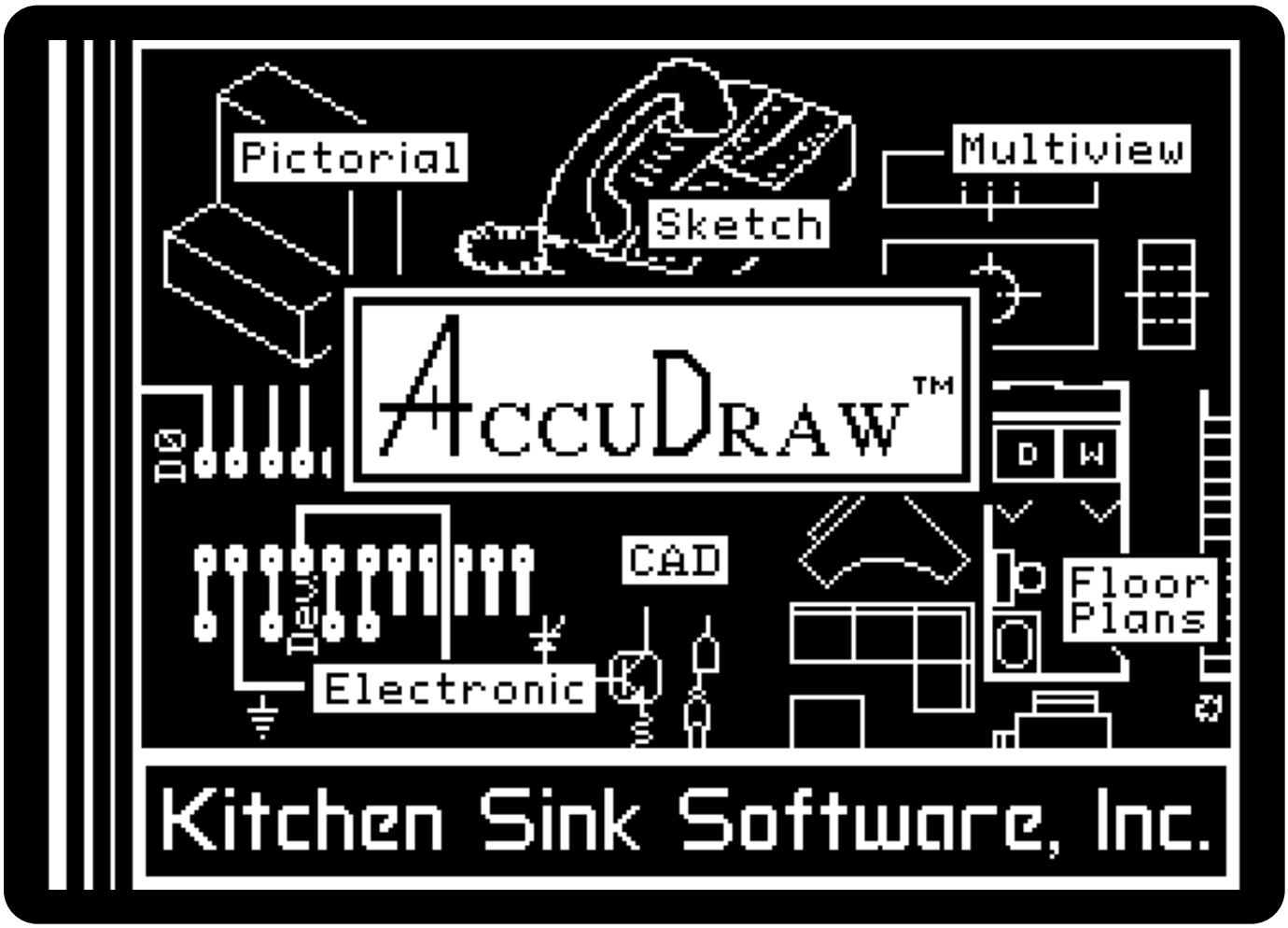
*Accu*Draw Floor Plan

For Apple //e, c, c+, gs, Laser and MAC LC with //e card. Use mouse, joystick or keyboard.

The Graphics Program for Designers



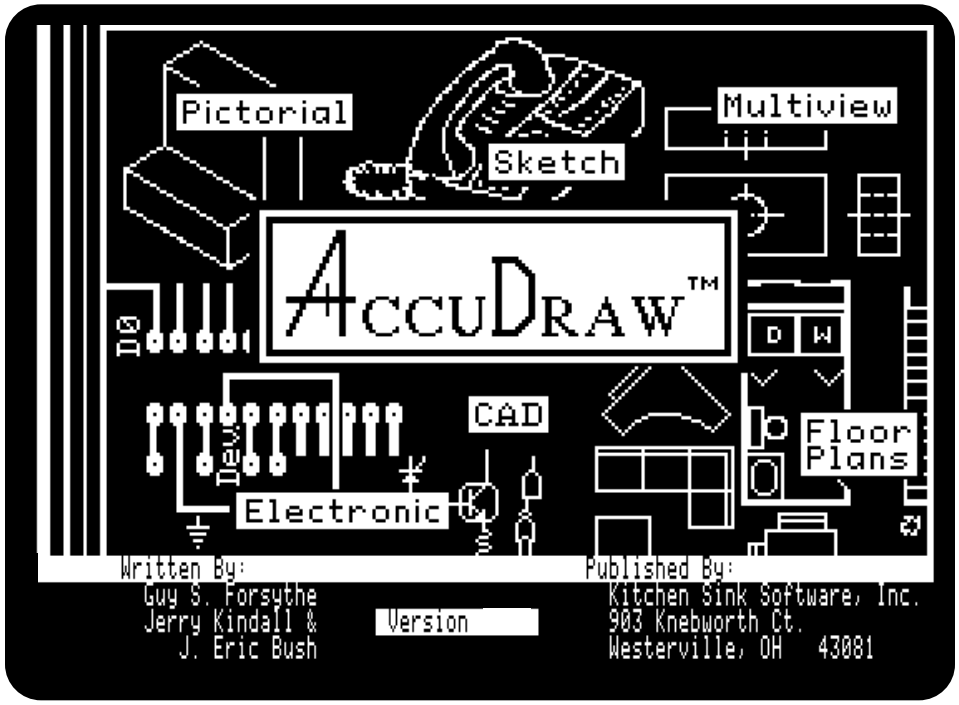
The <u>only</u> Apple II program that can create <u>accurate</u> floor plan drawings as easily as using a standard paint program. Supports all printers, nothing else is needed.

* Printouts includes preview size, accurate scale size and poster size
* Line mode: Individual, contiguous, multiple parallel, circles, box, sketch
* Symbol mode: Draw, erase, brush
* Text mode: Use AccuFonts, gs screen fonts, Beagle fonts, rotate 90, 180, 270 degrees
* Edit mode: Inverse, cut, copy, mirror, flip, paste with rotation and magnification, flood fill
* Also: Undo, keyboard shortcuts, point and click operation, 72 dot per inch resolution

* Minimum system: 64K 80 column //e, one 5.25" drive
* Recommended: 128K, two drives or one 3.5" drive

KITCHEN SINK
FREEWARE &
SHAREWARE
1169 Stroud Ct.
Westerville, OH 43081-1134

*Accu*Draw



Reference Manual

All manual and disk contents
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Acknowledgments

Lots of folks helped out

The primary authors on *AccuDraw* are Guy Forsythe and Jerry Kindall with a hoot load of help from Eric Bush. We would like to thank Jack Lucas for his assistance in the initial stages. Also, we would like to thank Dan Chang for the CalcPad machine routines and John Thomas for the gs font driver. Several people have contributed by testing and making suggestions as work progressed: Brian Peat, John Emmons, Bruce V. Armstrong, David Field, John Thomas and others. If I missed someone, please forgive me. My many thanks to them and their students.

We would also like to thank the many anonymous folks who called or wrote and said, "Gee, I sure wish you or someone had a program that will... (you can't imagine the wish list). Finally, we are all affected by what we have seen in the past. We have seen many excellent paint programs in the past. We have tried to take the good things we have seen in paint programs and make them work for CAD. We thank all the excellent companies and programmers that have given the world paint programs.

Licenses

"There is no need to re-invent the wheel." We agree. So we used the quality work done by others before us and licensed their routines for use in *AccuDraw*. In some cases, we made a lot of modifications to their routines or maybe just used their routine for inspiration, but still felt they were entitled to their due, regardless of what the courts might say. Here is our thanks:

MicroDot.System. We used a modified MicroDot System called SAC System. It saves us 8K of RAM over Basic System. We needed the RAM space badly. If you need more RAM space for your Applesoft programs, MicroDot will do the trick for you. Write us. We are the publisher of MicroDot.

Triple-Dump. Triple-Dump Graphics Print Routines © 1984, By Mark Simonsen and Rob Renstrom, Beagle Bros, Inc.

//gs Screen Font Display Routines. John G. Thomas wrote the machine language code which enables *AccuDraw* to display //gs screen fonts on the HiRes screen. If you have need of the same driver, write John at: 38 Sunnybrae Blvd., Trenton, NJ 08620. It is available in an inexpensive package.

Disk Formatter. The disk formatter was written by Shawn Quick. Jerry Kindall modified it so it should refuse to format hard disks.

Polarware and Koala. To our knowledge they are out of business, but they wrote some neat graphics routines that were an inspiration to us. We miss folks like them.

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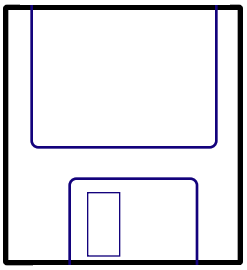
Quick Start



AccuDraw is available on a 3.5" disk. Just send in the original 5.25" disk with your registration card. Request a 3.5" disk. There is NO fee. Send your disk to us UPS or, **if you send it in the mail, insure the disk!**

So, the idea of a quick start appeals to you. I know how you feel. I don't like to read manuals either. I like to just dive in and get on with it. I assume that is exactly what you are about to do. Before you get too carried away, may I suggest a few items that will require your attention first. I am keeping this list to a minimum for you folks that consider instructions to be the route of last resort. I hope you will eventually get around to reading the manual, because there are a lot of subtle yet powerful controls in*AccuDraw*. I don't want you to miss out on the fun. Meanwhile, here is a short list of things you need to do before you tear off in a frenzy of drawing:

1. Make a backup copy of ALL the *AccuDraw* disk sides. All disks are UNprotected.
2. Send in the registration card with registration number sticker attached.
3. Did you do #1 and #2? No registration card = no tech support.
4. Read the appendix on the Installer for transferring *AccuDraw* to a 3.5" or hard disk.
5. If you have a RAM disk, read the section on "TO RAM MOVER" (Appendix).
6. Read the next section: Getting Started for the basic basics (only a few pages).
7. At least skim the section on the Functions Window controls (page 2.1 - 2.3).
8. Remember, when drawing, that ⍝ is the <button>.
9. <Return> can be used to select in menus. Escape selects the top (first) menu item.
10. If the program hangs, crashes, etc., simply type: RUN then press <return>.
11. If you get frustrated, remember, *AccuDraw* does come with a manual.

Do you get the feelin', he doesn't trust me?

A final note on the registration card. You must have a registration card on file for any future tech support or updates. Do not give your number to anyone else. Only one person per number can get tech help. If you ever move, be sure to let us know. We hate to be picky about this registration stuff, but it is the only "protection" we use. Do not lose your manual. Replacement manuals come with the latest version of the program and sell for list price of the program.

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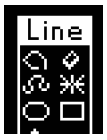

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There are separate reference manual sections for Symbol Tables, Fonts, D-Mods, Help Screens, SAC Tools, etc.

Introduction

What *AccuDraw* can do

What is *AccuDraw*?

AccuDraw is the most powerful graphics design program ever written for the Apple // series computers. It will work on all Apple // computers except the //+. This includes the earliest un-enhanced //e computers. It works like a paint program. The difference is that you can use *AccuDraw* to create accurate scale drawings.

You will find that *AccuDraw* has more power than many design programs written for the //gs, MAC or IBM. *AccuDraw* can be configured to any standard printer resolution, but there are 3 built in "standard" resolutions. The coarsest resolution is the same as our popular CADDRAW program. One screen of graphics will measure 8" x 10.5" resulting in a screen fitting exactly on a standard piece of computer paper with a .25 inch border all around. The second resolution is finer than the course resolution. To get a drawing of 8" x 10.5" size, you will scroll around on 4 graphics screens. The finest resolution built into *AccuDraw* is 72 Dots Per Inch, the same as a MAC. To get a 8 x 10.5 inch drawing, you will scroll around on a drawing comprised of 9 graphics screens. This resolution is so fine that lines are of standard drafting convention weight when printed on a dot matrix printer. In addition, you will be able to achieve very fine lettering as small as 7 points (7/72") tall using many of the hundreds of gs screen fonts.

There is no #2. *AccuDraw* is the only program available for true graphic design on the Apple // computer.

Programs that output to a plotter are quite complex and expensive. Since *AccuDraw* only prints on a dot matrix printer, we are able to make the program very inexpensive. That does not mean you are making sacrifices. You will still find features you normally associate with "real" CAD systems such as layering, accurate scale, cut and paste, grids, mirroring, flood fill and more.

The key to success with a program like *AccuDraw* is to become very comfortable with the basic operations and then start progressing into the more complex operations. To assist in this course of action, we have organized the manual in this way: Following this introduction is a section called "Getting Started." Sit at the computer and as you read the section, do the operations described. It is written with the assumption you are "doing it" as you read. There is also a book enclosed called *AccuDraw Primer.* It has a quick tutorial to take you step by step into setting up your first drawing. It then has exercises in basic operations. You can purchase multiple copies of the *Primer* for students to use. It also has a pull out *AccuDraw* flow chart . Once you are comfortable with the basic controls, you will be ready to dive into the many settings and features that make *AccuDraw* incredibly powerful. You will need to use this reference manual to learn about all the power you can find in *AccuDraw*.

You are going to love the power and simplicity of *AccuDraw*. You will also like the fact that you will be able to add modules to *AccuDraw* in the future for specialized work. There are hundreds of //gs screen fonts available for a modest price. *AccuDraw* will work with many of them. *AccuDraw* is flexible and expandable. It is the final solution in your need for design graphics.

You have probably noticed that each manual page has two columns. On the right side of each page is text and diagrams. The key words and icons on the left indicate the subject of the text on the right. Think of the left side column as an outline of the text. The left side column also has warnings, hints and special notes. This combination of columns will help you quickly find specific information fast when you need to look up information about a command.

Getting Started

This section is organized in the same order that you should use to get familiar with *AccuDraw*. Follow along this section and do the operations indicated Don't boot your *AccuDraw* disk yet.

Make A Backup Copy

We will replace any defective disk within 30 days of purchase at no cost to you.

Send ONLY the bad disk(s). Do NOT send the manual or anything else!

Right now, not tomorrow, not as soon as you have tried it once... Make a backup copy RIGHT NOW! The *AccuDraw* disk is 100% UN-protected. Any full disk copy program will make a copy of the disk. Make a backup copy immediately and place the original in a safe place. Make sure you make copies of ALL disk sides! If your disk arrives in an unusable condition or if it goes bad in the first 90 days you own the program, we will replace it FREE of charge. Return the disk ONLY. Do not send anything else (except your name and address). Just send the bad disk(s). We will send new copies immediately.

Help

Tech support requires that we have your registration card on file with your registration number.

We are teachers. We love to help people. If you need help, please try to find the information you need in the manual. See if you can find the topic in the Table of Contents. Then look in the index. If you still can't make headway, give us a call. Our number is on the front of the manual. If you call for help, have your registration number handy. We will check for your registration card and require you to confirm your registration number. We know. It is a pain for us, too. But some people take advantage of the fact that we do not protect our disks. My wife wants a new couch and paying customers don't want freeloaders hogging up the phone lines. So it really is for our mutual benefit. Thanks.

What is on the Disks

The front of the disk is the bootup side. It contains the files needed to get things rolling along with the utilities to help you use *AccuDraw* as effectively as possible. On the back are the files which make up *AccuDraw* as a program. You will be prompted when you need to flip or swap disks. If you are using a 3.5" disk or a hard disk, there will be no disk flipping or swapping needed. 64k computers will need to get program segments from both sides of the disk. If you haven't already, insert your BACKUP COPY of Side 1 of *AccuDraw* so we can get started.

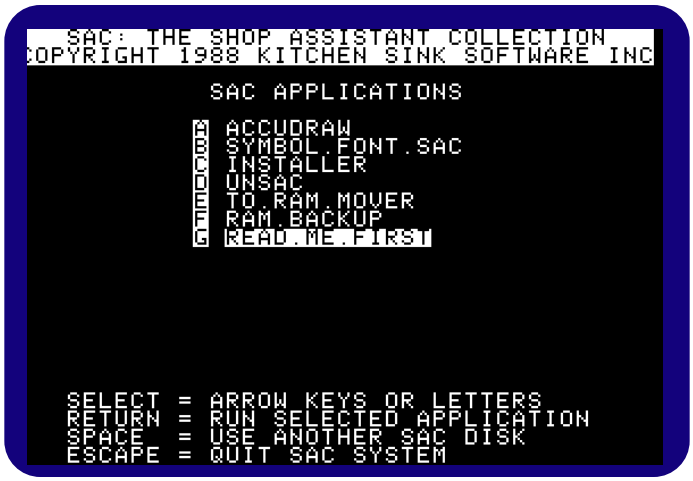
Booting Up *AccuDraw*

Boot the Front side of your BACKUP copy.

Place your *AccuDraw* disk Front Side in slot 6, drive 1 and turn on your computer (or re-boot it if the computer is already on). You will see the SAC Menu. Do NOT try any of the options right now. If you start "messing around" you may change something you wish you hadn't. There is an appendix that details all the menu items. The SAC Menu instructions are at the bottom of the screen. Right now you want to select READ.ME.FIRST. Highlight READ.ME.FIRST and press <return> to see if there have been any additions or changes. Then return to the SAC menu.

The SAC Menu.

You will find an appendix containing all you need to know about every item in the SAC Menu.



SAC:
Shop
Assistant
Collection

Now highlight *ACCUDRAW* and press <return>. If you are using a 5.25" disk, it will take a couple of

minutes for *AccuDraw* to load into the computer. We will try to keep you entertained as it loads. If you get bored with looking at the screen, memorize the following definitions:

DEFINITION

Select: means to highlight the item you want, then press <button>. You change the highlighted item by moving the mouse, joystick or by pressing arrow keys.

DEFINITION

<button> is the mouse button when using a mouse. The joystick button or ♁ key will serve as the <button> just as well, including with a mouse. Keyboard (only) users should use ♁.

NOTE:
If you press an arrow key, you must press "Q" to give control back to the mouse or joystick.

The *AccuDraw* Main menu Display

Main Menu

Idle Mode:
If you make no key presses and do not move the mouse or joystick for 4 minutes, the screen will go black and an *AccuDraw* icon will move about the screen. Press any key or <button> to resume working.

Once the program is loaded, you will see the MAIN MENU. This is where the action starts. If you have a mouse, it will work. If you do not have a mouse, the arrow keys will move you around.

Notice that the screen is divided into 4 parts.
1 - On the left is the Main Menu.
2 - In the middle is the Help / Tool Window.
3 - On the right is the Current File status window.
4 - Across the bottom is the Functions window. It is used only while actually drawing.

Let's take a very brief look at each window:

The Main Menu is the the center of all *AccuDraw* operations. When you select DRAW from the menu, you enter the drawing mode IF there is a drawing open. Selecting any other option in the Main Menu takes you to another menu. We will be selecting other menus in just a moment.

NOTE: SAC Tools are like desk accessories on a //gs or MAC desktop. The *AccuDraw* disk does not include any tools, but you can use any SAC tools from any SAC System disk that does have tools.

The Help / Tool Window serves several purposes. It is a help window. You will be able to load helpful information in this window such as fraction - decimal equivalents or an English-Metric conversion table. You will even learn how to easily create your own information chart of any helpful information you wish. It is also where tools from the SAC (Shop Assistant Collection) Toolchest will appear. SAC Tools are small programs that are general in nature and a helpful addition to any program.

The Current File window shows the status of the current drawing. You can read the list of the information it supplies. If you ever wonder which screen in a large drawing you are on, this will tell you. The layer feature is invaluable on complex designs.

GETTING STARTED

The bottom is rather static since we haven't started drawing yet. You will understand all the information after you have read Section 2 (Drawing Tools) of this manual. For now, notice that the lower left area is clear. This is a message window. *AccuDraw* will be drawing your attention there at times to give you information or request information.

The Main Menu is of interest to us now. Open your "*AccuDraw* Primer" book included with *AccuDraw*. Refer to the *AccuDraw* Flow Chart in the center of "*AccuDraw* Primer" and you will see the Main Menu options listed. This flow chart is designed to be carefully removed from the "*AccuDraw* Primer" book. The Main Menu works much like a "pull-down" window you see on many graphics programs, but the window is always down. All menus in *AccuDraw* work the same. Simply select the item you want and it will be activated. (You learned how to select at the top of the previous page.) A new menu may appear or a prompt may appear in the lower left corner of the screeen or in the Help Window or in any combination.

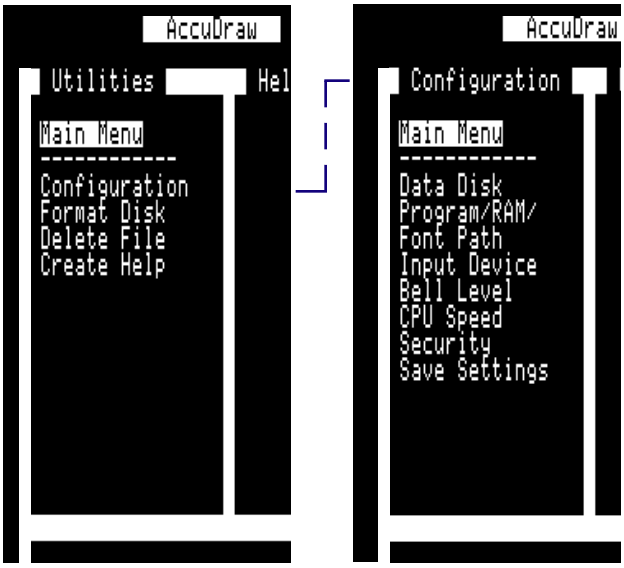
Note:

Slow <button> presses: When you press the <button> do it gently. You will hear a beep when *AccuDraw* detects the button being pressed. A quick press and release may not be detected.

Configuring *AccuDraw*

IMPORTANT: This is NOT a complete description of the configuration possiblities.

Ok, Let's stop talking about it and do it! Select "Utilities" from the Main Menu. A new menu appears in the same window. The top option is "Main Menu" so if you entered the wrong menu you can easily return to the Main Menu by selecting "Main Menu" or pressing <escape>. In the Utilities Menu, select "Configuration." Still another menu appears showing all of the items you can configure. We will briefly describe the settings you need to make now. Complete details start on page 3.24.



Teachers: Check out the security options before using *AccuDraw* in your classes!

ProDOS may assume you have disk drives in slot 6, drives 1 and 2. If there is not really disk drives there, no problems will result. BUT, make sure you do **not** configure *AccuDraw* to look for a drive that does not exist!

Data Disk Location

You will need to specify the location of your data disk. You will see several options appear:

***AccuDraw* Disk:** This saves drawing files on your *AccuDraw* program disk. You cannot use this option on 5.25" disks. There isn't enough room on the disk. A hard disk has lots of room and a 3.5" disk can store about 100 screens with the program. Hard disk users: If you keep your data files in the same directory as the program, it can simplify the use of the program at times.

ProDOS Dir: Hard disk users may want to use this to establish a complete pathname to the directory where you want the files. If you precede the name with a "/" the name starts with the data disk volume name. If you do not start the pathname with "/", the path you enter will be added to the prefix in effect when you started *AccuDraw*. Normal people can ignore all this path stuff.

Slot / Drive: A list of all drives available on your system is given. Read the note in the left column. Select the slot and drive combination where you want your drawing files stored. They will be stored at that location on what ever disk is in the drive. If the list includes drives in slot 6 that you do not really have, ignore them. Simply select the location you want. That's it. (THIS is what normal people do.)

Input Device

Select "Input Device." You can now choose Mouse, Joystick or Keyboard. Here is a little information about each device.

KEYBOARD: The keyboard can be used at any time regardless of your configured input device. Sometimes it can be very helpful to use the keyboard even if you have a mouse or joystick. If you are using the keyboard all the time, you may want to save your pennies for another input device. Using ONLY the keyboard is very slow. Remember that pressing an arrow key turns off any other input device and gives control to the keyboard. Press "Q" to return control to your configured device.

NOTE:
If you do not have a mouse or joystick, set *AccuDraw* to keyboard only. This sets up special routines to help pin point the cursor when in the icon menu. see page 3.25.

MOUSE: This is the best input device. The action is smooth and true. You will be able to change the mouse "speed" for the best touch for you. The speed regulates how far you must move the mouse to move the cursor a given amount. The mouse moves quickly but still allows you to easily land on the dot you want.

JOYSTICK / PADDLES / KOALA PAD / A+ MOUSE / TOUCH SCREEN: All of these devices actually result in the same effect as they are all just different types of joysticks. Because of the way joysticks work, it is difficult to land on a given dot. There are two ways of overcoming this problem. One way is to use the joystick to get close and then the arrow keys to land exactly where you want. The other way is to use button #1 (or the keyboard solid-apple/option key) on the joystick. (Remember that the buttons on a joystick are #0 and #1.) After pressing button #1, you will notice that the movement is limited to a small area of the screen. The point where the cursor was when you pressed button #1 is exactly in the middle of this restricted area. You can now easily land right where you want. When you press button #1 again you are able to move about the screen again.

CPU Speed:

Some speed up chips and cards use a special technique to achieve an apparent speed increase. Some of the techniques have a minimal effect in speeding up *AccuDraw*. You may have to "play around" with the speed. TIME TEST: The idle mode goes into effect 4 minutes after the last movement or key press.

This setting is used by *AccuDraw* to make sure that certain timed operations take the correct amount of time. If you have a //e or //c, set CPU speed to 1. If you have a c+ or MAC LC with //e card set CPU speed to 2 both here and in the LC //e control panel. If you have a //gs, set the speed to 3. If you have a ZIP chip or accelerator card, set the CPU speed to the appropriate speed (the entry should be the clock speed of the computer in millions). Consult your speedup device manual.

Security:

You can set several levels of security in *AccuDraw*. None of them give foolproof protection but they can keep others from messing with the configuration or the files of others. You will want to read about this before using *AccuDraw* in a classroom. If you do not set the security, one of your students might... and then you are hurting! If you want to turn off all security forever, select security, then enter any 4 characters as a secret code, then enter a security level of 3. We strongly suggest that teachers decide on a 4 character code right now and then enter a security level of 1. This way, students cannot change the configuration on you. We have given no displays here to encourage you to read about security in detail.

Save Settings

One last IMPORTANT item. Select "Save Settings." All the information you specified will now be saved on the *AccuDraw* disk for future use.

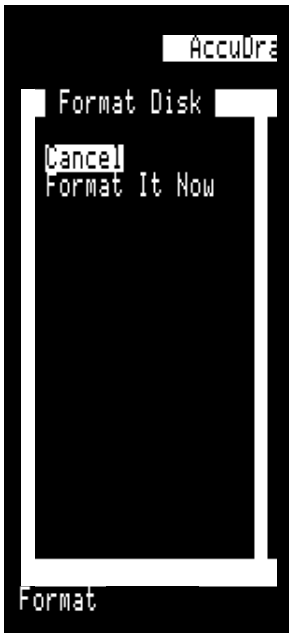
Important Note:

If you are using 5.25" disks, save your settings twice. After saving them the first time, turn the disk over and save the settings again on the other side. If you are not using a double sided disk, but two separate disks for Side 1 and Side 2, make sure you save the settings on both disks.

We'll have you flying along real soon now...

GETTING STARTED

Format New Disk



"Format New Disk" is found in the "Utilities" menu. You **MUST** use *AccuDraw*'s built in disk formatter as *AccuDraw* will store information on the data disk which must go in certain directories that are added to your data disk. We also add subdirectories so you can save extra symbol tables, text fonts, drawing styles and such on your data disks. Place a blank disk in the drive you specified as your data disk location. Select "Format New Disk." The display shown to the right will appear. At the bottom you will see the word "FORMAT." This word will be followed by:

1. Blank Disk or
2. DISK.VOLUME.NAME

If it says "Blank Disk" you have put in a blank disk. Select "Format It Now" and the disk will be formatted. If a volume name is given it means you have placed a disk in the drive which is already formatted. If you chose to proceed with the formatting, any information that is on the disk will be lost forever and a new *AccuDraw* data disk will be created.

Lastly, you will be asked for a volume name for the disk. If you do not supply a name, *AccuDraw* will name it ACCUDATA.123. The three numbers at the end will vary each time you make a data disk. We suggest you use the volume name ACCUDATA.123 by simply pressing <return>. But you can name it anything you want. The disk will be formatted and *AccuDraw* will return to the Utitlity Menu. Press <escape> to go to the Main Menu.

Note:\To install *AccuDraw* on a 3.5" or hard disk, see the SAC appendix.

Two Biggie Reminders:

1. The key is the <button> when drawing (NOT the <return> key.)**.**

2. //e computers having only 64k will need to use both sides of the *AccuDraw* disk. Drawing tool segments, except flood fill, are on side 1, and all of the rest of the segments, flood fill and all menus, are on side 2 of the disk. We can get you the phone number of an inexpensive source of //e memory 128k memory boards ($25)**. 128k computers will load the segments from side 1 and then access side 2 only.**

Next

This short chapter has been designed to get you rolling. But there is much more to learn about the operation of *AccuDraw*. I would like to suggest the following course of action:

Page 3.11
Page 3.24

1. Look in the File Menu section for information on how to configure your printer.
2. Go to the section on configuration. Read it closely and configure *AccuDraw* for your system.
3. Move to the *AccuDraw Primer* book. The center of the book is made up of sheets that you can carefully remove and use as quick reference sheets. There is also some information that teachers will appreciate in the *Primer*. The entire book is designed to get you working quickly. The *AccuDraw Primer* will go over how to start new drawings, give an overview of the drawing operations, and give a lot of tips and hints.
4. If you have a large RAM disk (800K or more), read the appendix on the SAC menu, particularly the TO RAM MOVER part. It will save you hours of time.
5. Once the *Primer* has you working, come back to this reference manual and read it. There are a lot of hidden abilities in *AccuDraw*. You will have to read the manual to make the most of them. When I read large manuals, I keep small Post-Its handy. When I read something nifty, I make a small note with a title that I can stick on a page so the title sticks above the pages. Then when I work with the program, I'll remember I read something important, but where? Post-Its to the rescue!

NOTE:
Because teachers will be using the *Primer* with students, it never mentions the security or configuration aspects of *AccuDraw*.

Enjoy

Printer / Interface Lists

These two charts contain the printer and interface numbers you need to enter in the Printer Configuration on the other side of this sheet.

Important: **You must match printer and interface names exactly. For example, a Grappler is NOT the same as a Grappler + or a Grappler Serial. They are all different.**

Figure 3.(11)-5 Printer List

Printers tend to have families of numbers. If your specific printer is not listed, its family of previous printers probably is. Use the family code. For example, if Epson comes out with another AP family printer, it will most likely use the same code number as the AP-80.

Code #	Printer Name
0	ANADEX DP-9000, 9500
1	ANADEX DP-9001, 9501
2	APPLE DOT MATRIX
9	APPLE IMAGEWRITER I, II
3	APPLE SCRIBE
17	BLUE CHIP M120/10
5	BROTHER M-1009
25	CANON A-40, BJ-130
5	CITIZEN (all)
9	C. ITOH C-310/15 P/R
15	C. ITOH 7500, 8510
15	C. ITOH PROWRITER I, II
4	CENTRONICS 739
1	DATASOUTH 180
9	EPSON AP-80
5	EPSON FX-(all), JX-(all), LX-(all)
6	EPSON MX-70
7	EPSON MX-80 w/Graftrax,100
11	EPSON LQ-(all)
8	EPSON RX-(all)
23	GORILLA BANANA
7	HP THINKJET
25	IBM GRAPHICS PRINTER
20	IDS MICROPRISM
19	IDS PAPER TIGER 440,445
20	IDS PAPER TIGER 460, 560
20	IDS PRISM 80, 132
25	LEGEND 1385
10	MALIBU 200
5	MANNESMANN TALLY 85/86
12	MANNESMANN TALLY 160, 180
17	MANNESMANN TALLY SPIRIT 80
15	NEC PC-8023, 8025
11	NEC P5, 6, 7
13	OKIDATA MICROLINE 82A, 83A
14	OKIDATA MICROLINE 84, 92, 93
24	OKIDATA 192/193
9	OKIDATA 192,193(Apple)
25	OKIDATA 192, 193, 292, 293 (IBM)
7	PANASONIC KX-P1090, P1124i
5	PANASONIC KX-P1080, 1091, 1092
23	SEIKOSHA
22	SEIKOSHA PC700CL
9	SEIKOSHA SP-1000AP
16	SMITH CORONA D100, 200, 300
18	STAR DELTA / GEMINI / RADIX (all)
25	STAR LV(all), NB(all), NB24(all), NP
11	STAR NX (all)
5	STAR NL 10/15 / NX 10,1000
22	TRANSTAR 315
21	TRS-80 DMP-105, 400

Figure 3.(11)-6 Interface List

Please note that a //gs printer port is listed (Do NOT use super serial card for the //gs printer port!). If you have a //e and an ImageWriter printer, you probably have a super serial card interface.

Code # Interface Name

0. Apple Communications, CCS 7710A, SSM-ASO & ASIO, Versacard Serial
1. //c printer port
2. Apple Centronics parallel, Apple parallel, Apricorn parallel & Printer Pro, Epson APL, Grafstar II, Graphicard, Microsystems parallel, Microtek RV-611C, MPC AP-80 & AP-Graph, Omnigraph, Printer Face, Printmax, ProGrappler, SSM APPIC, Tymac, Versacard Parallel, Wizard IPI & BPO.
3. Apple Serial
4. CCS 7720 Parallel
5. CCS 7728 Parallel
6. Dispatcher, Dual-Comm Plus, Franklin Dual Port, Printer mate
7. Dumpling 64
8. Dumpling GX
9. Grafstar
10. Grappler, Orange Interface, Spies Niceprint & Super MX
11. Grappler Serial, Pretty Print
12. Mountain Computer Parallel
13. Mountain Computer Serial
14. Microbuffer II
15. Apricorn serial, MPC AP-SIO & Graphwriter
16. Pkaso / Pkaso U
17. Texprint Print-it
18. Quadram - APIC
19. K-T parallel, SSM-AIO & APIO Parallel
20. Apple Super Serial, Fingerprint+ serial, Grappler Serial +, Laser 128 Serial, Microtec SV-622C, Videx PSIO serial
21. Videx PSIO parallel & Uniprint
22. Fingerprint
23. Apple: //c serial to parallel, //gs printer port & Firmware, Laser 128 Parallel
24. Fingerprint+ parallel
25. Grappler+
26. AE Buffer Pro & Parallel Pro
27. Transtar PICS
28. MBI VIP
29. Apple /// serial port

Printer Configuration

Place this sheet in your manual just after page 3.10

You can printout your present drawing at any time. You can print the entire drawing or you can print a single screen of the drawing. You can even make a poster of the current screen. This page will give you complete information for configuring your printer and interface for AccuDraw.

Fig. 3.(11)-1
The File Menu

Fig. 3.(11)-2
Printout Menu

64K NOTE:
If your computer has only 64k, you will not see "Print From/To" or "Print All." You will have to use "Current Screen." The select: Large for 24 DPI or Medium for 36 DPI or Small for 72 DPI.

Figure 3.(11)-3
The configuration Screen

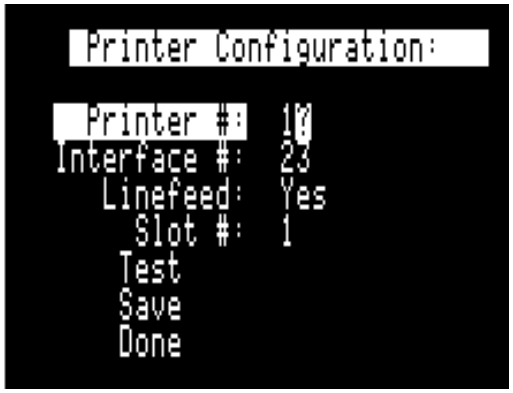
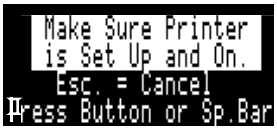


Figure 3.(11)-4
The Set Up Printer Prompt. Escape will cancel printout.



The Screen display will appear as in Figure 3.(11)-3. You will be able to completely configure and test your printer and interface in this menu. This page will take you through the process step by step:

1. **Printer #**: Select "Printer #" in the configuration menu. The screen will then appear as in Figure 3.(11)-3. Consult Figure 3.(11)-5 on the other side of this sheet for a list of printer code numbers. Find your printer in the list and enter the appropriate code number.

2. **Interface #**: Consult Figure 3.(11)-6 on the other side of this sheet for a list of all interface code numbers. Enter the number you find for the "Interface #" in this menu.

3. **Linefeed**: When you select "linefeed" the setting will toggle between "Yes" and "No." Toggle means that it will change from one setting to the other each time you select the item. For the majority of printers, you will want this to be set to "Yes." If you change the printer code number, you will probably have to change the linefeed back to "Yes."

4. **Test**: Selecting this command will result in the prompt shown in Figure 3.(11)-4. You can press **Escape** to cancel the test or press the <button> or space bar to start the test. The printer should be plugged in, turned on, set to on-line with the paper in position for a printout. The printer will print the AccuDraw Icon menu followed by a list of all available printer densities and recommendations on which densities you should use for your drawings. If the paper does not feed up for each pass when printing the Icon menu, you need to set Linefeed to "Yes" and try again. If the Icon menu prints with a white blank area in the middle, you need to set Linefeed to "No" and try again. If you get total garbage, you have the wrong Printer or Interface number for your system. If the program stops functioning completely, press Control-Reset, then type in: RUN followed by a <return> and try again.

5. **Save**: Once you get the printer working correctly, select "Save" so the information can be written back to the AccuDraw disk (there cannot be a write protect tab on the disk notch for this operation).

6. **Done**: Once you have the printer working correctly and have saved the printer information , you are done. This command will return you to the Printout menu.

You can reset the printer configuration at any time in the future.

Do NOT loose this sheet. We will NOT give code numbers over the phone or by mail. We will not replace this sheet.

Appendices

The appendices give detailed information that you will want to know.

Appendices:

Page 4.2 **A. The SAC Main Menu (includes instructions for 3.5" and hard disk users).**

ACCUDRAW	p. 4.2	(Run *AccuDraw* program)
SYMBOL.FONT.SAC	p. 4.2	(Install additional fonts or symbols)
INSTALLER	p. 4.4	(Auto install *AccuDraw* on 3.5" or hard disk)
UNSAC	p. 4.6	(Make disk turnkey, bypassing this menu)
TO.RAM.MOVER	p. 4.6	(Move *AccuDraw* on 3.5 " disk to a RAM disk)
RAM.BACKUP	p. 4.7	(Move modified files back to 3.5" disk)
READ.ME.FIRST	p. 4.7	(Latest info not in manual)

Page 4.8 **B. Configuring RAM use (includes instructions for 3.5" and hard disk users).**

Page 4.10 **C. Special Centering Routines with "English" and "Metric" styles.**

Page 4.11 **D. Index**

Page 4.17 **E. Site License Application**

Additional sections follow that could be considered appendicies, but we have included labels for dividers so each can have its own section in the manual. All of these sections are ones where you may add additional files in the future, such as additional text fonts. You can simply add sheets to these sections as you add fonts, symbol tables, D-Mods, etc. We have even included a blank page set up with the format we used in this manual so you can make copies of the page and fill in information about files you add to that section.

KITCHEN SINK
FREEWARE &
SHAREWARE
1169 Stroud Ct.
Westerville, OH 43081-1134

Appendix A

The SAC Menu.... Including the SAC Installer

SAC:

Shop Assistant Collection

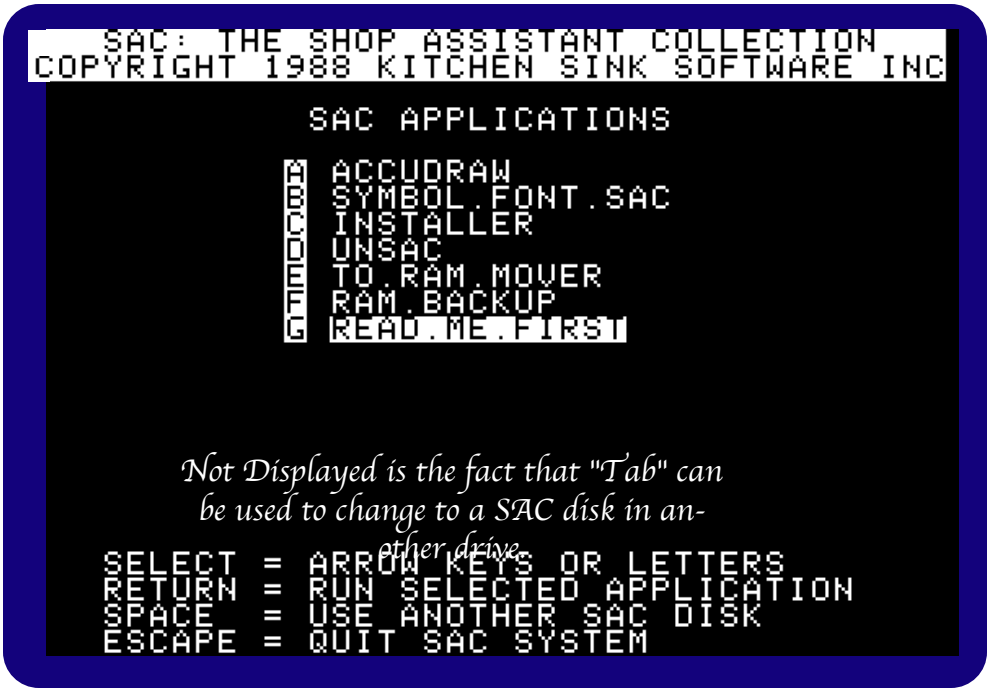


Fig. 4.2-1
The SAC Main Menu

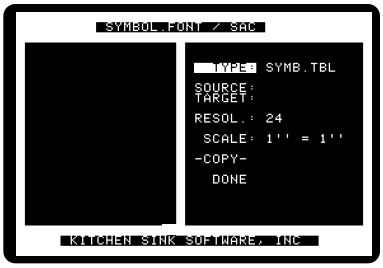
The SAC Menu has several programs you can run. *AccuDraw* is the first program in the list. You can continue to use the SAC Menu as it comes and simply ignore the other options. The other options do offer some opportunity to streamline and enhance the operation of *AccuDraw*. Here is a description of what the other SAC Menu options will do:

AccuDraw

This runs *AccuDraw*. If all you will ever do is just run *AccuDraw* then you can use UnSAC to bypass the SAC menu and run *AccuDraw* directly from booting the disk.

Symbol.Font.SAC

Symbol.Font.SAC is a program that allows you to add text fonts and symbol tables to your SAC directory. *AccuDraw* looks in the SAC Symbol Table directory for symbol tables and the Font directory for text fonts. You can place any AccuSymbol table or standard Applesoft shape tables in the Symbol Table directory. You can place any AccuFonts, //gs screen fonts or Beagle Bros fonts in the Fonts directory. Below is a step by step procedure for the installations:



1

Select a source or target drive location.

1. Select a Source path. This is the location of the symbol tables or fonts you wish to add to the SAC directory. You can change the source location at any time. On the right side (Figure #2), source is

highlighted to show we are establishing the source location. In the left side box, the first list you will see is a list of disk dives in your system (Figure #1, which shows the Symbol Table menu).

2 . Figure #2 shows what your screen will look like as you continue selecting a path. Then you will get a list of files on the drive. If you select a directory you will get a list of the files in that directory. You can keep selecting directories until you get to the one you want. When you see the file names you want to copy, select "PATH DONE." The path will appear at the bottom of the screen. SAC disks with fonts or symbol tables will have the files in directories indicated in the next step.

Note: If you do not need to worry about selecting scales and densities when transferring symbol tables, you can use any file copy program. If you copy symbol tables with a regular copy program, the scales and density information will transfer with the file if it is an AccuSymbol table. If the file is not an AccuSymbol table, *AccuDraw* will handle the table as a custom table.

3. (Figure #3). Selecting the target is the same as selecting the source. The SAC font directory is called "FONTS." The SAC symbol table directory is called "SYM.TBLS."

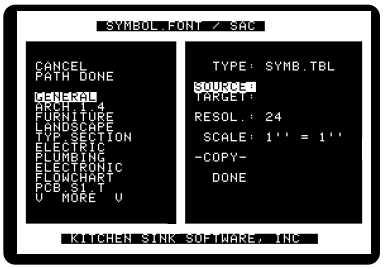
4. Figure #4 shows the Font menu. You will notice that it has fewer options than the symbol table menu. Skip to step number 9 if you are copying fonts, AccuSymbol tables, symbol tables from other publishers, or our own Elevation or Kitchen symbols. If you are copying symbol tables you have created and you know the printer density and scale of the symbols, you will need to set these items in the menu so the scale and density information are stored with the file.

5. Figure #5. See page 3.7 in the *AccuDraw* reference manual for details on densities. Select the proper printer density.

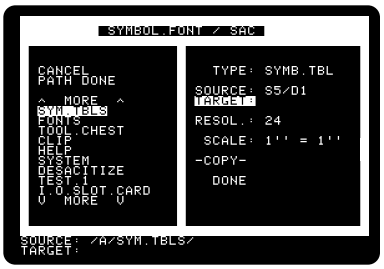
6, 7 & 8. See pages 3.8 and 3.9 in the *AccuDraw* reference manual for details on setting scale. The method for selecting scale here is the same as used in paper setup in *AccuDraw*. Set the scale.

9. You are ready to transfer files. The files in the directory you selected in step #2 will be shown. You can now select any one of those files for copying or you can select "ALL FILES" which will copy all of the files in that directory. It will NOT copy directories within the selected directory.

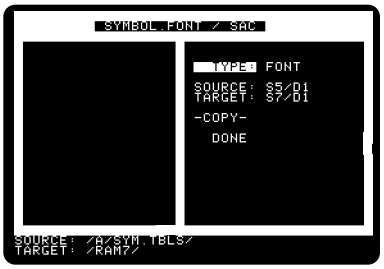
NOTE: You must use a two drive system. You cannot swap disks in a one drive system. You can copy from one directory into a different directory on a single disk.



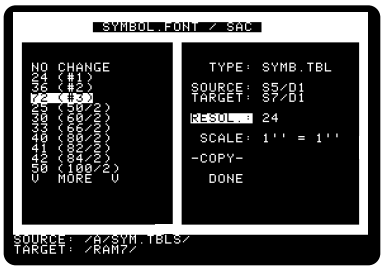
2



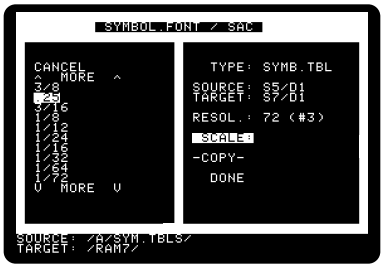
3



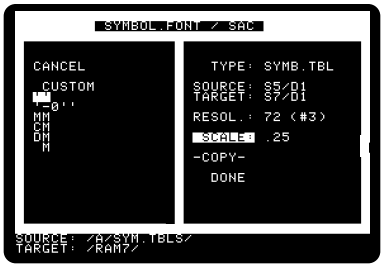
4



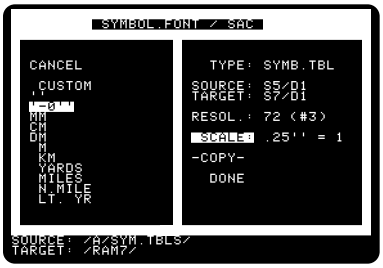
5



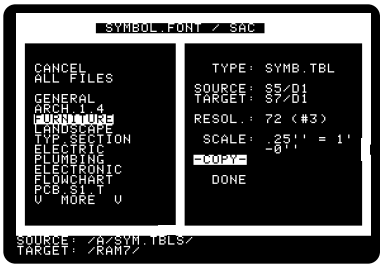
6



7



8



9

INSTALLER

The SAC Installer

The Installer will automatically copy the files from the *AccuDraw* disk to a 3.5" or hard disk drive. If you do not have a formatted disk, select option "2. Format a Blank Disk." If you have a formatted disk or a hard disk, select menu item "3. Install AccuDraw." If you have purchased SAC Applications before and wish to install *AccuDraw* onto that disk, then select "3. Install *AccuDraw*." You will need to install all *AccuDraw* 5.25" disk sides. After everything is completed, select "4. Done."

5.25" disks:

If you will be using *AccuDraw* on 5.25" disks, you should simply make a copy of all sides of the original disk(s) and then use the copies.

Note: Before you install *AccuDraw*, read the "UnSAC" section on page 4.6.

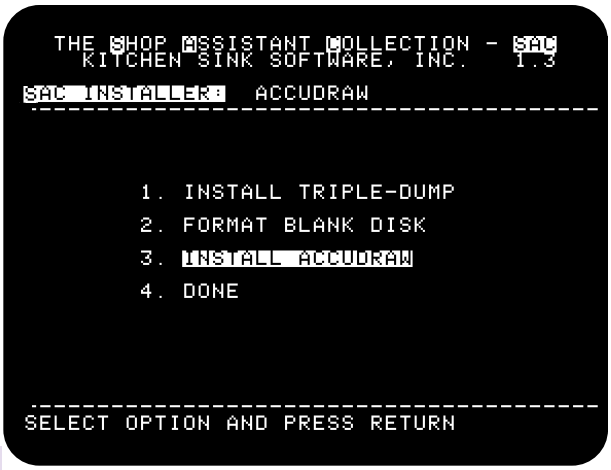


Fig. 4.4-1
Installer Menu

Install Triple-Dump

AccuDraw does not require installing the Triple-Dump graphics routines. However, the installer is included here in case you have just purchased Triple-Dump and would like to install it on your SAC Applications disk. Any manual for a SAC Application that does use Triple Dump routines has complete instructions on installing Triple Dump.

Format a Blank Disk

This process will erase ALL of the information from a disk. It will format in the standard ProDOS format. Do NOT attempt to format a hard disk. We have made every effort to make it impossible to format a hard disk, but offer no absolute assurances. The screen shown in Figure 4.4-2 will appear to control which device you format.

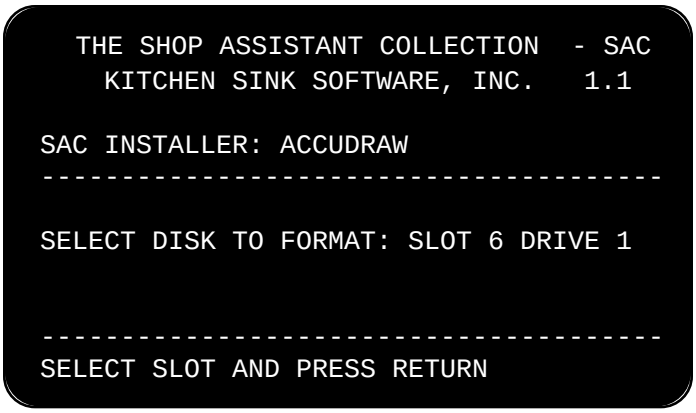


Fig. 4.4-2 Format a Blank Disk

1. Select the Slot you want by using the arrow keys to change the slot number, then press <return> when you see the correct slot number.

2. Select the Drive you want by using the arrow keys to change the drive number, then press <return> when you see the correct drive number.

3. You will have an opportunity to name the disk. If you simply press <return>, the disk will be given the name "SAC." We recommend you use "SAC" for the name as the installer will look for that name and be able to help you if "SAC" is the name.

4. The formatter will check the slot and drive to see if there is a disk there to be formatted. If the disk has already been formatted, then it will ask you if you want to format the disk anyway. If you answer "yes" any information currently on the disk will be lost forever.

Install

If you will be using *AccuDraw* on 5.25" disks, simply use a copy program to copy all disk sides and skip the installer.

See page 4.4, "Format a Blank Disk" for instructions on selecting a slot and drive location of the target disk (the disk where *AccuDraw* will be installed).

You are now ready to install *AccuDraw* on a 3.5" or hard disk. You should install ALL *AccuDraw* disk sides. The main 5.25" program disk is two sided. The installer menu is shown in figure 4.5-1. If you are installing on a 3.5" disk and you followed our advice to use "SAC" for the disk name, "I. INSTALL HERE ?" will be highlighted. Simply press "I" and the installation will begin. If you named a 3.5" disk something other than "SAC" you should still press "I" as soon as you see this menu.

Fig. 4.5-1 Installer menu

Hard disk users will have to tell the installer exactly where to install *AccuDraw* on your hard disk. We recommend that you place all of your SAC applications in a directory named "SAC." When you press "I" all of the needed files will be installed on the target disk. You will have to repeat the procedure for each disk side. You will be told when to put in the second side. The target directory is the volume name of the disk that you selected by slot and drive. You can then add levels to this directory by using the arrow keys to scroll through the directories on that device. You can also use the following commands to determine where the *AccuDraw* files will be installed. Most folks will only need read “I=Install Here” for a successful installation.

I = Install Here: This will cause the *AccuDraw* files to be installed at the current Target Directory. “Install Here” will be highlighted when the SAC Directory is the current directory. If you are not sure what to do, press I when “Install Here” is highlighted.

K = Key in Path: This will allow you to manually type the path where you want the *AccuDraw* files to be installed. You can save time with this option if you have several directory levels before you get where you want to install.

V = Volume Dir: Will return to the Volume Directory and make it the Target Directory.

B = Back a Level : Will subtract one level off of the current Target Directory. For example, /SAC/ACCUDRAW/ would become /SAC/.

S = Slot/Drive: Will allow you to manually select a different destination Slot/Drive, such as Slot 5, Drive 1.

C = Create Directory: Will let you type in the name of a directory to create.

ESC - Main Menu : Will return you to the SAC Installer Menu.

Done

This will return you to the SAC Main Menu.

UnSAC

Executing UnSAC will remove the SAC Main Menu from your start-up procedure. When you boot the disk you will go straight to *AccuDraw*, bypassing this menu. This option will save you a few seconds during the start-up procedure If you want to run *AccuDraw* from a 3.5" or hard disk, use the INSTALLER program first. During the installation, you will be asked if you want to install UNSAC. If you want to bypass the SAC menu, you should choose to install UnSAC. After making the full installation, run the UnSAC menu item on the 3.5" or hard disk. In the future, the SAC menu will be bypassed, *AccuDraw* will run directly on booting the disk.

If you are running *AccuDraw* from a hard disk, you will need to execute the file called "SAC.SYSTEM" to run *AccuDraw*.

Read about the INSTALLER program before UnSACing.

ReSAC

If you UnSAC your disk and later decide you want to use the SAC system after all, you can ReSAC your disk in one of two methods: 1) Don't change your original disk. Only UnSAC the copy you, made. 2) In the volume directory of the *AccuDraw* disk you will find a program called MAIN. Rename MAIN to DESACITIZE. Next rename the file called SACITIZE to MAIN. The SAC menu will now be back in effect.

To RAM Mover

This program is useful if you install *AccuDraw* on a 3.5" disk and you have a RAM disk in your system that is at least 800k in size. All instructions are built into the program. The purpose is this: Programs run very fast when they are running from a RAM disk. It also means that you can use your 3.5" disk drive as a data disk because the entire program is in the computer memory. Your RAM disk must be 800k or larger. How much larger does not matter. If you already have files on the RAM disk they will be lost if you run To RAM Mover. You should use To RAM Mover first thing after you boot your computer. The entire contents of your *AccuDraw* 3.5" program disk will be transferred to computer memory in under 2 minutes. You can have other files on the 3.5" disk along with *AccuDraw*. You may want to keep your data files on the same disk with *AccuDraw*. That way, the program and data all work at maximum speed.

If your RAM Disk is exactly 800k in size, you can use *Kick Start* to simply copy the entire RAM disk back onto the 3.5" disk when you are done.

If you would like to use the To RAM Mover with all of your 3.5" unprotected disks, you can order it as *Kick Start* directly from us. *Kick Start* will even copy GS/OS boot disks to RAM5. Prices and ordering information are in the catalog. As this manual is being written *Kick Start* is $9.95 plus $2.50 shipping for a total of $12.45.

RAM Backup

This program works with the To RAM Mover. If you have transferred your drawing files along with the *AccuDraw* program to a RAM disk using To RAM Mover, you will want to save your drawing files back onto a 3.5" disk. It will detect all files on the RAM disk that have been changed or added since To RAM Mover was run. It will automatically save those files back to the 3.5" disk. The first time (and ONLY the first time) you use RAM Backup, it will copy ALL of the files from the RAM disk back to the 3.5" disk. After the first time, it will copy only files that were changed on the RAM disk.

If you would like this capability with your other disks, it comes on the *Kick Start* disk mentioned in To RAM Mover.

NOTE: RAM Backup will back up any changes you make in the *AccuDraw* configuration file.

Press <Escape> at any time to cancel the RAM Backup program.

1. First, you will need to select the source location. Use the arrow keys to change the slot number until it is the slot of the source disk. Press <return>. Then use the arrow keys to change the drive number until it is the drive of the source disk. Press <return>.

2. Select the destination disk location in the same manner you select the source disk location.

3. Do you want to copy only those files that have been changed? Select "Yes." If you want to make a copy of all files, select "No." You can use "No" to make a complete copy of a disk. This program works file by file so it is not the most efficient way to copy disks!

4. Do you want to clear the backup bit? If you select "Yes," the file will be copied and marked as backed up. The file will not be backed up again unless it is changed. If you select "No," the backup bit will be set. The next time you run RAM Backup, it will think the files with the backup bit set need backing up and will copy them again.

Read Me First

This item will contain information about any changes made in the program that are not covered in the manual. Be sure to run this program the first time you boot *AccuDraw*.

Appendix B

Configuring RAM

AccuDraw uses a lot of memory. If it can find memory in your computer it will use it. If the additional memory is not there, *AccuDraw* will use the memory available as efficiently as possible. The best way to describe how to configure RAM is to describe the process *AccuDraw* uses to take advantage of all possible RAM. On page 3.25 there is a description of how to set Program /RAM/ in the configuration menu (which is in the Utilities menu). The setting you make for Program /RAM/ determines how *AccuDraw* will use extra memory in your computer. We'll take it a step at a time:

On the next page:

How to set "Program /RAM/" to make *AccuDraw* work as you want it to.

1. *AccuDraw* cannot run on an Apple /, // or //+ no matter how much memory there is.

2. If you are running *AccuDraw* from a hard disk or RAM disk, you probably want to run all segments of the program directly from the hard or RAM disk. You can skip to step 8 if you are in a hurry.

3. The earliest //e computers could be purchased without an 80 column card or an extended 80 column card. Or, if your computer is in a school, someone may have removed the card that was originally in the computer. If the computer has neither of these cards, *AccuDraw* will not work on the machine.

4. If you have a //e with an 80 column card, your computer has 64k. *AccuDraw* will work, but it will have to read the disk for all program segments. If you are using a 5.25" disk, you will have to flip the disk over from time to time as all segments will not fit on one side of the disk. You will be prompted when to flip the disk. The prompt will simply request you place the *AccuDraw* disk in the drive. It will not say you need to flip the disk, but that is what you need to do if the *AccuDraw* disk was already in the drive. All drawing segments are on the front side of the disk except the fill routines. All other segments are on the back side of the disk. (Note: if you have a later //e, someone might have taken the extended 80 column card out of your machine and left a plain 80 column card. This has happened in my school... TO ME!)

5. All later Apple // models, the enhanced //e, //c, //c+, gs and MAC LC with //e card came with 128k of memory (see note in #4 regarding the //e). All drawing segments on the front side of the disk will be loaded into memory when you boot the program. You can tell if this is happening by looking in the lower left corner of the screen as the program loads. You will see "RAM/M." Under this you will see a count down as the segments load. *AccuDraw* will only need to access files on the back side of the disk.

A 3.5" disk is a floppy disk. The disk case is hard plastic, but the disk itself is floppy just like a 5.25" disk. A hard disk is a complete drive with a disk sealed inside. (Some very expensive hard disks can have removeable disks inside.)

6. If you have more than 128k of memory, you will need to have some of that memory set up as a RAM disk in order for *AccuDraw* to take advantage of it. Some cards may have a system file you have been instructed to execute when the computer is first turned on. That file will set up the RAM disk in your extra memory. To install that file on your *AccuDraw* disk, make a backup copy of AccuDraw using a volume or whole disk copy (not file by file). Next, use any file copy program to transfer the system file that came with your RAM card to the *AccuDraw* disk. The transferred system file will be run immediately after ProDOS is booted into memory. (We created a couple of dummy files on the *Accudraw* disk and then deleted them, leaving a place for up to 3 system files to be added. Those system files will be executed before *AccuDraw* is run.)

7. *AccuDraw* will look for a RAM disk based upon the Program /RAM/ configuration. If enough extra RAM is found on RAM disk (about 168K) The rest of the *AccuDraw* program segments will be loaded into memory. Not all segments will be placed in memory, so some operations, such as printouts, will need to load segments from disk. You will know if the extra memory is being used by watching the lower left corner of the screen. After the "RAM/M" countdown is completed, you will see a new message such as RAM5/M appear and another countdown will start if that additional RAM space is available.

8. If you quit *AccuDraw* using the Main menu Quit command, *AccuDraw* will clear itself out of all memory in the computer. All computer settings will be left as they were found.

Setting "Program /RAM/"

If you don't understand any of this, just skip it. Never change the Program /RAM/ setting.

You can tell *AccuDraw* whether to run directly from your hard disk or RAM disk. Or you can tell *AccuDraw* which RAM disk it may or may not use for program segments. No matter how you set the /RAM/, if there is not enough memory, *AccuDraw* will ignore your setting and do the best it can without violating your rules. *AccuDraw* stores how it loaded itself so that it can remember without rebooting the computer in the event the program crashes.

Setting the rules is extremely easy. The most flexible setting is the one that comes on the *AccuDraw* disk as we ship it. The setting is "RAM." You can change the setting to any sequence of characters you wish (they must form a legal ProDOS name). *AccuDraw* looks at this setting and then does the following:

In the example sequence given here, we are assuming that "Program /RAM" is set to "RAM".

1. *AccuDraw* looks at the current ProDOS prefix. This prefix will be the volume name of the disk from which you run *AccuDraw* (3.5" and RAM disks) or a path to the *AccuDraw* directory (hard disk). The prefix is scanned. Program /RAM/ is set to "RAM." During the scan, if the sequence of letters "RAM" is found anywhere in the prefix, *AccuDraw* will do NO preloading. The program will run from the current disk. This is what you want if you are running from a RAM disk and maybe from a hard disk.

Examples of prefixes containing the sequence "RAM":
RAM5, RAM4, RAM7, CRAM, XXCRAMMML

Examples of prefixes not having the sequence "RAM":
SCREAM, RA, AM, R/AM, R.AM

2. If the scan does not result in a match, *AccuDraw* will then look to see if the computer has an extended 80 column card (that is, 128k). If it does, program segments from the front of the *AccuDraw* disk are loaded into the extra memory and a few extra files are created there too.

3. *AccuDraw* now looks to see if there are any RAM disks in your computer big enough to hold the rest of the program. If so, it looks at the names of those RAM disks, starting with the first one in the ProDOS device list. The RAM disk name is scanned. During the scan, if the sequence of letters "RAM" is found anywhere in the name, that RAM disk will be used. The rest of the program segments will load in there. If no match is found, there will be no preloading of the second batch of files.

HINTS:

1. If you are using a hard disk, you may want to run *AccuDraw* directly from disk as newer hard disks are about as fast as a RAM disk anyway. Check the volume name of your hard disk. If it is "HARD1" you will want to set the Program /RAM/ to "HARD".

2. If you do not understand any thing about this whole topic, don't worry about it. Put it out of your mind completely. Just don't ever change the Program /RAM/ setting in the *AccuDraw* configuration file. We have set it for the best setting for normal people (that's you). Only us weirdos, with cards in every slot and a 40 meg hard disk that is too small, worry about this kind of stuff. In the long run... You are probably wise not to get addicted.

3. If you do not have a hard disk, but you have a 3.5" disk drive and a RAM disk of at least 800K, you should take time to learn to use To RAM Mover and RAM Backup in the SAC menu. See page 4.6.

Appendix C

Centering Routines

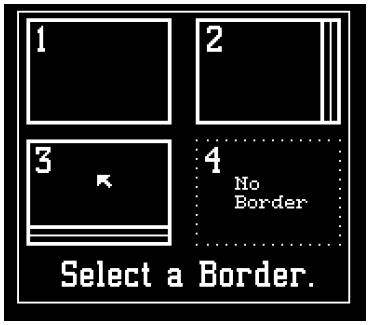
AccuDraw comes with two style files on the disk. We strongly recommend that teachers use these styles with beginning students. A step by step use of the styles is one of the lessons in the *AccuDraw Primer.* Below is s summary of how to use the styles and the centering routines. Only the two styles that come on the *AccuDraw* disk can use the centering routines described here. The two style files on the *AccuDraw* disk are:

ENGLISH: This file has the scale preset to 1" = 1" and the density is set to 24 Dot Per Inch (Density #1). The number of decimal digits is set to 3. The cross hair cursor has been set so the does in the cursor are one inch apart.

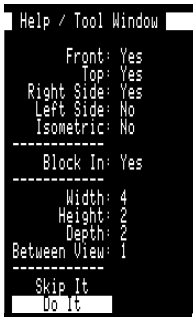
METRIC: This file has the scale preset to 1 cm = 1 cm and the density is set to 24 Dots Per Inch (Density #1). The number of decimal digits is set to 1. The cross hair cursor has been set so the dots in the cursor are about 1 cm apart. Because the printout density has to be based on inches, the dots on the cross hair are not exact; use them only for estimating.

As soon as the style and first layer have been opened, the automatic centering routines will appear.

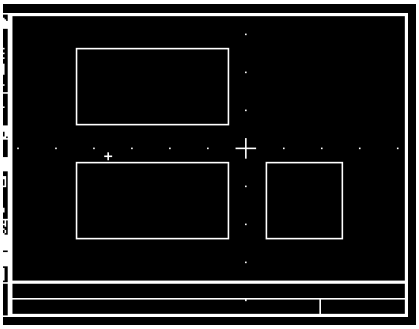
Figure #3 shows a drawing centered with "Block In" set to "Yes" so the view outlines appear.



1



2



3

1. There are 3 borders available. You can also choose to have no border at all. Move the arrow cursor until it is inside the border style you want. Press <button>. That border will be drawn on the screen and a menu will appear in the Help / Tool Window.

2. The Object Size and Drawing Type menu appears in the Help / Tool Window. There are 4 areas to the menu.

After your drawing is centered and you are ready to draw, take a moment to use the SAVE icon to save the drawing so the centering will not be lost in the event of a power failure.

In the top area you will choose what drawing views you want. If you select Isometric, the other 4 views will switch to "No." If you select any of the other 4 views, isometric will indicate "No."

If Block In is set to "Yes," the views will be blocked in (as seen in Figure #3). If set to "No," a small "L" will be drawn at the corners of the views, but the complete view outline will not be drawn.

The next area down is where you indicate the object width, height and depth as well as the distance you want between views. If the Style is ENGLISH, the distances are in inches. If the style is METRIC, the distances are in centimeters. If you are making an isometric, distance between views is ignored.

Lastly, you can "Skip It" in which case no centering will be done or "Do It" in which case the views will be centered as you have requested and you will immediately be ready to draw (Figure #3).

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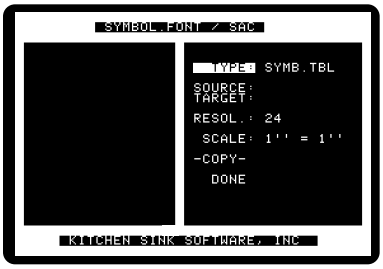
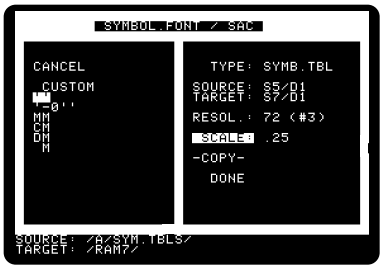
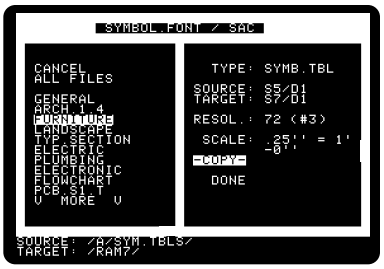
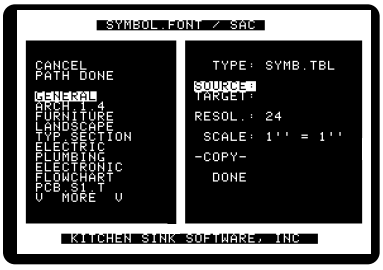

SYMBOL.FONT / SAC
TYPE: SYMB.TBL
SOURCE:
TARGET:
RESOL.: 24
SCALE: 1'' = 1''
-COPY-
DONE
KITCHEN SINK SOFTWARE, INC


SYMBOL.FONT / SAC
CANCEL
CUSTOM
1=0''
MM
CM
DM
M
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET: S7/D1
RESOL.: 72 (#3)
SCALE: .25
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/

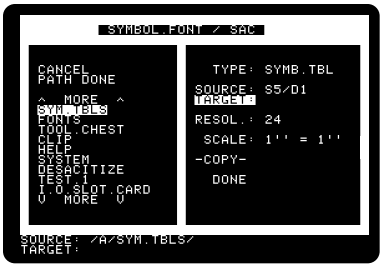
SYMBOL.FONT / SAC
CANCEL
CUSTOM
1=0''
MM
CM
DM
M
KM
YARDS
MILES
N.MILE
LT. YR
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET: S7/D1
RESOL.: 72 (#3)
SCALE: .25'' = 1
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/


SYMBOL.FONT / SAC
CANCEL
ALL FILES
GENERAL
ARCH.1.4
FURNITURE
LANDSCAPE
TYP.SECTION
ELECTRIC
PLUMBING
ELECTRONIC
FLOWCHART
PCB.S1.T
V MORE V
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET: S7/D1
RESOL.: 72 (#3)
SCALE: .25'' = 1'
-0''
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/

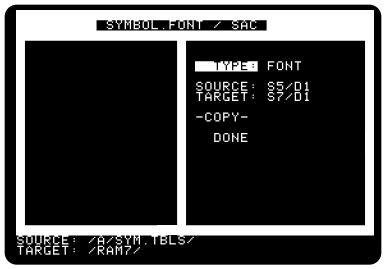
2


SYMBOL.FONT / SAC
CANCEL
PATH DONE
GENERAL
ARCH.1:4
FURNITURE
LANDSCAPE
TYP.SECTION
ELECTRIC
PLUMBING
ELECTRONIC
FLOWCHART
PCB.SI.T
V MORE V
TYPE: SYMB.TBL
SOURCE:
TARGET:
RESOL.: 24
SCALE: 1'' = 1''
-COPY-
DONE
KITCHEN SINK SOFTWARE, INC

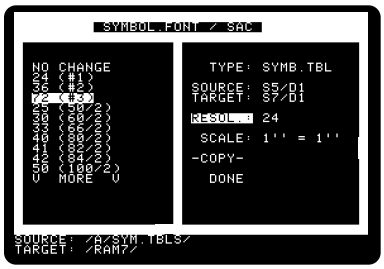
3

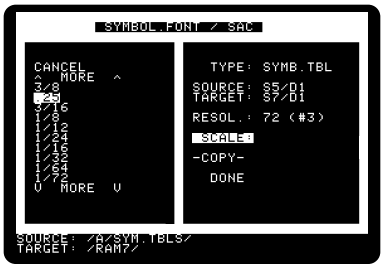

SYMBOL.FONT / SAC
CANCEL
PATH DONE
^ MORE ^
SYM.TBLS
FONTS
TOOL.CHEST
CLIP
HELP
SYSTEM
DESACTIVATE
TEST 1
I.O.SLOT.CARD
V MORE V
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET:
RESOL.: 24
SCALE: 1'' = 1''
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET:

4

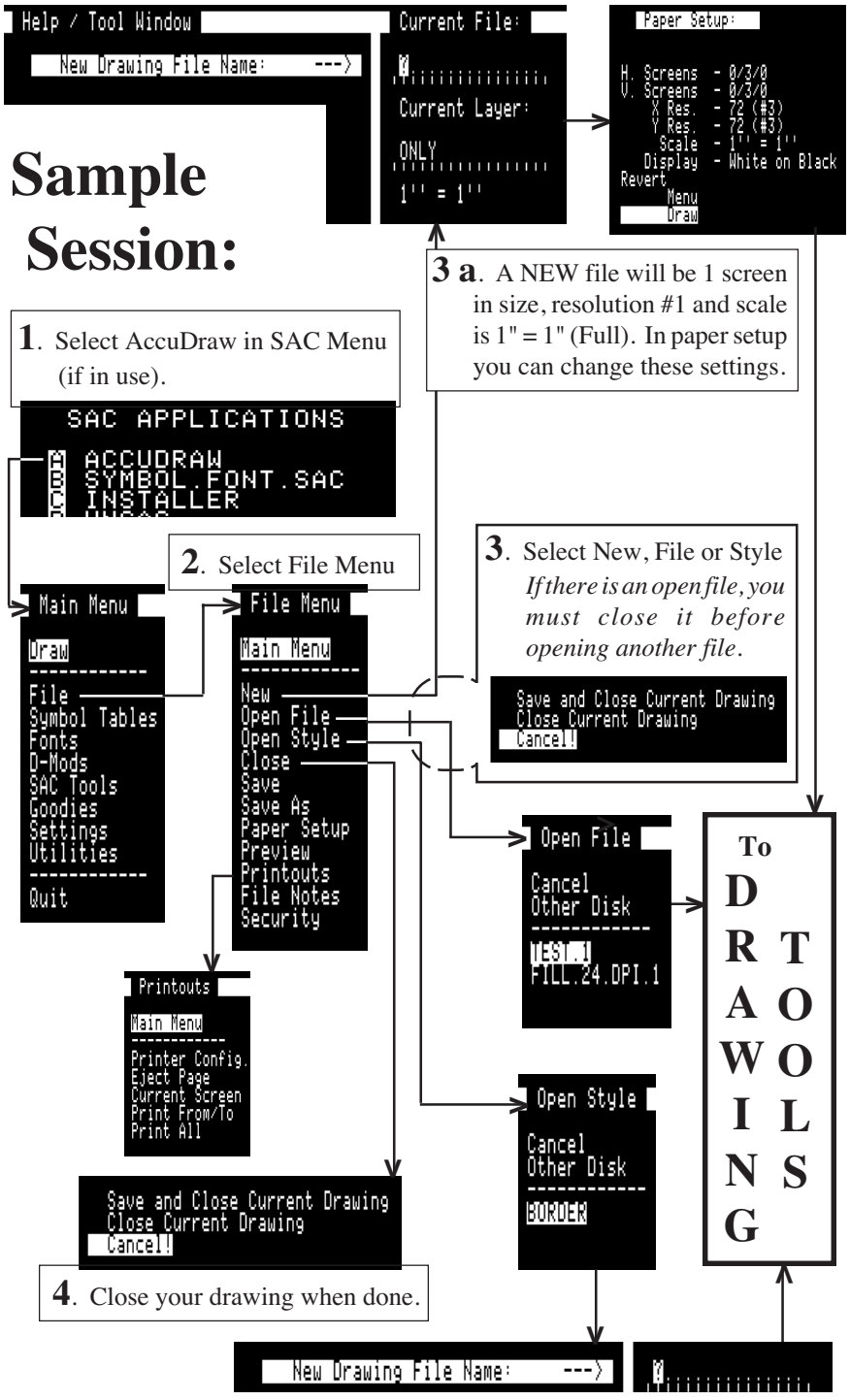

SYMBOL.FONT / SAC
TYPE: FONT
SOURCE: S5/D1
TARGET: S7/D1
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/

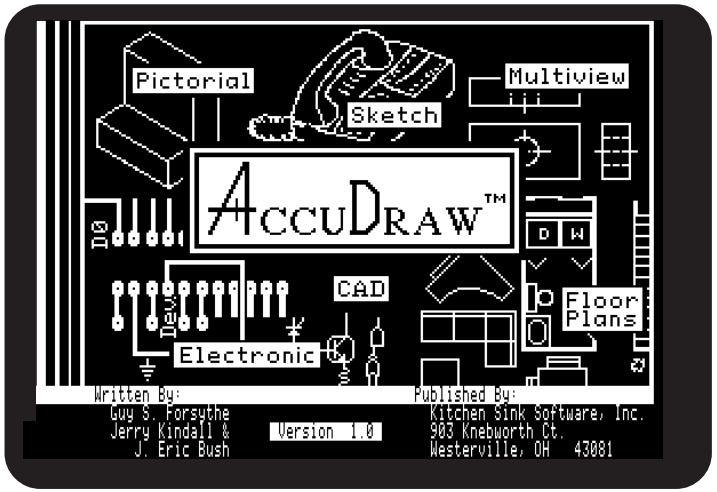
5


SYMBOL.FONT / SAC
NO CHANGE
24 (#1)
36 (#2)
72 (#3)
25 (50/2)
30 (60/2)
33 (66/2)
40 (80/2)
41 (82/2)
42 (84/2)
50 (100/2)
V MORE V
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET: S7/D1
RESOL.: 24
SCALE: 1'' = 1''
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/


SYMBOL FONT / SAC
CANCEL
^ MORE ^
3/8
1/4
3/16
1/8
1/12
1/24
1/7
1/16
1/32
1/64
1/72
V MORE V
TYPE: SYMB.TBL
SOURCE: S5/D1
TARGET: S7/D1
RESOL.: 72 (#3)
SCALE:
-COPY-
DONE
SOURCE: /A/SYM.TBLS/
TARGET: /RAM7/

Sample Session:





ACCUDRAW™ Quick Reference Sheet

Use this sheet and the keyboard reference card for a complete reference of *AccuDraw* commands, controls and keyboard shortcuts.

Contents:

Inside: Flow chart of the Main Menu and Icon Menu
List of Tool Modifiers
Functions Window Layout
Back: Keyboard Shortcuts

Note: The key serves as <button>. Use , the mouse button or joystick button to start a drawing tool operation. Release <button> to finish the selection or operation. Use or <return> in menus.

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KITCHEN SINK FREEWARE & SHAREWARE

1169 Stroud Ct.
Westerville, OH 43081-1134

ACCUDRAW™ Flow Chart

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KITCHEN SINK FREEWARE & SHAREWARE
1169 Stroud Ct.
Westerville, OH 43081-1134

(I) Individual Lines
(L) Contiguous Lines
Sketch
Ellipses
(R) Rotate Line Build-up
Go To Screen
(+) or (=) Plus
(E) Symbol Draw
(E) Symbol Eraser
Edit Box
(C) Copy
Mirror / Flip
Inverse
Flood Fill
Write Text
Main Menu
Activate D-Mod

D-Mod Icon area

Eraser
Radial Lines
Box (B)
Line Code (C)
Auto Axis (X,Y,A)
Minus (-)
Symbol Brush
Paste
Erase (E)
Zoom
UnDo
Save Drawing*

* This saves only the graphic.

Tool Modifiers... (Use <return> or * to cycle modifier)

Line	Text	Paste	Symbol	D-Mods	Circle
Step	Rot.	Rot.	Sym#	Varies	Move
mult	Char.	Comb	Cur#	with	Type
Angle	Word	Xmag	Rot.	each	AxAn
Code	Line	Ymag	Size	D-Mod.	Side
			Tbl#		

Set Mult, Step, Line Code and Auto Axis in line tool.

Zoom
Mag

CalcPad in Command Mode

```
u|f STEP
-+- #
x|y -
m.r +
```

The active cursor

```
X= 1        789 STEP   Step: 5   0-1   2-3   6-7
Y= 1        456 #      Mult: 1   1-2   3-4   7-8
TL= 1.414   123 -      Angl: 45         4-5   8-9
 /= 45      0.r +      Code: #0    +    5-6   9-10
```

Measure Readout w/ (N): True Length & Angle
CalcPad
Keyboard Jump (Space Bar)
Modifier Values
Symbol / Cursor Assignments
Scroll indicator

Main Menu

Draw

File
Symbol Tables
Fonts
D-Mods
SAC Tools
Goodies
Settings
Utilities

Quit

Symbol Tables
Main Menu

Set Scale (off)
Load Table

Fonts
Main Menu

Beagle Fonts
IIgs Fonts
AccuFonts

D-Mods
Main Menu

A list of D-Mods appears here.

SAC Tools
Main Menu

A list of SAC Tools appears here.

File
Main Menu

New
Open File
Open Style
Close
Save
Save As
Paper Setup
Preview
Printouts
File Notes
Security

Close
Save and Close Current Drawing
Close Current Drawing
Cancel

Goodies
Main Menu

Save Clipboard
Load Clipboard
Save Style
Help
Create Layer
Import Screen
Export Screen
Re-Name File
Edit Fill Pat.

Settings
Main Menu

Scroll
Snap
Rotation
Mouse Speed
Layer
Cross Hair
Line Codes
Dec. Digits

Utilities
Main Menu

Configuration
Format Disk
Delete File
Create Help

Preview
File Menu

1/2 Size
1/3 Size
1/4 Size

Print Screen
Save Screen

Horiz. (1)
Vert. (1)

Density (2)

Printouts
Main Menu

Printer Config.
Eject Page
Current Screen
Print From/To
Print All

Current Screen
Print Menu

Small
Medium
Large
Poster (2X)
Poster (3X)
Poster (4X)
Poster (4X)

Paper Setup
H. Screens
V. Screens
X Res.
Y Res.
Scale
Display
Revert
Menu
Draw

Configuration
Main Menu

Data Disk
Program/RAM/
Font Path
Input Device
Bell Level
CPU Speed
Security
Save Settings