineBoard.

To import a page as a document image:

1. If your spreadsheet program allows, copy a page of text to the Clipboard in a WhitePineBoard compatible format.
2. Then use Paste Image to paste the Clipboard contents as a document image.

To import a page as a text object in an overlay:

1. Copy a selection from the spreadsheet to the Clipboard.
2. Use Paste from the WhitePineBoard Edit menu to paste the Clipboard contents into an overlay as a text object.

To import from Microsoft Excel:

1. Make a selection in an Excel document.
2. Copy the selection to the Clipboard by holding the Shift key while you choose Copy Picture from the Excel Edit menu.
3. Switch to WhitePineBoard and choose Paste Image from the WhitePineBoard Edit menu.

To import from Lotus 1-2-3:

1. Capture a page from Lotus 1-2-3 using Capture Image from the WhitePineBoard Edit menu.
2. You can also paste Lotus Clipboard selections as text objects in a WhitePineBoard overlay.

Importing Graphics

You can import graphics from drawing and painting programs. You can also open documents from Adobe Photoshop, Canvas, CorelDRAW, Harvard Graphics, and Micrografx Designer using WhitePineBoard.

To import graphics as document images:

1. Save a document in a compatible format.
2. Use Open from the WhitePineBoard File menu to open it as a document image.

- or -

1. Copy a selection.
2. Use Paste Image from the WhitePineBoard Edit menu to paste the Clipboard contents as a document image.

Copying To The Clipboard

Select Copy from the Edit menu (or Ctrl-C). This copies the selected object to the Clipboard without removing it from the document.

Pasting From The Clipboard

Select Paste from the Edit menu (or Ctrl-V). This places the Clipboard contents into your current WhitePineBoard document. The pasted object is automatically selected after pasting so you can immediately move or resize it. If Paste is dimmed, the selection in the Clipboard is not compatible with WhitePineBoard.

Pasting an Image

Select Paste Image from the Edit menu. This pastes a selection from the Clipboard as the document image if the Clipboard contents are in an appropriate format. For example, you can paste a screen shot of a computer window as a document image by using the PrintScreen button to save the screen to the Clipboard, and then selecting Paste Image in WhitePineBoard.

To paste the contents of the Clipboard as a document image:

1. Open a document in its originating program, make a selection, and copy the selection to the Clipboard.
2. See [Importing Documents into WhitePineBoard](#) for directions on copying selections from documents in an appropriate format.
3. Begin a WhitePineBoard session.
4. Select New (or Ctrl-N) from the File menu. The new WhitePineBoard document is opened on your computer and the other computers with which you are conferencing.
5. Select Paste Image from the Edit menu. If Paste Image is dimmed, the selection in the Clipboard is not compatible with WhitePineBoard. If the active WhitePineBoard document already contains a document image, the person pasting the image is warned that that image will be replaced by the pasted image. The others are not warned so be sure to discuss this before replacing a document image

When you choose Paste Image, the Clipboard contents are:

- Pasted as the document image of your active WhitePineBoard document

- Sent to the others and placed as the document image in the same document on their computer screens

You will see a progress indicator showing the percent of the pasted image that has been sent.

Marker

The Marker draws on your document image much like a marker would draw on a markerboard. To draw an object with the Marker, press, hold, and drag with the mouse.

The Marker remains the active tool until you click on another tool or press the Enter key to make the Selection Arrow active.

You can choose a different color for your marker. See Color.

Text Tool

The Text tool allows you make Post-it like objects:

1. Choose the Text tool from the Tool palette.
   Your cursor becomes an I-beam.

2. Click in the drawing where you want the text to be inserted.
   A Text box appears.

3. Start typing your text.
   When you reach the right margin, words wrap to the next line.

To create a custom-sized box, do not release the mouse after you click. Instead, drag to form the margins of a text box the size you want.

Panning Tool

The Panning tool allows you to make adjustments to your view of the WhitePineBoard window. Click the Panning tool to select it. Your cursor turns into a hand. Drag with the hand and your document moves in the direction you are dragging.

Basic Shapes

When you choose More Features on the Edit menu, the basic shape drawing tools become available on the Tool palette. These tools allow you to make lines, arrows, rounded rectangles, rectangles, arcs, ovals and circles, polygons, and freehand lines.

The Line tool draws straight lines at any angle with an arrow at the end. Press the Shift key while using the Line tool to constrain the lines to 45 and 90 degree angles.

You can draw lines without arrows, or lines with arrows at either or both ends of the line. Use the Line pop-up menu on the expanded Tool palette to choose a line format.

The Rounded Rectangle tool draws rounded rectangles. Press the Shift key while using the tool to draw rounded squares.

You can changes the rounding of the corners for these rectangles. Choose Round Corners from the Drawing menu to display the dialog box.

The Rectangle tool draws rectangles. Press the Shift key while using the tool to draw squares.

The Arc tool draws arcs. Press the Shift key while using the tool to draw quarter circles.

The Oval tool draws ovals (ellipses). Press the Shift key while using the tool to draw circles.

The Polygon tool draws shapes that consist of straight lines and angles. To draw a polygon, click and release to place the first corner. Then move the mouse to draw the first side and click to finish it. Draw and click to create each succeeding side. Complete the polygon by clicking at the first corner or double-clicking elsewhere in the document. Press the Shift key while you start a side to make a 45 or 90 degree angle.

The Freehand tool draws free form lines and shapes. Click where you want to start the object, then drag in whichever direction you want to draw. If you select a fill, WhitePineBoard fills the enclosed areas of freehand objects. If the beginning and end points do not join, the shape is filled as if there were a straight line between the starting and ending points.

Color

Each person can choose a unique color marker using the Color pop-up menu at the bottom of the Tool palette. This makes it easy to tell at a glance which objects were drawn by each person. The People palette displays the color you and the others have selected. Note that the Color menu does not appear on black and white monitors.

Selection Arrow

Use the Selection Arrow to select objects before you edit them. Once selected, they can be moved, resized, deleted and they can be edited with features on the Edit and Drawing menu.

You must select objects before you move or edit them. You can select a single object or multiple objects. To make selections, first click on the Selection Arrow. The cursor becomes a black arrow. When you select an object, it has small squares called "handles" at each corner of the rectangular space in which it is drawn. You can select objects in three ways:

- Select by clicking
  You can click any part of a filled object or click the outline of any empty object to select it. To select multiple objects, hold the Shift key while you click on each object

- Selecting with the marquee
  When you drag the Selection Arrow on the screen, it draws a selection rectangle of moving dashed lines. The rectangle is called the "marquee." To select one or more objects using the selection rectangle, drag so you enclose the objects completely in the marquee, then release.

- Selecting all objects
  Select all of the objects in your document by choosing Select All (Ctrl-A) from the Edit menu. Select All selects visible objects only. If there are hidden objects in an overlay and you choose Select All, only objects that are displayed are selected.

Only one person at a time can select an object or group of objects. WhitePineBoard provides an Object locking feature to restrict the selecting of objects to one person at a time.

You can deselect an object in any of three ways:

- Click anywhere outside the selected object

- Choose another tool

- Select another object

WhitePineBoard File Menu

The File menu contains the following items:

- **New** - Opens a new, empty WhitePineBoard document.

- **Open** - Opens a saved WhitePineBoard document.

- **Close** - Closes the active document.

- **Save** - Saves the active document and its contents.

- **Save As** - Use Save As the first time you save a document and later to save a document under a different name, in a different format, or to store it in a different folder.

- **Export** - Exports a file to another format so you can open it in another application.

- **Printer Setup** - Allows you to set the margins, paper size, and other parameters depending on the printer you have chosen.

- **Document Info** - Displays the Document Info dialog box which tells you if you have saved the active document and under what name, who the document sponsor is, and if others in a connection have the document open.

- **Send Document** - Sends a document to the others when they have closed it. This command is dimmed unless you are connected to another person and are sharing documents, and only then if another person has closed the active document.

- **Quit** - Quits WhitePineBoard.

When you are using More Features, the expanded File menu includes the Pre-Send Files, Build Browser, and Save Browser menu choices.

- **Pre-Send Files** - Pre-Send Files allows you to send files ahead of an interactive meeting so you can avoid the delay associated with sending a large document or a large number of documents.

- **Build Browser** - Build Browser allows you associate a group of documents for presentation-style display in a single window known as the Browser. Combining the documents into a Browser makes it easy for you to present the documents to others. You can build a Browser and save it for later use.

- **Save Browser** - Saves a Browser palette for later use. It is dimmed unless you have built a Browser.

WhitePineBoard Edit Menu

The Edit menu contains the following items:

- **Undo** - Undoes the last action taken. If you are connected in a WhitePineBoard session, you can undo the last action taken by another participant.

- **Cut** - Deletes a selected object and copies it to the Clipboard.

- **Copy** - Copies a selected object to the Clipboard.

- **Paste** - Places the Clipboard contents into your current overlay as an object.

- **Clear** - Erases a selected object from the screen without affecting the contents of the Clipboard.

- **Select All** - Selects all displayed annotations in a document.

- **Capture Image** - Captures a document displayed on your screen and places it as a document image in a WhitePineBoard document.

- **Paste Image** - Pastes a selection from the Clipboard as a document image.

- **Preferences** - Displays the Preferences dialog box.

When you are using More Features, the expanded Edit menu includes the Duplicate and Clear Image menu choices.

- **Duplicate** - Duplicates a selected object.

- **Clear Image** - Removes the document image. You cannot undo this action.

Collaborate Menu

The Collaborate menu contains the following items:

- **Link View** - Links and unlinks your views. When you are linked, a check mark appears before the command. When participants' views are linked, you see the same view and when one person scrolls or zooms, all the linked documents scroll and zoom.

- **Link Window Size** - Links the window size so all participants see the same size windows.

- **Select Pointer** - Selects a pointer from a palette of choices.

Drawing Menu

The Drawing menu is added to the menu bar when you choose <u>More Features</u>. The Drawing menu contains the following items:

- **Bring to Front** - Changes the stacking order by bringing one or more selected objects to the front.

- **Send to Back** - Changes the stacking order by moving one or more selected objects to the back.

- **Rotate Left** - Rotates one or more selected objects to the left in 90 degrees increments.

- **Rotate Right** - Rotates one or more selected objects to the right in 90 degrees increments.

- **Flip Horizontal** - Flips one or more selected objects horizontally.

- **Flip Vertical** - Flips one or more selected objects vertically.

- **Group** - Groups two or more selected objects.

- **Ungroup** - Ungroups selected objects.

- **Align To Grid** - Aligns selected objects to the invisible grid. Set grid size on the Layout dialog box.

- **Round Corners** - Displays the Round Corners dialog box. Use it to change the rounding of the corners on rounded rectangles.

- **Layout** - Displays the Layout dialog box.