



Santa Barbara Macintosh Users Group

Mouse Times

News, Views & Reviews from the Macintosh Community

SBMUG Newsletter

November-December 2000

Santa Barbara, California

The News...

SBMUG

Well, This May/June issue has finally taken form. We finally decided to skip over the March/April issue. I have never put out a newsletter before, so when I volunteered to edit an issue of Mouse Times, I asked a more experienced hand to join me- Ed Morin. Once we got started a couple of weeks ago things moved quite nicely.

Any of you latent aspiring editors who would like a shot at editing your issue of Mouse Times, should contact our President, Mac Bakewell and carve your initials on one.

Howard Glenn, co-editor.

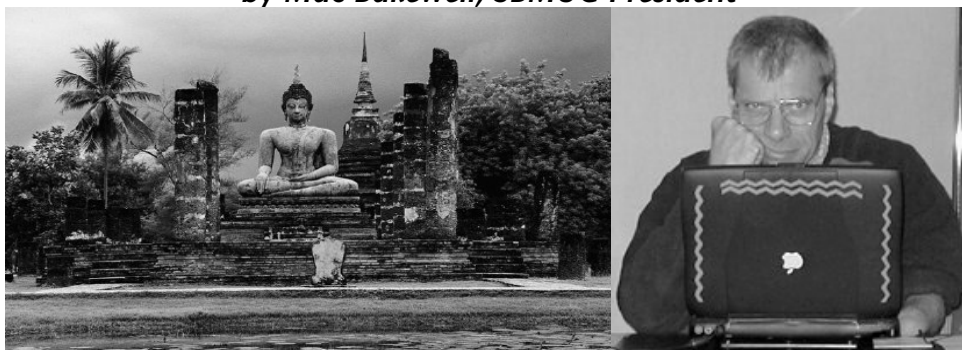
IT'S TIME for SBMUG members to elect a new **Board of Directors**. Nominees are wanted to run and shape our SBMUG. Your personal resources are needed to lead this group into the next year. There are several positions that are open. And it will enrich your Macintosh experience. We'll elect our new BOD at the December or January meeting. We hope you'll attend and cast your votes!

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Inside Thailand

by Mac Bakewell, SBMUG President



This is all for this issue. Our feature article never hit the keyboards. Next issue?

Editorial

As a practical matter, I wonder if it is appropriate for our group to attempt to try to put out a newsletter such as this on a monthly or even a quarterly basis. We have burned out our best editors, and several attempts to get an editing team together never jelled. The guest editors concept has yielded barely two issues this year. It seems to be too large an effort, and coordination between officers and contributors is cumbersome. Perhaps this professional quality publication requires a hired editor, to get it out on a more regular basis.

I recall the Mouse Times when it was put out by George Pickavet a number of years ago. I always liked and appreciated it. It was put out monthly, it was timely, it provided a good basis to keep us informed. It was a much simpler format and only 3 to 8 pages long- Xeroxed, or multilith copied, as I recall. The only complaint we had then was Morris Herman being 2 days late with his next month's speaker material. Now we get two issues a year, with little timeliness quality.

If we want our newsletter to be a communications tool, perhaps we should simplify our demands, or expectations, and get someone to take on the job of banging it out on a very personal basis. It should be someone who attends board meetings, and has personal knowledge of the group activities. No guest articles needed. I would volunteer to handle the postage and mailing labels.

What do you think? Howard Glenn

December & January Presentations

DECEMBER 14th MEETING
Pia Oliver

Christmas is coming (as if you did not know)!

Have you done your Xmas cards yet? No, oh why not? Could not find the right picture, hm? Well, search no more but come to the general meeting next Thursday, 14th of December and meet PhotoSpin! They will help you out, not only at Xmas time but the whole year round, whether you are looking for one image or a million. Whether you are someone who just wants to do this one creative thing on your trusted Mac or a professional needing images on a regular basis, come and see what PhotoSpin offers. You will have fun with us, I promise.

PhotoSpin is a group of creative professionals with backgrounds in photography, graphic design, advertising, and film. Their founders love being submerged in great quality creative content. They believe all professionals should have quick access to good content at an affordable price, and so PhotoSpin was born.

The SBMUG meeting begins at 6pm with a general Q & A session. Bring your intelligent questions, bring your silly questions, bring your stupid questions, bring your "I don't know questions", in short bring your questions about any aspect of the Mac and how to use it, and you will most likely get an answer that makes sense and works.

The presentation begins about 7.30 pm after we have discussed general business. Remember, elections are coming soon!! And we need ****YOUR**** vote on the by-law changes. Decide to make 2001 the year ***YOU*** contribute your skill, talent, or elbow grease to the club!

We meet at the Santa Barbara County Schools facility on Cathedral Oaks Road, just off the 154 state highway - for precise directions go and look at the map at sbmug's website at <<http://www.sbmug.org>> please. And, remember you are very welcome to bring friends, relatives and PC users, in fact you are encouraged to do so.

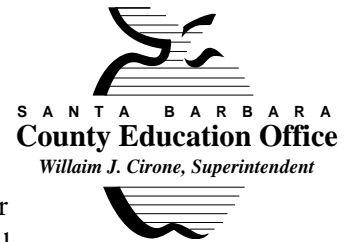
Special thanks to:

Shelly Crawford, Judy Headley, & Santa Barbara County Education

Office for sponsoring our monthly main meetings at the

SBCEO auditorium; **Justine Togami**

& Co. at the refreshments table; **Guy DeMangeon** for donating the fruit from his business; **Howard Glenn** at the welcoming table; **Becky and Howard Davis** for clean-up; **Mike Bishop & Co.** at the back table and providing space for us at the Earl Warren Computer Show; **Ed Togami** for the Q&A session; **Dan Logan & Santa Barbara News Press** for publicity; **Kinko's** for printing the *Mouse Times*; and many others...



SBMUG Meeting Dates

SBMUG meetings for the coming months are as follows:

Dec. 14, 2000 (Second thursday)

Jan 18, 2001 (third Thursday)

Feb. 15, (third Thursday)

March 15, (third Thursday)

April 19, (third Thursday)

May ? To be announced

June 21 (third Thursday)

The SBMUG website at <http://www.sbmug.org/index.html> is a fund of information on what is going on, not only in SBMUG but in other computer groups in the area. Keep it bookmarked and check it out regularly for up to date information. Other useful links are: <http://www.troutcom.com/gdtpug/> The Goleta Desktop Publisher's Group, <http://www.sbpcug.org/> The Santa Barbara PC Users Group and <http://www.west.net/~sbpcug/other.htm>, a list of other groups in the area.

SBMUG BOARD MEETINGS

SBMUG Board meetings are held monthly on the 1st Thursday of each month, from 6:30 to 8:00 pm, at the McGhan Medical Training Center.

Contact the President for directions, and for current potential changes at:

Mac Bakewell <mcbakewl@silcom.com>

Getting Started with AppleScript

by Brian Carlin - Member, SBMUG

briancarlin@earthlink.net

Your Macintosh can do many tasks with the available software. But software tends to do standard functions, and you may want to do something that's not too complicated, but is very unique to your interests. You just need a simple program to do one thing that you couldn't do manually without some effort. You need an AppleScript, and you can make them yourself.

Every Macintosh that is newer than nine years old came with a Mac OS that includes AppleScript. AppleScript is the secret weapon of the Mac OS, giving Macintosh users the way to do routine tasks automatically, control multiple applications, and move data between them. An AppleScript executes a series of messages for applications, called Apple Events. You don't have to understand Apple Events or how they work, just describe the task in AppleScript code, which automates the Apple Events for you.

You may not be very interested in AppleScript, or you may be afraid of trying to build your own scripts. The way to develop an interest in a subject is to have some initial success, and gain a few skills toward mastering it. With the initial tools presented here, and examples on the companion web page, you may have some success with scripting and develop an interest in doing more with your Macintosh.

Macintosh veterans who created Hypercard stacks in the late 1980s have no excuse to avoid AppleScript. The language syntax is not too different from Hypercard, and the concepts of object oriented programming and event handlers translate well. In fact, later versions of Hypercard (2.2 or newer) can execute scripts in AppleScript as well as its own scripting language, Hypertalk. So you can design a Hypercard stack to control an AppleScript application that runs in the background.

Because AppleScript's syntax is more precise than normal human communication, I discovered it's nearly impossible for a novice to write a useful script from scratch. You need to study example scripts that do something close to what you're trying to do, and adapt it. Fortunately that is not a difficult task because there are many example scripts available on the Internet, and you will find some basic examples of scripting in this article to get you started.

In fact, I created a companion web site for this article,

containing some examples of AppleScripts that should help you understand the idea of programming your Macintosh to do custom tasks. The web site URL is:

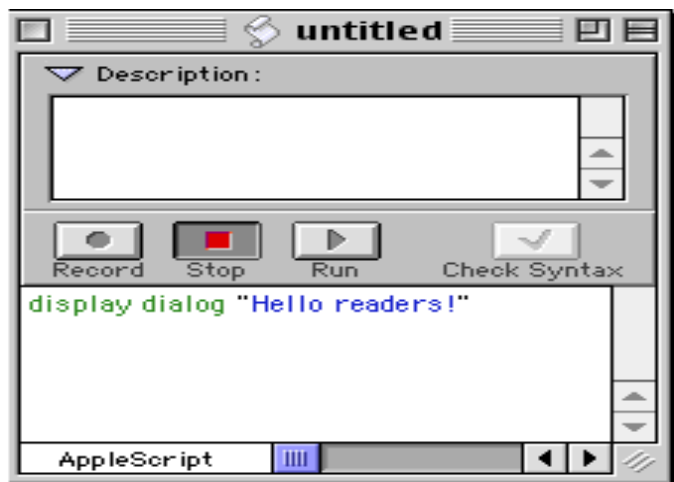
http://homepage.mac.com/kb6nvh/AS_main.html

The Script Editor

You create your AppleScripts in a program called "Script Editor," which looks much like a text editor. The Script Editor application is included with every Macintosh, and you can find it by opening Sherlock and search for "Script Editor" on your hard disk.

When you open script editor, you can type your scripts in the lower text window. Click the **Check Syntax** button to compile your script and check for syntax errors. You click the **Run** button to try your masterpiece. You can click **Record** and go to the Finder and do some actions, like dragging files and folders, or choosing menu commands. Your actions are recorded in the script window. Don't forget to return to the Script Editor and click on the **Stop** button! Please go to my web site for a quick tour of the Script Editor.

This is what the Script Editor looks like:



The example script in the figure displays a dialog box on the screen with a message in it. That is a complete script and you can save it as an application file that you can double click on and run from the finder desktop



Hello Readers

An AppleScript consists of lines of text which are statements. Some statements are understood by AppleScript and some may only be understood by another scriptable

application. Use the “tell” command to change the context from an AppleScript command to a command intended for another application. For example:

tell application "Finder" to close the front window

Every time you run this script, the Finder closes the active window on the desktop. The Finder does this, not AppleScript. AppleScript would have no idea how to do this, but with the “tell” command, we redirected the close command to the Finder.

Prepare your Macintosh for Scripting

There is an array of script assets at your disposal. The best place to begin searching is Apple's web site (<http://www.apple.com/AppleScript>).

Download the 415 page pdf file of the AppleScript Language Guide at:

<http://developer.apple.com/techpubs/macos8/InterproCom/AppleScriptScripters/applescriptscripters.html>

This is a comprehensive definition of the language and contains many short, useful example scripts. This will be a 2.6 MB file on your hard disk, but it's worth the storage. Don't try to read this entire document, you can use it for a quick reference, and search the document for new commands that may be useful in your scripts. Read the table of contents to get an idea of all the things AppleScript can do for you.

If you're using Mac OS 8.6 or newer, then click on **AppleScript Guidebook** (http://www.apple.com/applescript/help_mods.html) and download the Guidebook modules, which contain many essential script examples. Install the modules and find them in the Finder's Help Center, on the help menu. One of the modules is “Beginners' Tutorial,” which is written for those who are new to AppleScript. The scripts in the guide book can be copied to the clipboard and pasted into the Script Editor and run immediately. Apple has included some clever scripts in their guide.

You should download OSA menu (<http://www.lazerware.com/software.html>). The OSA menu is a free program that adds a menu to the

menu bar, displaying your scripts as menu items. There is a universal section of the menu which is selectable from within any application. There is an application-specific section of the menu which changes when the current, active application changes. Save the scripts as compiled scripts in the Scripts folder in your System Folder and OSA menu will list them in the menu for you. OSA menu also has a handy menu item that launches the Script Editor.

The most popular Usenet newsgroup for AppleScript users is **alt.comp.lang.applescript**. If you don't know how to access newsgroups, you can go to the web site (<http://www.remarq.com>) and search for message boards containing the word “applescript.”

To subscribe to the AppleScript discussion mailing list, go to the web page:

<http://www.lists.apple.com/applescript-users.html>

You will receive daily compilations of expert AppleScripters' postings in your email, with some valuable scripting tips.

Be sure to save the "Usage guidelines for MACSCRIPT" message sent back by the server so you'll know how to unsubscribe, should you decide that the list is not for you.

The Basics--You're all "Set"

90% of AppleScript scripting is the act of setting the value of a container to some result. A container can be a variable or a property. You name variables with some unique name that describes the value that will be assigned to it, such as myFile. Variables can also have very simple names, like x or y...remember Algebra? Examples of the set command:

```
set x to 3
set y to x+2
set myGreeting to "Hello"
set {variable1, variable2,
variable3}
to {1.2,"dog",false}
```

The last example sets three variables at once using lists, even though the variables themselves are not lists. This is a good way to reduce the number of commands in your script.

set the creator type of the file “query results” to “EDIT”

This example sets the value of a property (creator type) of a file. That command would actually modify a file so it will open with a different application.

Input/Output: The Macintosh Speaks!

To make your Macintosh talk to you, simply use the “say” command:

```
say “Hello readers.”
```

You can also tell the script to say the values of variables and number data, which is useful for debugging a script.

You can display a dialog box for input or output. Example:

```
display dialog “Please type in  
your name:” default -  
answer “” buttons {“Cancel”,  
“OK”} default button “OK”
```

Note the “soft return” character (“-”) at the end of the first line. That character signals that the same command continues on the next line of text. It breaks up long command lines to make the script more readable. You can make that soft-return by pressing and holding the [option] key and type the [return] key.

The above example is a one statement script which displays a dialog box with a text input line prompt. If you use the default answer parameter a text entry bar will be displayed for text and/or number inputs. You can display up to three buttons to click on. If you click on a button called “Cancel,” then the script will stop executing, which is a handy characteristic of AppleScript.

To open a file, use a statement like:

```
set myFile to (choose file with  
prompt “Pick a file, any  
file”)
```

The choose file command will display an open file dialog box. Note the choose file command is nested inside a set command which assigns the result of the user’s selection to the variable myFile. The “choose folder” com-

mand works the same way but the dialog box only displays folders.

To choose an application that has been launched by the OS or the user:

choose application with prompt “Select a running appli- cation”

You can choose from a list of currently running applications on any Mac in your local network!

Find Applications you can script

Applications that can be scripted have their own set of instructions and objects that can be controlled in AppleScript. Commands that work in one application do not necessarily work in another. So every scriptable application comes with its own dictionary of these definitions.

How can you tell if an application is scriptable? From the Script Editor File menu, choose Open Dictionary... and search through your Applications. If they appear in the Open dialog box then the application is scriptable.

You can open the application’s dictionary to get an idea of what actions can be scripted. However, the dictionaries are quite cryptic for a novice scripter. There is a hierarchy of instructions and objects that are not obvious in the dictionary. Therefore I recommend not spending much time studying the dictionaries at first. The best way to learn how to script an application is to find sample scripts for that application and modify them to do what you want.

Record a Script

Some applications, notably the Finder, are not only scriptable, but also recordable. You can click the **record** button in a new Script Editor document and switch to the finder and do any action you want. Open disks and folders, close windows, choose menu items, and see how the instructions pile up on your Script Editor document. Switch back to the Script Editor and click on the **stop** button, and the script will stop recording.

As an example, I recorded a script to open the Apple Menu items folder on the desktop:

```

tell application "Finder"
  activate
  select startup disk
  open selection
  select folder "System
  Folder" of startup disk
  open selection
  select folder "Apple Menu
  Items" of folder "System
  Folder" of startup disk
  open selection
end tell

```

The script does open the Apple Menu Items folder, but there are too many lines of code. Let's try to create this script with fewer instructions.

Record a script backwards!

Sometimes it's better to record a script "backwards." This time we already have the Apple Menu Items folder open, so we open a new document in the Script Editor, click the record button, go to the finder, and close the Apple Menu Items window. So we get this script:

```

tell application "Finder"
  activate
  close container window of
  folder "Apple Menu Items"
  of folder "System Folder"
  of startup disk
end tell

```

Stop recording the script, and edit the word "close," change to "open" in your script, and click the run button to **run** the script. The script now opens the correct folder in a shorter section of code.

Backup Scripts

Another important application for scripts is to create an automatic backup of your folders. You can record this script and save it on the zip disk or floppy disk you're using for the backup. This script is another example of scripting backwards.

WARNING: You should create a new folder on your hard disk and create some junk files inside it. Use this folder to test your backup script. When you are satisfied that it correctly backs up the folder without destroying it, then change the script to the name of a folder you want to back up.

Start recording a script and click and drag a folder from your hard disk to your backup disk. Then drag the newly copied folder from the backup disk, in this case a zip disk, to the trash. Then empty the trash. You get a script similar to the following:

```

tell application "Finder"
  activate
  select folder "Important
  Files" of startup disk
  copy selection to disk
  "ZIP-100"
  select disk "ZIP-100"
  open selection
  select folder "Important
  Files" of disk "ZIP-
  100"
  delete selection
  empty trash
end tell

```

But what is useful about this? Didn't you just copy all those files in the folder and trash them for nothing? There is a method to this madness! Now you select the first part of the script (in bold italic text) that copies a folder to the backup disk, cut that text, and paste it in after the "empty trash" command.

This script now trashes the old folder from the backup disk and then backs up the new files to the backup disk. This backwards recording is necessary because scripts don't behave exactly the way you do things on your Macintosh. When you drag a folder to a window that has a folder with the same name, you see a dialog box that asks if you want to replace that folder. But the script would halt if it tries to replace an existing folder. So the backup script must trash the older backed up folders first, and then copy the current folders to the disk.

So if you save this script as an applet on the backup device (such as your zip disk), you can double-click it to run the script as soon as you mount that device on your desktop. All the copying continues automatically so you can go have a snack while your Macintosh handles this chore!

Recording scripts is very useful to learn what scripting is all about, but you can't do many useful tasks by recording alone. Eventually you will need to learn enough pro-

gramming to add two numbers or move some text from one application to another.

If you tried to make your own backup script, you may have problems copying a large folder, with lots of large files, using a great deal of disk space. I learned that AppleScript gets impatient with instructions that take too long to execute and will halt the script before the task is done. Fortunately the Finder will continue to copy the files it was told to copy until it finishes the job.

But we need a way to tell the script to keep running, even if the copy command takes a long time to execute. We can surround our copy statement with a special instruction called try:

```
try
  copy folder "System Folder"
    of startup disk to disk
  "ZIP-100"
end try
```

Now the script will try to copy the large folder to the backup drive, and if it takes a long time, then AppleScript will just move on to the next command. Meanwhile the Finder will continue to copy the large folder to the backup, and begin copying more folders simultaneously. Aren't you glad you use a Macintosh?

A Drop in the Bucket:

Scripts contained in the handler "on open...end open" are called droplets. The droplet will do nothing when you run it in the Script Editor, but save it as an applet and drag a file to it, and the script will process the file. Here is a droplet that will display the file type and creator strings of the file you drag to it:

```
on open (myFileOrFolder)
  tell application "Finder"
    set myFileOrFolder to
      myFileOrFolder as alias
    if kind of myFileOrFolder
      is not "folder" then
      display dialog ~("File
        type:" & the file type of
        myFileOrFolder & " Cre
        ator:" ~ & the creator
        type of myFileOrFolder)
    end tell
  end open
```

One of the most popular uses for scripts is moving data from one application to another. You learned to copy and paste with the clipboard, but AppleScript can carry the data from one application to the next in variables. See my web site for an example of moving data from one application to another.

You can create commands one at a time and see the result in the results window. You can just type in a variable name or a calculation (like "3+2") as a command line and AppleScript will show the result. You may want to test one command at a time as you build the application to make sure the script is behaving the way you expect.

Every time you create a command that does something useful you have taken a major step toward mastering AppleScript. When you string a few commands together, check the syntax, and save them as a compiled script, you have learned something that you won't unlearn. The commands are saved in your script and you can find them and reread the script any time. The syntax is easily understood by a non-programmer so you can never unlearn any of your AppleScript achievements. You can only improve your scripting skills.

As you build up a small library of simple scripts, you will think of ways to combine them and save more steps as part of your tasks. Soon the relevant data will pour out of one set of files and into others, and create new files with data calculated by your scripts. This is a feeling of empowerment that is attainable and worth the effort. You already know some commands from reading this article, and you will learn more at the web site. So, it's time to get started.

Editors note:

Brians Article is a good starting point for making AppleScript work for you. Read through it once and then work your way through it in detail. it is particularly well written to help you get there. Refere to his web pages referenced and to :

Ben's AppleScript Page,
<http://www.maccentral.com/news/0003/29.briggs.shtml>

AppleScript Primer: Name Your Digital Photo Files
<http://www.nobleswan.com/applescript/>

Kinko's Ad – full page

How CD-R and CD-RW Recording Works

by Bob Starrett

<http://www.cdpage.com>

Every time we record a disc, we tend to take some very complex technology for granted. We may have reason to curse the hardware and software and media from time to time, but, when you think about it, it really seems quite a trick that this stuff works at all! Considering everything that has to go right, a coaster here and there seems a small inconvenience for the capabilities that CD-R and CD-RW offer us.

CD recorders record digital information to CD-R media by “burning” pits in the recording layer of the disc. The laser beam in a CD recorder runs from 4 to 11 mW, and at 11 mW, heats the substrate and recording layer of the disc to 250 C, which melts the recording layer. When it melts, the recording layer has less volume, and the disc substrate expands to fill the space. These “pits” or optical marks resemble the pits on a pressed CD, so CD-ROM drives and audio players recognize them as such and are able to read or play the discs.

A CD-RW disc, on the other hand, has a recording layer composed of an alloy of silver, indium, antimony and tellurium. The recording layer is polycrystalline.

When recording to a CD-RW disc, an 8 to 14 mW laser heats areas of the recording track to 500 - 700 C, higher than the melting point of the recording layers. The laser beam melts the crystals and makes them non-crystalline. This is called an amorphous phase, and results in surface marks resembling pits. These areas have a lower reflectivity than the non-melted, or crystalline areas, which resemble lands. Thus the difference in reflectivity looks to the CD-ROM drive or audio player like a pressed disc.

When you erase a CD-RW disc, the recording laser turns the amorphous areas back into crystalline areas so that they can be recorded again. This is called annealing. Instead of heating the disc surface to melting point as in the recording phase, the laser heats the recording layer to 200 C and maintains the lesser temperature for a longer time, rather than pulsing the laser as in the recording process. This annealing process returns the disc to its unrecorded state so it can be recorded again. This is a “full erase”. A quick erase is different, simply erasing the subcode refer-

ence to the last track on the disc so that data can no longer be located, but the data itself remains on the disc, and is simply overwritten by new data.

Direct Overwriting is a combination of the write and erase functions. A standard writing strategy is used to write new pits to the disc. Between the pits, a low energy unpulsed laser writes new lands in a crystalline structure. Between the pits, the laser beam is set to the lower-energy erase (annealing) power that erases the data contained in those areas.

CD-RW drives use Direct Overwrite (DOW) technology to allow greater writing speed, as only one pass is required to both erase and write.

So next time you make a coaster, curse righteously if you will, but remember that recording to CD is quite a complicated process, and its benefits far outweigh the occasional frustrations.

"This article was originally printed in Roxio's newsletters, delivered free to subscribers' emailboxes weekly.

For more information and to subscribe, please see <https://www.roxio.com/en/jhtml/subscriptions/newslettersubs.jhtml>

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How CD-R Discs Are Manufactured

by Bob Starrett <<http://www.cdpage.com>>

You might be surprised to learn how similar CD-R manufacturing is to traditional pressed CD manufacturing. The main differences are the addition of dye to the process, the type of reflective metal layer used, and the physical contents of the glass master that begins the process.

The first step in manufacturing blank CD-R discs is to create a glass master with a Laser Beam Recorder (LBR), just as you would do for a CD-ROM. Instead of etching pits and lands into the photoresist or nonphotoresist on the glass as would be done for a factory-produced data or audio CD, the LBR records a shallow

groove as a continuous spiral. This is called the pregroove and it is not a perfect spiral, rather it is “wobbled.” On a pressed disc, the timing information that is necessary to control the disc’s rate of spin is included in each CD sector as data. But for a blank disc, the CD recorder must have some way to guide the recording laser and control the speed of the blank disc as it is being recorded. That is where the “wobble” in wobbled pregroove comes in.

The wobbled pregroove provides tracking and timing information for the recording laser. The wobble is a slight sinusoidal wave that has an “excursion” of .03mm from the center of the track path. The physical amplitude of the wobble (that is, the distance from the center of the spiral track to the outer limit of the excursion) is one-thousandth of the length of one complete waveform, so that the wobble cannot be “seen,” but it can be detected by the recorder’s optics. The wobble guides the recorder and provides timing information. This information is called Absolute Time In Pregroove (ATIP). It ensures that data is recorded at a constant rate. The resulting data track obliterates the wobbled pregroove, leaving recorded data in its place.

Electroforming

Once the glass master for the CD-R has been written, it is then tested, silvered, and is ready to be electroplated. The disc is now electrically conductive. It is placed in a reservoir with an electrolyte solution of nickel sulphamate. Electrical current is applied to the glass master, first at a low level, then gradually increased. This current produces a metal layer on the glass in about two hours. This nickel copy of the glass master is called the metal “father,” and can be used as a stamper to replicate CD-R media. However, if the replication run is large, the metal father goes back to the electroplating process to create metal “mothers.” These metal mothers are used to make metal “sons,” which are identical to the fathers. These are used as stampers to replicate the core of the CD-R disc’s polycarbonate.

Replication

Injection molding is used to stamp out thousands of copies of a disc in polycarbonate. Polycarbonate’s transparency, dimensional stability, impact resistance, and free-

dom from impurities makes it an ideal base for both CD-ROM and CD-R discs. Pellets of polycarbonate are heated to 350 degrees centigrade to achieve smooth flow properties, and are then injected into mold cavities. The metal stampers that were created during the electroforming process are mounted to form one side of a platter-shaped mold in the dimensions of a CD. The molds are carefully machined so that the discs will be flat, centered, and free from optical distortion.

Molded polycarbonate would harden slowly at room temperature; the molds have water channels in them so the formed or stamped disc can be cooled and hardened quickly and evenly. The cooling takes four to six seconds per disc. At this point, we have a clear plastic platter with a microscopic pregroove molded into one side.

Dye Coating

Dye coating is the most important, complex, and expensive part of the manufacturing process. The organic dye polymers used in CD-R media are often proprietary, patented formulas developed and refined by the media manufacturer.

The dye used must meet many criteria: it must be compatible with CD-R recorders, it must have a stable shelf life, it must bond well to polycarbonate, and it must coexist with the solvents in the dye solution. CD-R manufacturers are always “tweaking” their dye formulas to improve these characteristics, which tends to improve the performance, longevity, and reliability of CD-R media.

Dye polymer is applied by spin coating. The disc is spun and the dye is sprayed on the surface, evening out through centrifugal force. After spin coating, the dye is dried and cured to make sure that it has adequately adhered to the polycarbonate base.

Metalization and Spin Coating

Since the disc must reflect laser light, a metal layer is now added. There are four metals that are inert to polycarbonate and sufficiently reflective to be used as a reflective layer. These are gold, silver,

copper, and aluminum. Aluminum is the most cost-efficient and most widely used for prerecorded pressed discs, but most CD-R discs use gold or silver because of their greater reflectivity. Since the translucent dye polymer layer reduces the amount of laser light that is reflected back from the disc, a highly reflective metal is desirable.

On CD-R media, 50 to 100 nanometers of 24-karat gold (or pure silver) is applied by sputtering or vacuum deposition. A thin layer of acrylic plastic is then applied by spin coating and cured in ultraviolet light to protect the disc from scratching. Extra protective or printer-friendly coatings may also be spun on at this time.

Label Printing and Packaging

The final steps in the process are labeling and packaging. As you know, discs come with many types of surfaces: shiny, dull, white, or other colors. They can be specially coated for optimum adhesion of ink, printed with the manufacturer's name and logo, silkscreened for a high quality look, or just left unprinted. Finally, the discs are packaged. Packaging options are many, as you have probably seen, from shrink-wrapped plastic jewelcases to bulk discs on spindles.

So, with glass masters, nickel fathers, mothers, sons, polycarbonate, dyes, gold, silver, lacquers and ink, plastic, shrink wrap, tray inserts, and shipping costs, it's a little hard to believe that we can buy a disc for less than a buck. But we're not going to complain – we know a good thing when we see it!

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Other User Groups Meetings

The SBMUG Beginners' Special Interest Group (SIG) now meets on the first Monday of the month 7pm–8:30pm at the Goleta Public Library, 500 N. Fairview, Goleta, CA. Contact Dale Lowdermilk for more information. <dale93150@aol.com>

The Goleta Desktop Publishing Users Group meets the first Thursday of each month at 7pm at the Goleta Public Library, 500 N. Fairview, Goleta, CA. <<http://www.troutcom.com/gdtpug/>>

The Santa Barbara PC UsersGroup has regular meetings at 7:30pm on the last Tuesday of the month (except December). Their usual meeting place is the Louise Lowry Davis Center in downtown Santa Barbara. See their web site for more information, as well as links to other groups and events. <<http://www.silcom.com/sbpcug/>>

Jobs to deliver Macworld keynote

Apple CEO Steve Jobs will kick off Macworld Conference & Expo/San Francisco 2001 with the opening keynote, Tuesday, January 9, 2001 at 9 a.m. Kevin Browne, general manager of Microsoft's Mac Business Unit, is slated to speak Wednesday, January 10, followed January 11 by Macromedia CEO Rob Burgess.

It runs January 9 - 12, 2001 at San Francisco's Moscone Center.

The conference features two tracks: Users, designed to enhance skills with popular Mac products, and Pro, which provides more in-depth technical information for professional users. Conference registration fees range from \$245 to \$1,195, with discounts available if you register by December 11. An exhibits-only pass--which does not provide access to the keynotes--costs \$10 by December 11 and \$25 afterward.

The exhibit floor will feature digital media, small business applications, sci-tech, education/assistive technology, 3-D and Edutainment.

Aladdin releases StuffIt Deluxe 6.0

Aladdin Systems has released StuffIt Deluxe 6.0, that adds a ReturnReceipt option that notifies you when an e-mail recipient has unstuffed an attached file, plus an Archive Search feature that lets you find compressed files within archives based on name, date, kind, size and other criteria. Other new features include the ability to expand .rar files and to create .lha files.

Aladdin also released updated versions of version 6 of Stuff-It Expander, the free decompression utility.

Meeting Report: Searching The Web. by Brian Carlin, SBMUG

I attended the Santa Barbara Mac user group meeting last May and learned some interesting things from Susan Kinnell about searching for web pages.

Here is a list of search engines to use:

<http://www.raging.com>

This is a brand new site which is very fast, and does not have advertising. Here are some search tips for this site:

To search for a phrase, just put quotation marks ("") around all of the words in the phrase.

To make sure we do not find any Web pages with a certain word in them, place a minus (-) sign immediately before that word in the search box. Do not put a space between the minus sign and the word.

To search for multiple forms of a word, type an asterisk (*) at the end of the word. For example, use "invest*" for invest, investor, and investing; use "dog*" for dog, dogs, and doghouse.

You may make your search more exact by typing Uppercase letters in the search box. If we see uppercase letters, we will search for words capitalized exactly as you typed them. So, typing "Ford" will find only pages that have the F in Ford capitalized.

Read the help page for more advanced search tips.

<http://www.google.com>

Google automatically adds "and" between the words you enter so it only returns those pages that include all of your search terms. To restrict a search further, just include more terms. Google also prefers pages in which related query terms are near each other.

Google does not support "or" between words, so it can only find pages that contain all of your search terms.

Use Google to find street maps! Just enter a U.S. street address, including zip code or city/ state (e.g. 165 University Ave Palo Alto CA), into the search box. Often, the street address and city name will be enough. No more required fields or special punctuation requirements to slow you down. Let Google do the work!

You can also exclude a word by putting a minus sign ("-") immediately in front of the term you want to avoid. (Be sure to include a space before the minus sign.)

Google does not support wildcards, so don't type an asterisk (*) at the end of a word. So you may have to use "airplane" and "airplanes" to find all relevant pages.

The case of letters is not important, so "art" returns the same results as "Art" and "aRT."

The query:

link: <url>

shows you all the backlinks for a given URL -- that is, what pages point to that URL. For example,

[link:www.google.com](http://www.google.com)

will show you all the pages that point to Google's home page. You cannot combine a link: search with a regular keyword search.

<http://www.altavista.com>

Uses "or" search on terms. Finds term 1 or term 2, etc. Uses (*) wildcard searches. Use + and - in front of words to include/exclude them in search.

My favorite feature on the Altavista web site is BableFish, which translates sentences to different Romance languages. For example, translate Spanish to English.

<http://www.northernlight.com>

Use Northern Light for more academic searches. I've seen a lot of TV commercials for the Northern Light

search site since Susan's May presentation.

<http://www.leidenuniv.nl/ub/biv/specials.htm>

This is a web site of many links to many specialized search engines. Find a search engine by subject, then search within a smaller database for relevant web sites. Scroll down the page to find the list of links.

<http://www.netlibrary.com>

Search for online ebooks, which are online reprints of books.

<http://www.ehow.com>

If you want to learn HOW TO DO SOMETHING, go to ehow.com and search their articles.

<http://www.ask.com/>

ASK JEEVES. Ask a question in English and Jeeves gives a response in English. An interesting idea, but not usually as useful as other search engines.

DIRECTORIES:

<http://www.yahoo.com>

Yahoo! is the original index on the world-wide web. Yahoo has always updated their links manually with human operators who check the validity of the links. But there are now too many links to check and Yahoo has resorted to using computers to search links.

Yahoo is different from a search engine because a directory lets you browse through a tree of links to find interesting pages you may not have known to search for.

<http://www.anywho.com>

A White Pages directory for phone listings. The interesting feature here is REVERSE LOOKUP. Type in a partial phone number and REVERSE LOOKUP tells you where that is located.

WEB SITES FOR LEARNING HOW TO SEARCH:

<http://www.monash.com/spidap.html>

"A helpful guide to web search engines."

<http://www.albany.edu/library/internet/choose.html>

How to choose a search engine or directory.

MACINTOSH SOLUTIONS

Specific symptoms mandate specific solutions, but here are some steps to get rid of general strangeness:

1. Rebuild your desktop (See below)
2. Scan the hard drive with Disk First Aid or Symantec's Norton Utilities.
3. Check your SCSI setup (if you have recently fiddled with your SCSI setup)
4. Check for extension conflicts using Apple's Extension Manager or a utility such as Casady & Green's Conflict Catcher.
5. Update hard disk drivers. (See below)
6. Zap the PRAM. (See below)
7. Do a clean install on your system (last resort). (See below)

HOW TO REBUILD YOUR DESKTOP FILE

1. Restart your Mac with Extensions Off (hold down the shift key when you start your Mac or go to your Extensions Manager in the Control Panel and click on Basic OS). Some Extensions can cause corruption if the Desktop is rebuilt while they are active.
2. Hold down the Command and Option keys until a dialog box comes up asking if you want to rebuild the desktop.
3. Click OK.
4. Wait for the finder to rebuild the Desktop file. (This could take several minutes, so you can treat it like a commercial break--go visit the refrigerator or bathroom).

HOW TO UPDATE YOUR HARD DISK DRIVER

1. Start up with your Disk Tools disc or System Software CD.
2. Launch Drive Setup and select your hard drive in the window that appears.
3. Select Update from the Functions Menu . (This works only for Apple hard drives. If you own a third party drive, read the owner's manual that came with the drive).

HOW TO ZAP PRAMS

Hold down the Command-Option-P-R keys while your Mac restarts. Your Mac will stumble a little, then restart. Some users prefer to Zap the prams two or three times. Zapping the PRAMS resets some Control Panels (such as Monitors and Appletalk), so you will have to adjust a few settings after zapping.

HOW TO DO A CLEAN INSTALL

1. Start up your Mac from your System install disc and click through the license agreement screens.

For System 7.5.x

2. When the main installer screen appears, press Command-Shift-K.

3. The installer will ask if you want to install a new System Folder. Click O.K. Your old System Folder will be rename Previous System Folder.

4. Quit the installer and throw away the System and Finder in your Previous System Folder. Keep the other files in the Previous System Folder until you're sure you don't need them.

For Mac OS 7.6

2. Click the Options button on the main installer screen. Select the Create New System Folder option to do a clean install. Then do step 4., above.

For Mac OS 8

2. Click the Perform Clean Installation checkbox on the main installer screen. Then do step 4., above.

RETRIEVING A FILE YOU'VE THROWN AWAY

1. Try not to use the hard drive at all. Any activity on the hard drive creates the risk of writing over the file you want to recover.

2. Run a file recovery program such as Norton Utilities.

3. Recover files to a disk other than your hard drive. There is the possibility that you can get your beloved work back from the abyss.

OVERCOMING OBSTACLES

1. Make frequent back-ups.
2. Have emergency software available
3. Have a Disc Tools floppy or CD available.
4. Make a Utilities disc that includes this shareware:

Disk First Aid

MacErrors

Newer's Gauge Series

SCSIProbe

TechTool

5. Periodically rebuild the Desktop file.

6. Periodically defragment your hard drive.

GRACEFUL ESCAPES

(NOTE: The reaction to these escapes varies depending on which Operating System you have)

When bad things happen, and they do, even to good Macs, there are ways to take a glancing blow instead of a full-on punch to the solar plexus.

Force Quit

To quit a program (including the finder), press Command-Option-Escape. Your Mac will ask you if you want to quit. (On OS 9, it just quits and restarts). Force Quits are useful when a program has frozen or you can't quit.

The Interrupt Key

On most older Macs, there are two buttons on the front,

side or back of the case: One with a triangle and one with a circle. The triangle key is the Reset key. Push it and the system resets. The circle key is the key to strange powers. Push it and the system drops you into the debugger. On newer Macs, push the Power key on the keyboard and hold down the Command key to get the same effect.

MacsBug

MacsBug is an Init that lives in the System Folder. When a System Error occurs, it puts up a screen of numbers and letters. At the bottom of the screen is a command line. If you get a System Error and MacsBug is installed, it pops up and you can restart by typing "rs" or "rb" and pressing return (rather than using the Reset Key).

HIGHER POWERS

Apple Assistant Center: Contact 800-SOS-APPL (800-767-2775)

Apple Fax for Mac Tips: Contact 800-510-2834

Apple's Support and Information Web: Contact www.apple.com/support

Users Group: Contact 800-538-9696 option 5 for a group near you

Consultants: Contact 800-290-2776 for a list of consultants (by expertise)

Web sites: Contact www.macaddict.com

OTHER HELPFUL SITES

Download software for your Mac: <http://www.macdownloads.com/>

The AppleScript Source Book: <http://www.AppleScriptSourcebook.com/>

AppleScript Primer: <http://www.maccentral.com/columns/briggs.shtml>

Hypercard Heaven: <http://members.aol.com/hcheaven/>

All of Apple's service manuals are available at:

http://ftpqhq.info.apple.com/Apple_Support_Area/Misc/Service/servicemanuals/

Troubleshooting solutions for the Macintosh:

<http://www.macfixit.com/>

The Macintosh News and Information page:

<http://www.macintouch.com/>

The weekly internet radio show devoted to the Macintosh:

<http://www.macshowlive.com/>

ACKNOWLEDGMENT.

Most of this information was obtained from MacAddict

5/9/2000 Fred C. Corey

Rev 5/11/2000 FCC

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SBMUG
P.O. Box 60922
Santa Barbara, CA 93160
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Do you have something personal in the Macintosh line you wish to buy, sell or trade? The deadline for ads is the first Thursday of the month. Short (35 words), noncommercial ads are free for SBMUG members only, and must be reconfirmed monthly!

Commercial Ad Policy

Rates:	1 issue	2 issues
Full page	\$120.	\$200.
Half page	65.	100.
Quarter page	45.	75.
Business card	20.	35.

Payment is required in advance, with checks made payable to: Santa Barbara Mac Users Group (SBMUG) and sent to the address above. Commercial ads should be submitted in EPS format on Zip disk or camera-ready format.

Your due date is shown on the newsletter mailing label.

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 - Multimedia Consulting
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Monthly Meetings 3rd Thursdays

SANTA BARBARA COUNTY EDUCATION OFFICE

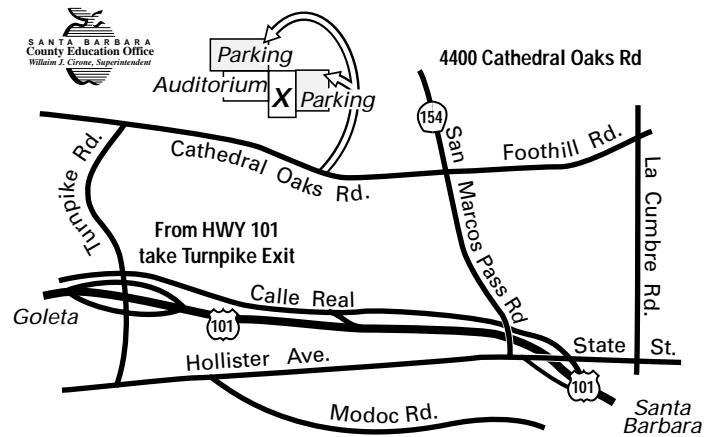
4400 CATHEDRAL OAKS ROAD

UPCOMING MEETINGS: DECEMBER 14TH, & JANUARY 18TH, 2001

6-7 PM QUESTIONS & ANSWERS · 7-9 PM PRESENTATIONS (SEE PAGE 2)

MEETINGS are at the Santa Barbara County Education Office (SBCEO) auditorium, 4400 Cathedral Oaks Road (½ mile west of Hwy 154). Just inside the driveway entrance, turn right and follow the road up the hill to the end. Turn left into the parking lot — you'll find us in the auditorium.

Currently scheduled meeting dates are shown on page 2. Program information and meeting dates will also be listed on our Web site: <www.sbmug.org>.



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