

M-3000

User's Guide

Boot from floppy or  
ctrl alt ins Q

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## INTRODUCTION

This OPERATION GUIDE has been designed to help you start working with your Mindset M-3000 System. It is strongly recommended that you read through this short guide before you start using the system. The guide will help you identify system components, connect the components properly, and power up the system. It also provides general instructions for using software.

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## SETTING UP THE SYSTEM

### IDENTIFYING SYSTEM COMPONENTS

Before you connect any of your components, check to ensure that you have received each of the following items:

- Main Unit:** included with the Main Unit is this Operation Guide and a six foot AC cord for connecting the unit to an AC outlet (110V/60Hz).
- Keyboard:** included with the Keyboard is a coiled cable for connecting the Keyboard to the Main Unit.
- Mouse:** included separately for connecting to the keyboard.

### PLUGGING IN YOUR SYSTEM

The Mindset M-3000 has been designed to be either table-top mounted or mounted in a standard 19" rack (using the optional Mindset rack mounting shelf). The following considerations should be kept in mind when deciding how and where to place your system:

1. The system should be placed on a level surface ensuring that the ventilation holes on the underside of the Main Unit and the fan exhaust at the back are not obstructed.
2. Locate your system near a power outlet. Do not use a switched AC outlet since this could result in the unit being inadvertently switched off while it is in use. Switching On and Off should only be done by using the illuminated power On/Off switch on the front of the Main Unit.
3. The Main Unit comes with a separate power cord which plugs into the rear of the unit. After you have located a place for your system, plug the power cord into the Main Unit, then into the outlet.

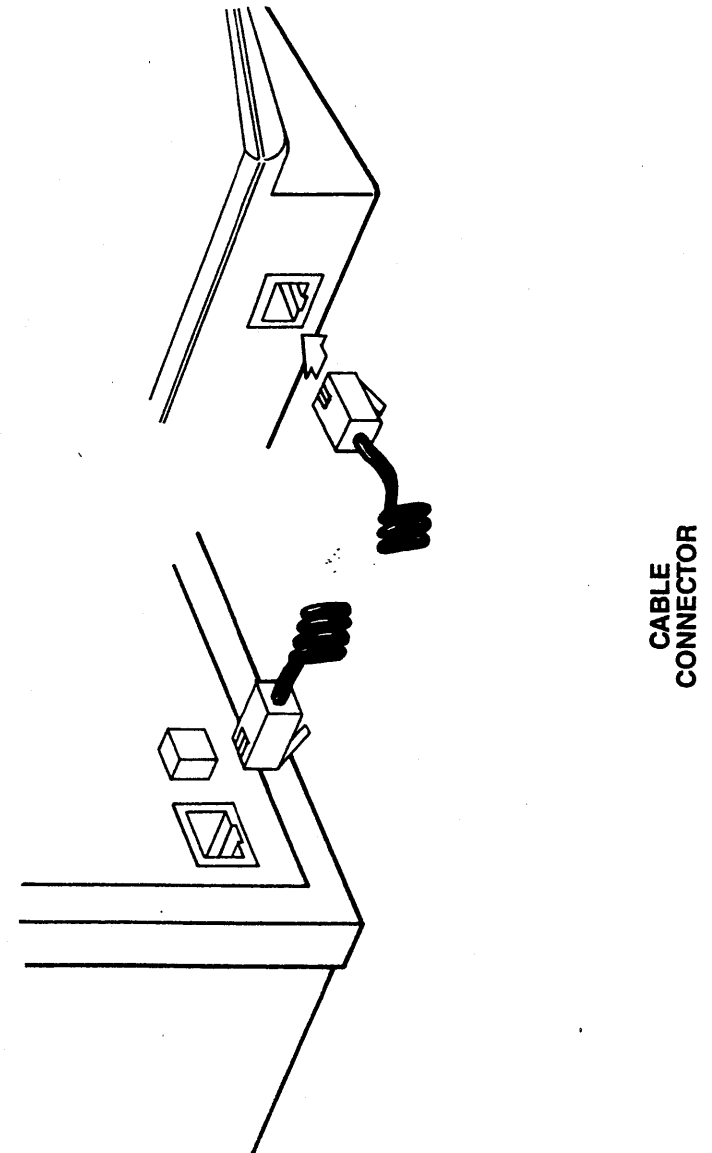
### SETTING UP THE KEYBOARD

The keyboard is designed to be connected to the Main Unit directly by a cable. To attach the keyboard, locate the coiled keyboard cable. Then find the keyboard cable connector at the left corner of the keyboard, and insert one

end of the cable into this connector.  
(Because the connectors on both ends of the cable are identical, it doesn't matter which end of the cable you attach first.) Attach the other end of the cable to the Main Unit by plugging it into the socket in the lower left corner of the Main Unit.

CAUTION: The keyboard must be connected to the Main Unit with the special Mindset coiled keyboard cable. DO NOT USE A STANDARD TELEPHONE CABLE!

Insert the other end of the cable into the keyboard connector at the left side of the Main Unit. Figure 2-1 shows the proper attachment of the keyboard to the Main Unit.



## IDENTIFYING FRONT-PANEL CONTROLS

Figure 2-2 shows the front panel controls.

### Input Source Select Push Button

When this switch is in the "IN" position, the input video source is taken from the Component In connector at the back of the Main Unit. The unit expects the video to be in Y, R-Y, B-Y format, and processes it accordingly.

When the Source Select switch is in the "OUT" position, the Main Unit takes its video from the NTSC In connector. This input is for NTSC 1V p-p composite video. Put the switch in the "out" position when using the M-3000 upstream from a switcher. The NTSC In connector is then used as Sync In.

The following adjustments should be made only by a qualified technician with suitable test equipment (i.e., waveform analyzer, vectorscope, etc.).

## IMPORTANT

### Mindset M-3000 Manual Addendum

The following information is new or updated since the M-3000 Operations Guide was printed.

### HARD DISK PARK---CAUTION

Every time the M-3000 is to be moved from one location to another or to be shipped, the hard disk heads MUST be "parked." This protects the heads and the data on your hard disk from any possible damage that can be caused by mechanical shocks to the system during shipment. A function has been added to the M-3000 Main Menu to park the hard disk. This function MUST be performed as the LAST thing you do before turning off the M-3000 and preparing it for transport.

### INTERNAL/EXTERNAL SYNC SWITCH

The sync switch on the rear panel of the M-3000 (between the AC line socket and the 'Component In' connector) allows the user to operate the M-3000 in two distinct modes, depending on whether or not an external sync source (i.e., camera, VTR, black burst, etc.) is present on the 'NTSC IN' connector.

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### INTERNAL SYNC

With the switch in the UP position (INT), the M-3000 will generate its own internal 3.58 MHz subcarrier and should not have any cable connected to the 'NTSC IN' connector. This means that the M-3000 in this configuration is not able to genlock to a video source and therefore must be used upstream of any other video equipment. The other video equipment will then genlock to the video output of the M-3000. This mode would normally only be used if the operator wants to use the M-3000 in an off-line stand alone set-up or when a sync source may not be available.

### EXTERNAL SYNC

With the switch in the DOWN position (EXT), the M-3000 is in the external sync mode and requires a sync source to be present at the 'NTSC IN' connector for proper operation. In this mode the M-3000 genlocks to the external sync source and can then be used upstream or downstream of other video equipment such as a switcher. Using the M-3000 in an on-line mode is the most common setup. When used in

the external sync mode and the sync is lost (eg., a VTR is the sync source and it is stopped or shuttle-searched) the M-3000 will (until sync is restored) drop out of genlock.

NOTE: Once you have set-up the M-3000 with your video equipment to be either internally or externally synced, the switch position should not be changed unless you also change your video equipment set-up. When switching between internal and external modes, POWER OFF your system.

### KEY OUT SIGNAL

The key out connector from the back panel of the M-3000 is a chroma key signal of 0.7 volt p-p when terminated into a 75 ohm load. The signal is 0.7 volt when the key is on (ie., displaying external video source) and at 0.0 volt when the key is off (ie., displaying M-3000 graphics).

### KEY DELAY CONTROL

The values of the key delay controls on the front panel of the M-3000 have changed. The coarse adjustment is ten steps of 50ns per step and the fine adjustment is ten steps of 5ns per step.



SOFTWARE BACK-UP DISK PACKAGE

All the software for the M-3000 is already installed on the hard disk at the factory. In most instances, you will never have to worry about installing software onto your hard disk. However, if you cannot load a particular program from your hard disk, you may need to re-install all software.

A package of diskettes with instructions is included with your M-3000. These are the BACK-UP DISKS to the applications and data files that were ALREADY INSTALLED on your hard disk at the factory. Put these disks away in a safe place. DO NOT USE THESE DISKS except as directed in the instructions provided with them.

INTRODUCTION

The purpose of this section is to provide a quick and easy way to set up and make sure your M-3000 system is working properly. PLEASE REFER TO THE OPERATION GUIDE SECTION OF THIS MANUAL FOR MORE DETAILS ON SYSTEM SETUP AND OPERATION IN DIFFERENT VIDEO ENVIRONMENTS. The OPERATION GUIDE contains helpful hints and illustrations and contains a detailed troubleshooting section.

SYSTEM ELEMENTS

You will find the following items packed with your Mindset M-3000 System:

- o M-3000 System Unit
- o Keyboard and cable
- o A.C. cord
- o Mindset Mouse
- o M-3000 Operation Guide (this manual)

If any of these items are missing, contact your Mindset Dealer where you purchased this system.

You must minimally provide the following equipment:

- o Composite or Analog RGB monitor
- o All BNC cables to connect the M-3000 to your equipment

## SETUP

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To use the M-3000 over video and/or to record what you create, you must also provide the following:

- o A video source (ie. camera, VCR, etc.)
- o A video recorder (any 1/2, 3/4, Beta, etc.)

### SETUP

1. Make space available on a flat surface to set your system on. If you plan to rack mount the M-3000 system, refer to the installation instructions included with the optional rack mount kit. The optional rack mount kit is available from your Mindset Dealer.
2. Unpack your M-3000 system and set it on the table. Save the shipping carton and packing, in case you need to ship your system in the future. This carton is the only safe way to ship your system.
3. Place the keyboard on the table in front of the M-3000. Connect one end of the keyboard cable into the jack on the front of the M-3000. Connect the other end into the jack on the back of the keyboard. (See OPERATION GUIDE for illustration.)

## SETUP

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4. Unpack the mouse and set it on the table to the right side of the keyboard. Plug the connector on the mouse cable into the jack on the right end of the keyboard.
5. Plug the A.C. cord into the socket on the back bottom left corner of the M-3000.
6. You must connect a monitor to your M-3000 system. You have several options, but at least one must be used. Read steps 6 a, b, & c and use the one that meets your needs. (The OPERATION GUIDE contains several system diagrams.)
  - 6.a. (Optional) Take one of your BNC cables and connect one end to the NTSC Preview Video Out connector on the back of the M-3000. Connect the other end to the Video In connector on your composite monitor. The monitor connected to this output will ONLY display the M-3000 video, it will not display your source video (if any).
  - 6.b. (Optional) Take one of your BNC cables and connect one end to the NTSC Video Out connector on the back of the M-3000, Connect the other end to the

Video In connector on your video recorder. Connect a composite monitor to the Video Out jack on your recorder. You may connect a composite monitor directly to the M-3000 instead of a recorder.

6.c. (Optional) If you have an Analog RGB monitor you can connect it to your M-3000 in addition to or instead of your composite monitor. Take four of your BNC cables and connect each to the R, G, B, and SYNC outputs on the back of the M-3000, and the other ends to their respective inputs on your Analog RGB monitor.

7. (Optional) Connect the BNC cable from your video source to the NTSC Video In connector on the back of the M-3000.

8. Remove the floppy disk head protector by turning the lever on the drive counter clockwise until it is horizontal. Remove the cardboard insert. Keep this insert in case you need to transport the M-3000 in the future.

9. Make sure the power switch is in the off (down) position. Plug the A.C. cord into a wall or power strip outlet.

10. Put the Source Selector Switch (on the front of the M-3000) in the NTSC position. Slide the Fade Bar all the way to the left.

11. Turn on your video source (if any) and monitor(s). If your source is a tape deck, play a tape.

12. Turn the Power Switch (on the front of the M-3000) ON. The amber light on the switch will turn on.

13. The M-3000 will now complete its power up diagnostics, and when its done, the M-3000 will display the MAIN MENU.

You have successfully set up your Mindset M-3000 System. You can now go to the Tutorial section of this manual to become familiar with each of the M-3000's applications. Before you permanently set up and use your M-3000 on a daily basis, you should at least become familiar with the OPERATION, MAIN MENU, and TUTORIAL sections of this manual.

If you do not see the MAIN MENU on your monitor do the following:

Check that each piece of equipment you are using is plugged in and powered on.

Check that the BNC cables are connected properly and in working order.

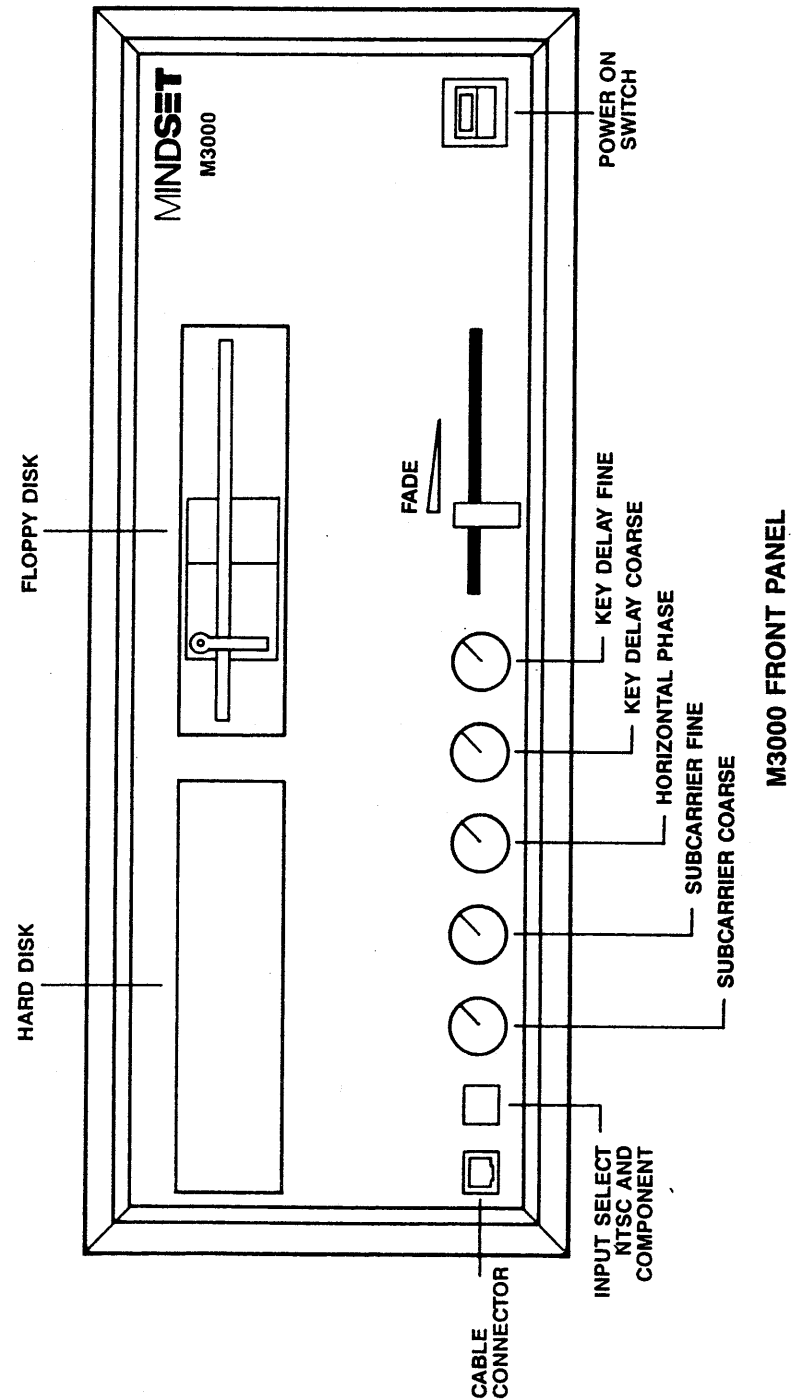
Check that the Fade Bar on the front of the M-3000 is all the way to the left.

## SETUP

Follow each of the set-up steps again to see if there was any thing you missed.

If you are still having difficulties, please refer to the Troubleshooting Section of the OPERATION GUIDE, or contact your Mindset Dealer or Mindset Corporation for further help.

## OPERATION GUIDE



Subcarrier Phase Adjustment (Coarse and Fine)

The two knobs immediately to the right of the Input Select Switch are for Subcarrier Phase Adjustment. The left knob is for coarse adjustments and has four positions: 0-90, 90-180, 180-270, and 270-360 degrees. The other sub-carrier knob is for fine adjustment of the phase within the range set by the coarse knob.

The Subcarrier Phase Adjustment is used to change the phase of the subcarrier with respect to sync. (This is not to be confused with Hue Adjustment.) The RS170A specification states that the phase of subcarrier should be within +30 degrees of the rising edge of sync, but the phase may need to be adjusted outside these limits in order to match some other piece of video equipment which itself is not within the RS170A specification. In a basic setup with an M-3000 and a monitor, there will be no observable effect on the screen of adjusting the subcarrier phase.

When the unit leaves the factory, the phase is set within the limits imposed by E.I.A. RS170A, and the coarse and fine adjustment knobs are both positioned fully counterclockwise.

Horizontal Phase Adjustment

The middle knob is for the adjustment of the Horizontal Phase. The range is +/- 3us.

The adjustment of the Horizontal Sync Phase is to allow the user to compensate for delays in his system due to such things as long runs of cable, other equipment in the line, etc. Horizontal phase is factory preset to be 0 $\mu$ s when the white mark on the knob is in the "12 o'clock" position.

Key Delay Adjustment

The two rightmost knobs are for the key delay, the left one being the coarse adjustment and the right being the fine adjustment. There are ten steps on each knob giving precise control of the key delay.

The M-3000 can be used either "upstream" or "downstream" of a switcher. In a "downstream" configuration, the key delay is not necessary. The key delay switches should be left in their factory preset position, each knob fully counterclockwise. However, if the M-3000 is used "upstream" of a switcher,

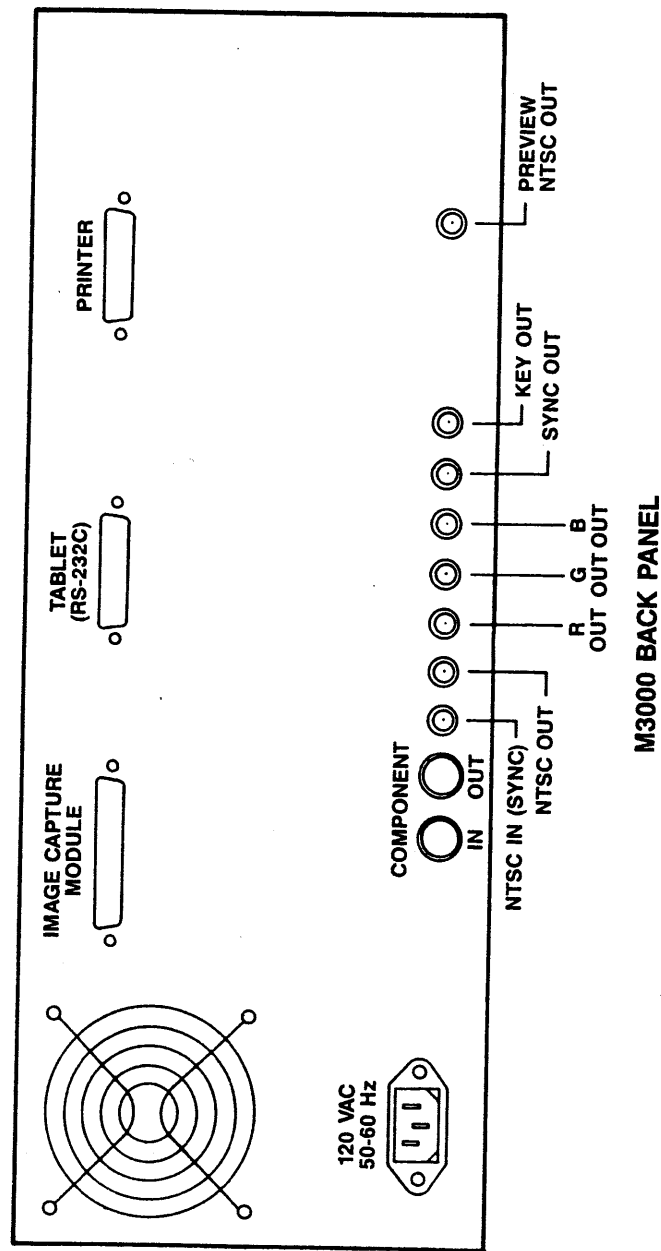
then the key delay is necessary to exactly match the graphics over the keyed background. Please refer to Figures 2-4 to 2-6 for "upstream" and "downstream" system connection.

Fade T-bar

The Fade T-bar is used for fading the Mindset M-3000 graphics in and out over a keyed background. When the T-bar is fully to the left, the Mindset graphics will be at full intensity; with the T-bar fully to the right, there will be no Mindset graphics at the output.

IDENTIFYING BACK-PANEL CONNECTORS

The M-3000 is equipped with a variety of inputs and outputs to enable it to easily integrate into any Video Production System. The back panel of the system contains all the video connectors as well as the parallel, serial, and Image Capture connectors. Please refer to Figure 2-3 for the locations of these connectors.



## CONNECTORS

AC CORD	Provides power to the system.
COMPONENT IN	For incoming Component video (Y, R-Y, B-Y).
COMPONENT OUT	Provides Component video output (Y, R-Y, B-Y).
NTSC IN (SYNC)	For incoming NTSC composite video (1V p-p). [If the M-3000 is being used upstream without an NTSC video feed, then in order to synchronize the unit to the other equipment downstream, a black-burst or sync pulse must be connected to this input.]
NTSC OUT	Provides NTSC composite video output (1V p-p).
R, G, B	Provides the Red, Green, and Blue component video outputs.

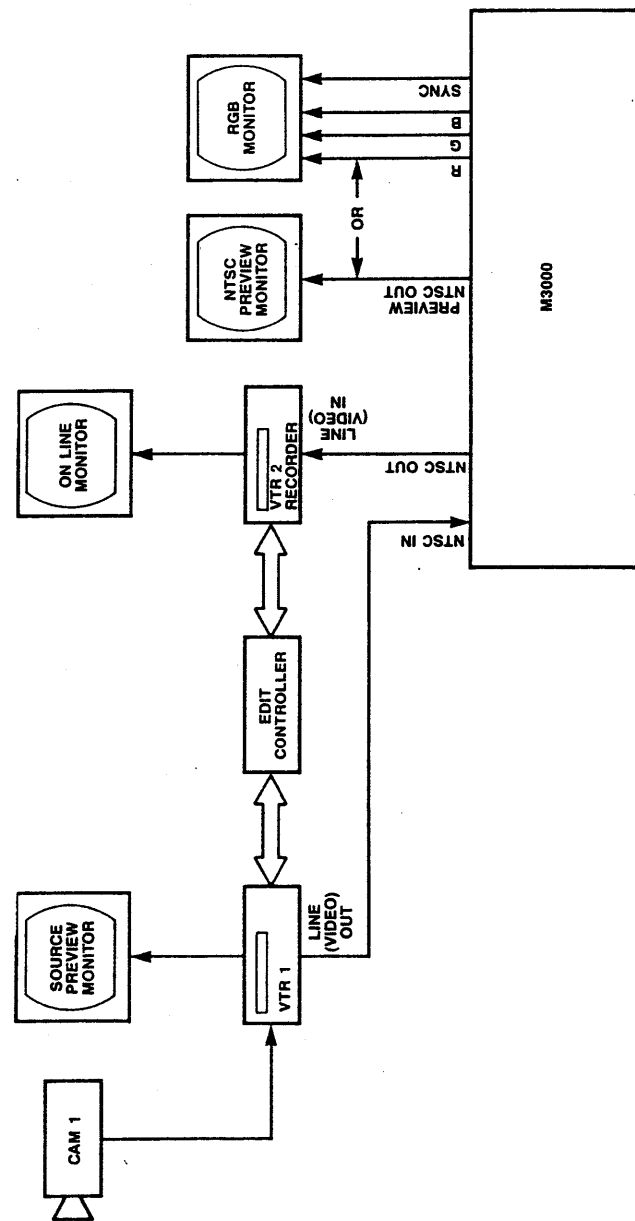
SYNC OUT	Provides the sync necessary for the RGB color signals.
KEY OUT	Provides the delayed key signal output.
PREVIEW NTSC OUT	Provides a lower quality NTSC video output that can be used for previewing graphics appearing at the NTSC OUT output. (The output from this connector should not be recorded; recording is done from the NTSC OUT connector.)
IMAGE CAPTURE MODULE	Connector for the optional M-3000 Image Capture Module.
TABLET(RS-232C)	Serial I/O Connector for external devices that communicate over a serial line, for example, a graphics tablet.
PRINTER	Connector for printers with a standard parallel interface. Use a standard IBM compatible printer cable for connection.

SYSTEM SETUP IN VIDEO ENVIRONMENTS

The M-3000 is quite flexible and can be used in a variety of different video environments---from simple to sophisticated. It offers professional quality performance in both upstream and downstream installations.

DOWNSTREAM OPERATION

The video circuits in the M-3000 process the signal at the "CAV" (Component Analog Video) level. In a downstream installation, the M-3000 does all of the mixing and keying. The M-3000 may be used in a simple downstream system with a single video input, edit controller, and record VTR as in Figure 2-4. The M-3000 can be placed between the output of a source VCR and the recorder in an editing system. Of course, in the simplest configuration all that's needed is a video source, the M-3000, a record deck, and an online monitor.

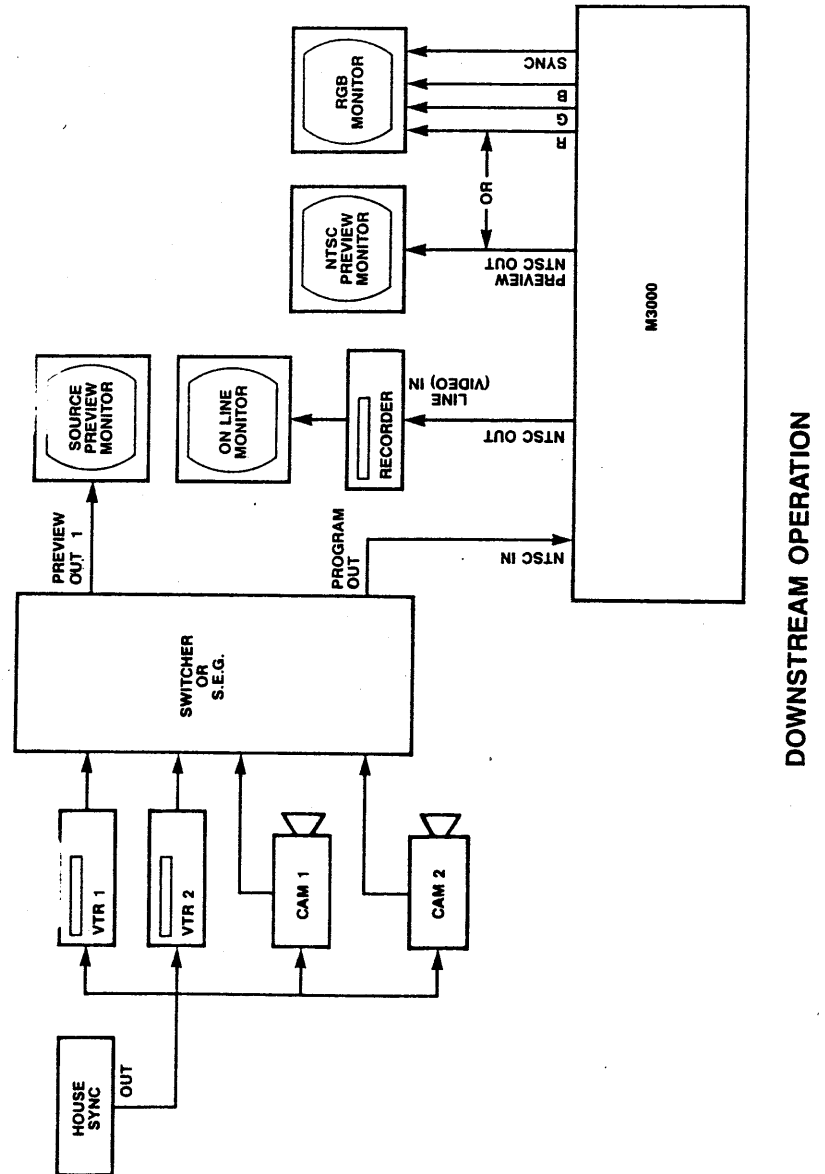


SIMPLE DOWNSTREAM OPERATION



In a more elaborate system, the M-3000 can be placed after the output of the switcher or special effects generator as in Figure 2-5.

In all downstream situations the user gains the advantage of the M-3000's component mixing without having to purchase a component special effects generator. If the incoming signal is NTSC, the M-3000 "decodes" it and produces a CAV signal which can be mixed with the graphics. The M-3000 then provides either a component or NTSC output of the mixed signals. Even when an NTSC output is used, the result is a signal with greatly reduced edge effects or chroma crawl and noise.



DOWNSTREAM OPERATION

## UPSTREAM OPERATION

In a typical upstream system, the M-3000 can provide a key signal and either component or composite video signals to a special effects generator or switcher. There are front panel controls to adjust SC phase, H-phase, and key delay. The key delay control reduces or eliminates the need for external delay lines. In an upstream installation, the user's S.E.G. (special effects generator) does all the keying and mixing of the M-3000's signals with the video source. The quality of the key depends largely upon the quality of the S.E.G. and type of signal being used (CAV or NTSC). If a component S.E.G. is used, the resulting quality should be much better.

Figure 2-6 shows the M-3000 in a typical upstream environment.

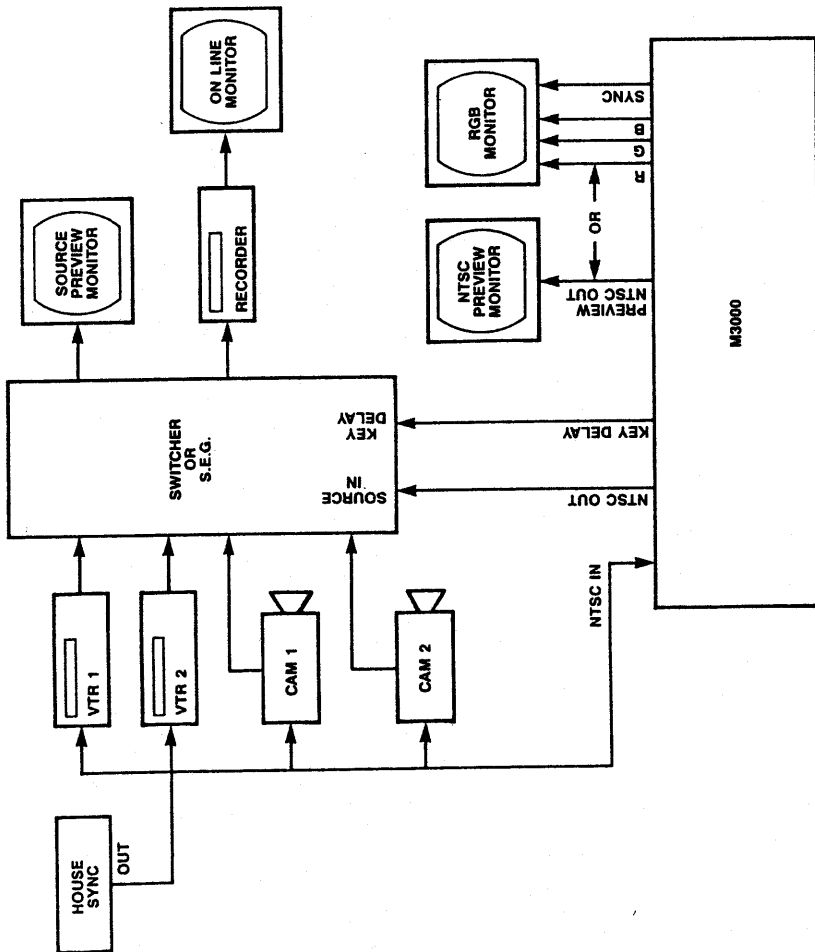
## DISK DRIVES

The M-3000 contains a 20 megabyte hard disk drive. This makes program loading much faster and easier, and leaves plenty of room to store hundreds of picture images, and thousands of pages of text. The hard disk drive is automatically powered on when the Main Unit is turned on. All of the character generation, logo creation and paint, and

animation and effects software is installed on the hard disk, as well as multiple font sets.

When the Main Unit is initially powered on, the MAIN MENU will be displayed on the screen after about a minute. This menu allows you to load and operate all of the M-3000's programs from the hard disk, to load an external program from the floppy disk drive, or do some special functions. Please refer to the MAIN MENU section of this manual.

The M-3000 also includes a single 5 1/4-inch floppy disk drive. For information on floppy disk operation please refer to APPENDIX II at the back of this section.



TROUBLESHOOTING

With proper care and handling, your system should give you trouble-free operation. However, when problems do occur, you can use the procedures below to identify many of the sources of the problems yourself.

DIAGNOSING YOUR PROBLEMS

The following section lists some of the problems that may occur. Try all the suggestions listed before you contact your dealer or Mindset for assistance.

THE ORANGE "POWER-ON" LAMP IN SWITCH DOESN'T LIGHT ON POWER-UP

1. Check that you plugged the power cord on the Main Unit into a working wall unit.

THE SYSTEM DOES NOT OPERATE

1. If nothing appears on the screen when you turn the Main Unit on, unplug the Main Unit from the AC outlet and wait 5 to 10 seconds before plugging the system in again.

2. Check that you turned the Main Unit ON.
3. Make sure that the power cord from the Main Unit is plugged into a working power outlet.
4. Ensure that you have properly connected your display monitor to your Main Unit.

NO PICTURE ON THE DISPLAY

1. Check the display power cord.
2. Check that the Main Unit power cord is plugged in and that the keyboard cable has been properly connected.
3. Ensure that the ON/OFF switch is ON.
4. Check for proper connection of the display monitor.

NO RESPONSE TO KEYBOARD INPUT

1. Check your keyboard for the proper connections to your Main Unit.
- 

THE FLOPPY DISK DRIVE DOES NOT OPERATE

1. Make sure that you have correctly inserted the diskette into the disk drive slot and returned the lever on the front of the disk drive to the closed position (see Appendix II, "Disk Drive Operation," for information about inserting and removing diskettes).

THE SYSTEM CAN'T READ OR WRITE TO THE FLOPPY DISK

1. Make sure that the lever on the front of the disk drive is in the closed position.
2. Check that the diskette you are using is not write-protected, copy the information on that diskette to another diskette and use the second diskette.

If, at this point, you are still experiencing system problems:

- TURN OFF AND UNPLUG YOUR SYSTEM.
- DISCONNECT ALL CABLES.
- START OVER FROM THE BEGINNING OF SYSTEM SETUP.
- FOLLOW EACH STEP CAREFULLY!

## APPENDIX I

## APPLICATION NOTES

## 1. Interlaced and Non-Interlaced Modes

The Mindset M-3000 can be set in either interlaced or non-interlaced mode, depending on the application required by the user. In video applications where the NTSC signal is required, the Mindset M-3000 should be set in the interlaced mode. It is either automatic or adjustable within the software application. Refer to each software package for instructions. Examples of such video applications are time base correction, production switching, video processing, and video recording.

## 2. RS-170 and RS-170A Signals

When the Mindset M-3000 is placed in the interlaced mode, it generates an RS-170A NTSC signal from the Composite Video Out connector. However, when the Mindset M-3000 is used in genlocking applications, the output tracks the sync of the incoming external video signal. If the incoming external video signal is RS-170A, the output from the M-3000 is RS-170A.

## 3. Dithered Colors

The use of dithered colors\* on a composite video monitor IS NOT RECOMMENDED. Dithered colors will cause severe interference in the chroma channel, which will be seen as flicker on the screen in the areas where the dithered colors were used. A similar situation will occur when a single pixel is being displayed. To avoid excessive chroma crawl (an apparent motion of the pixels on the boundary between two color transitions), the color transitions should be designed very carefully. The chroma crawl can be minimized by using less saturated colors and proper hue selection for the color transitions.

(\*Dithered colors are colors produced by creating a checkerboard pattern with two different colors. For example, pink can be produced by a fine checkerboard pattern of red and white.)

## 4. "Chaining" Two Mindsets

It is possible to genlock any Mindset System to a Mindset M-3000. In such a case, the composite video output of one Mindset is used as an external video source for the Mindset M-3000. It is very important that the Mindset System being used as a video source be set in the interlaced mode. Otherwise, vertical locking will not occur.

5. Absence of External Video

In the absence of external video being connected to the M-3000, the unit has the ability to generate its own 3.58MHz subcarrier which is then used to provide an RS170A NTSC video signal, available at the NTSC OUT connector.

APPENDIX II

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FLOPPY DISK DRIVE OPERATION

HOW YOUR SYSTEM USES DISKETTES

A diskette is a 5 1/4-inch diameter magnetic recording disk enclosed in a protective cover. The disk drive places information on a diskette in a pattern of concentric circles divided into sections called sectors. Each concentric circle is called a track.

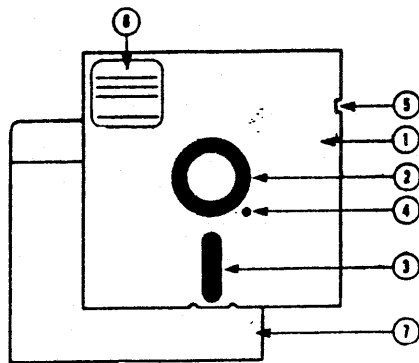
The magnetic heads of the disk drive "read" the tracks as the diskette spins in the drive. One magnetic head reads and records information on the top side of the diskette and the other head reads and records on the bottom side.

SELECTING THE PROPER DISKETTES

The Mindset M-3000 accepts soft-sectored, double-sided, double-density diskettes.

LOOKING AT A DISKETTE

A diskette is contained in a protective cover (1 in Figure A).



A Diskette

There are several exposed areas that you can see on this cover. One area is the surface around the large hole in the center of the diskette (2 in Figure A). This hole is called the spindle hole because the spindle of the disk drive fits into it to spin the disk in the drive.

Another area is the head-slot (3 in Figure A). The head-slot area provides access for the magnetic head of the disk drive as the diskette spins inside the cover.

Other important areas of the diskette are the write-protect notch and the label. When covered with foil tape, the write-protect notch (5 in Figure A) prevents the writing of data onto the diskette. Your computer can still read what's on the diskette but it can't write anything on it. Covering the write-protect notch ensures that your computer doesn't replace valuable information on your diskette with new information. You may want to cover the write-protect notch on diskettes that you don't expect to change.

The label in the upper left corner of the diskette (6 in Figure A) is a manufacturer's label. To help you identify what is on your diskette, affix a temporary label next to the manufac-

turer's label, and write on the label a description of the diskette contents. This way, you always know what is on each diskette. To avoid damaging the diskette's surface, be sure to use a felt-tipped pen when writing on the label. Do not press hard.

Diskettes are stored in static-resistant envelopes (7 in Figure A). The envelopes protect the exposed areas of the diskette.

### CARING FOR YOUR DISKETTES

To avoid frustration and extra work, follow these guidelines in caring for your diskettes:

1. Always use a felt-tipped pen when writing on a label affixed to the protective cover.
2. Do not touch the head-slot area, spindle hole, or sector hole. These areas are sensitive to dust, scratches, and fingerprints.
3. Keep your diskettes away from metallic objects such as magnets, tape recorders, and headphones. These objects may cause distortion or erasure of your stored data.
4. When not using them, store your diskettes in an upright position in their envelopes. Position the label at the top so that you can easily identify each diskette. Diskettes usually come packaged in stand-up boxes. These boxes make excellent storage containers for your diskettes and their envelopes.



5. Do not store your diskettes in locations subject to extreme temperatures.

### INSERTING AND REMOVING DISKETTES

To insert a diskette into a disk drive slot, follow these five steps:

1. Carefully remove the diskette from the protective envelope.
2. Position the diskette so that the label side is up and toward you. Face the head-slot notch toward the Expansion Unit.
3. Insert the diskette into the slot until it stops.
4. Turn the lever on the front of the disk drive clockwise 90 degrees to close the drive. To remove a diskette, turn the lever on the front of the disk drive counterclockwise 90 degrees and pull the diskette out of the drive. Return your diskette to its protective envelope for storage.

**NOTE:** Do not remove a diskette when the red activity LED is on.

### BACKING UP INFORMATION STORED ON DISKETTES

Earlier in this section, you learned that you can save important information on your diskette by covering the write-protect notch with foil tape. Another way to protect information is to "back up" your diskette.

When you back up your diskette, you make another copy of it. This second diskette contains everything the original diskette contains. Backing up, therefore, ensures that you always have another copy of your important programs or data.

To back up your diskettes you do need to use a diskette copy routine. This routine is sometimes provided as part of your applications program. Most of the MINDSET software allows you to back up on a diskette or the hard disk.

APPENDIX III

SPECIFICATIONS

PHYSICAL CHARACTERISTICS

Main Unit

Width 17.5 inches (445mm)  
 Depth 14.0 inches (356mm)  
 Height 7.0 inches (178mm)  
 Weight Approx. 30 pounds (13.6Kg)

Keyboard

Width 16.0 inches (407mm)  
 Depth 7.0 inches (178mm)  
 Height 2.0 inches (51mm)  
 Weight Approx. 3 pounds (1.4Kg)  
 Angle of inclination 9.0 degrees

Total Shipping

Weight Approx. 33 pounds (15Kg)

Electrical

Inputs:

Composite Video Sync. (NTSC)  
 Component Video Y,R-Y,B-Y (SEMPTE)

Outputs:

Composite Video (NTSC)  
 Component Video Y,R-Y,B-Y (SEMPTE)  
 Composite Video Preview (NTSC)  
 RGB & Sync  
 Key Delay

Input/Output:

RS232C Port  
 Parallel Printer Port (Centronics)

General Characteristics

CPU - Intel 80186, 16-bit microprocessor  
 512K - System Memory  
 128K - Dual Graphics Frame Buffer  
 Custom VLSI Graphics Processor  
 Custom VLSI Video Display Processor  
 360KB 5 1/2 inch Floppy Disk  
 20MB 5 1/4 inch Hard Disk  
 640x400 Pixel Resolution  
 (4 colors at one time)

Secondary Resolution Modes

640x200 4 colors (interlaced & non-interlaced)  
 320x200 16 colors (quadruple buffered, interlaced & non-interlaced)

Power Requirements

Voltage 110VAC (240 optional) 60Hz

APPENDIX IV

DRAWING DEVICES

The Mindset M-3000 system can be used with the following drawing devices:

- o MINDSET Mouse
- o MINDSET Graphics Tablet
- o Kurta Series One Graphics Tablet
- o GTCO Digipad 5 Graphics Tablet
- o Summagraphics Bit Pad One Graphics Tablet
- o Hitachi Puma Graphics Tablet
- o Hitachi Data Tablet Digitizer
- o Other tablets fully compatible with the list above

CONNECTING MOUSE TO KEYBOARD

The mouse cable is plugged directly into the right side of the keyboard.

CONNECTING GRAPHICS TABLET TO MAIN UNIT

Some graphics tablets may be used with the M-3000. The Main Unit includes an RS-232-C connector on the back panel.

Both the digitizing tablet and the serial interface should be set for 9600 baud, binary (not ASCII) data.

As a minimum, the following connections must be present in your RS-232-C cable:

SYSTEM	DIGITIZING TABLET
DB-25 connector	DB-25 connector
pin #	pin #
2	3
3	2
6	20
20	6
7	7

**TABLET SWITCH SETTINGS**

**KURTA TABLET/MINDSET TABLET**

Switches are at the back of the tablet.  
The appropriate settings are these:

Upper Set:		1	2	3	4	5	6	7	8
on							x	x	x
off		x	x	x	x	x			

Lower Set:		1	2	3	4
on					x
off		x	x	x	

**GTCO DIGI-PAD 5**

Switches are on the underside of the digitizing tablet. The appropriate settings are these:

S1		1	2	3	4	5	6	7	8
on				x	x			x	x
off		x	x			x	x		

S2		1	2	3	4	5	6	7	8
on							x		
off		x	x	x	x	x		x	x

S3		1	2	3	4	5	6	7	8
on		x		x	x	x		x	
off			x				x		x

**SUMMAGRAPHICS BIT PAD ONE**

Remove the bottom of the digitizing tablet to expose the printed circuit board. Set switches SW-2 and SW-3 as shown below (Switch SW-1, used for calibration, is factory set and its settings should not be changed.).

SW-2		1	2	3	4	5	6
on		x		x	x	x	
off			x				x

SW-3		1	2	3	4	5	6	7	8	9	10
on			x								
off		x		x	x	x	x	x	x	x	x

**HITACHI PUMA TABLET**

Compatible with Summagraphics Bit Pad 1 series. The switch settings are:

SW1		1	2	3	4	5	6	7	8	9	10
on		x	x								x
off				x	x	x	x	x	x	x	

SW2		1	2	3	4	5	6	7	8	9	10
on				x			x				
off		x	x		x	x		x	x	x	x

HITACHI DATA TABLET DIGITIZER

HICOMSCAN HDG series tablet switch settings are:

SW1		1	2	3	4	5	6	7	8	9	10
on	x						x				x
off		x	x	x	x			x	x	x	

SW2		1	2	3	4	5	6	7	8	9	10
on			x	x				x			
off	x	x			x	x			x	x	x

Table of Contents

Introduction

The Menus

Getting Started

Main Menu

More Functions Menu

File Management Menu

## MAIN MENU

---

### INTRODUCTION

The M-3000 MAIN MENU allows you to load programs easily and to go from one program to another quickly. It also allows you to manage your disk files conveniently without having to learn complicated and confusing commands. The purpose of this section is to explain the MAIN MENU functions.

### The Menus

The program is menu driven, that is, all functions are displayed on the screen like a menu. Any selection can be made by simply pressing one of the function keys F1 through F10 located at the top of the system keyboard. Generally, anytime you want to cancel a selection or return to a previous menu you press the ESC key on the keyboard. ESC is an abbreviation for ESCAPE.

There are three primary menus, the MAIN MENU, the MORE FUNCTIONS MENU and the FILE MANAGEMENT MENU. Each of these menus is displayed in a different color so that you can easily tell in which menu you are currently working.

## MAIN MENU

---

### GETTING STARTED

With the keyboard attached, turn on the power to the M-3000. After about a minute the M-3000 MAIN MENU will be displayed on the screen, as in Figure 1. figure 1.

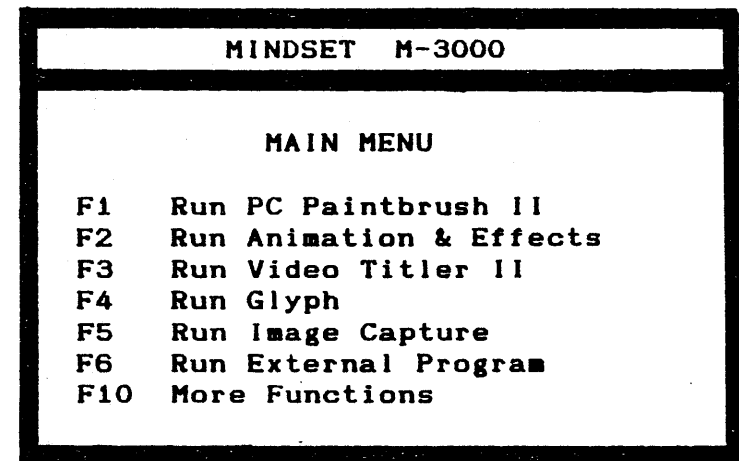
### THE MAIN MENU

The MAIN MENU is the menu used most of the time. This is the menu which allows you to load and operate all of the M-3000 programs from the hard disk, to load an external program or go to the MORE FUNCTIONS MENU. Press one of the function keys F1 through F6 to load a program.

**F1 RUN PC PAINTBRUSH II** - this function loads PC Paintbrush II from the hard disk. When you see the message 'Frieze was not previously loaded, continue anyway?', press the Y key. Frieze is a program which is not normally required by the PC Paintbrush II program.

## MAIN MENU

---



**Press a Function Key**

## MAIN MENU

---

**F2 RUN ANIMATION & EFFECTS** - this function loads Animation & Effects from the hard disk.

**F3 RUN VIDEO TITLER II** - this function loads Video Titler II from the hard disk.

**F4 RUN GLYPH** - this function loads Glyph from the hard disk.

**F5 RUN IMAGE CAPTURE** - this function loads the Image Capture program from the hard disk. You must have the Image Capture Module attached to the M-3000 to use this program.

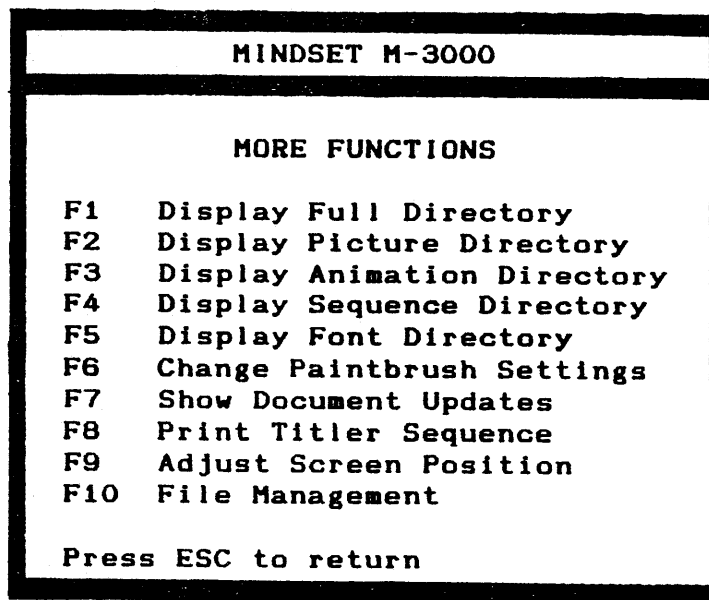
**F6 RUN EXTERNAL PROGRAM** - this function loads a program not listed in the MAIN MENU from either the hard or floppy disk. This applies to Mindset products purchased separately from the M-3000 or other programs meant to run on the Mindset system. You choose the disk drive containing the program and then type in the name of the program. Some programs will not load and run properly using this selection. In that case, you must exit this menu and load your program directly.

### **F10 MORE FUNCTIONS**

When you press the F10 key, the MORE FUNCTIONS menu will appear. Refer to Figure 2.

## MAIN MENU

---



Press a Function Key



## THE MORE FUNCTIONS MENU

This menu provides many functions which you will find handy to use, but which are required less often than those in the MAIN MENU. Notice the prompt, 'Press ESC to return' at the bottom of the menu. By pressing the ESC key at the upper left of the keyboard, you will exit this menu and return to the MAIN MENU.

## The DISPLAY DIRECTORY functions

The DISPLAY DIRECTORY functions allow you to view files on the disk drive selected. Each entry in a directory contains five fields of information: name, extension, size, date created, time created. The information is displayed as follows:

NAME	EXTENSION	SIZE	DATE	TIME
------	-----------	------	------	------

For example:

PICTURE.PCX		23566	4-17-87	2:28p
-------------	--	-------	---------	-------

The "name" field contains the name of the file you have assigned in one of the programs, such as PC Paintbrush II. Each file name may contain an extension. In the example above, the

extension is PCX. The file name and extension are separated by a period. Generally, extensions are assigned by the program and you cannot enter or alter them. There are places, such as the FILE MANAGEMENT menu, in which you can enter file name extensions. You should never use the extensions PCX, SEQ, FNT, FON, ASF, EXE, COM or BAT, since these are reserved for system use.

The "size" field contains the size of the file in bytes. "Bytes" is a computer term meaning 8 bits of information (a bit is the smallest piece of information). The M-3000 system is capable of storing 20 million bytes of information on the internal hard disk and 320 thousand bytes of information on each floppy disk.

The "date" field displays the date on which the file was created.

The "time" field displays the time at which the file was created.

The "date" and "time" fields can be very helpful when you need to determine which files are old and which are new. In order for the date and time to be accurate you need to set the date in the FILE MANAGEMENT Menu.

## MAIN MENU

---

If there are more directory entries than will fit on the screen, the directory will be divided into screen sized sections. To see the next section of the directory, press a key. To interrupt the directory function, hold down the CTRL key then press the C key. When all directory entries have been displayed, you will see the message 'THIS IS THE END OF THE DIRECTORY.'

**F1 DISPLAY FULL DIRECTORY** - displays a list of ALL files on the disk.

**F2 DISPLAY PICTURE DIRECTORY** - displays a list of all PICTURE files on the disk which were created using PC Paintbrush II, Video Titler II, or Image Capture.

**F3 DISPLAY ANIMATION DIRECTORY** - displays a list of all ANIMATION & EFFECTS sequences on the disk which were created using Animation & Effects.

**F4 DISPLAY SEQUENCE DIRECTORY** - displays a list of all VIDEO TITLER II sequences on the disk which were created using Video Titler II.

**F5 DISPLAY FONT DIRECTORY** - displays a list of all Video Titler II FONTS on the disk which are provided with the M-3000 system or which were created using Glyph.

## MAIN MENU

---

**F6 CHANGE PC PAINTBRUSH SETTINGS** - loads the menu which allows you to change the settings used for PC Paintbrush II, such as screen resolution, input device, etc.

**F7 SHOW DOCUMENT UPDATES** - periodically, Mindset will release updates to the software. A quick and convenient way to let you know of any changes is through a file on a disk which can be displayed on the screen.

**F8 PRINT TITLER SEQUENCES** - loads the program which allows you to print the contents of SEQUENCES created using the Video Titler II. You must have a printer attached to the M-3000 to use this function. Consult the Video Titler II section in the manual for an explanation of how to use this menu.

**F9 ADJUST SCREEN POSITION** - allows you to adjust the position of the display screen. Many display devices are not centered correctly. This function allows you to center the display properly. Once you have set the screen position, the M-3000 remembers it and will always adjust your screen to this setting when you turn the system on.

**F10 FILE MANAGEMENT** - takes you to the File Management menu.

## THE FILE MANAGEMENT MENU

You will find this menu handy after you have used the M-3000 system for a while and have created many files. You may want to delete, rename, or copy some of your files. Refer to Figure 3.

**F1 DISPLAY FULL DIRECTORY** - displays a directory of ALL files on the disk drive selected.

**F2 CHANGE DISK DRIVES** - Refer to Figure 4.

There are two disk drives which can be used on the M-3000, the internal disk drive, referred to as the HARD (C) disk and the external disk drive referred to as the FLOPPY (A) disk drive. You can direct the system to the floppy disk drive by pressing F1, and to the hard disk by pressing F2.

**F3 COPY A FILE** - this function allows you to copy a single file from one disk to another. You choose the disk drive to copy FROM, a disk drive to copy TO, and the name of the file you want to copy. Files will always be copied from the hard disk to the floppy disk or from the floppy disk to the hard disk. File names must be entered with the extensions. For example, if the directory reads:

## MINDSET M-3000

## FILE MANAGEMENT

**F1 Display Full Directory**  
**F2 Change Disk Drives**  
**F3 Copy a File**  
**F4 Delete a File**  
**F5 Rename a File**  
**F6 Copy a Diskette**  
**F7 Set Time and Date**  
**F8 Format a Diskette**  
**F9 Erase a Diskette**  
**F10 Return to Main Menu**

Press ESC to return

Press a Function Key

**MINDSET M-3000**

**WHICH DISK TO USE:**

**A = Floppy Disk Drive (A:)**

**C = Hard Disk Drive (C:)**

**Press keys A or C to select**

PICTURE.PCX      23566      4-17-87      2:28p

you would enter: PICTURE.PCX - a period must separate the name and the extension. If there is no extension, then just enter the name. If you have entered the name incorrectly or the file is not on the disk drive, a message will be displayed advising you of this.

**F4 DELETE A FILE** - this function allows you to delete a single file from a disk. You choose the disk drive which contains the file you want deleted and then enter the name of the file you want to delete. Use the format described in "F3 COPY A FILE" for entering file names.

The M-3000 will not allow you to delete certain files. If you attempt to do so, a message will advise you of this.

Keep in mind that once a file has been deleted from a disk, it is gone forever and cannot be used again, ever, no matter how hard you try. So, use caution whenever you use this function.

**F5 RENAME A FILE** - this function allows you to rename a single file on a disk. You choose the disk drive containing the file you want to rename.

Then you enter the OLD name of the file and then the NEW name of the file. Use the format described in " F3 COPY A FILE" for entering file names.

The M-3000 will not allow you to rename certain files. If you attempt to do so, a message will advise you of this.

Keep in mind that once a file has been renamed on a disk, the old name will no longer appear in the directory, only the new name. If you attempt to rename a file to a name that already exists, the system will display a message advising you of this.

**F6 COPY A DISKETTE** - this function allows you to make an exact duplicate of a diskette. This is very helpful when you want to make a backup copy of a data diskette. This process always copies from one floppy diskette to another, so you will be required to exchange diskettes in the disk drive several times during the operation. Just follow the prompts on the screen.

During the diskette copy operation, the reference to SOURCE diskette refers to the diskette which you want to copy and DESTINATION diskette refers to the diskette which you want to copy to. Keep in mind that any old information on

the DESTINATION diskette will be destroyed by this operation and replaced by the information from the SOURCE diskette.

**F7 SET TIME AND DATE** -

You should set the time and date each time you power on the M-3000 so that all files will have the date and time at which they were created. The M-3000 remembers the time and date which you have set as long as the system has the power turned on. If you don't set the time and date upon powerup, the date will be set to January 1, 1980, and the time will start from 00:00.

The time is entered in 24 hour time, where 1:00 is 1 a.m. and 13:00 is 1 p.m.

Enter the time in the format of HOUR:MINUTES:SECONDS:HUNDREDTHS OF SECONDS. For example, 15:40, where 15 is the hour and 40 is the minutes. To figure p.m. time, add 12 hours to the a.m. time. In the example above, 3:40 p.m. would be 15:40.

You do not need to enter the seconds or hundredths of a seconds. The system sets them to 00:00 if you do not enter them before you press the RETURN key.

The date is entered in the format of MONTH-DAY-YEAR. For example, 3-23-87 would be March 23rd, 1987.

You can use hyphens (-) or slashes (/) as separators between the numbers. For example, 6-1-87 and 6/1/87 are both acceptable formats.

If you enter an invalid date or form of date, the system prompts you again with "Enter new date:".

**F8 FORMAT A DISKETTE** - this function allows you to prepare a floppy diskette which the M-3000 can use to store information. The magnetic information on a diskette must be laid out in a certain format so that the information can be stored and retrieved. Formatting can also be used to completely remove any data from a used diskette. Brand new floppy diskettes must always be formatted before they can be used by the M-3000. Once a diskette has been formatted, it does not need to be formatted again, even after being erased.

You can only format diskettes, you cannot format the hard disk drive.

Keep in mind that once a diskette has been formatted, ALL FILES that were on the diskette are DESTROYED forever and cannot be used again, ever, no matter how hard you try. So, use caution whenever you use this function.

**F9 ERASE A DISKETTE** - this function allows you to remove all files from a diskette. This is a quick (but risky) way of cleaning off a diskette for new use. Risky because all files will be REMOVED from the disk and you will not be able to access those files again, ever, no matter how hard you try. So use caution whenever you use this function.

**F10 RETURN TO THE MAIN MENU** - this function allows you to return directly to the MAIN MENU without going back through the MORE FUCTIONS MENU.

VIDEO TITLER II  
TUTORIAL

INTRODUCTION

This tutorial is designed to provide you with a quick orientation to Video Titler II and its operation. The tutorial is divided into five sections.

1. HOW THE KEYBOARD WORKS
2. HOW TO START THE PROGRAM
3. HOW THE MENUS WORK
4. HOW TO CREATE TITLES AND CREDITS
5. HOW TO DISPLAY TITLE SEQUENCES

The first time you use the system you should go through all the sections. As you become more familiar with the Video Titler II you may find it helpful to use certain sections as reference material.

---

MATERIALS

For this tutorial you need the following:

MINDSET M-3000 system  
Display Monitor

1. HOW THE KEYBOARD WORKS

OBJECTIVES

The keyboard is your control panel for the Mindset system; therefore, it is important for you to become familiar with what the keys can do. Some keys perform general tasks for all software applications, while others perform very special tasks unique to the program you are using.

You will learn to identify typing keys, function keys, and the most frequently used special keys.

Figure 1-1 shows the placement of the keys on the Mindset keyboard.



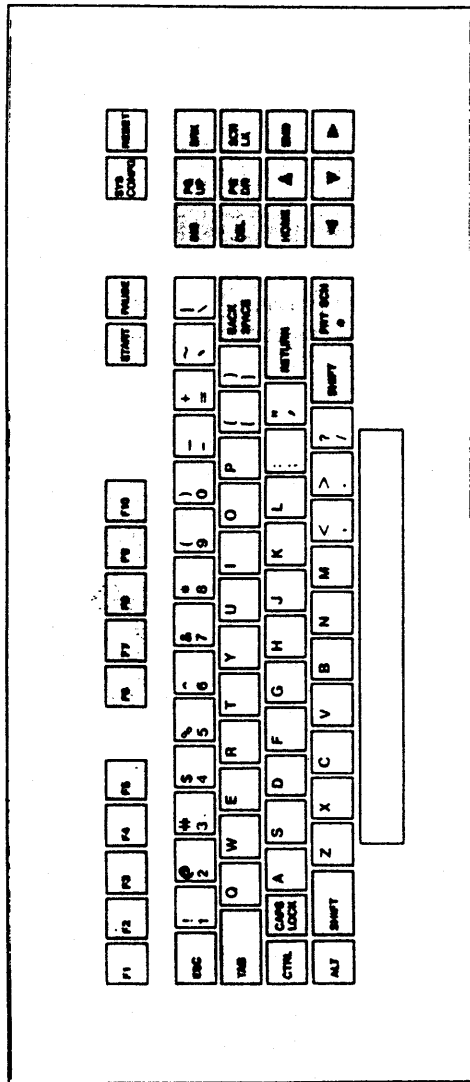


Figure 1-1

THE KEYBOARD

ALT/RESET

To start a program when the system is already turned on, you need to use a two-key combination - ALT and RESET. The ALT key is on the bottom row - left - and the RESET key is on the top row - right. Just think of the two keys as being the endpoints of a diagonal line across the keyboard. The ALT key must be pressed and held down while pressing the RESET key.

FUNCTION KEYS

On the very top row are two sets of five keys labeled F1 to F10. They are called function keys and perform various tasks. The same function key often performs different tasks in different software programs.

---

**TYPING KEYS**

The white set of keys is used to type in text. It works just like a typewriter keyboard.

**SHIFT**

To type capital letters, press and hold either SHIFT key on the sides of the bottom row while typing the letter to be capitalized.

**SPACE BAR**

This is the long key on the very bottom of the keyboard. It is used to create blank spaces between words.

**RETURN**

The RETURN key is the wide key on the right of the keyboard. It is used to enter commands, to set new values, or to start a new line of text.

**BACKSPACE**

The BACKSPACE key above the RETURN key acts as an eraser as you back over the text you have created.

---

**< (LEFT ARROW)**

If you want to backspace without erasing, use the left arrow key on the right hand block of keys.

**> (RIGHT ARROW)**

The right arrow key moves the cursor to the right without erasing.

**^ & v (UP and DOWN ARROWS)**

The up and down arrow keys allow you to move up or down one line at a time in most software applications. In others, it allows you to move an image up and down in small increments.

**ESCAPE**

This key, labeled ESC, is located next to the numbers on the top left. It is probably the most frequently used key. As you can guess, it helps you to get out of wrong processes. It gets you out of menus or it gets you out of doing something

you didn't mean to do, a kind of an "oops" key.

## HOME

This key puts you back to the start of a page or the start of a sequence, depending on the software.

## END

If you want to go to the end of a page or a sequence, use this key.

## DEL

This key acts as an eraser without moving the cursor. As you are typing text, it erases the character right above the cursor. In the manual mode of the Video Titler II program, DEL blanks out the entire screen, provided the motion was set to "CUT".

## INS

With this key you can insert blank spaces or characters into text when you are in the typing mode. In the manual mode

of Video Titler II, INS calls back a screen that has just been deleted.

## PG DN

This key gets you to the next page.

## PG UP

This key gets you to the previous page.

## START

This key is used in Video Titler II to start manual mode.

## PAUSE

This key stops motion in Video Titler.

## 2. HOW TO START THE PROGRAM

### OBJECTIVE

This section describes how to load the Video Titler II program into the system so that you can use it to create titles and credits or display prepared title sequences.

### HOW TO START THE SYSTEM

Turn on the system with the on/off switch located on the front of the system. A red light on the power switch will turn on.

After a few seconds -- and a few diagnostic messages -- you will see the MAIN menu screen giving you seven choices.

If the M-3000 is already on, and the MAIN MENU is displayed, you may proceed from here.

This will start the loading process.

### HOW TO LOAD THE VIDEO TITLER II PROGRAM

Press: F3

The Video Titler II program will be

loaded.

After a few seconds, the prompt will say: "Are you using a preview monitor?"

Type: N (Do not press RETURN.)

The Video Titler II menu will appear and you are ready to go to the next section of this tutorial.

### 3. HOW THE MENUS WORK

#### OBJECTIVE

In this section you will learn how to get around the different menus using the keyboard. We will describe briefly what the main function of each menu is.

#### TO GET STARTED

Load the Video Titler II program using the instructions from section 2, "HOW TO START THE PROGRAM." When the edit screen appears, continue.

#### THE MAIN MENUS

On top of the EDIT SCREEN you see six menus: SYSTEM, PAGE, COLOR, MOTION, LINE, EDGES.

Next to each menu is the name of the corresponding function key which calls up the menu.

The menus form three basic groups, each controlling one of the following:

#### 1. TITLE SEQUENCES

The SYSTEM menu controls what you do to your entire sequence of titles and credits, like loading from the diskette, saving to a diskette, running a sequence, etc.

#### 2. TITLE PAGES

The PAGE menu affects the whole page. It controls keying, clearing previous screens, etc.

The COLOR menu allows you to change the RGB mix of all four screen colors.

The MOTION menu allows you to choose different motions like ROLL, CRAWL, etc.

#### 3. LINES OF TITLES

The LINE menu lets you set justification, indentation, character size, and character color on a line-by-line basis.

The EDGES menu controls width and color of drop shadows.

---

**TO CALL UP THE FIRST MENU:**

Press: F1      You will see a smaller submenu pop up in the COMPOSITION WINDOW. On this submenu is a list of different choices, each of which is controlled by a function key.

**TO GET OUT OF ANY MENU:**

Press: ESC      The menu will disappear.

**TO CALL UP ANOTHER MENU:**

Press: F2      The page menu will pop up.

Press: ESC      It, too, will go away.

That's how easy it is to go from menu to menu.

Now let's look at the rest of the screen.

On the left side you see "PAGE 01", which tells you that you are now on page 1.

---

**TO GO TO PAGE 2:**

Press: PG DN    You will see the number change to 02.

Press: PG UP    You are back on page 1.

Below the CURRENT PAGE NUMBER is the CURRENT LINE NUMBER which is set to 01 right now.

Press: v      (The down arrow key) repeatedly. The CURRENT LINE NUMBER will change and the small arrow on the left side of the composition window will move down.

**TO GO BACK UP:**

Press: ^      (The up arrow key) until you are back to line 1.

The small black window below the CURRENT LINE displays the SEQUENCE NAME after it has been loaded or saved.

On the bottom of the screen is the ENTER TEXT WINDOW. Here you see the line on which you are currently working.

The COMPOSITION WINDOW gives you an approximation of what the final screen will look like. You can read the text you have already entered, you can see

whether text is centered, how many lines there are, etc. YOU WILL NOT SEE the final colors, sizes, or edges on the COMPOSITION SCREEN, but they will become visible in the preview or the automatic run mode.

Now you have an idea of where things are on the menu screen and what they mean, and are ready to create credits and titles.

---

#### 4. HOW TO CREATE TITLES AND CREDITS

##### OBJECTIVES

This exercise is designed to provide you with a quick orientation to Video Titler II and its operation. You will learn how to create credits and titles with the automatic color and fonts settings. You will learn how to change color and font size, and to display the titles with different motion effects.

##### TO GET STARTED

Load the Video Titler II program using the instructions from section 2, "HOW TO START THE PROGRAM." When the EDIT SCREEN appears, continue.

##### HOW TO ENTER TEXT

To create page 1:

Type: Your Name

Press: RETURN  
to go to line 2.

Type: President

## HOW TO PREVIEW TEXT

To preview page 1:

Press: F7      The page you created will appear on the screen.

Press: ESC

TO CREATE PAGE 2:

Use the PG DN key on the keyboard to go to page 2. The CURRENT PAGE NUMBER will display: "Page 02".

Type: VIDEO STUDIOS

To preview page 2:

Press: F7

Press: ESC

Press the PG DN key to go to page 3. The page indicator will be set to "03".

Type: Hollywood

Press: RETURN to go to the next line.

Type: California

Press: RETURN to go to the next line.

Type: 90068

To preview page 3:

Press: F7

## HOW TO RUN A SEQUENCE:

Until now, you have looked at each page separately. To let the program go from one page to the next automatically, simply use the following keystrokes.

Press: ESC      to get back to the menu.

## TO GO TO PAGE 1 QUICKLY:

Press: HOME      on the keyboard. Page 1 appears.

Press: F1 (SYSTEM)

Press: F3 (RUN SEQUENCE)

The three pages will be displayed automatically. After all three pages are displayed, you will see a blank screen.



TO STOP RUNNING A SEQUENCE

Press: ESC      The EDIT SCREEN will  
reappear and you will be  
back on page 1.

TO MAKE CHANGES

TO CHANGE CHARACTER COLOR

Press: F5 (LINE)

The submenu will pop up  
and on the first line you  
will see: "F1: CHAR COL =  
4".

Press: F1      repeatedly. The number will  
toggle through 1 to 4.  
Stop when the number 3  
appears.

To preview your new color:

Press: ESC

Press: F7      Your name is now yellow.

TO CHANGE MOTION

Press: ESC

Press: F4      The motion menu will pop  
up. On the first line you  
will see:  
"F1: MODE = CUT".

Press: F1      several times.  
You will be toggling  
through all the different

motions like CUT, TYPE,  
CRAWL, etc.  
Stop when the word ROLL  
appears.

TO PREVIEW THE NEW MOTION:

Press: ESC

Press: F7      You will see your name and  
                 title being rolled on the  
                 screen.

Now let's jazz up page 2.

Press: ESC

Press the PG DN key to go  
to page 2.

TO CHANGE CHARACTER SIZE

You should be on line 1.

Press: F5 [LINE]

The line menu will pop up.  
On the second line you  
will see:

"F2: FONT = SWISS02".

Press: F2      several times. You will  
                 toggle through 5 different  
                 font types. Stop when  
                 SWISS03 appears.

Press: ESC

To preview page 2:

Press: F7

VIDEO STUDIOS is now in a  
larger character size.

Press: ESC

In order to see the shadow  
better, let's change its  
color.

TO CHANGE SHADOW COLOR

Press: F6 [EDGES]

The edges menu will pop up.

Press: F1      once. The edge color will be 3.  
Now, let's preview this.

Press: ESC.

To preview the page:

Press: F7

Now, let's make the shadow  
bigger.

TO CHANGE SHADOW SIZE

Press: ESC

Press: F6 [EDGES]

On the bottom of the screen you will see that the values for H-OFFSET (horizontal) and V-OFFSET (vertical) are each set to 4 pixels wide.

Press: F6 To change the horizontal width.

A box will appear asking for a new value.

Type: 10 (the number) on the keyboard.

Press: RETURN

Press: F7 to change the vertical width.

Type: 10 (the number) on the keyboard.

Press: RETURN

Press: ESC

TO PREVIEW THIS PAGE:

Press: F7

Notice that the 3-D shadow is much bigger now.

Press: ESC

TO CHANGE THE JUSTIFICATION

You probably have noticed that the text you type in gets automatically centered. You can change that to flush left or flush right in the following manner:

Press the PG DN key to go to page 3.

Press: F5 [LINE]

Press: F6 until you see:  
"POSITION = LFT."

Let's change the third line to flush right so that we will see each line with a different justification.

Press: ESC

Press the down arrow key to go to line 3.

Press: F5 [LINE]

Press: F6      until you see:  
                 "POSITION = RGT."

Press: ESC  
                 To preview this page:

Press: F7

Press: ESC  
                 Let's also use a different  
                 motion.

Press: F4 [MOTION]

Press: F1      repeatedly until the word  
                 TYPE appears.

Press: ESC  
                 To preview this page:

Press: F7  
                 You will see the three  
                 lines being teletyped on  
                 the screen.

Press: ESC  
                 Let's create one more page  
                 to show you how to crawl  
                 text across the page.

                 Press the PG DN key to go  
                 to page 4.

                 On line 1:  
Type: "For information"  
Press: RETURN to go to line 2.  
Type: "please call"  
Press: RETURN to go to line 3.  
Type: (408) 737-8555

                 You are finished entering  
                 text.

TO CRAWL TEXT ACROSS THE TOP OF THE  
SCREEN

Press: F4 [MOTION]

Press: F1      until the word CRAWL  
                 appears.

Press: ESC  
TO PREVIEW:

Press: F7  
                 The three lines of text  
                 will crawl across the top  
                 of the screen.

TO CRAWL TEXT ACROSS THE MIDDLE OF THE SCREEN

Press: ESC

Press: F2 [PAGE]

You will see F3:  
BASELINE = 000.

Press: F3

You will be asked to enter  
a new value.

Type: 200

This will place the crawl  
in the middle of the  
screen since there are a  
total of 400 scanlines.

Press: RETURN

Press: ESC

TO PREVIEW:

Press: F7

The three lines will be  
crawling across the middle  
of the screen.TO CRAWL TEXT ACROSS THE PREVIOUS PAGELet's add a nice trick to  
this last page. We will  
let it crawl across themiddle of the previous  
page. To do that, we will  
turn the "clear screen"  
mode off.

Press: F2 [PAGE]

Press: F1 once. You will see:  
"CLR SCRN = NO"

Press: ESC

TO LOOP A SEQUENCEAll 40 pages are  
automatically linked to  
each other when you start  
the program. You can break  
that long chain at any  
page and link it back to  
page 1 to create a  
continuous loop.

Press: F4 [MOTION]

You will see:  
"F6 LINK = 005."

Press: F6 You will see: "New Value ="

Type: 1 since you want to link to  
page 1.

Press: RETURN

TO RUN A LOOPING SEQUENCE

Press: ESC to get out of the MOTION menu.

Press: HOME

Press: F1 [SYSTEM]

Press: F3 [RUN SEQUENCE]

You will see the entire sequence of pages run and loop back to page 1 automatically.

TO SAVE A SEQUENCE OF SCREENS

Let us save this sequence. To do that, interrupt the running sequence:

Press: ESC The EDIT SCREEN will come back.

Press: F1 [SYSTEM]

In the submenu you will see:  
"F2: Save Sequence".

Press: F2 On the bottom of the screen is the message:  
"ENTER THE SEQUENCE NAME TO SAVE".

Type: mydemo (CAUTION: do not use any spaces - type one word only.)

Press: RETURN

Your sequence of 4 pages plus 36 blank pages will be saved.

NOTE: You can always add more pages to your sequence. Just create more pages and then save the sequence again with the same name. When you do that, you get the warning: "FILE ALREADY EXISTS, SAVE ANYWAY?" Just press "Y" on the keyboard and the new pages will be saved together with the old ones.

You have just learned how to create four title and credit pages. You know how to choose color, size, and shadows for your titles. You can position the titles on different parts of the screen--you can roll them, crawl, and type them on. You have learned all the basics to create a complete title sequence.

Now you can go on to section 5: "HOW TO DISPLAY TITLE SEQUENCES."

## 5. HOW TO DISPLAY TITLE SEQUENCES

## OBJECTIVES

The skills learned in this section allow an operator to run prepared title sequences without having to know how to create titles.

You will learn how to run sequences in an automatic running mode in case you want to display a Mindset demo sequence showing examples of different titling effects, or a sequence to be run as a bulletin board.

You will also learn to use the manual mode, which allows you to call up title pages in any order without the menu being visible. You would use this technique for superimposing titles and credits over video.

## TO GET STARTED

If you have not already done so, load the Video Titler II program using the instructions from section 2: "HOW TO START THE PROGRAM". When the EDIT SCREEN comes up, continue.

TO LOAD A SEQUENCE

Press: F1 [SYSTEM]

Press: F1 [LOAD A SEQUENCE]

The ENTER TEXT WINDOW on the bottom of the screen will display sequence names. Press the right and down arrow keys to highlight with the green box the sequence name you want. For this exercise, choose "LOGODEM".

Press: RETURN

This will start the loading process. When the name of the sequence appears in the SEQUENCE NAME window, you are ready:

## TO RUN A SEQUENCE

Press: F3 [RUN SEQUENCE]

The sequence will be running in a continuous mode.

TO PAUSE AND RESTART A RUNNING SEQUENCE

Press: PAUSE

This will stop the motion instantly.

To resume running the sequence from the same spot:

Press: START

TO USE MANUAL MODE

Video Titler II can also be run in an optional manual mode. This allows you to access pages in any order without the menu being visible on the screen. The down arrow key can be used to move forward in the sequence, the up arrow key, to go backwards.

To go from the automatic running mode to manual mode:

Press: ESC The edit screen will appear.

Press: START

The menu will disappear until you exit the manual mode. The demo program is now in manual mode. You can go to any page in the sequence by typing in the

page number (NOTE: you must type two digits for each page number. For page numbers less than 10, type a 0 [zero] for the first digit).

For example, to bring up page 2:

Type: 02 page 2 will appear.

Type: 05 page 5 will appear.

Type: 10 page 10 will appear.

Type: 17 page 17 will appear.

Press: v (Down arrow key)  
page 18--the next page--will appear.

Press: v (Down arrow key)  
page 19--the next page--will appear.

TO CLEAR A SINGLE PAGE:

Type: 17 page 17 will appear.

PRESS: DEL This will clear the page until you call it back. (NOTE: DEL works only with pages whose motion is set to "CUT".)



TO CALL BACK A SINGLE PAGE:

PRESS: INS This will retrieve the  
same page that was just  
cleared with the DEL key.

TO EXIT MANUAL MODE

Press: ESC

To run a different title sequence,  
simply repeat the process from "TO LOAD  
A SEQUENCE."

Congratulations! You have now  
experienced the ease and fun of creating  
professional looking titles with the  
Mindset and Video Titler II. For  
additional experience with the many  
creative possibilities of this highly  
flexible production tool, let your  
imagination be your guide! And don't  
forget to read the Users's Manual and  
keep it with the system for handy  
reference.

PC PAINTBRUSH II-GLYPH-TITLER II

TUTORIAL

INTRODUCTION

The Glyph program allows you to transform  
an image that was created with the PC Paint-  
brush II program into an image that the Video  
Titler II program can display. We call this  
transformed image a glyph.

To create a glyph you go through three steps.

Step 1: Create an image with PC Paintbrush II

Step 2: Transform the image with the Glyph  
program

Step 3: Display the image with the Video  
Titler II

This tutorial is designed to guide you through  
these three steps.

MATERIALS

For this tutorial you need the following:

MINDSET M-3000 System.

### HOW TO START THE SYSTEM

Turn on the power switch on the front of the system. After a few seconds, the MAIN MENU with seven program choices will come up.

If the computer is already on, the MAIN MENU is displayed, and you can proceed from here.

### HOW TO LOAD THE PC PAINTBRUSH II PROGRAM

To start the PC Paintbrush II program:

Press: F1 on the keyboard.

The program will start to load. You will get the message "FRIEZE was not previously loaded, continue anyway?"

Press: y (for yes) on the keyboard.

The program will finish loading. When the background on the Paintbrush screen turns black, and the white cursor appears on the screen, you are ready to begin.

### Step 1: Create an image with PC Paintbrush II.

To get started quickly, use your name as an image. You will use the text menu to do that. If later on you want to create a hand-drawn logo, we recommend that you first take the guided tour in the PC Paintbrush II manual,

NOTE: Working with the mouse, you select a menu item by pressing and releasing the left mouse button.

Here goes:

Move the mouse so that the cursor ( which is now a white dot) moves towards the big T (text) in the toolbox on the left. The cursor will turn into an arrow.

Press: the left mouse button to select "T". Move the cursor to the left center of the screen.

Press: the left button. A bracket will appear. That is the start of your word.

Type in your name on the keyboard.

Your name will appear on the screen in white.

To make it bigger,

Select: "Size" on top of the screen. A

pull-down menu will appear.  
Select: "22 Point".

Your name will be rewritten in  
larger type.

To make the name bold:

Select: "Style", a pull-down menu will  
appear.

Select: "bold".

You also need a bigger brush, so

Select: the 3rd line from the bottom of  
the drawing width selector  
(lower left corner of the  
menu).

Now you are ready to convert your  
name into a glyph. To do that  
you need to save the image to  
disk first.

Select: "Page", then select "Save  
as...".

A list of picture files will  
appear.

To enter the name of your  
picture file:

Select: "??" on the bottom of the list.  
A new menu will appear.

Type: "myname" on the keyboard  
(without the quotes), then  
select "o.k." on the menu. The  
entire screen with your name on  
it will be saved.

Now you need to leave the  
Paintbrush program and enter  
the Glyph program. To do that:

Select: "Page", then

Select: "Quit". A new menu box will  
appear.

Select: "yes".

The MAIN MENU screen will come  
back.

To load the Glyph program:

Press: F4 on the keyboard.

Step 2: Transform the image with the  
Glyph program

When the Glyph menu screen  
comes up, there will be a  
prompt on the bottom of the  
screen:

LOAD A FILE

Type: the word "myname" (without quotes) on the keyboard, then

Press: RETURN.

In a few seconds your name will appear on the screen. The prompt will say:

EDIT/CREATE

Move the mouse to position the cursor over the word "Create" on the top of the menu screen.

Press: the left mouse button.

A new menu will appear. Also, a line will be attached to the cursor. The prompt says:

SET BOTTOM EDGE

Move the line close to the bottom of your name.

Press: the left button to set the line, then

Select: "o.k." at the top of the menu screen. (Instead of selecting "o.k.", you can press the space bar on the keyboard).

SET TOP EDGE

Now move the line close to the top of your name.

Press: the button, then press "o.k.".

CHECK HEIGHT AGAINST OTHER GLYPHS

Now you will have two lines attached to your cursor. This is for the case when you have more than one row of symbols. Then you would check to see, if all the symbols fit between the two lines. Since you have only one row,

Select: "o.k."

OUTLINE THE CURRENT GLYPH

Again, the cursor will have two lines attached to it. Move the two lines so that they frame your name.

Press: the left mouse button, then

Press: "o.k."

SET LEFT EDGE

Now a vertical line appears. Position it close to the left edge of your name.

Press: the button, then

Select: " o.k."

#### SET RIGHT EDGE

Position the vertical line close to the right edge of your name.

Press: the button, then

Select: "o.k.".

#### ASSIGN KEYBOARD CHARACTER NAME

A list of keyboard characters appears on the left side of the screen.

Select: "N". That character will change color.

Select: "o.k."

#### VERIFY CURRENT GLYPH

The box around your name will be flashing and on the bottom of the screen you will see the message: "Glyph name is 'N'". This is the last chance to check if everything is the way you want it. If it is not,

Simply select "Cancel" and start over again, making the box and assigning the keyboard name. If everything is fine,

Press: "o.k.".

Now you are done, so

Press: "done".

To save your font,

Press: "Save".

The word "myname" will already be at the bottom of the screen as the name of your file.

Press: RETURN on the keyboard. Your name will be instantly saved as a font called "myname", it contains one character: N.

Now you can use it in the Video Titler II program. So lets get out of the Glyph program.

Select: "Quit". The MAIN MENU screen returns.

To load Video Titler II:

Press: F3 on the keyboard.

The program will be loaded.

When the message "Are you using a preview monitor?" appears,

Type: n (for no) on the keyboard. The Titler menu will come up.

**Step 3: Display the image with Video Titler II**

First you need to load in your font.

Press: F1 [SYSYEM]

Press: F4 [LOAD FONT]

A list of the fonts residing in Video Titler will appear in the bottom window. You need to replace one font with your own. Lets replace "Glyph1".

Use the right arrow key to highlight the word "Glyph1", then

Press: RETURN

A new list of fonts will appear. If you don't see your file, use the PG-DN key until it appears. Use the right and down arrow keys to highlight the word "myname" in green.

Press: RETURN

The font "myname" will be loaded.

Lets use it

Press: ESC

Press: F5 [LINE]

Press: F2 [FONT] repeatedly until "myname" appears.

Press: ESC

Now type the letter "N" (cap).

Lets look at it

Press: F7 to preview.

There is your name at one key-stroke. Notice, that your "glyphed" name has drop shadow and outline, just like the standard Video Titler II fonts.

FINAL REMARKS

Congratulations!

You have now experienced the ease and fun of creating professional-looking titles and logos with the M-3000 system. For additional experience with the many creative possibilities of this highly flexible production tool, let your imagination be your guide! (And, don't forget to read the user's manuals. Keep them with the system for handy reference).

ANIMATION & EFFECTS

TUTORIAL

WHAT IS IN THE TUTORIAL

To help you get started quickly, we have developed three easy-to-follow tutorials.

Part I, a "QUICK START TUTORIAL", will show you how to get started by performing four simple animation moves. You will learn how to "wipe on", "flip", and "zoom" a logo and then to create a freeform path for a single image.

Part II, a "MULTIPLE ANIMATION TUTORIAL", takes you into the more sophisticated world of multiple animation. We recommend that you go through all the steps in Part I before you attempt Part II.

Part III, an "ADVANCED TUTORIAL" will show you how to fine-tune your animations. You will learn how to flip a logo up-side-down, to make color changes, and to show flow with the cycle palette animation. You will also be introduced to cel animation and you will learn how to create groups of multiple animations.

Part I

QUICK START TUTORIAL

INTRODUCTION

This tutorial is designed to provide you with a quick orientation to Animation & Effects. Starting with the a picture file containing pictures painted for this tutorial, you'll learn how to animate images using four different types of animation.

The tutorial covers the following subjects:

1. HOW TO START THE ANIMATION & EFFECTS PROGRAM
2. HOW TO CREATE ANIMATION EVENTS
3. HOW TO SAVE AN ANIMATION
4. HOW TO RUN A PREPARED ANIMATION SEQUENCE

MATERIALS

For this tutorial you will need the following:

A Mindset M-3000 system.



1. HOW TO START THE ANIMATION & EFFECTS PROGRAM

- o Turn on the systems switch on the front of the system ON.

After a few seconds the MAIN MENU with seven choices will appear. If the system is already on, the MAIN MENU will be displayed.

To load the Animation & Effects Program:

- o Press F2 on the keyboard. The Program will load and after a few seconds, the MAIN MENU of Animation & Effects will appear.

NOTE: To SELECT a menu item, move the mouse to position the cursor on top of the word describing the menu (example: EDIT CELS) then press the left mouse button. To ACCEPT a selection, press the right button.

2. HOW TO CREATE ANIMATION EVENTS

To create an animation involves four basic steps:

- STEP 1: MAKE A PICTURE
- STEP 2: LOAD A PICTURE
- STEP 3: MAKE A CEL
- STEP 4: ANIMATE THE CEL

Let us begin.

STEP 1: MAKE A PICTURE

For this tutorial we have already created the pictures for you, but normally you would paint your own pictures with the PC Paintbrush II Program.

STEP 2: LOAD A PICTURE

- o Select EDIT CELS (remember to position the cursor inside the EDIT CELS box and press the left mouse button). A sub-menu will appear.
- o Select MAKE CELS (press the left mouse button). A list of picture files will appear. A file named "CLIPART" is on the list.

- o Select CLIPART (left button). A screenful of pictures will appear and a horizontal line will be attached to the cursor.  
NOTE: Sometimes the image may be out of phase. If that happens, simply press the PG UP key on the keyboard to get the image back in phase.

### STEP 3: MAKE A CEL

A cel is a picture with a box around it and a name associated with it.

The first cel will contain the word MINDSET.

- o Position the white line close to the yellow bar on the top of the word MINDSET.
- o Press the left mouse button to set the line.
- o Press the right mouse button to confirm the selection.
- o Position the line on the bottom of the word MINDSET.
- o Press the left button to set the line.
- o Press the right button to confirm.

Now a vertical line will appear.

- o Press the left button to set the line at the left side of the word MINDSET.
- o Press the right button to confirm.
- o Press the left button to set the line at the right side of the word MINDSET.
- o Press the right button to confirm.

Now you will be prompted to type in a name for the cel.

- o Type the word Mindset on the keyboard.
- o Press RETURN. The picture screen will reappear with a box around the Mindset logo.

Repeat "Step 3: MAKE A CEL" for the truck, the JVC logo, and the star, making a box for each and naming each "truck", "JVC" and "star", respectively.

When you are done with all four cels:

- o Press ESC on the keyboard. The EDIT CELS menu will reappear.

- o Select EXIT THIS MENU.

STEP 4: ANIMATE THE CEL

TO WIPE ON AN IMAGE

Let's use a simple wipe for the first animation.

- o Select EDIT ANIMATION.
- o Select MAKE EVENTS.
- o Select WIPE TRANSITION.
- o Select WIPE -> The cels will appear on the screen.

TO SELECT A CEL:

- o Move the cursor inside the white box containing the MINDSET logo.
- o Press the left button.

Move the mouse and you will see how the MINDSET logo follows your movement.

- o Position the logo at the top of the screen, centered.

- o Press the RETURN key on the keyboard. This will select and confirm the position. The MAKE EVENTS MENU will reappear.

PREVIEW THE ANIMATION

- o Select PREVIEW (next to last item in the MAKE EVENTS MENU).
- o You will see the word MINDSET being wiped on the screen.

TO MOVE AN OBJECT IN A STRAIGHT LINE

For the next animation let's send the truck from right to left across the screen.

- o Select CEL PATH (in the MAKE EVENTS MENU).
- o Select LINE PATH (in the SELECT PATH MENU). The cels will appear.
- o Select the cel with the truck in it. The truck will follow the mouse movement.

Now position the truck all the way to the right of the screen, where it disappears behind the border.

- o Press RETURN on the keyboard to accept that position.
- o Position the truck all the way to the left of the screen behind the border.
- o Press RETURN. The menu will reappear.

PREVIEW THE ANIMATION SEQUENCE

- o Select PREVIEW. Both animations will play, one after the other.

TO MOVE AN OBJECT ALONG A FREEFORM PATH

In this animation a star will move along a looping path.

- o Select CEL PATH.
- o Select TRACE PATH. The cels will appear.
- o Select the "star" cel. The star will follow the movement of the mouse.
- o Position the star in the center of the screen.

- o Press the left mouse button and keep it pressed down while moving the mouse in three or four loops.

The star will follow the looping trail, leaving a trail behind, which will not be visible when the animation is played. When you are done with the path:

- o Release the left mouse button.
- o Press the right button to accept the path.

TO PREVIEW THE ANIMATION SEQUENCE

- o Select PREVIEW.

All three animations will play, one after the other.

TO ZOOM AN IMAGE ONTO THE SCREEN

The last animation will be a logo zooming in.

- o Select SPECIAL EFFECT.
- o Select ZOOM.

- o Select the "JVC" cel.

The "JVC" cel will pop up at the top of the screen. That's o.k., you will select the final position later.

- o Move the mouse to the right, this will make the logo become smaller. Make it as small as possible.
- o Press RETURN.
- o Do not move the mouse!

The logo will reappear in its original size.

- o Press RETURN again to accept the final size.
- o Select SINGLE LOCATION (in the SELECT PATH MENU).

The logo will follow the movement of the mouse.

- o Position the logo in the center of the screen.
- o Press RETURN to place and accept that position.

#### TO PAUSE THE ANIMATION

In order to be able to view the whole screen for a second, you can add a pause at the end of the animation sequence.

- o Select TIMING CONTROL (in the MAKE EVENTS MENU).
- o Select PAUSE 1 SECOND. The pause will be the last animation event.

#### TO PREVIEW THE ANIMATION

- o Select PREVIEW.

All animation events will be played, with a small pause at the end.

### 3. HOW TO SAVE AN ANIMATION

To save an animation for future playing or editing, you need to save it.

- o Select EXIT THIS MENU (in the MAKE EVENTS MENU).
- o Select EXIT THIS MENU (in the EDIT ANIMATION MENU).

- o Select SAVE ANIMATION (in the MAIN MENU). You will be asked to type in a name for your animation. Type a name with 8 or less characters (no spaces). Let's call this animation "demo".
- o Type: demo
- o Press RETURN. The animation will be saved.

#### 4. HOW TO RUN A PREPARED ANIMATION SEQUENCE

You may want to play a prepared animation sequence either for taping or demonstration purposes. We have included two prepared animation sequences on the hard disk.

If you have not loaded the program already, load the ANIMATION & EFFECTS Program following the instructions "HOW TO START THE ANIMATION & EFFECTS PROGRAM", in the beginning of this tutorial.

#### TO LOAD AN ANIMATION SEQUENCE

- o Select LOAD ANIMATION (in the MAIN MENU). A list of animation sequences will appear.
- o Select MINDSET from the list. The animation will be loaded in a few seconds.

#### TO PLAY AN ANIMATION SEQUENCE

- o Select PLAY ANIMATION (in the MAIN MENU). A submenu will appear.
- o Select PLAY.

The animation will play to the end and then repeat from the beginning.

If the animation does not begin to play,

- o Press the START key.

To stop the animation at any time:

- o Press ESC on the keyboard.

The PLAY ANIMATION menu will appear.

To play a different animation:

- o Press EXIT THIS MENU (in the PLAY ANIMATION menu). The MAIN MENU will appear.
- o Select LOAD ANIMATION.
- o Select "JVC" from the list. When the MAIN MENU reappears:
- o Select PLAY ANIMATION (in the MAIN MENU). A submenu will appear.
- o Select PLAY. The animation will play in a continuous loop until you interrupt by pressing the ESC key.

## Part II

## MULTIPLE ANIMATION TUTORIAL

## INTRODUCTION

For this tutorial, we assume that you have gone through the steps in the "Quick Start Tutorial" and are ready for a more advanced animation sequence.

You will create an animation of three balloons floating at the same time from the bottom of the screen to the top. Then you will learn how to float six balloons at the same time. We are sure you will enjoy watching the final result.

In order to make it easy for you, we have again provided you with pictures that were painted with the PC Paintbrush II program.

If you were just using the Animation & Effects program, you need to get a fresh start. To do that:

- o Select SET COLOR MODE (in the MAIN MENU).

- o Select HIGH RES 4 COLORS (in the SET COLOR MODE Menu).

If the program is not up and running, please refer to: "1. How to Start the Animation & Effects Program", in the beginning of the tutorial.

REMEMBER: To SELECT a menu item, you position the cursor on top of the item and press the left button. To ACCEPT a selection, press the right button.

When the Animation & Effects MAIN MENU is on the screen, we can begin.

#### TO LOAD A PICTURE

- o Select EDIT CELS by pressing the left mouse button.
- o Select MAKE CELS. A list of picture files will appear. A file named "CLIPART" is on the list.
- o Select "CLIPART." A screen with symbols, logos, and three balloons in different colors will appear. A horizontal line will be attached to the cursor.

#### TO MAKE A CEL

- o Position the white line close to the top of the first balloon.
- o Press the left mouse button to set the line.
- o Press the right mouse button to confirm the selection.
- o Position the line on the bottom of the same balloon.
- o Press the left button to set the line.
- o Press the right button to confirm.

Now a vertical line will appear.

- o Position the line on the left side of the first balloon.
- o Press the left button.
- o Press the right button.
- o Position the line on the right side of the balloon.



- o Press the left button.
- o Press the right button.

Now you will be prompted to type in a name for the cel.

- o Type: "b1" (without quotes) on the keyboard.
- o Press RETURN. The picture screen will reappear with a box around the balloon.

Repeat the process from "TO MAKE A CEL" for the remaining two balloons. Name the second one "b2" and the third one "b3".

When you are done making all three cels:

- o Press ESC on the keyboard. The EDIT CELS menu will reappear.
- o Select EXIT THIS MENU.

TO ANIMATE THE CEL

- o Select EDIT ANIMATION.

- o Select MAKE EVENTS.
- o Select CEL PATH.

The SELECT PATH menu will appear.

- o Select TRACE PATH. Three cels containing the balloons will pop up on the screen.
- o Select the cel labeled "b1" by positioning the cursor inside the box with the first balloon and pressing the left button.

You will see the first balloon follow the movement of the mouse.

- o Move the mouse until the balloon disappears completely at the bottom center of the screen.
- o Press the left button and keep it pressed down while moving the balloon upwards in a zig-zag motion until the balloon disappears completely at the top center of the screen.
- o Release the left button.
- o Press the right button to set this path.

The MAKE EVENTS menu will reappear.

For instant gratification, let's have a look at the very first animation.

- o Select PREVIEW.

You will see the first balloon float to the top of the screen. To animate two more balloons:

- o Select CEL PATH again.
- o Select TRACE PATH again.
- o Select the balloon labeled "b2" by positioning the cursor inside the box with the second balloon and pressing the left button.
- o Move the mouse until the balloon disappears at the bottom center of the screen.
- o Press the left button and keep it pressed down while moving the balloon toward the top of the screen along a zig-zag path until the balloon has completely disappeared at the top center of the screen.

- o Release the left button.
- o Press the right button to set this path.

Repeat the same procedure for the third balloon, labeled "b3".

Now let's have a sneak preview.

- o Select PREVIEW.

You will see all three balloons float to the top, one at a time.

To make them move at the same time, you need to make some changes in each animation event.

#### TO EDIT AN ANIMATION EVENT

When the MAKE EVENTS menu reappears:

- o Select EXIT THIS MENU. The EDIT ANIMATION menu will appear.

- o Select EDIT EVENT. A list of animation events will appear. You should see:

```

1    MOVE CEL b1
2    MOVE CEL b2
3    MOVE CEL b3

```

- o Select the first line:  
"1 MOVE CEL b1".

A detailed description of this event will appear.

#### TO SELECT PARALLEL MOVEMENT

At the bottom you will see:

```
"PARALLEL    OFF"
```

- o Position the cursor in the middle of the word "OFF". Turn it "ON" by pressing the left button. Notice that the word "OFF" has changed to "ON".

#### TO SELECT A TRANSPARENT CEL BACKGROUND

At the top you will see:

```
"TRANS/SOLID    SOLID"
```

This command determines whether the background of the cel is visible or not. Since we don't want to have a solid square floating around with the balloon:

- o Position the cursor in the middle of the word "SOLID" (in the blue box). Turn it to "TRANS" by pressing the left button.

For now we are done editing this event.

- o Select DONE and the events list will reappear.

Perform the same two changes on the events "MOVE CEL b2" and "MOVE CEL b3".

When you are done,

- o Select EXIT. The EDIT ANIMATION menu will appear.

Let's have a look:

- o Select PREVIEW. The three balloons will float to the top of the screen, moving at the same time.

At this point you have learned how to create multiple animation. You can stop the tutorial right here and try the new skills with your own drawings.

If you are up to additional tricks, stay tuned for more fun.

It is easy to create an animation of six balloons by simply copying the existing events and delaying the starting time of the copied event.

#### TO COPY AN ANIMATION EVENT

- o Select COPY EVENT (in the EDIT ANIMATION menu). The events list will appear.
- o Select the first line "MOVE CEL b1". There will be a duplicate of "MOVE CEL b1".
- o Select the line "MOVE CEL b2".
- o Select the line "MOVE CEL b3".

Now you will see two of each event on the list.

- o Select EXIT to return to the "EDIT ANIMATION menu".

If you would play the animation now, you would not see six balloons, since each event moves at the same time as its own copy. But if the copy begins to move a few frames later, you get some exciting results.

#### TO CHANGE THE STARTING FRAME OF AN EVENT

- o Select EDIT EVENT.
- o Select the last event on the list: "MOVE CEL b3". One of the items you see now is: "START FRAME 0".
- o Select "0".
- o Type the number "20" on the keyboard.
- o Press RETURN. The start frame is set to 20.
- o Select DONE.
- o Select one of the two events "MOVE CEL b2".
- o Select the "0" next to the "START FRAME".

- o Type the number "20" on the keyboard.
- o Press RETURN.
- o Select DONE.
- o Select one of the two events "MOVE CEL bl".
- o Change the START FRAME to "20".
- o Select DONE.
- o Select EXIT.

Now let's watch the six balloons:

- o Select PREVIEW.

Wasn't that easy?

If you want to save your wonderful animation, follow the instructions of "HOW TO SAVE AN ANIMATION" in the beginning of the tutorial.

#### FINAL REMARK

You have just created a pretty complex animation using the powerful editing features of the Animation & Effects program. We hope that this tutorial will inspire you to explore the remaining features of the program to obtain amazing animation results.

Please don't hesitate to consult the ANIMATION & EFFECTS users' manual, it explains all the features in detail.

PART III

ADVANCED TUTORIAL

INTRODUCTION

For this advanced tutorial we assume that you are familiar with the Animation & Effects Program. You should be able to load the program, create cels, make animations, and edit animation events.

This tutorial covers five animation events which will give you more flexibility in designing your animation sequences. The five events are:

1. TO FLIP AN IMAGE WITH AN INVERTED BACKSIDE.
2. TO SHOW FLOW WITH CYCLE PALETTE ANIMATION.
3. TO CREATE MOVEMENT WITH CEL ANIMATION.
4. TO MAKE COLOR CHANGES.
5. TO CREATE GROUPS OF MULTIPLE ANIMATIONS WITH A SYNCHRONIZED EVENT.

TO GET STARTED

If you were just using the ANIMATION & EFFECTS program, you need to get a fresh start. To do that:

- o Select SET COLOR MODE (in the MAIN MENU).
- o Select HIGH RES 4 COLORS (in the SET COLOR MODE Menu).

If the program is not up and running, please refer to: "1. How to Start the ANIMATION & EFFECTS Program" in the beginning of this tutorial.

---

**FLIP WITH INVERTED BACKSIDE**

In the "QUICK START TUTORIAL", you have learned how to flip a logo onto the screen. Now you will learn how to flip the image repeatedly, showing a backside that is upside down.

The pictures you need for this special trick are in the "CLIPART" file.

From the MAIN MENU:

- o Select EDIT CELS.
- o Select MAKE CELS.
- o Select CLIPART from the list of picture files.
- o Make a cel enclosing the white and yellow Mindset logo.
- o Name it "m1".
- o Make a cel enclosing the blue, upside down Mindset logo.
- o Name this one "m2".
- o Press ESC on the keyboard.
- o Select EXIT THIS MENU.

- 
- o Select EDIT ANIMATION.
  - o Select MAKE EVENTS.
  - o Select SPECIAL EFFECT.
  - o Select H FLIP ON. The two cels containing the "Mindset" logos will appear on the screen.
  - o Select cel "m1" by moving the cursor inside the box containing the logo and then pressing the left button.
  - o Select SINGLE LOCATION (in the SELECT PATH MENU).

The logo will follow the movement of the mouse.

To get rid of the other images on the screen:

- o Press DEL on the keyboard.

Move the mouse to position the logo in the center of the screen.

- o Press RETURN on the keyboard to select and accept this position.
- o Select PREVIEW and you will see the logo being flipped on once.

For this animation you need to repeat the flipping motion, so we need to edit

this event.

- o Select EXIT THIS MENU.
- o Select EDIT EVENT.
- o Select HORIZ FLIP m1.

In the list describing this event you will see:

"REPEAT 1"

- o Place the cursor on the number 1 and press the left button.
- o Type the number 13 on the keyboard.
- o Press RETURN.
- o Select DONE.
- o Select EXIT.
- o Select PREVIEW. The logo will flip several times. Now let's add the upside down backside.
- o Select EDIT EVENT.
- o Select HORIZ FLIP m1.

In the list you will see two items:

"CEL m1"  
"CEL 2 m1"

- o Select the "m1" next to "CEL 2". The two cels will appear.
- o Select the "m2" cel by moving the cursor inside the cel containing the blue logo and then pressing the left button.

Now you will see "m2" next to "CEL 2".

- o Select DONE.
- o Select EXIT.
- o Select PREVIEW.

You will see the logo flipping upside down, rotating several times.

For more information about flips, please consult your ANIMATION & EFFECTS manual.



---

## CYCLE PALETTE ANIMATION

In order to show flow, you can cycle through different colors in your palette.

In this tutorial you will learn how to create a cycle brush in the 4-color mode. You can make more colorful cycle brushes by going into the 16-color mode, using the same technique.

The basic steps involved in a cycle palette animation are:

STEP 1: PAINT A PICTURE.

STEP 2: MAKE A CEL.

STEP 3: MAKE A CHAIN.

STEP 4: DRAW WITH THE CHAIN.

STEP 5: MAKE A CYCLE PALETTE EVENT.

From the MAIN MENU:

STEP 1: PAINT A PICTURE.

For a cycle palette brush you need at least two identical images in different colors that are next to each other in the palette.

In this animation we will use three dots

---

in three different colors. Again, to speed things up for you, we have painted the necessary images for you.

STEP 2. MAKE A CEL.

- o Select EDIT CELS.
- o Select MAKE CELS.
- o Select CLIPART. You will see three dots in different colors underneath the star. Those are the elements of the cycle brush.
- o Make a cel for the pink dot, making sure that the white line touches the dot on all four sides.
- o Name the cel "d1".
- o Make a cel for the blue dot. Again, let the the white lines touch the dot.
- o Name the cel "d2".
- o Make a cel for the white dot in a similar way.
- o Name the white dot "d3".
- o Press ESC on the keyboard.
- o Select EXIT THIS MENU.

---

**STEP 3: MAKE A CHAIN**

- o Select EDIT ANIMATION.
- o Select MAKE CHAIN. The cel named "d3" will appear on the screen.
- o Select that cel by placing the cursor inside the cel and pressing the left mouse button. A blue box with "d1" will appear on the left side of the screen. That is the list of cels in the chain.
- o Select LAST CEL. Cel "d2" will appear.
- o Select cel "d2". A blue box with "d2" will be added to the list on the left.
- o Select LAST CEL. Cel "d1" will appear.
- o Select cel "d1", which will be added to the list on the left.
- o Accept this chain by pressing the right mouse button. The EDIT ANIMATION MENU will return.

**STEP 4: DRAW WITH THE CHAIN**

- o Select MAKE EVENTS.

- o Select SPECIAL EFFECTS.
- o Select DRAW CHAIN. The SELECT CHAIN menu will appear. Since this is the only chain we made:
- o Accept the chain by pressing the right button. You will see the images from "Clipart" on the screen.
- o Press the DEL key on the keyboard. That will clear the screen. You will see the white dot following the movement of the mouse.
- o Keep holding down the left mouse button while drawing three loops to form a spiral.
- o Accept this path by pressing the right button.

Now you have a shape, but you still need to select the cycling event.

**STEP 5: MAKE A CYCLE PALETTE EVENT**

- o Select COLOR TRANSITION.
- o Select CYCLE PALETTE, the DESIRED PALETTE menu will appear, labeled F1.
- o Accept this palette by pressing the right button.

- o Move the curser to the left of the dark blue color swatch.
- o Press the left button and a "C" will appear.
- o Select a "C" next to the pink swatch.
- o Select a "C" next to the white swatch.
- o Accept, by pressing the right button.

The cycle palette animation is finished!  
To look at it,

- o Select PREVIEW

Now you know how to create a cycle palette animation event. To find out about duration and speed of the cycling animation, please consult your ANIMATION & EFFECTS manual.

## CHAIN ANIMATION

## INTRODUCTION

In cel animation you need to paint several progressions of a movement. The smoothness of the animation depends on how many cels you make. If you have 20 positions of a moving arm, it will look smoother than only three positions for the same movement.

For this tutorial we have prepared a screen of 8 progressions, which will show a rotating cube when animated.

The basic steps involved in a cel animation are:

STEP 1: PAINT THE PICTURES

STEP 2: MAKE THE CELS.

STEP 3: MAKE A CHAIN.

STEP 4: GIVE THE CHAIN A PATH.

TO GET A FRESH START:

- o Select SET COLOR MODE.
- o Select HIGH RES 4 COLORS.

This procedure will erase any previous animation from the memory of the

computer (but not the disk).

From the MAIN MENU:

- o Select EDIT CELS.
- o Select MAKE CELS.
- o Select CUBES from the picture file list.

A screen with eight different views of a cube will appear. If you make the cels in the order that the cubes are numbered, it will be easier to use the cels later on.

- o Proceed to make the eight cels, starting from number one. Make sure that the numbers are NOT inside the cel. Name the cels c1, c2, c3, etc.

When you are done:

- o Press ESC on the keyboard.
- o Select EXIT THIS MENU (in the EDIT CELS MENU).
- o Select EDIT ANIMATION.
- o Select MAKE CHAIN.

A screen with cel "c8" will appear.

- o Select LAST CEL repeatedly until cel

"c1" appears.

- o Select cel "c1" by positioning the cursor inside the cel and pressing the left button; "c1" will appear on the left side of the screen as the first item in the chain.
- o Select NEXT CEL. Cel "c2" will appear.
- o Select cel "c2". It will be added to the list on the left.

Repeat this process for all eight cels. The list on the left should show all eight cel names.

- o Press the space bar when you are done.

Now you will design a path for the animation.

- o Select MAKE EVENTS in the EDIT ANIMATION MENU.
- o Select CHAIN PATH.
- o Select TRACE PATH. The chain will appear.
- o Press the space bar to accept this chain. The screen with all the cubes will appear and the first cube will follow the movement of the mouse.

- o Press DEL on the keyboard to clear the page.
- o Move the mouse to the left until the cube exits from the screen.
- o Hold down the left button while moving the mouse to the right. Paint a big looping trail and let the path end off screen on the right side.
- o Press the right button to accept this path.
- o Select PREVIEW to see your rotating cube animation.

Congratulations! You have just created your first cel animation.

In the next section, we will use the same animation to show you how to change the color combination of your animation, and make the change a permanent part of the events list.

## PALETTE CHANGES

### WHERE TO USE PALETTE CHANGES

At some point in your animation sequence you may want to adjust your colors in order to reduce chroma crawl over video. Or you may want to change to a different color combination to get more variety. You can do that easily by changing the RGB values in a color palette and making the new palette part of your events list.

To allow you to try out the palette changes quickly, simply use the cubes animation you have just created in the previous section.

- o From the MAIN MENU:
- o Select EDIT ANIMATION.
- o Select EDIT PALETTE. The EDIT PALETTE menu will appear, and one cel with one cube will be visible. On top of the screen you will see: "-F1+". That's the name of the palette we have been using. Since all the "F" palettes are non-permanent, we need to dial up a permanent one.
- o Position the cursor on top of the "+" sign next to "F1" and press the left

---

button repeatedly, until you see:  
"-01+".

- o Press the right button. Numbers for the RGB values will appear next to the color swatches.

NOTE: To increase values, you press the left button on the right side of the number, to decrease values you press the left button on the left side of the number.

To change the background color:

- o Position the cursor to the right of the top and left most "0". That is the red value of the background.
- o Press the left button repeatedly until a "5" appears.
- o Position the cursor to the right of the "0" under the green value.
- o Press the left button repeatedly until a "5" appears.
- o Press repeatedly on the right side of the blue value until a "5" appears.

Now the background is a nice neutral gray.

To change the color of one side of the cube, repeat the same process until you

have changed the second color from the top to:

R=3 G=2 B=6

Notice, that you can watch the color changes by observing the cube in the cel.

Change the third color from the top to:

R=4 G=2 B=7

Change the fourth color to:

R=4 G=4 B=7

Now we have a nice looking color palette. To accept it:

- o Press the right button twice. The EDIT ANIMATION menu will return.

Now we need to make this palette part of the events list.

TO INSERT A PALETTE IN THE EVENTS LIST

- o Select MAKE EVENTS.
- o Select COLOR TRANSITION.
- o Select CUT TO PALETTE. The "F1" palette will appear.
- o Press on the "+" repeatedly, until "01" appears. That's our palette.

- o Press the right button to accept it. The palette has been added to our events list.

Now we need to move the CUT TO PALETTE event into the first position in the events list.

#### TO MOVE AN ANIMATION EVENT IN THE LIST

- o Select EXIT THIS MENU (in the MAKE EVENTS menu).
- o Select MOVE EVENT. The events list will appear.
- o Select CUT PALETTE 1. The words will turn yellow.
- o Move the cursor to event number one.
- o Press the left button. The first event is now "CUT PALETTE 1".

Let's have another look:

- o Select EXIT.
- o Select PREVIEW.

Doesn't this look more exciting?

At this point you have learned how to control the color palette and make the new palette part of your animation

event.

#### SYNCHRONIZED EVENTS

The SYNCHRONIZED EVENT allows you to form groups of multiple animations. It also gives you the flexibility to alternate between single and multiple animation events.

In the "MULTIPLE ANIMATION TUTORIAL" you learned how to move six balloons across the screen at the same time. We will use this animation to divide the group of six balloons into two groups of three balloons each.

From the MAIN MENU:

- o Select LOAD ANIMATION.
- o Select BALLOONS from the list of animations.
- o Select EDIT ANIMATION.
- o Select PREVIEW. Here are the six balloons.

#### TO SYNCHRONIZE MULTIPLE EVENTS

- o Select MAKE EVENTS.
- o Select TIMING CONTROL.
- o Select SYNCHRONIZE EVENT.

This event is now the last one in the events list. You need to move it to the middle of the list.

- o Select EXIT THIS MENU to get to the EDIT ANIMATION MENU.

TO MOVE AN EVENT

- o Select MOVE EVENT.
- o Select "7 SYNCH EVENT". That line will turn yellow.
- o Select the line "4 MOVE CEL b1". The SYNCH EVENT will now be fourth on the list.
- o Select EXIT.
- o Select PREVIEW.

You will see first one group of three ballons, then a second group of three balloons float up.

To find out more about the SYNC EVENT, please consult the ANIMATION & EFFECTS Users' Manual.

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INTRODUCTION

This manual describes how to use your MINDSET VIDEO TITLER II. It will tell you what you will need to get started, how to begin the program, and how to use each function. It should be used as a reference guide to the VIDEO TITLER II program. For a quick orientation to VIDEO TITLER II and its operation, please refer to the TUTORIAL section, included separately in this guide. It is the best way to start using the program productively.

Please take the time to read the GETTING STARTED section to acquaint yourself with the VIDEO TITLER II program. It is very brief but extremely useful in describing what you will need when you begin and how to begin.

Please pay particular attention to the "NOTES" which follow many of the sections. "NOTES" are tips which help you get the most out of your system and avoid potential problems.

---

After beginning, you may use this manual as a reference that describes each function of the program. Each function is accessed by the Function Keys (the keys labelled F1 through F10 at the top of the keyboard) and all of the choices for each function are clearly displayed in the various screen WINDOWS.

At the end of the manual are four appendices that have notes on system defaults, using combination keys to bypass menus, printing sequences, and using different font sets.

#### NOTATION

When referring to specific functions of the program, the following notation is used: FUNCTION [MENU]. This refers to the specific function on a particular menu. Examples:

CLR SCRN [PAGE] refers to the CLR SCRN (Clear Screen) function in the PAGE menu.

The phrase "if CLR SCRN [PAGE] = ON..." is read as "if the Clear Screen function in the PAGE menu is ON...".

NOTES: If you have a graphics tablet attached to your M-3000 system, be sure that the pen is not laying on the tablet when using VIDEO TITLER II. The signals generated when the pen is on the tablet may impede the proper operation of certain time-critical functions of VIDEO TITLER II (for instance, long lines of crawled text may jitter).

**SOFTWARE INCLUDED**

Included on the hard disk are:

- \* VIDEO TITLER II Program
- \* Fonts: Swiss, Serif, Italic, Block, Square, and Small (See Appendix IV for font details)
- \* Demonstration Sequences

**GETTING STARTED**

Turn on the power switch on the front of your M-3000 system. After a few seconds, the MAIN MENU will appear, giving seven program choices.

**Loading VIDEO TITLER II**

To load VIDEO TITLER II, just press F3. You will get the message "NOW LOADING PROGRAM... ONE MOMENT, PLEASE". After a few seconds, the prompt will say: "ARE YOU USING A PREVIEW MONITOR?"

Type the letter N (for no) on the keyboard. The VIDEO TITLER II Edit Screen will appear. You are ready to start creating titles.

NOTES: VIDEO TITLER II also supports the use of a preview monitor. For use with a preview monitor, type the letter Y (for yes) to the prompt, "ARE YOU USING A PREVIEW MONITOR?" Menus will only appear on the preview monitor connected to the NTSC PREVIEW OUT of the system. No menus will appear on the composite monitor or VTR connected to the composite output of the M-3000

## PROGRAM STRUCTURE

## EDIT SCREEN MENU STRUCTURE

In order to examine the different menus, you need to load the VIDEO TITLER II program. If you have not already loaded VIDEO TITLER II, use the following procedure.

## HOW TO LOAD THE VIDEO TITLER II PROGRAM

Turn on the power on with the switch located on the front of the system. A red light located on the switch will turn on. After a few seconds the MAIN menu with seven choices will appear.

If the system is already on, the MAIN menu will be displayed, and you can proceed from here.

Press: F3 to start the loading process.

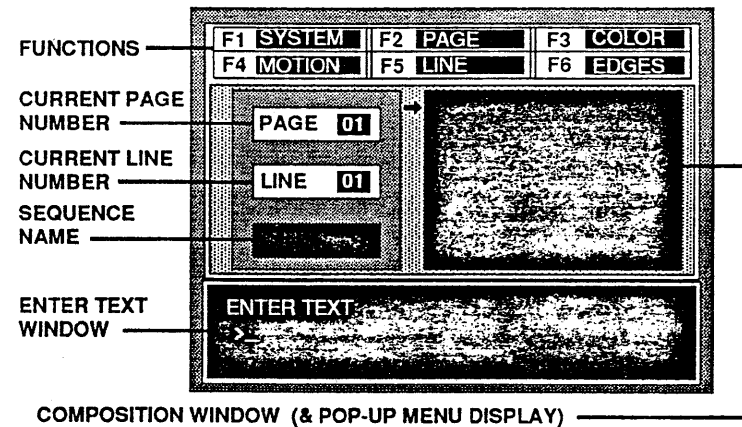
After a few seconds, the prompt will say:

"Are you using a preview monitor?"

Type: N (Do not press RETURN.)

The VIDEO TITLER II menu will appear.

Figure 1: Video Titler II Edit Screen



## THE MAIN MENU

On top of the edit screen you see six menus: SYSTEM, PAGE, COLOR, MOTION, LINE, EDGES. Next to each menu is the name of the corresponding function key which calls up the menu. (Function keys labeled F1 through F6.)

---

The menus form three basic groups, each controlling one of the following:

1. TITLE SEQUENCES

The SYSTEM menu controls what you do to your entire sequence of titles and credits, like loading from the diskette, saving to a diskette, running a sequence, etc.

2. TITLE PAGES

The PAGE menu affects the whole page. It controls keying, clearing previous screens, etc.

The COLOR menu allows you to change the RGB mix of all four screen colors.

The MOTION menu allows you to choose different motions like ROLL, CRAWL, etc.

---

3. LINES OF TITLES

The LINE menu lets you set justification, indentation, character size, and character color on a line-by-line basis.

The EDGES menu controls width and color of drop shadows.

MAIN MENU:

F1: SYSTEM - System Level. Performs functions such as saving, loading, and running sequences.

F2: PAGE - Page Level. Sets page entry functions such as clearing the screen, keying, and margins.

F3: COLORS - Page Level. Sets the four PLAYBACK SCREEN colors.

F4: MOTION - Page Level. Determines the order, method and time pages are displayed on the PLAYBACK SCREEN.

- 
- F5: LINE - Line Level. Selects character color, font and spacing specifications.
- F6: EDGES - Line Level. Defines edge color, style and offsets.

#### THE SUBMENUS

When you call up a main menu with the associated function key, a small screen with submenus appears in the COMPOSITION WINDOW. Each submenu is again controlled by a function key. The following list describes what each submenu controls. Each function is described in detail in subsequent sections.

---

#### EDIT SCREEN MENU STRUCTURE

F1: SYSTEM (Main Menu)

##### SUBMENUS

- F1: LOAD SEQUENCE  
- Load a sequence from disk
- F2: SAVE SEQUENCE  
- Save a sequence to disk
- F3: RUN SEQUENCE  
- Display a sequence in automatic running mode
- F4: LOAD FONT  
- Replace a font in the VIDEO TITLER II program with one from a font or data disk
- F5: PAGE PREVIEW  
- Preview a single page
- F6: MANUAL MODE  
- Manually select pages for display
- F8: SAVE SCREEN  
- Save a screen image to disk as a picture file
- F10: QUIT  
- Exit the program

## F2: PAGE (Main Menu)

## SUBMENUS

- F1: CLR SCRN  
 - YES: Clear the screen before displaying page  
 - NO: Display page over the previous page
- F2: KEY  
 - YES: Key out COLOR 1 for video overlays  
 - NO: Display opaque background
- F3: BASELINE  
 - Vertical position of first line
- F4: LF MARG  
 - Left margin for positioning text
- F5: RT MARG  
 - Right margin for positioning text
- F8: CLR PAGE  
 - Reset page to defaults
- F10: PAGE MARK  
 - Mark end of text for motion linking

## F3: COLORS (Main Menu)

## SUBMENUS

- F1: COLOR 1 - Set the levels of  
 F2: COLOR 2 red, green, and blue  
 F3: COLOR 3 for each of the four  
 F4: COLOR 4 possible screen colors. Color 1 is the background color.

## F4: MOTION (Main Menu)

## SUBMENUS

- F1: MODE  
 - Select Cut, Roll, Crawl, Fade, or Type
- F2: SPEED  
 - Speed of roll, crawl, or type (1-9, 1 = fastest)
- F3: BEGIN  
 - Start page with text on or off screen (does not affect roll)
- F4: END  
 - End page with text on or off screen (does not affect roll)
- F5: TIMER  
 - Length of time (in seconds) a page is displayed.



- F6: LINK  
- Select next page in motion sequence
- F7: TRIGR  
- Trigger pages manually with the mouse button
- F5: LINE (Main Menu)
- SUBMENUS
- F1: CHAR COL  
- Select the display color for characters (1-4, 1 = background)
- F2: FONT  
- Select a font
- \* F6: POSITION  
- Choose left, right or center justified
- \*\* F6: POSITION  
- Choose left, right or center positioned bar
- \* F7: P-OFFSET  
- Indent a line (1 unit = 1 pixel)
- \*\* F7: P-OFFSET  
- Specify the length of the bar (1 unit = 1 pixel)

- F8: LINE SPC  
- Space between lines of text (1 unit = 1 scanline)
- \* F9: CHAR SPC  
- Space between characters (1 unit = 1 pixel)
- \*\* F9: CHAR SPC  
- Specify the thickness of the bar (1 unit = 1 scanline)
- \* NORMAL CHARACTERS
- \*\* SEPARATOR BAR
- F6: EDGES (Main Menu)
- SUBMENUS
- F1: EDGE COL  
- Select the color for edges (1-4, 1 = background)
- F2: CHAR 3D  
- Three dimensional character
- F3: DROP SHA  
- Drop shadow
- F4: BORDER  
- Border around character
- F6: H-OFFSET  
- Horizontal edge size
- F7: V-OFFSET  
- Vertical edge size

## SPECIAL FUNCTION KEYS

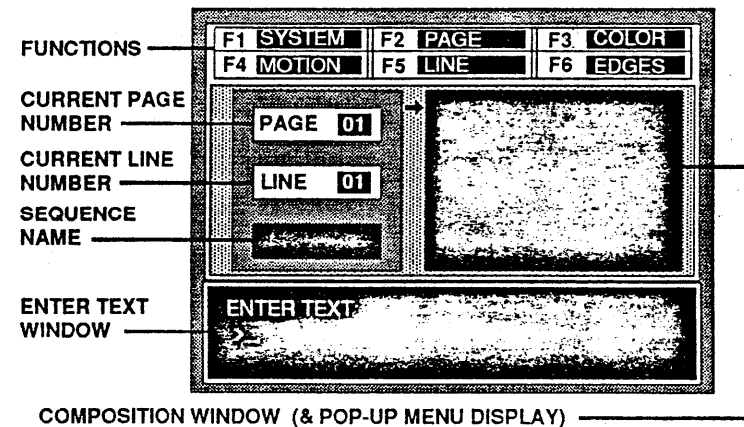
Although function keys F1 to F6 are the primary function keys, other special function keys are active. They are listed and described below:

- F7 - PAGE PREVIEW. The current page is previewed on the PLAYBACK SCREEN.
- F8 - Insert a blank line or delete the current line.
- F9 - SEPARATOR BAR. (See the CREATING A SEPARATOR BAR section).
- F10 - Center all lines horizontally on the page.
- ESC - Return to EDIT SCREEN.
- START - MANUAL MODE.
- HOME - Jump to PAGE 1, LINE 1.
- END - Jump to PAGE 40, LINE 1.

## ENTERING TEXT

After the program has loaded and the VIDEO TITLER II EDIT SCREEN appears, text can be entered immediately via the keyboard. Any standard keyboard character may be entered, including letters, numbers, and special characters.

Figure 1: Video Titler II Edit Screen



---

CURRENT PAGE NUMBER - Displays a number from 1 to 40 indicating the CURRENT PAGE NUMBER being edited.

CURRENT LINE NUMBER - Displays a number indicating the CURRENT LINE NUMBER being edited.

SEQUENCE NAME - Displays the SEQUENCE NAME name of the file currently in memory. This is updated as files are loaded from or saved to disk.

ENTER TEXT WINDOW - Located at the bottom of the EDIT SCREEN, this window displays the contents of the current line being edited. It's also used for input during some functions.

COMPOSITION WINDOW - Displays a 1/2 scale representation of the actual PLAYBACK SCREEN. This area is also used to display the POP-UP FUNCTION MENUS.

---

Text for the current line appears in the ENTER TEXT WINDOW. A highlighted block or CURSOR indicates the position on the line where a character or space will be placed. When a valid character key is pressed, any previous space or character will be changed to the new character and the cursor will move one space to the right.

Text on the current page is displayed in the COMPOSITION WINDOW. A pointer to the left of the COMPOSITION WINDOW indicates the currently active line of text.

The COMPOSITION WINDOW gives a representation of the actual playback screen. It should be used as a guide to help determine the number of characters or lines which may be practically entered for the font size selected. In most cases what is displayed in the COMPOSITION WINDOW is what appears on the actual PLAYBACK SCREEN. HOWEVER, IT IS POSSIBLE TO ENTER MORE CHARACTERS ON A LINE OR A PAGE ON THE EDIT SCREEN THAN MAY BE ACTUALLY DISPLAYED ON THE PLAYBACK SCREEN. To check, just press the F7 key to PREVIEW the PLAYBACK SCREEN.

---

Most changes to text and attributes are immediately displayed on the COMPOSITION WINDOW. The exception is THAT NO EDGES ARE EVER DISPLAYED ON THE COMPOSITION WINDOW.

### SPECIAL EDITING KEYS

The special editing keys which are active in VIDEO TITLER II are listed below:

- BACK SPACE - Deletes one character to the left of the cursor. All characters and spaces at and to the right of the cursor will move one space to the left.
- DEL - Deletes the character or space at the cursor. All characters and spaces to the right of the cursor will move one space to the left. Use DEL to delete characters or words on a line of text.

- 
- INS - Inserts a space at the cursor. All characters at and to the right of the cursor will move one space to the right and a new space will be placed at the cursor. Use INS to create room for additional characters or words that must be inserted into a line of text.
- PG UP - Moves back one page. Also places the cursor at the beginning of line 1.
- PG DN - Moves forward one page. Also places the cursor at the beginning of line 1.
- UP ARROW - Move back one line. The previous line moves into the ENTER TEXT WINDOW.
- DOWN ARROW - Move forward one line. The next line moves into the ENTER TEXT WINDOW.

- 
- LEFT ARROW - Moves the cursor back one character.
- RIGHT ARROW - Moves the cursor forward one character.

### CREATING A SEPARATOR BAR

To create a SEPARATOR BAR, use the F9 key in the editing mode. The SEPARATOR BAR is marked by the  $\bar{u}$  character and uses a line by itself. Any text on that line will be erased by that character. The default length of the line is 300 pixels, the default height 4 pixels. It is easiest to use the SEPARATOR BAR after entering all the text on the page. Otherwise the text following the BAR will be indented. This can be adjusted by resetting P-OFFSET.

### OPERATION:

1. Type in text, leaving a blank line for the SEPARATOR BAR. When all text is entered go to the blank line and press F9.
2. To adjust the thickness of the BAR, go to F5 [LINE]. Set F9:CHAR SPC to different values (1 is thinnest) then press RETURN.

- 
3. To adjust the length of the line, set F7:P-OFFSET to different values.
  4. To adjust the distance of the BAR to the text below it, go to the line below the BAR and set F8:LINE SPC [LINE] to different values.

---

SYSTEM MENU

## F1: LOAD SEQUENCE

## FUNCTION:

Get a sequence of pages from the hard disk and place it in the working memory.

## OPERATION:

1. Press F1.
2. The program will then display the names of the sequence files on the hard disk. The first name in the list will be highlighted. If there are no files on the hard disk, the program will briefly display "NO FILES FOUND".
3. Use the cursor keys to move the highlighted area to the file name you want to load. If there are more than 16 sequence files on the disk, use the [PgUp] and [PgDn] keys to display the rest of the sequence files. Press [ESC] to cancel the loading process.

---

SYSTEM MENU

4. When the desired sequence name has been highlighted, press RETURN. The program will respond with "XXXXXXXX IS BEING LOADED" (XXXXXXXX stands for the selected file name). The sequence is then loaded into memory from the hard disk (loading all 40 pages, including blanks, over the sequence in memory).

NOTES: Sequence files contain the names of the fonts which were being used when the sequence was saved to disk. Therefore, when you load a new sequence VIDEO TITLER II will attempt to load the correct fonts for that sequence. If it cannot find a font on the hard disk, the program will prompt the user to insert the diskette containing that font.

---

SYSTEM MENU

## F2: SAVE SEQUENCE

## FUNCTION:

Store a sequence of pages to the hard disk from working memory.

## OPERATION:

1. Press F2.
2. The program responds with "ENTER THE SEQUENCE NAME TO SAVE." Type the name of the sequence that you wish to save and press return. The sequence name is limited to 8 characters (including the drive prefix, if specified) and may include any combination of letters and numbers. Do not use a space within the sequence name. The following are proper examples:

A:VIDEO2  
VIDEO2

**NOTE:** IF NO PREFIX IS ATTACHED TO THE SEQUENCE NAME, THE HARD DISK IS SELECTED.

3. The program will then check the drive to see if the sequence name already exists. If it does, the program will

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SYSTEM MENU

respond with "FILE ALREADY EXISTS, SAVE ANYWAY?" Pressing "Y" will cause the program to save the file. The message "XXXXXXXXX IS BEING SAVED" will be displayed (XXXXXXXXX stands for the selected file name). If you decide not to save the sequence, press any other key. If an error is encountered in saving to disk, the program responds with "SORRY...I CANNOT DO THAT". If the floppy disk is full, the program responds with "THE DISK IS FULL, TRY ANOTHER".

**NOTES:** When a sequence is being saved, the name of any fonts that may have been loaded in, will also be saved.

---

**SYSTEM MENU****F3: RUN SEQUENCE****FUNCTION:**

Begin displaying a sequence of pages on the PLAYBACK SCREEN.

**ACTIVE KEYS:**

- ESC - Stops the display and returns to the EDIT SCREEN.
- PAUSE - Stops the sequence until START is pressed.
- START - Resumes the sequence after PAUSE has been pressed.

**OPERATION:**

1. Press F3.
2. The program will switch to the PLAYBACK SCREEN and begin displaying the sequence starting with the current page and continue until the end of the linked sequence is reached or the display is interrupted by the following special key commands.

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**SYSTEM MENU**

3. Pressing [ESC] will stop the sequence display and return to the EDIT SCREEN.

4. If PAUSE is pressed, the sequence will stop until restarted by pressing the START key.



---

SYSTEM MENU

## F4: LOAD FONT

## FUNCTION:

Replace the font in working memory with one from the hard disk.

## OPERATION:

1. Press F4.
2. The program will then display a list of the names of the fonts currently in memory. The message, "WHICH FONT DO YOU WANT TO REPLACE?" will be displayed at the bottom of the screen. The first font name in the list will be highlighted.
3. Use the cursor keys to move the highlighted area to the font that you want to replace. When the desired font name has been highlighted, press return to enter your selection. (If you choose not to load a new font, press [ESC]).
4. The program will then display the names of the font files on the hard disk which can be loaded into the space allocated to the font being replaced. The first name in the list will be highlighted. (If there are no font files on the disk, the program will briefly display "NO FILES FOUND.")

---

SYSTEM MENU

5. Use the cursor keys to move the highlighted area to the font file name that is to be loaded. If there are more than 16 font files on the disk, use the [PgUp] and [PgDn] keys to display the rest of the sequence files. (Press [ESC] to cancel the loading process.)

6. When the desired font name has been highlighted, press return to load the file. The program will respond with "XXXXXXXXXX IS BEING LOADED." (XXXXXXXXXX stands for the selected file name.) The new font is then loaded into memory from the disk.

NOTES: Each font used by the program has a memory size associated with it. A large font may be too big to fit into the memory area previously occupied by a small font. Only those files which can fit into the memory space reserved will be displayed in the listing of files on the hard disk.

---

SYSTEM MENU

## F5: PAGE PREVIEW

## FUNCTION:

Preview the format of a single page on the PLAYBACK SCREEN.

## OPERATION:

1. Press F5.
2. The program will switch to the high-resolution PLAYBACK SCREEN and display the page that was active on the COMPOSITION WINDOW at the time F5 was selected.
3. Pressing [ESC] will stop the display and return to the EDIT SCREEN at the current PAGE, LINE 1.

NOTES: LINK [MOTION] is ignored during PAGE PREVIEW. PAGE PREVIEW is to be used to check a single screen only.

The page is displayed on the PLAYBACK SCREEN showing MOTION, DISPLAY TIME, etc.

To hold a page on the PLAYBACK SCREEN, press PAUSE.

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SYSTEM MENU

PAGE PREVIEW may also be entered by pressing F7 directly, without entering the SYSTEM MENU.

## VIDEO TITLER II

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### SYSTEM MENU

#### F6: MANUAL MODE

#### FUNCTION:

Manually select pages for display on the PLAYBACK SCREEN. When using MANUAL MODE, the trigger option on MOTION MENU must be set to AUTO.

#### OPERATION:

1. Press F6.
2. The program will switch to the PLAYBACK SCREEN. The screen will be cleared.
3. Enter a TWO DIGIT NUMBER between 01 and 40 (01 for PAGE 1, 02 for PAGE 2 and so forth) for the desired page to be displayed.
4. The page will be displayed showing MOTION, TIMING, etc.
5. DEL will remove the page from the PLAYBACK SCREEN. DEL will not erase the page from the sequence.
6. INS will display the page that was cleared by the DEL or PAUSE keys.

## VIDEO TITLER II

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### SYSTEM MENU

7. The DOWN ARROW will MOVE to the next page (one number higher) and the UP ARROW will MOVE to the previous page (one number lower).

8. Pressing [ESC] will leave the PLAYBACK SCREEN and return to the EDIT SCREEN at the page being edited upon entering MANUAL MODE.

NOTES: LINK [MOTION] is ignored during MANUAL MODE.

The CLR SCRN [PAGE] = OFF and CLR SCRN [PAGE] = ON commands operate normally during MANUAL MODE.

If a number less than 01 is entered the program will ignore that number. If a number greater than 40 is entered the program will default to PAGE 40.

MANUAL MODE may be entered by pressing the START key directly, without going into the SYTEM MENU, or the ALT-M combination may be used.

---

SYSTEM MENU

## F8: SAVE SCREEN

## FUNCTION:

Store the PLAYBACK SCREEN image of a page to the hard disk as a picture file.

## OPERATION:

1. Press F8.
2. The program responds with, "ENTER THE SCREEN NAME TO SAVE." Type in a name for the screen that you wish to save and press RETURN. The name is limited to 8 characters (including the drive prefix, if specified) and may include any combination of letters and numbers. Do not use a space in the name.

## Examples:

LOGO  
A:LOGO

**NOTE:** IF NO PREFIX IS ATTACHED TO THE NAME. THE HARD DRIVE (C) IS SELECTED.

---

SYSTEM MENU

3. The program will then check the drive to see if that name has already been used. If it has, the program will respond with "FILE ALREADY EXISTS, SAVE ANYWAY?" Pressing "Y" will cause the program to save the file erasing any picture file with the same name. To cancel the SAVE SCREEN command, press any other key. The message "XXXXXXXX IS BEING SAVED" will be displayed. (XXXXXXXX stands for the selected file name.) If an error is encountered in saving to disk, the program responds with "SORRY...I CANNOT DO THAT". Use [ESC] to return to the EDIT SCREEN. If the data disk is full, the program responds with "THE DISK IS FULL, TRY ANOTHER."

**NOTES:** The picture file obtained by using SAVE SCREEN can be used in the PC PAINTBRUSH II, GLYPH, and ANIMATION & EFFECTS programs. It can not be loaded back into the VIDEO TITLER II program.

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SYSTEM MENU

F10: QUIT

## FUNCTION:

End the titling session and return to the MAIN MENU.

## OPERATION:

1. Select F10.
2. The program will respond with, "DO YOU REALLY WANT TO QUIT?" and wait for a response.
3. If either "Y" or "y" is pressed, the program will end.
4. If any key other than "Y" or "y" is pressed, the exit is cancelled.

NOTE: The program does not automatically save a sequence before exiting. Therefore, it is very important to remember to save the sequence before attempting to exit if you want to use it again at a later time.

---

PAGE MENU

F1: CLR SCRN

## FUNCTION:

YES: Erase previous page before writing new page on the PLAYBACK SCREEN.

NO: Overlay new page over previous page on the PLAYBACK SCREEN.

## OPERATION:

1. Press F1 to toggle between YES and NO.

---

PAGE MENU

## F2: KEY

## FUNCTION:

YES: Make COLOR 1 transparent in order to overlay the text over an external video source on the PLAYBACK SCREEN.

NO: Make COLOR 1 opaque.

## OPERATION:

1. Press F2 to toggle between YES and NO.

NOTES: KEY is a separate function from "GENLOCK." Genlock is ON at all times while the program is operating. It simply locks the sync of the Mindset M-3000 system to an external video signal.

COLOR 1 is always the "KEY" color and the background color for all pages. If KEY = OFF then COLOR 1 forms a solid opaque background upon which text is displayed on the PLAYBACK SCREEN. If KEY = ON then COLOR 1 becomes transparent and COLORS 2-4 overlay the external video source.

See APPENDIX I for notes about color considerations when working in NTSC composite video.

---

PAGE MENU

## F3: BASELINE

## FUNCTION:

Set the vertical location for the first line of text.

## OPERATION:

1. Press F3.
2. A RESPONSE WINDOW will appear in the middle of the screen.
3. Enter a value between 0 and 370 to specify the vertical location of the top of the first line on the page and press the RETURN key.
4. The new value will appear in the PAGE MENU and text will move to the new location in the COMPOSITION WINDOW when [ESC] is pressed to return to the EDIT SCREEN.

NOTES: The PLAYBACK SCREEN is 400 vertical dots or "PIXELS" high. A BASELINE value of 0 will write the top of the first line at the very top of the PLAYBACK SCREEN. The largest practical value for BASELINE is around 360, depending on the size of the character.

PAGE MENU

The entire page can be shifted down by changing the value of the BASELINE. Any lines that may have been pushed below the border, cannot be edited in this position. To edit, set the BASELINE back to 000.

PAGE MENU

F4: LF MARG

FUNCTION:

Positions the leftmost character of all lines of text on the page.

OPERATION:

1. Press F4.
2. A RESPONSE WINDOW will appear in the middle of the screen.
3. Enter a value between 0 and 639 to specify the location of the left margin and press the RETURN Key.
4. The new value will appear in the PAGE MENU and the COMPOSITION WINDOW will be reformatted to reflect the change when [ESC] is pressed to return to the EDIT SCREEN.

---

PAGE MENU

F5: RT MARG

## FUNCTION:

Positions the rightmost character of all lines of text on the page.

## OPERATION:

1. Press F5.
2. A RESPONSE WINDOW will appear in the middle of the screen.
3. Enter a value between 0 and 639 to specify the location of the right margin and press the RETURN key.
4. The new value will appear in the PAGE MENU and the COMPOSITION WINDOW will be reformatted to reflect the change when [ESC] is pressed to return to the EDIT SCREEN.

---

PAGE MENU

F8: CLR PAGE

## FUNCTION:

Clear all the text and reset the default values for that page.

## OPERATION:

1. Press F8.
2. The program will prompt with "DO YOU REALLY WANT TO CLEAR THE PAGE?".
3. Press "y" or "Y" to clear the page. Any other key will leave the CLEAR PAGE function.

NOTES: LINK [MOTION] will be set to 000.



---

PAGE MENU**F10: PAGE MARK****FUNCTION:**

Identify the end of text for linking  
ROLL sequences.

**OPERATION:**

1. BE SURE THAT THE LINE AFTER THE LAST FULL LINE OF TEXT IS IN THE ENTER TEXT WINDOW.
2. Press F10.
3. The program will briefly highlight the "F10: PAGE MARK" line on the PAGE MENU.

**NOTES:** Each page may have up to 13 lines of text depending on the size of the font. If fewer lines are actually used, the PAGE MARK lets the program know that it has reached the last line of text. This is important when using ROLL, where pages are joined together to form one continuous display. If PAGE MARK is not used, large blank spaces can occur between visible text.

---

PAGE MENU

Page marks are inserted automatically on unedited lines. For example, if the last line that you have edited is line 5, line 6 will contain a page mark. If, however, you were to edit line 6 and then erase what you had entered on line 6, a page mark would no longer be on line 6. You would use the PAGE MARK function to reset it.

## COLOR MENU

F1: COLOR 1            F2: COLOR 2  
F3: COLOR 3            F4: COLOR 4

## FUNCTION:

Change the mixture of RED, GREEN, and BLUE for the four COLORS.

## OPERATION:

1. Press F3 to bring up the COLOR MENU.
2. Press F1, F2, F3, or F4 depending on the COLOR to be changed.
3. The COLOR MIX WINDOW will appear. This window has a box for each of the primary video colors...RED, GREEN, and BLUE. The intensity of each of the primary video colors ranges from 0 (no color), to 7 (full color). Black, for example would be red 0, green 0, and blue 0. White, on the other hand, would be red 7, green 7 and blue 7. Over 512 colors may be created by combining the levels of the three primary colors.

## COLOR MENU

4. To the right of the color boxes three words -- COLOR 2, COLOR 3, and COLOR 4 -- are written on a box of background color (COLOR 1). These words show the colors as they will appear on the PLAYBACK SCREEN.

5. RED is the first active color. Use the UP and DOWN ARROWS to change the intensity of the COLOR. Three things will happen. First, the number next to the COLOR selected will change. Second, the background or appropriate line of text in the COLOR DEMO WINDOW will change to reflect the new color. Third, the primary color box will change intensity.

6. Use the RIGHT or LEFT ARROWS to go from RED(R) to GREEN(G), or BLUE(B).

7. When the desired color mix is achieved, press RETURN to set the COLOR and return to the COLOR MENU.

NOTES: The background is always COLOR 1. It may be used for characters or edges.

---

**MOTION MENU****F1: MODE****FUNCTION:**

Select CUT, ROLL, CRAWL, FADE, or TYPE to display the page on the PLAYBACK SCREEN.

**OPERATION:**

1. Press F1.
2. Each time F1 is pressed a new mode is selected. Keep pressing F1 until the desired mode is displayed.

**NOTES:** BEGIN and END affect CRAWL and FADE only.

A different mode may be used for each page of a linked sequence.

---

**MOTION MENU****F1: MODE = CUT****FUNCTION:**

Select CUT to display the page on the PLAYBACK SCREEN.

**OPERATION:**

1. Press F1 until CUT is displayed in the MOTION MENU.

**NOTES:** CUT is used to instantly change from one page to another.

CUT creates a static PLAYBACK SCREEN with no motion.

Using CUT with CLR SCRN [PAGE] = OFF may be used to build screens, disclosing new information by "popping" it onto the PLAYBACK SCREEN.

---

MOTION MENU

**F1: MODE = ROLL**

**FUNCTION:**

Select ROLL to display the page on the PLAYBACK SCREEN.

**OPERATION:**

1. Press F1 until ROLL appears in the MOTION MENU.

**NOTES: THE PLAYBACK SCREEN ALWAYS CLEARS WHEN ENTERING THE ROLL MODE.**

ROLLING will always BEGIN [MOTION] = OFF and END [MOTION] = OFF. If you need to start or stop the page on the PLAYBACK SCREEN, you may use the PAUSE key.

If consecutive pages of text should look like one long rolling page, be sure that a PAGE MARK is on the next line after the last line of text on each page.

ROLL speeds are 1 through 9, where 1 is the fastest and 5 is the second fastest.

---

MOTION MENU

**CAUTION:** When linking rolled pages at speed 1, care must be taken in the design of the screen. Pages which are too full or too complex may break up during rolling. This can be avoided by having fewer lines on the page and by using drop shadows only, instead of 3D shadows and borders.

**NOTES:** While using slower roll speeds like 4, 5, 6, and 7, the roll can be accelerated while the sequence is running by holding down the left mouse button. To return to the slower speed, release the button.

---

MOTION MENU

F1: MODE = CRAWL

## FUNCTION:

Select CRAWL to display the page on the PLAYBACK SCREEN.

## OPERATION:

1. Press F1 until CRAWL appears in the MOTION MENU.

NOTES: With BEGIN [MOTION] = OFF and END [MOTION] = OFF, the text crawls from the right side of the PLAYBACK SCREEN in a single line to the left side, until the last line of text disappears off the left side of the screen.

With BEGIN [MOTION] = OFF and END [MOTION] = ON, the text crawls across the PLAYBACK SCREEN in a single line from right to left until the last line of text is fully displayed.

With BEGIN [MOTION] = ON and END [MOTION] = OFF, the first line of the page cuts to the PLAYBACK SCREEN, pauses for the length of time specified by

---

MOTION MENU

TIMER [MOTION], and then crawls to the left, disappearing off the left edge of the PLAYBACK SCREEN.

SPEED [MOTION] controls the speed of the crawl. For a slow CRAWL, set SPEED = 6, and for the fastest CRAWL, set SPEED = 1. Speeds 7-9 are the same as speeds 1-3.

CRAWL runs all the lines of one page on top of the screen. To move the position of the crawl, change the BASELINE [PAGE] to a number from 0 (top of the screen) to 360 (bottom of the screen).

---

MOTION MENU

F1: MODE = FADE

FUNCTION:

Select FADE to display the page on the PLAYBACK SCREEN.

OPERATION:

1. Press F1 until FADE appears in the MOTION MENU.

NOTES: With BEGIN [MOTION] = OFF and END [MOTION] = OFF, text fades up, and then pauses for the length of time specified by TIMER [MOTION] before fading off.

With BEGIN [MOTION] = OFF and END [MOTION] = ON, the text fades up until fully visible, then pauses for the length of time specified by TIMER [MOTION] before cutting to the next page.

With BEGIN [MOTION] = ON and END [MOTION] = OFF, text cuts to the PLAYBACK SCREEN, pauses for the length of time specified by TIMER [MOTION], and then fades off.

---

MOTION MENU

SPEED [MOTION] controls the pace of the FADE. For a slow FADE, set SPEED = 9 and for the fastest FADE, set SPEED = 1.

---

MOTION MENU

**F1: MODE = TYPE**

**FUNCTION:**

Select TYPE to display the page on the PLAYBACK SCREEN.

**OPERATION:**

1. Press F1 until TYPE appears in the MOTION MENU.

**NOTES:** TYPE is the only mode that draws lines of text to the screen a character at a time.

SPEED [MOTION] controls the pace at which characters are "typed" on the PLAYBACK SCREEN.

SPEED 1 is fastest.

SPEED 9 is slowest.

BEGIN [MOTION] and END [MOTION] have no effect.

---

MOTION MENU

**F2: SPEED**

**FUNCTION:**

Select the speed for ROLL, CRAWL, FADE, and TYPE.

**OPERATION:**

1. Press F2 to select a speed value from 1 to 9 (1 = fastest).

2. Each time F2 is pressed the value increases by 1 until it reaches 9. Pressing F2 when the value is 9 loops back to 1.\*

**NOTES:** SPEED affects ROLL, CRAWL, FADE, and TYPE [MOTION].

With FADE, SPEED only controls the time it takes to fade in and out of the PLAYBACK SCREEN.

\*See ROLL and CRAWL for variations of SPEED.

---

MOTION MENU**F3: BEGIN****FUNCTION:**

**ON:** Begin the motion with the text on the PLAYBACK SCREEN.

**OFF:** Begin the motion with the text off the PLAYBACK SCREEN.

**OPERATION:**

1. Press F3 to toggle between OFF and ON.

**NOTES:** BEGIN affects only FADE and CRAWL. It has no effect on ROLL, CUT and TYPE.

---

MOTION MENU**F4: END****FUNCTION:**

**ON:** End the motion with the text on the PLAYBACK SCREEN.

**OFF:** End the motion with the text off the PLAYBACK SCREEN.

**OPERATION:**

1. Press F4 to toggle between OFF and ON.

**NOTES:** END affects only FADE and CRAWL. It has no effect on ROLL, CUT and TYPE.



---

MOTION MENU

**F5: TIMER**

**FUNCTION:**

Sets the length of time that the page remains motionless on the PLAYBACK SCREEN.

**OPERATION:**

1. Press F5.
2. The RESPONSE WINDOW will appear at the center of the EDIT SCREEN and prompts you with, "NEW VALUE =".
3. Enter the new value for TIMER in seconds and press RETURN. For instance, "NEW VALUE = 10" indicates that the page pauses onscreen for 10 seconds before finishing the motion .

**NOTES:** TIMER simply sets the length of time a page will pause before automatically moving on to the next page. The actual playback time may be altered by pressing the PAUSE and START keys, available during the RUN SEQUENCE, the PAGE PREVIEW, or MANUAL MODES.

TIMER is not applicable to ROLL.

---

MOTION MENU

**F6: LINK**

**FUNCTION:**

Links pages to be run in a sequence.

**OPERATION:**

1. Press F6.
2. The RESPONSE WINDOW will appear at the center of the EDIT SCREEN and prompts you with, "NEW VALUE =".
3. Enter the number of the next page you wish to LINK and press the RETURN key. For instance, "NEW VALUE = 10" would indicate that as soon as the current page has been displayed the program will display page 10.

**NOTES:** LINK is active when RUN SEQUENCE [SYSTEM] is used.

If LINK = 0 or its own page number, then the page finishes and returns to the EDIT SCREEN.

LINK may be used to set up automatically recycling messages by linking the last page in the sequence back to the first.

---

MOTION MENU

F6: LINK

## FUNCTION:

Links sequences to be run in succession.

## OPERATION:

1. Press F6.
2. The RESPONSE WINDOW will appear at the center of the EDIT SCREEN with the prompt: "NEW VALUE =".
3. Enter the number 999 and press the RETURN key. A list of sequence files on the hard disk will appear on the bottom of the EDIT SCREEN. Use the right arrow key until the sequence you want to link to is highlighted. Press the RETURN key. The file name will appear in the LINK TO area of the EDIT SCREEN.
4. Save the current sequence to make sure that the LINK information becomes part of the sequence.

---

MOTION MENU

5. To link more than two sequences, follow these steps:

- o Load the first sequence.
- o Link to the second sequence.
- o Save the first sequence.
- o Load the second sequence.
- o Link to the third sequence.
- o Save the second sequence.
- o etc.

To run the series of sequences, load the first sequence and press ALT-R or F1, F3 (RUN SEQUENCE [SYSTEM]).

NOTES: To run linked sequences automatically, link only those sequences that are on the same disk.

MOTION MENU

F7: TRIGR

FUNCTION:

Starts the display of a page when the mouse button is pressed.

OPERATION:

1. Press F7 to toggle between AUTO and BUTN.

NOTES: When using BUTN, each page is displayed when the left mouse button is pressed.

For optimal response time, set the TIMER to 000.

LINE MENU

F1: CHAR COL

FUNCTION:

CHAR COL = 1: Selects the COLOR 1 to be used to write text on the line (same as background color).

CHAR COL = 2: Selects the COLOR 2 to be used to write text on the line.

CHAR COL = 3: Selects the COLOR 3 to be used to write text on the line.

CHAR COL = 4: Selects the COLOR 4 to be used to write text on the line.

OPERATION:

1. Press F1 until the number of the desired COLOR appears on the LINE MENU.

NOTES: Each time F1 is pressed, the value of CHAR COL cycles from 1 up to 4. Only one color may be specified for each line on a single page.

The text in the COMPOSITION WINDOW is always displayed in COLOR 4.

## LINE MENU

## F2: FONT

## FUNCTION:

Selects the font to use for the current line.

## OPERATION:

1. Press F2 until the abbreviation of the desired font name appears on the LINE MENU.

NOTES: Only one font may be specified per line on a single page.

The COMPOSITION WINDOW will reflect the new character size upon exit from the LINE MENU.

Changing font sizes on a previously created page affects the position of the lines and, consequently, the screen area occupied by the page of text. This is particularly true when changing from the smallest to the largest font size. Use the COMPOSITION WINDOW to be sure that all lines will still be in the visible PLAYBACK SCREEN area.

## LINE MENU

## F6: POSITION

## FUNCTION:

POSITION = LFT: Positions the leftmost character of the line at the location specified by LF MARG [PAGE].

POSITION = RGT: Positions the rightmost character of the line at the location specified by RT MARG [PAGE].

POSITION = CTR: Centers the line.

## OPERATION:

1. Press F6 until the abbreviated version of the desired position name appears on the LINE MENU.

NOTES: Each time F6 is pressed, one of the options LFT, RT, and CTR is selected.

---

**LINE MENU****F7: P-OFFSET****FUNCTION:**

**NORMAL CHARACTERS:** Indents the line by the specified number of pixels.

**SEPARATOR BAR MODE:** Sets the length of the SEPARATOR BAR.

**OPERATION:**

1. Press F7.
2. The RESPONSE WINDOW appears and the program queries, "NEW VALUE =."
3. Enter the desired number of pixels from 0 to 639 and press RETURN.
4. The new value will be entered in the appropriate place on the LINE MENU.

**NOTES:** Values must be in the range of 0 to 639.

If POSITION = LFT then the line is indented on the left side by the specified number of pixels. If POSITION = RGT then the line is indented on the right side by the specified number of pixels.

---

In the SEPARATOR BAR mode P-OFFSET is used to determine the length of the bar. A value of 639 extends the bar all the way across the page.

To create a SEPARATOR BAR, see page 27.

---

**LINE MENU****F8: LINE SPC****FUNCTION:**

Specifies the number of video scan lines between lines of text.

**OPERATION:**

1. Press F8.
2. The RESPONSE WINDOW appears and the program queries, "NEW VALUE =".
3. Enter the desired number of scan lines from 0 to 399 and press RETURN.
4. The new value will be entered in the appropriate place on the LINE MENU.

**NOTES:** LINE SPC determines the number of scanlines above the current line.

---

**LINE MENU****F9: CHAR SPC****FUNCTION:**

**NORMAL CHARACTERS:** Specifies the space between characters.

**SEPARATOR BAR MODE:** Specifies the height of the SEPARATOR BAR.

**OPERATION:**

1. Press F9.
2. The RESPONSE WINDOW appears and the program queries, "NEW VALUE =".
3. Enter the desired number of pixels from 0 to 639 and press RETURN.
4. The new value will be entered in the appropriate place on the LINE MENU.

**NOTES:** Values must be in the range of 0 to 639. Values greater than 2 will negate the effects of kerning.

In the SEPARATOR BAR MODE the value in CHAR SPC determines the height of the bar. In this way, boxes of various dimensions may be created as easily as simple lines. Remember, all the EDGE MENU and COLOR functions work with the bar graphics to permit three-dimensional effects.

To create the SEPARATOR BAR, see page 27.

#### EDGES MENU

F1: EDGE COL

#### FUNCTION:

Selects one of the four COLORS for drawing edges.

#### OPERATION:

1. Press F1 to select a COLOR. Each time F1 is pressed the value will rotate through numbers 1 - 4.

---

**EDGES MENU****F2: CHAR 3D****FUNCTION:**

Sets the THREE-DIMENSIONAL CHARACTER edge style to YES or NO.

**OPERATION:**

1. Press F2 to toggle between YES and NO.

**NOTES:** CHAR 3D may be used alone or in combination with the BORDER.

CHAR 3D creates a shadow that is attached to the character.

The size and orientation of the CHAR 3D edge is determined by the values set by H-OFFSET [EDGES] and V-OFFSET [EDGES].

---

**EDGES MENU****F3: DROP SHA****FUNCTION:**

Sets the DROP SHADOW edge style to YES or NO.

**OPERATION:**

1. Press F3 to toggle between YES and NO.

**NOTES:** DROP SHA may be used alone or in combination with the BORDER.

DROP SHA creates a shadow that is detached from the character.

Position and location of the DROP SHA are determined by the values set by H-OFFSET [EDGES] and V-OFFSET [EDGES].



---

EDGES MENU

## F4: BORDER

## FUNCTION:

Sets the BORDER edge style to YES or NO.

## OPERATION:

1. Press F4 to toggle between YES and NO.

NOTES: BORDER may be used alone or in combination with any other EDGE TYPES.

The thickness of the border cannot be changed.

---

EDGES MENU

## F6: H-OFFSET

## FUNCTION:

Specifies the Horizontal edge offset size and direction.

## OPERATION:

1. Press F6.
2. The RESPONSE WINDOW appears and the program queries, "NEW VALUE =".
3. Enter the desired number of pixels and press RETURN.
4. The new value will be entered in the appropriate place on the EDGES MENU.

NOTES: MINUS values (use the dash for the minus sign) for H-OFFSET move the edge to the LEFT of the character.

PLUS values (use no sign) for H-OFFSET move the edge to the RIGHT of the character.

EDGES MENU

Practical values are in the range of -99 to 190.

For CHAR 3D the values for H-OFFSET and V-OFFSET should be equal.

EDGES MENU

F7: V-OFFSET

FUNCTION:

F7: V-OFFSET - Specifies Vertical edge offset size and direction.

OPERATION:

1. Press F7.
2. The RESPONSE WINDOW appears and the program queries, "NEW VALUE =."
3. Enter the desired number of pixels and press RETURN.
4. The new value will be entered in the appropriate place on the EDGES MENU.

NOTES: MINUS values (use the dash for the minus sign) for V-OFFSET move the edge UP from the character.

PLUS values (use no sign) for V-OFFSET move the edge DOWN from the character.

For CHAR 3D the values for H-OFFSET and V-OFFSET should be equal.

**SYSTEM DEFAULTS**

Once VIDEO TITLER II has loaded and the EDIT SCREEN is visible, the following values for each function are set. Each of these defaults may be changed, but these choices have been made so you can begin creating characters quickly.

F1: SYSTEM	F1: LOAD SEQUENCE	- N/A
	F2: SAVE SEQUENCE	- N/A
	F3: RUN SEQUENCE	- N/A
	F4: LOAD FONT	- N/A
	F5: PAGE PREVIEW	- N/A
	F6: MANUAL MODE	- N/A
	F8: SAVE SCREEN	- N/A
	F10: QUIT	- N/A
F2: PAGE	F1: CLR SCRN	- YES
	F2: KEY	- YES
	F3: BASELINE	- 000
	F4: LF MARG	- 010
	F5: RT MARG	- 620
	F8: CLR PAGE	- N/A
	F10: PAGE MARK	- N/A
F3: COLORS	F1: COLOR 1	- 002
	F2: COLOR 2	- 000
	F3: COLOR 3	- 750
	F4: COLOR 4	- 555

---

F4: MOTION	F1: MODE	- CUT
	F2: SPEED	- 1
	F3: BEGIN	- OFF
	F4: END	- OFF
	F5: TIMER	- 007
	F6: LINK	- NEXT PAGE
	F7: TRIGR	- AUTO

GLYPH1 contains the Mindset logo, which is assigned to the keyboard character "M".

GLYPH2 contains a variety of symbols, assigned to the characters "A", "C", "E", "G", "g", "K", "L", "N", and "T".

F5: LINE	F1: CHAR COL	- 4
	F2: FONT	- SWISS02*
	F6: POSITION	- CTR
	F7: P-OFFSET	- 000
	F8: LINE SPC	- 004
	F9: CHAR SPC	- 002

F6: EDGES	F1: EDGE COL	- 2
	F2: CHAR 3D	- YES
	F3: DROP SHA	- NO
	F4: BORDER	- YES
	F6: H-OFFSET	- 004
	F7: V-OFFSET	- 004

#### F9: SEPARATOR DEFAULTS

P-OFFSET	- 300
LINE SPC	- 4
CHAR SPC	- 2

\* The other default fonts are:  
SWISS03, SWISS01, GLYPH1, AND GLYPH2.

### USING COMBINATION KEYS

This appendix covers the procedures for using command keys to bypass the menus. Combination Keys should be used by advanced users who are familiar with the structure of VIDEO TITLER II and do not need to rely on the pop-up menus. Combination Keys can help you create and edit titles more quickly than using the menus.

COMBINATION KEYS - This feature allows you to use many of the editing features of the program without going through the menus. It also includes many powerful commands to capture and assign attributes and text. By pressing certain ALT key combinations, editing functions can be invoked directly. The following command keys are active:

<u>Keys</u>	<u>Function</u>
ALT-A	Put attributes from buffer on current line
ALT-C	Change the character color
ALT-E	Change the edge color
ALT-F	Change the font

ALT-H	Subtract pixel from Position Offset
ALT-J	Add pixel to Position Offset
ALT-K	Insert line and attributes above current line
ALT-L	Put text and attributes from buffer on current line
ALT-M	Start manual mode
ALT-N	Add scan line to Line Spacing
ALT-O	Put text and attributes into buffer & delete line
ALT-P	Put text and attributes into buffer
ALT-Q	Put attributes into buffer
ALT-R	Start run mode
ALT-U	Subtract scan line from Line Spacing

### USING THE COMBINATION KEYS

The following definitions apply to the instructions on how to use the Combination Keys:

ALT KEYS - The proper method of using the ALT key combinations is to depress the ALT key on the keyboard and then, while holding it down, press the command key.

ATTRIBUTES - those characteristics which define the visual contents of a character or line of text, such as font style, character color, edge color, spacing, etc.

BUFFER - a physical area in the system memory into which the attribute information is placed or from which this information is retrieved by the program. The user can think of it as a storage place for attribute information. The buffer can only hold one set of attribute information at a time, so that each time attribute information is stored the old information is destroyed.

CYCLE THROUGH - the process of retrieving information or attributes in a circular fashion from the available choices. For example, cycling through the colors, COLOR1, COLOR2, COLOR3, COLOR4, COLOR1, COLOR2, etc.

PIXEL - short for Picture Element, the smallest displayable area on the screen which the system can display. Each screen is comprised of thousands of these areas. The VIDEO TITLER II can display 640 of these pixels on a single scan line.

SCAN LINE - a horizontal combination of 640 pixels. VIDEO TITLER II can display 400 scan lines per screen.

TEXT - the actual textual information that is contained on any given line.

## THE ALT KEYS AND THEIR MEANING:

ALT-A            Get attributes from the buffer and place them on the current line. This command works in conjunction with ALT-P and ALT-Q. When this command is invoked, any text that is on the line will be assigned the attributes contained in the buffer from the previous ALT-P or ALT-Q commands. Or, any text that is typed on this line will contain those attributes.

ALT-C            Change the character color. This function will cycle through the four colors available. The chosen color will be assigned to the characters on the current line.

ALT-E            Change the edge color. This function will cycle through the four colors available. The chosen color will be assigned to the character edges on the current line.

ALT-F            Change the font. This function will cycle through the five fonts or glyphs available. The chosen font or glyph will be assigned to the characters on the current line.

ALT-H            Subtract pixel from Position Offset. For each press of the ALT-H key, one pixel will be subtracted from the offset from the right or left margin.

ALT-J            Add pixel to Position Offset. For each press of the ALT-J key, one pixel will be added to the pixel offset from the right or left margin.

ALT-K            Insert line and attributes into current line. This function takes the text and attributes from the buffer and inserts them into the current line. All text on this page at this line and below are moved one line down.

ALT-L            Put text and attributes from buffer on current line. This function takes the text and attributes from the buffer and places them on the current line. The previous line of text is replaced.

ALT-M            Start manual mode. Puts the system in the manual mode of operation.

---

ALT-N            Add scan line to Line Spacing. For each press of the ALT-N key, one scan line will be added to the line spacing of the current line.

ALT-O            Put text and attributes into buffer & delete line. This function picks up the text and attributes information of the current line and places them into the buffer. The current line is then deleted and all subsequent text on this page is moved up one line.

ALT-P            Put text and attributes into buffer. This function picks up the text and attributes information of the current line and places them into the buffer. The current line is not disturbed.

ALT-Q            Put attributes into buffer. This function picks up only the attributes information of the current line and places them into the buffer. The current line is not disturbed.

ALT-R            Start run mode. This function starts running the current sequence from the current edit page. It is the same as pressing F1 and then

---

F3. Caution must be exercised when invoking RUN with the new sequence linking feature. If a page is linked to another sequence, then when the linked sequence is loaded, the current sequence will be replaced. This could be disastrous. If the current sequence were not saved to disk then it would be lost upon linking. The user should always make sure that the current sequence has been saved to disk if a link to another sequence has been used.

ALT-U            Subtract scan line from Line Spacing. For each press of the ALT-U key one scan line will be subtracted from the line spacing of the current line.



**SEQUENCE PRINTING**

All the information contained in a sequence can be printed out on a printer. Text as well as attributes like character color, edge color, motion etc., will be printed out page by page.

A parallel printer connected to the M-3000's PRINTER CONNECTOR will allow you to use the printing function.

To begin the printing process, you need to exit the VIDEO TITLER II program. To do that:

Press F1 [SYSTEM], then F10 [QUIT].

Answer the prompt "DO YOU REALLY WANT TO QUIT?" by pressing "y" on the keyboard.

The MAIN MENU will appear.

Press F10, the MORE FUNCTIONS menu will appear.

Press F7 (PRINT TITLER SEQUENCE). After a few seconds a list of sequence names will appear.

At the prompt "What is the name of the file to print?," type the name of the sequence you wish to print.

After the prompt "Do you want to print to a printer (P) or to a Disk file (D)?" type P and press RETURN.

After the prompt "What is the first page to print?," type the page number you wish to start with and press RETURN.

At the prompt "What is the last page to print?," type the number of the last page you wish to print and press RETURN.

The pages you requested will be printed and then the Utility Menu will be displayed.

The following information is provided to help you to use the other font sets included in your M-3000.

A font that is loaded into Video Titler II must replace one of the resident fonts. A font that is loaded must also be smaller in size than the font storage area into which it will be loaded. There are 5 font storage areas in Video Titler II. When Video Titler II is first loaded and LOAD FONT is selected, the 5 font areas and the fonts they contain are shown, they are: SWISS03, SWISS02, SWISS01, GLYPH1 and GLYPH2. The storage areas for the fonts and their sizes are:

AREA	FONT	SIZE
1	SWISS03	65500
2	SWISS02	32700
3	SWISS01	20400
4	GLYPH1	53200
5	GLYPH2	65500

With the storage size numbers you can tell which of the Square fonts will fit into which storage areas. For example, SQUAR40 is 50255 in size and could be

loaded into areas 1, 4 and 5. Areas 2 and 3 are too small for SQUAR40. If you

choose to load a font into an area that is too small then Video Titler II will not allow the font to be loaded; it will only display those font names that will fit, in which case another area must be chosen for the font. In no case will it be possible to load a font that is larger than the largest of the font areas.

The number in any given font name is the height of the font (in scan lines). The scan line numbers refer to the physical height in scan lines of the font from the top of the highest character to the baseline when displayed on a monitor. The baseline refers to the imaginary line upon which characters appear to sit. The total size refers to the amount of memory the font occupies when loaded into Video Titler II.

To use any of your optional fonts, do the following:

1. Load Mindset Video Titler II by selecting F3 from the M-3000 Main Menu.
2. Select F1 - System Menu.
3. Select F4 - Load Font Function.
4. Select a font to replace - highlight it by using the arrow keys and then press RETURN.

5. Select a font to load - highlight it by using the arrow keys and then press RETURN.

6. Follow the directions for using fonts found in your Video Titler II manual.

FONT STYLE: Square

FONT NAME:	SQUAR20	SQUAR26	SQUAR40
SCAN LINES:	20	26	40
TOTAL SIZE:	15505	24863	50255

DISPLAYABLE CHARACTERS FOR THE SQUARE FONTS:

SQUAR20:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ¢ ; + # @  
\_ [ ] / \* < >

SQUAR26:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ¢ ; + # @  
\_ [ ] / \* < >

SQUAR40:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ¢ ; + # @  
\_ [ ] / \* < >

NOTE: The ¢ character is assigned to the " key on the keyboard.

The © character is assigned to the ^ key on the keyboard.

BLOCK FONT

---

FONT STYLE: Block

FONT NAME:	BLOCK43	BLOCK57	BLOCK71
SCAN LINES:	43	57	71
TOTAL SIZE:	32839	52223	58739

IMPORTANT NOTE: When crawling BLOCK57, some portion of shadows on the bottom of the lower case descenders might be cut off.

DISPLAYABLE CHARACTERS FOR THE BLOCK FONTS:

BLOCK43:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : " \$ % ! ? - & ( ) = © ; + # @  
\_ [ ] / \* < >

BLOCK FONT

---

BLOCK57:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : " \$ % ! ? - & ( ) = © ; + # @  
\_ [ ] / \* < >

BLOCK71:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

1 2 3 4 5 6 7 8 9 0

. , : " \$ % ! ? - & ( )

NOTE: The © character is assigned to the ^ key on the keyboard.

FONT STYLE: Italics

FONT NAME:	ITAL20	ITAL26	ITAL40
SCAN LINES:	20	26	40
TOTAL SIZE:	19363	30305	63687

DISPLAYABLE CHARACTERS FOR THE ITALIC FONTS:

ITAL20:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ¢ ; + # @  
\_ [ ] / \* < >

ITAL26:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ¢ ; + # @  
\_ [ ] / \* < >

ITAL40:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( )

NOTE: The ¢ character is assigned to the " key on the keyboard.

The © character is assigned to the ^ key on the keyboard.

FONT STYLE: Serif

FONT NAME:	SERIF26	SERIF38	SERIF54
SCAN LINES:	26	38	54
TOTAL SIZE:	21889	40193	63867

IMPORTANT NOTE: SERIF54 can only be crawled in upper case. Lower case descenders will be cut off during crawling when using SERIF54.

DISPLAYABLE CHARACTERS FOR THE SERIF FONTS:

SERIF26:

```

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : $ % ! ? - & ( ) = © ¢ ; + # @
_ [ ] / * < >
    
```

SERIF38:

```

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : $ % ! ? - & ( ) = © ¢ ; + # @
_ [ ] / * < >
    
```

SERIF54:

```

A B C D E F G H I J K L M N O P Q R S T
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : $ % ! ? - & ( )
    
```

NOTE: The ¢ character is assigned to the " key on the keyboard.

The © character is assigned to the ^ key on the keyboard.

SMALL FONT

---

FONT STYLE: Small

FONT NAME: MONO16 SERIF16 SWISS16  
SCAN LINES: 16 16 16  
TOTAL SIZE: 8715 8183 8107

FONT NAME: SRIF16I SWIS16I  
SCAN LINES: 16 16  
TOTAL SIZE: 10219 9567

DISPLAYABLE CHARACTERS FOR THE SMALL  
FONTS:

MONO16:

— = █      ‘ = █      \ = █  
’ = █      [ = █      ] = (16  
pixel space.)

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ; + # @  
< > / " \*

SMALL FONT

---

NOTE: The ] key is used for a 16  
pixel wide space character.

The SPACE BAR is an 8 pixel wide space  
character.

MONO16 is a mono-spaced serif font,  
i.e., each character occupies an  
envelope that is 16 pixels wide and 16  
scan lines high. This makes it useful  
in arranging numbers in columnar fashion  
where the decimal points should line up  
vertically.

SERIF16:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ; + # @  
[ ] / \* < > "

SERIF16 is a serif font which is  
proportional, i.e., each character  
occupies an envelope that is the same  
width as the actual character.

## SWISS16:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) © ; + # @ \_  
[ ] / \* < > "

SWISS16 is a sans serif font which is proportional, i.e., each character occupies an envelope that is the same width as the actual character.

## SRIF16I:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) = © ; + # @ \_  
[ ] / \* < > "

SRIF16I is an italic serif font which is proportional, i.e., each character occupies an envelope that is the same width as the actual character.

## SWIS16I:

A B C D E F G H I J K L M N O P Q R S T  
U V W X Y Z

a b c d e f g h i j k l m n o p q r s t  
u v w x y z

1 2 3 4 5 6 7 8 9 0

. , : \$ % ! ? - & ( ) © ; + # @ \_  
[ ] / \* < > "

SWIS16I is an italic sans serif font which is proportional, i.e., each character occupies an envelope that is the same width as the actual character.

NOTE: The © character for all small fonts is assigned to the ^ key on the keyboard.



**PC Paintbrush<sup>®</sup>**



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**© 1987 ZSoft Corporation, all rights reserved  
PC Paintbrush User's Manual  
version 3.11 (Mindset Version)**

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## **Copyright Notice**

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## **Customer Policy**

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We try our best to have satisfied customers. If you have any questions or problems, please call our listed telephone number between 10 a.m. and 4 p.m. EST. If we are unavailable at the time, we will return your call as soon as possible.

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## **In the Mill**

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The list of computers and printers supported by FRIEZE™ and PC Paintbrush® continues to grow. Please contact us if your display adapter or printer is not yet supported.

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# Chapter 1 Introduction

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## 1.1 PC Paintbrush

PC Paintbrush<sup>®</sup> is a free-hand graphics program for the Mindset M-3000 System.

This user's manual is organized in the following manner:

**Chapter 2** contains instructions for changing the default parameters of PC Paintbrush and running the program.

Each component of the PC Paintbrush screen is separately introduced and explained in **Chapter 3**.

If you just can't wait to begin using PC Paintbrush, **Chapter 4** introduces you to the most often-used tools and procedures, such as saving and loading pictures, in a step-by-step illustrated tutorial.

The next two chapters describe the PC Paintbrush tools and menus in depth. **Chapter 5** explains how the tools are used and shows what results each tool can produce. **Chapter 6** explains all of the PC Paintbrush menu options.

A handy quick reference for all the PC Paintbrush menus, tools, and shortcuts is contained in **Chapter 7**.

## 1.2 Rules of the Game

PC Paintbrush supports two types of drawing devices, an Mindset mouse and tablet, so it is easiest to refer to your drawing device simply as a mouse. Please translate our references to the

mouse and the mouse buttons into terms suitable for your input device.

Since constantly writing out "your mouse", "your right mouse button", and "your left mouse button" gets a bit boring and repetitious, we replaced the phrases with symbols. We use:

your mouse = ↔
press the left mouse button = ←
press the right mouse button = →

Always keep in mind the special properties of the Esc (Escape) key. Pressing the Esc key always stops the current action and returns you to your previous place in the program before the action occurred, or to the next higher menu level. For example, press the Esc key whenever you make a serious typing error. You may also use the Esc key to stop your printer in the middle of making a print-out.

### 1.3 Notes

- \* If you have a light pen or digitizer with one button or a tip switch, each time you select a tool, a press in the drawing area has the same effect as ←. A press while also holding down the Alt key is taken as →.
- \* All references to your "PC" refer to your Mindset M-3000 system.

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## Chapter 2 Installation

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The Program is pre-installed for the high resolution 640x400 4-color mode with the Mindset mouse as your drawing device.

Unless you want to change the default setup of PC Paintbrush (ie - change graphics modes or change the input device from the mouse to the tablet) go directly to Section 2.2.

### 2.1 PCINSTAL

PCINSTAL is a utility program that allows you to change the setup of PC Paintbrush. Use this program ONLY if you need to change the graphics mode to 320x400 16-color or if you wish to change to the graphics tablet. Otherwise PC Paintbrush is correctly configured and ready for you to use

1. At the Mindset M-3000 MAIN MENU, select "More Functions" by pressing the F10 key.
2. In the MORE FUNCTIONS MENU, select "Change Paintbrush Settings" by pressing the F6 key.
3. At the title screen for the installation program, press the Space Bar.
4. Select your:
  - \* *Drawing Device* - choice 1. After selecting "1" a menu of drawing devices appears. Press the number or letter that corresponds to your drawing device, or press the 0 key to see another page of drawing devices.
  - \* *Display Adapter* - choice 2. Follow the same procedure as you did for the drawing device.

- \* *Printer* - choice 3. Follow the same procedure as for the drawing device.
  - \* *Printer Port* - choice 4. Follow the same procedure as for the drawing device.
5. When the main menu shows the correct list of devices, select choice 5 in order to save the setup to your disk.

When the changes are complete you will be prompted to reset the system. Press and hold the ALT key while you press the RESET key, then release them. This resets the systems and returns you to the M-3000 MAIN MENU.

## 2.2 Running PC Paintbrush

Select the F1 function key from the M-3000 MAIN MENU to run PC Paintbrush.

The Program begins to load and prompts you with the following question:

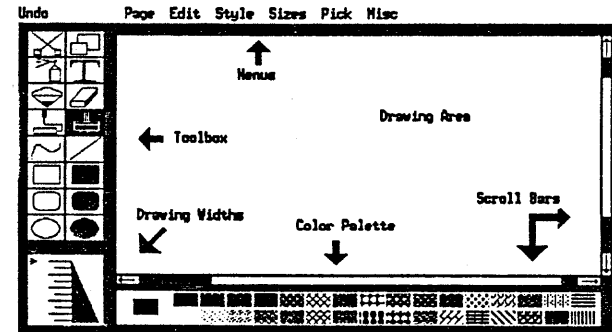
*FRIEZE was not previously loaded*

*Continue anyway?*

Press the Y key to answer "yes". The program finishes loading, clears the screen, and draws the PC Paintbrush menu. When the menu is drawn the cursor appears in the center of the screen. You are now ready to use PC Paintbrush.

## Chapter 3 Objects on the Screen

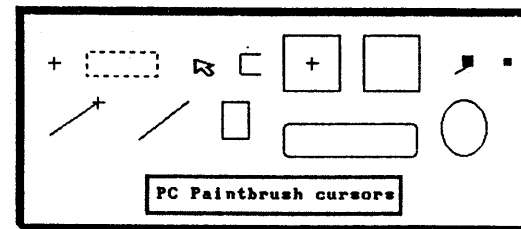
The PC Paintbrush main screen looks like this:



The screen can be divided into the components labeled above, namely the *cursor*, the *toolbox*, the *drawing widths*, the *color/pattern set*, the *scroll bars*, and the *drawing area*. Each screen component is explained in this chapter.

### 3.1 The Cursor

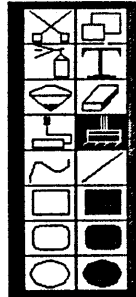
The cursor is the object on the screen that moves as you move your mouse. The cursor appears differently in the drawing area depending on what drawing tool you choose. It always appears as an arrow outside the drawing area.



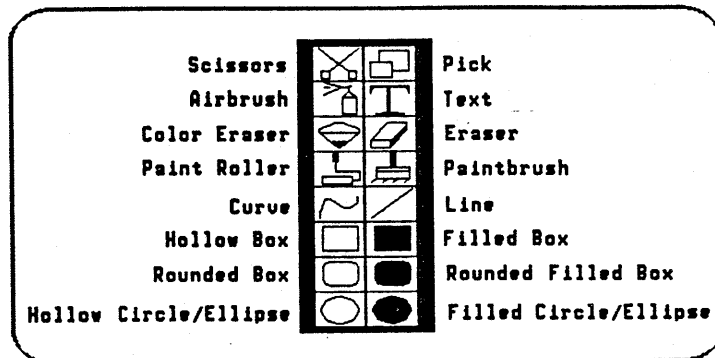
### 3.2 The Toolbox

To draw on the screen, use tools selected from the group of pictures on the left - the toolbox. The toolbox contains tools that draw, fill, airbrush, erase, set type, and rearrange the items on the screen.

To select a tool from the toolbox, position your cursor on top of the tool's picture, then press ←. The currently-selected (active) tool is always highlighted in the toolbox, as the Paintbrush tool is in the picture on the right.



The tools are named as shown in the following picture:



See Chapter 5 for a complete discussion of all the tools.

### 3.3 Drawing Widths

The available drawing widths are displayed in a box in the lower left corner of the screen. The current width is marked by an arrow. When you draw unfilled objects - such as lines, boxes, and circles - or use the Airbrush, the width determines the thickness of the object. When you draw filled objects, the width determines the thickness of the border. To select a specific width, place the cursor on top of the desired width and press ←.



### 3.4 Color/Pattern Set

The colors and color patterns make up the color/pattern set and are displayed along the bottom of the screen. These colors are used by nearly every drawing tool.



The small box to the left of the color set is drawn in the foreground color. The area surrounding it is drawn in the background color. In the picture above, black is the foreground color and white is the background color. To change the foreground color, move your cursor to the desired color and press ←. Or press ⇒ to change the background color.

All the tools that actually draw on the screen do so in the foreground color. The following tools also use the background color: Eraser, the Color Eraser, the Clear Screen function, the Filled Box, the Rounded Filled Box, the Filled Circle, and the Text tool. See Chapter 5 for more about how these tools use the background color. (Clear Screen is explained in Chapter 6.)

### 3.5 Drawing Area

The drawing area is the "insides" of the PC Paintbrush main screen. All work is performed on the part of the picture currently displayed in the drawing area. If your picture is relatively small, use the scroll bars (see next section) to move different parts of your picture into the drawing area.

### 3.6 Scroll Bars

The scroll bars allow you to draw in those areas of your picture which are normally covered (by the toolbox, menus, drawing widths,



and color/pattern set) or which aren't currently shown in the drawing area. The scroll bars actually move your image so that different parts of it are shown in the drawing area. A good way to think of the situation is to imagine that the drawing area is actually a window on your entire image. The view through the window changes as the background is moved around by the scroll bars.

The drawing area and Zoom-in/zoom-in scroll bars treat the drawing area as a window over your entire picture. They let you move the drawing area window around your picture so that you can work on any portion of your picture. These scroll bars appear in pairs, consisting of one vertical and one horizontal scroll bar.

Scroll bars are made up of three different parts: the gray area, the white area inside the gray area, and the arrows on either end of the bar.



The gray area represents the length (or width) of your entire picture. The white area inside it represents the drawing area window. It is sized proportionally to the gray area. If you have a small picture (one screen), then the white scroll bar area is large, taking up more of the gray area. If your picture is larger, then the white area will be smaller since the drawing area window represents a smaller piece of the entire picture.

### 3.6a Recommended Use for Scroll Bars

You can scroll through your picture in three different ways. You can use the arrows on either scroll bar. Move your cursor to the up-arrow and hold down  $\leftarrow$  on top of the arrow. This pulls the white area up, moving the window on your picture upward.

You can also use the white area to scroll. Go to either white area and hold down  $\leftarrow$ . Now "drag" the white area - keep holding  $\leftarrow$  and move the scroll bar. Note how your picture moves. This method of movement is best for smaller pictures or use in a zoom-in mode.

## 3.7 Menus

The words at the top of the screen are various menus which allow you to change the way some tools operate.

Undo      Page Edit Style Size Pick Misc

These menus are sometimes referred to as **pull-down** or **drop-down** menus because of the way they unfold when selected. Simply move your cursor over one of the menu names at the top of the screen, press  $\leftarrow$ , and the whole menu unfolds from the menu list. Click  $\leftarrow$  anywhere in the drawing area besides the pulled-down menu, or select another menu to fold the current menu back up.

To pick an item from the menu:

1. Move the cursor to the menu and press  $\leftarrow$ , then release the button.
2. Move  $\leftarrow$  (your mouse) until the desired selection is highlighted.
3. Press  $\leftarrow$ .

Some of the handier menu options include:

- \* **Undo** - allows you to rectify your mistakes.
- \* **Quit** - found in the **Page** menu. Use this option when you wish to quit PC Paintbrush. Select **YES** to quit, **NO** if you change your mind.

- \* **Clear** - found in the **Page** menu. **Clear** clears your screen to the background color.

All of the menus and menu options are discussed further in Chapter 6.

### 3.8 Special Keys

The following keys have special functions when used in PC Paintbrush:

*Esc* The **Esc** (Escape) key instantly stops whatever action PC Paintbrush is performing and returns you to the main screen. Use the **Esc** key to stop printouts and **Paint Roller** fills that are in the wrong area or wrong color.

*Alt/X* The **Alt** key combined with the **X** key is a shortcut way of exiting PC Paintbrush. Hold down the **Alt** key and simultaneously press the **X** key, and you are immediately exited from PC Paintbrush and returned to your DOS (or previous application) prompt.

*Shift* The **Shift** key has three uses. Held down while moving a defined cutout, it leaves a copy of the cutout in the original position after the cutout is moved. See Section 5.1b. Held down while drawing with any of the box or circle/ellipse tools, it constrains the shape to a square (with box tools) or a circle (circle/ellipse tools). See the particular tool description in Chapter 5. The third way to use the **Shift** key constrains cursor movement to a horizontal or vertical direction. Hold down the **Shift** key while moving your  $\leftrightarrow$  in either direction and the cursor locks into that direction. Release the **Shift** key to return to normal movement. See Section 6.8a.

*F1-F8* The two function keys **F1** and **F2** are used to set and remember a point on the screen. Pressing **F1** sets the anchor point and pressing **F2** moves the cursor from its current position back to

the point set by **F1**. Section 5.9 has more about using these keys. **F5**, **F6**, **F7**, and **F8** all pertain to grids. **F5** and **F6** place differently-spaced grids on the screen, **F7** and **F8** confine the cursor to moving between grid points, visible or invisible. Section 6.8 describes these keys and the grid feature in detail.

*Backspace* For all tools except the **Text** tool, pressing the **Backspace** key invokes the **Local Undo** feature. **Local Undo** appears as a box with an "x" inside. The size of the **Local Undo** box depends on the current drawing width. **Local Undo** is very handy for quickly erasing small mistakes made with the current tool. Hold down  $\leftarrow$  and rub the box over the work you want to undo (it's changed back to its pre-edited appearance). Release  $\leftarrow$  when you are done to continue to draw with the current tool.

*Ctrl* The **Ctrl** (Control) key is used to brush a defined cutout across the screen. Hold down **Ctrl** while holding down either  $\leftrightarrow$  button and dragging the cutout across the screen. See Section 5.1b for more information.

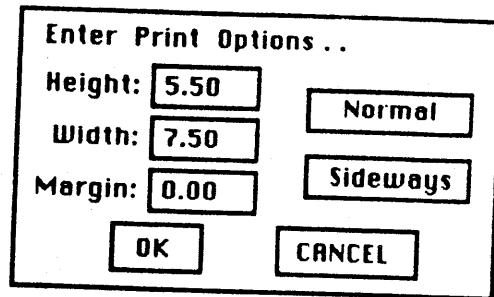
### 3.9 File Directory and Dialog Boxes

Many of the PC Paintbrush menu options use **dialog** and **file directory boxes**. **Dialog boxes** are similar in appearance to the pull-down menus, but only contain parameters for one particular menu option per box. **File directory boxes** are a specific type of **dialog box**. They consist primarily of a window which lists all the files available in the current subdirectory. File names are in upper-case.

#### 3.9a Using Dialog Boxes

All **dialog boxes** operate in a consistent manner throughout PC Paintbrush. Any **dialog box** with **editable option boxes** (fill-in-the-blanks) allows you to edit each box individually by moving the cursor to the option box and pressing a  $\leftrightarrow$  button. You can also use the **Tab** key to move between option boxes in the **dialog box**. Pressing the **Enter** key is equivalent to pressing **OK**, pressing the **Esc** key

is equivalent to pressing Cancel. The Print dialog box is shown below.

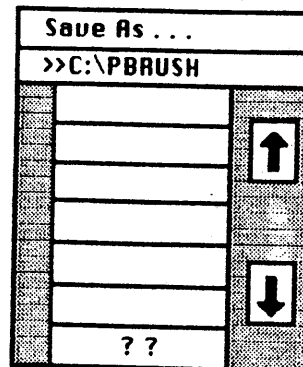


### 3.9b Using File Directory Boxes

An example of a file directory box is the Save as... option under the Page menu. When you select Save as..., the Save as... file directory box shown below appears.

The box is made up of three parts:

1. The **header**, which includes the box name and the current subdirectory.
2. The **file list**, composed of all the relevant files in your current subdirectory and a file with the name ??.
3. The **scroll arrows**, used to page up and down through the file list.



The first line of the header is the name of the file directory box; nothing will happen if you try to select it.

The second line lists the current drive and/or subdirectory. You may change subdirectories or drives by positioning your cursor so that the line is highlighted, then pressing ←. Now type in a valid path or drive name, pressing the Enter key when you are done.

The body of the file directory box contains the list of file names and a name called ???. Valid file names are seven character or less in length, no spaces allowed. The ?? line is selected when saving a new file or saving an edited file under a new name.

Every file directory box has one particular type of file associated with it. For instance, in the example above, the associated file type would be files with a .PCX extension. Only .PCX files in the specified subdirectory are listed in the box's file list.

Most of the time there are more than seven files of the correct type available, but the file list can only show seven file names at a time. If your file name is not in the file list, use the scroll arrows to page through the available files until the name you want appears in the list. Move the cursor over either of the arrows and press ← to scroll through the entire list of available files. Release ← to stop scrolling.

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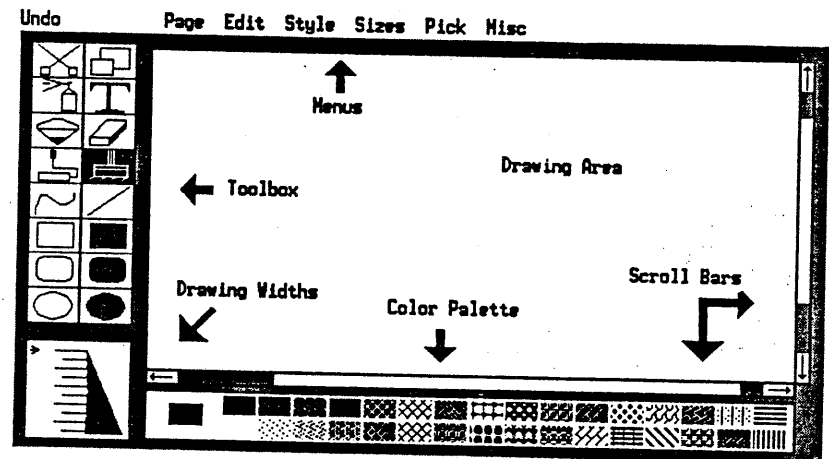
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## Chapter 4 Guided Tour

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Here's your chance for a quick introduction to PC Paintbrush. Run PC Paintbrush by following the instructions in Section 2.2. The screen is cleared, PC Paintbrush is loaded, and the PC Paintbrush sign-on message appears, listing the version number of PC Paintbrush. **Keep track of this version number.** You will be asked for it if you call our Technical Support Department. After PC Paintbrush is loaded, the PC Paintbrush screen appears:



**Note:** In the picture above, the arrows and their associated titles have been added for your convenience. They do not normally appear on the PC Paintbrush screen!

As you move your  $\leftrightarrow$ , you will notice a mark, called the **cursor**, moving across the screen. The cursor varies in shape and size, depending on the tool you are using and whether or not the cursor is inside or outside the drawing area.

**Note:** Any time you make a mistake, select the **Undo** menu at the top of the screen by pressing  $\leftarrow$ . Only what you have created with the current tool is erased from your drawing. If you change your mind and do not want to undo your drawing, reselect the **Undo** menu and the undone portions are restored. Read Section 6.1 for more information about **Undo**.

## 4.1 Creating a Drawing

As an introduction to the most often-used features of PC Paintbrush, let's draw a grandfather clock.

Move your cursor to the black triangle at the bottom left corner of the screen. This is the drawing width selection area. The arrow ( $\rightarrow$ ) points to your currently-selected drawing width. The wider the triangle, the thicker your drawing width. Now change to the narrowest drawing width by pressing  $\leftarrow$  (the left mouse button) over the first drawing width line (at the apex of the triangle). The new drawing width is indicated by  $\rightarrow$ .

Next change tools. Select the Hollow Circle tool by pressing  $\leftarrow$  on top of the hollow circle icon in the toolbox. Note that the active drawing tool is always highlighted. Your cursor now appears as a "+" in the drawing area. Move your  $\leftrightarrow$  so that the cursor is in the middle of the drawing area (screen) and press  $\leftarrow$ . This "pastes down" the center point of the circle. Hold down the Shift key and slowly move your cursor outward from the center point. Holding down the Shift key as you move the cursor keeps the circle from turning into an ellipse. When the circle is about the size of the circle shown in Figure 4-1, press  $\Rightarrow$  and your circle is pasted down.

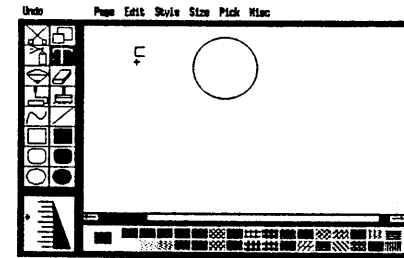


Figure 4-1

Next, move your cursor to the Text tool, represented in the toolbox as a large "T". Press  $\leftarrow$  on top of the tool to activate it. Move your cursor back into the drawing area and an open box appears on the screen. See Figure 4-2.

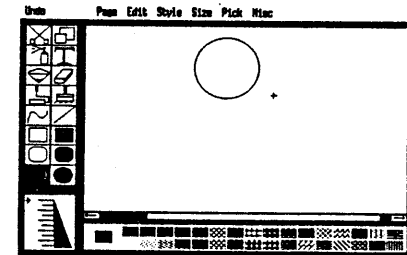


Figure 4-2

Now move  $\leftrightarrow$  to the top of the screen to the **Size** menu. Select the menu by pressing  $\leftarrow$  on top of the menu name. The menu unfolds and a list of type size selections appears. Select approximately a 17-point size - press  $\leftarrow$  on this size option. You may or may not have a 17-point size, depending on your display adapter. If 17 is not one of your choices, select the closest point size. The current size is indicated by  $\cdot$ . See Figure 4-3.

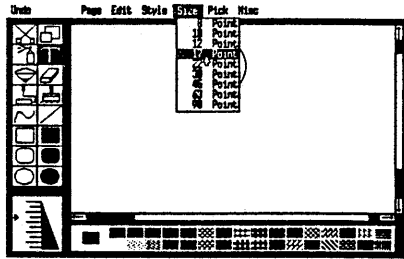


Figure 4-3

Move your cursor inside the circle and to the top of it and press ←. The open box moves to this point. Use your keyboard and type 12. The Text tool treats your keyboard just like a typewriter, so if you make a mistake, you can use the backspace key to correct the text. Continue this procedure until you have typed in the 3, 6, and 9 in their appropriate positions, thereby creating the face of the clock. See Figure 4-4.

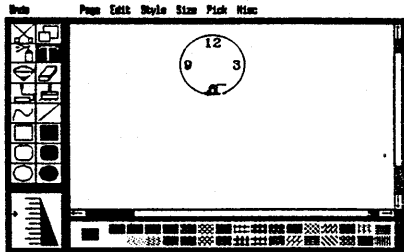


Figure 4-4

Select the Line tool and move to the center of your circle. Press ← and the line moves to this point. Move your cursor in the direction of the 12. Paste the line on the screen by pressing ⇒.

Reposition the line so that you draw another line in the direction of the 3 - paste the line on the screen by pressing ⇒. You have now completed the hands of the clock. See Figure 4-5.

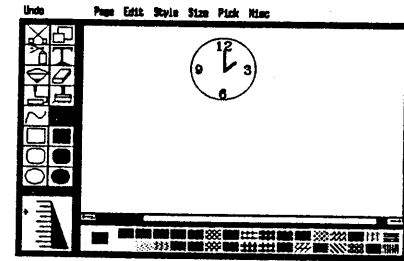


Figure 4-5

Select the Hollow Box tool and move underneath the face of the clock. Press ← to fix one corner of the box and press ⇒ to paste the box on the screen. Now you have created the clock's case. This is shown in Figure 4-6.

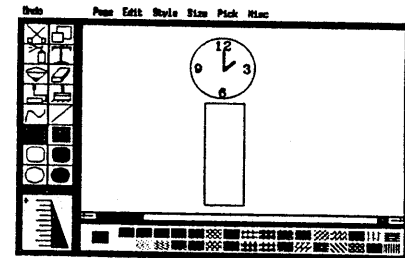


Figure 4-6

Reselect the Line tool to outline the face of the clock and the hollow box. See Figure 4-7.

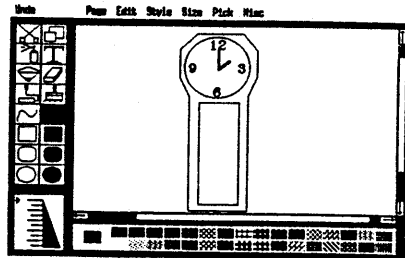


Figure 4-7

Continue using the Line tool, move to the top of the box that you just drew and press  $\leftarrow$ . Move to the original point and draw another diagonal line, this time in the opposite direction. See Figure 4-8.

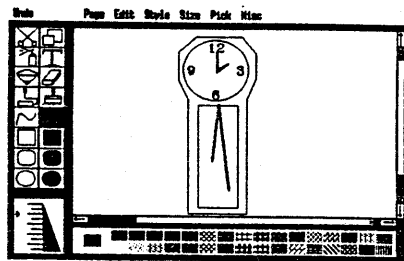


Figure 4-8

Pick the Filled Circle tool and move just under the end of one line. Press  $\leftarrow$  under the line to move the center of the circle to this point. Barely move  $\leftrightarrow$  and then press  $\Rightarrow$  to paste a small circle at the end of the line. Create another circle at the end of the other line, creating the pendulums. This is displayed in Figure 4-9.

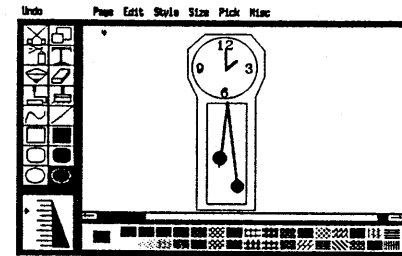


Figure 4-9

Now that you have drawn your clock, you may fill in some of the areas. To do so, choose the Paint Roller tool. Move to the bottom of the screen and select a new color. Press  $\leftarrow$  on top of the desired color. Move to the area you wish to paint and press  $\leftarrow$  in that area. See Figure 4-10.

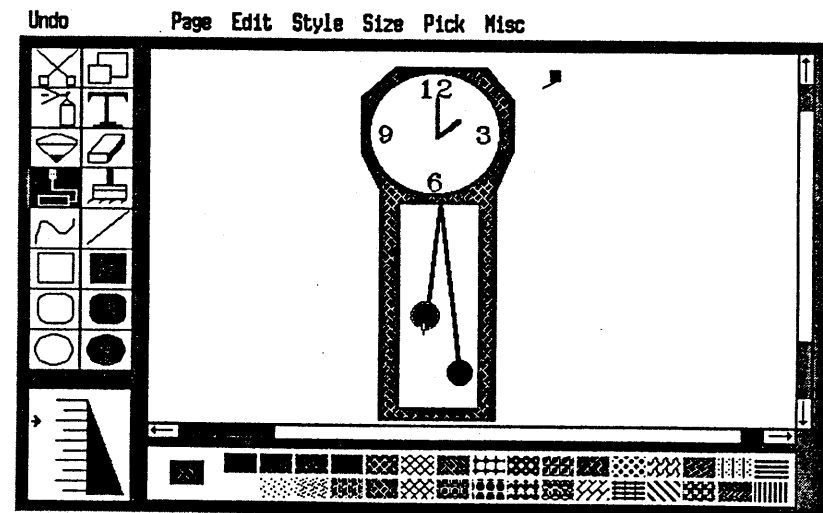


Figure 4-10

## 4.2 Saving Your Drawing

If you want to save your picture, move to the **Page** menu and press  $\leftarrow$ . This time, select the **Save as...** option and the **Save as ...** file directory box appears. Move to the **??** line and press  $\leftarrow$ . Now use your keyboard to type in a file name. For example, type in **CLOCK** and press the **Enter** key. PC Paintbrush automatically appends the **.PCX** file name extension to the end of every full-size image that you save. For future editing, your picture is available through the **Load from...** option in the **Page** menu.

## 4.3 Printing Your Drawing

PC Paintbrush is **NOT** normally configured for printing graphics screens. If you would like to print a PC Paintbrush picture, read Appendix D first.

If you want to print your picture, move your cursor to the **Page** menu. Press  $\leftarrow$  and the **Page** menu drops down. Select **Print** and the **Print** dialog box (pictured below) appears, containing the different printing options. If your printer is ready, select **OK** to get a copy of your picture.

Enter Print Options ..

Height:

Width:

Margin:

## 4.4 Clearing the Screen

If you are finished with your picture and are ready to try something else with PC Paintbrush, move to the **Page** menu and select the **Clear** option. Select **OK** to clear your screen or select **CANCEL** if you change your mind. Your screen is cleared to the currently-selected background color or pattern.

## 4.5 Quitting PC Paintbrush

If you are finished using PC Paintbrush, select the **Quit** option in the **Page** menu. You are asked **Are you sure?**; select **Yes** if you wish to quit. You are then returned to the DOS prompt.

## 4.6 Final Comments

Section 4-1 is merely an introduction to the many capabilities of PC Paintbrush. There are more tools to use, as well as numerous more menu options. Chapters 5-6 give you additional detailed information about using all of PC Paintbrush's tools and menus.



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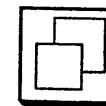
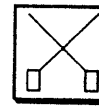
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## Chapter 5 The Tools

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The tools are found to the left of the drawing area. To select a tool, place the cursor on top of a tool's picture and press ←. When you choose a tool, it becomes highlighted.



### 5.1 Introduction to the Scissors and Pick Tools

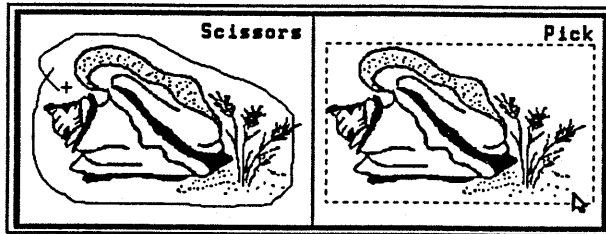
The Scissors and Pick tools are both used to define an area of your picture which can then be copied, moved, adjusted, cut, saved, or pasted into another picture. The defined area is called a **cutout**. PC Paintbrush supports smaller-than-screen size cutouts and large image cutouts. **The maximum cutout size is limited by the size of the drawing area.** Cutouts are generally saved with a .PCC file name extension added after the file name (pictures have a .PCX extension) for ease of recognition.

Both tools use the options from the Edit and Pick menus to let you:

- select any part of a picture and move it or copy it - **Section 5.1b.**
- save your cutout for future use - **Section 5.1c.**
- modify your cutout. For example, you can shrink or enlarge it, or rotate it 90° degrees - **Section 5.1d.**
- paste it back into the same or a different picture. **Section 5.1b** tells you how to perform transparent or opaque pastes.

### 5.1a Using the Scissors and Pick Tools

The Scissors and Pick tools only differ from one another in their method of defining the cutout. To define an object with the Scissors tool, draw a freehand line around the object. To define a rectangular area with the Pick tool, surround the object with a rubber band box.



Define a cutout by:

1. Selecting either the Scissors or Pick tool. When you move the cursor into the drawing area, it appears as a plus sign with the Scissors tool and as a rubber band box with the Pick tool.
2. For the Scissors tool, press  $\leftarrow$  and draw a line around the area you want to select. For the Pick tool, press  $\leftarrow$  to set the fixed point. Use the rubber band box to surround the rectangular area you want to select.
3. When you are finished surrounding your object with the Scissors, press  $\Rightarrow$ . Although you surrounded an object in a freehand manner, a rectangular box appears on the screen. Only the object that you defined, not the entire contents of the box gets moved. For the Pick tool, press  $\Rightarrow$  to define the area.

**Hint:** If you make a mistake defining the object, move your cursor outside of the box and press  $\leftarrow$  to start over again.

### 5.1b Moving a Cutout

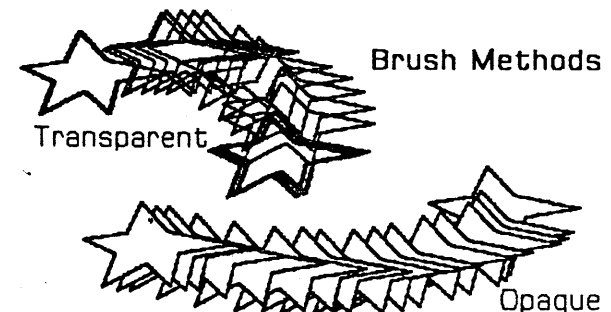
Once you have defined a cutout, you can place it anywhere on the screen. From this point forward, both the Scissors and the Pick tools work identically. Move your cursor (which now looks like an arrow) to the inside of the defined box. Hold down either  $\leftrightarrow$  button while dragging the object across the screen. Which button you hold down determines the method of pasting - see below for more information.

When the cutout is in its new position, release the button and press  $\leftarrow$  outside the cutout to permanently paste it.

The Shift and Ctrl (Control) keys have special functions when used with either  $\leftrightarrow$  button to drag a cutout across the screen.

- To leave a *copy* of your cutout in its *original* position, hold down the Shift key while you drag the cutout across the screen. Once you have moved the cutout away from its copy release the Shift key.
- To brush copies of your object across the screen, hold down the Ctrl key while dragging the object

Which button you press while dragging the cutout determines whether that cutout will be brushed/pasted transparently or opaquely.



Hold down  $\leftarrow$  and the Ctrl key for a **transparent brush**, or just  $\leftarrow$  for a **transparent paste** (meaning the part of your picture covered by the cutout shows through). Note that the background color of the cutout and the currently-selected background color must be the same for a transparent paste!

Hold down  $\Rightarrow$  and the Ctrl key for an **opaque brush**, or just  $\Rightarrow$  for an **opaque paste** (meaning that the entire cutout area covers whatever part of the picture is underneath it).

Opaque paste is very handy for adding cutouts to a completed picture.

For example, draw a pelican, then save it as a cutout (.PCC file).



Then load a nice beach scene you created earlier.

Now use opaque paste to place the pelican into the beach picture without disturbing the picture's background.



The Scissors and Pick tool can also be used with the Edit and Pick menus. See the next section for complete instructions.

### 5.1c Saving and Restoring Cutouts

The Edit menu options **Cut** and **Copy** are used to save a cutout to disk. **Cut** saves the cutout and removes (cuts) it from the screen; **Copy** also saves the cutout but leaves it on the screen. If you want to save a cutout to disk for later use, follow these steps:

- First select the **Name is...** option from the Edit menu.
- When the file directory box appears, move to the ?? line under the current directory listing and press  $\leftarrow$ . Type in a valid DOS file name (composed of up to seven alpha-numeric characters, spaces not allowed) and press the Enter key. If you want to save the cutout to a different directory than the one listed, press  $\leftarrow$  on the line containing the directory information, then type in the new directory name and/or path. Press the Enter key.
- Now select the Scissors or Pick tool and define the cutout you want to save.
- Go to the Edit menu and select **Cut** or **Copy**.

#### Again -

**Cut** removes your cutout from the screen and saves it to disk. **Copy** saves your cutout to disk but leaves it on your screen.

**Note:** By default, each cutout file receives the .PCC extension, so if you do not specify an extension, your cutout file name ends in .PCC. If you do not want your cutout to have an extension, type "." at the end of your file name. For example, type *PELICAN.* and then press the Enter key.

Your cutout is now saved. Be sure to specify a new name each time you save a new cutout. Otherwise, when you select **Cut** or **Copy**, the new cutout gets saved under the name currently present in **Name is...** and your old cutout (listed by **Name is...**) will be overwritten.

Use the **Edit** menu **Paste** option to load a cutout from disk. Follow these steps:

- Select **Name is...** from the **Edit** menu. Highlight the name of the cutout you want to load and press  $\leftarrow$ .
- Select **Paste** from the **Edit** menu. Note that the **Pick** tool is now highlighted (active). Your cutout appears in a rubber band box in the upper left corner of the drawing area.
- Now you can position your cutout on the screen. Press  $\leftarrow$  for a transparent paste or press  $\Rightarrow$  for an opaque paste. Hold down the **Ctrl** key with either  $\leftrightarrow$  button to brush the cutout across the screen as you drag it. Hold down the **Shift** key with either  $\leftrightarrow$  button to leave a copy of your cutout behind when you move it.

If you are storing all your cutouts and pictures on floppy disk, eventually you will run out of room on your disk. When this happens, you receive the error message:

**ERROR**  
**Write Error**

Simply replace the full disk with a blank, formatted disk and continue with your saving procedure.

### 5.1d Modifying Your Cutout

Using the options from the **Pick** menu you can perform the following operations on your cutout:

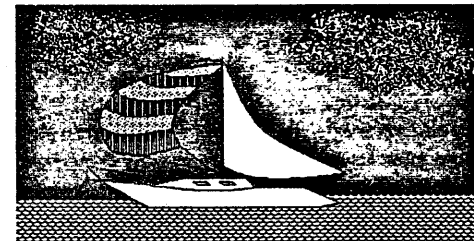
- rotate it by 90°,
- flip it horizontally or vertically,
- invert its colors,
- shrink it or enlarge it, or
- tilt it

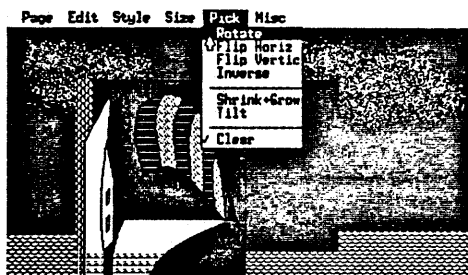
A cutout does not have to be saved for any of the **Pick** menu options to be performed, merely defined. Use a **Pick** option by:

- selecting either the **Scissors** or **Pick** tool by pressing  $\leftarrow$  on top of the tool in the toolbox.
- Use the tool to define the cutout area you want to manipulate.
- Select the **Pick** menu and choose an option.

**Remember** - press  $\leftarrow$  outside the defined area to paste the cutout into place when you are done!

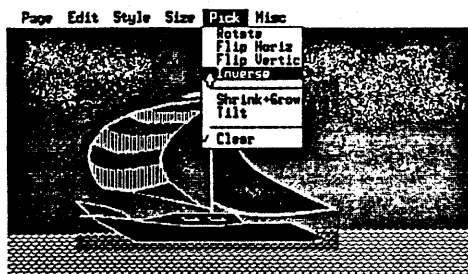
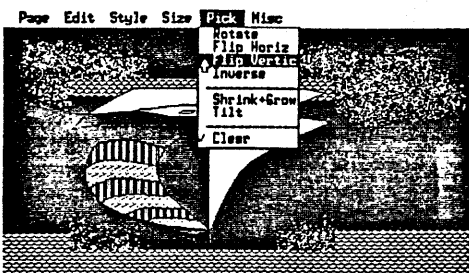
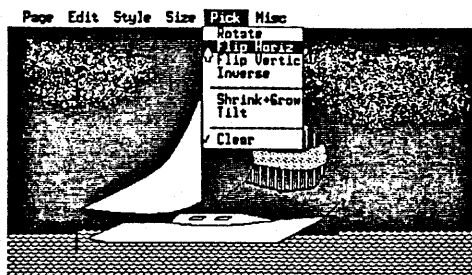
The sailboat in the picture below is used as the defined cutout in the following **Pick** menu option examples.





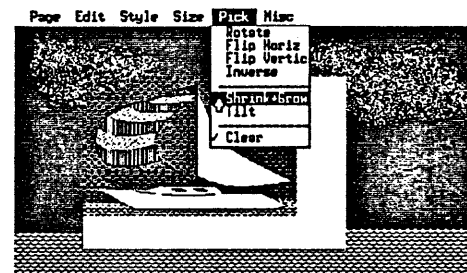
**Rotate** rotates the defined area by 90° clockwise each time it is selected.

**Flip Horizontally/Vertically** flips the defined area of the cutout from side to side or from top to bottom.

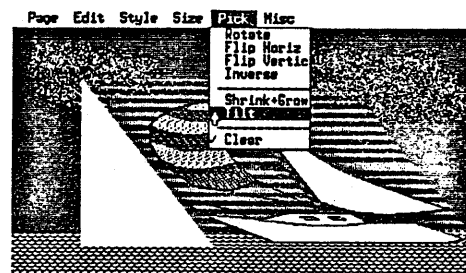


**Inverse** inverts the colors. In a monochrome mode, black becomes white and white becomes black. (Gray, which is a checkerboard mix of black and white, looks the same.)

**Shrink + Grow** creates another rubber band box inside the defined area. Move the second box around the screen with  $\leftrightarrow$  until you are satisfied with its dimensions. Press  $\leftarrow$



to anchor one corner of the box and press  $\Rightarrow$  to make the defined area "shrink" or "grow" to fit its new dimensions.



**Tilt** lets you tilt your cutout through a small angle. A dotted parallelogram on the screen represents the new, tilted cutout position. Move  $\leftrightarrow$  until you are satisfied with the amount of tilt. Press  $\Rightarrow$  to tilt the defined area.

**Clear** "clears" your original picked area. This is useful when you use an option such as **Shrink + Grow** which changes the dimensions of the defined area. When **Clear** is turned on, the part of the defined area that is uncovered by the *new* position of the cutout is cleared to the current background color. (**Clear** was activated for all the **Pick** menu option examples.) Turn off **Clear** by reselection it from the **Pick** menu. **Clear** works with any of the **Pick** menu options.

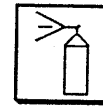
The Shift key can be used with **Shrink + Grow** to constrain the dimensions of the rubber band box to be proportional to those of the defined area. Simply hold down the Shift key while moving the rubber band box with your  $\leftrightarrow$ .

**Hint:** Once you are satisfied with an alteration and want it to remain on the screen, select a new tool or press **Undo** twice. Otherwise any option you activate or deactivate affects the manipulated area.

### 5.1e Pick Double Click Option

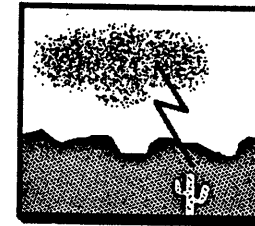
The Pick tool also has a **double click option**. When you double click  $\leftarrow$  over the Pick tool, you see the full screen. Note that there is no cursor present, allowing you to photograph or print your screen (see **Appendix D**) without also printing your cursor

Since you don't have a cursor in this mode, you cannot draw or alter the screen in any way, only view it. To exit the mode, press the Esc key. This option is not the same as the **Show Screen** option in the **Page** menu. See **Section 6.2b** for complete instructions.



## 5.2 The Airbrush

The **Airbrush** produces a random spray of foreground-colored dots on the screen. The spray continues as long as  $\leftarrow$  is held. Select a larger drawing width to produce a lighter spray over a wider area.



**Hint:** The Airbrush tool is particularly useful for making clouds or for shading "3-D" objects.



### 5.3 The Text Tool

The Text tool lets you add "text" to you pictures. You can type with this tool just as you would with a typewriter or with your keyboard. The Text tool works with the Style and Size menus to let you change type fonts, point sizes, spacing, slant, and typefaces.

To change fonts and typefaces, use the Style menu (see Section 5.3a) The Adjust menu lets you change the type point size of stroke fonts and the X and Y dimensions of bit-mapped fonts (see Section 5.3b).

After you select the Text tool, two cursors will show up on the screen. Place the ⇐ cursor (a plus sign) at the point you want the text to begin. Press ⇐ and the open box (Text) cursor moves to that point. Now use your keyboard to type anything you want. Use the Backspace ket to erase the text one character at a time.

Things to keep in mind while using the Text tool:

- \* All fonts end with a .FON file extension. Extra fonts can be obtained through our Sales Department.
- \* You must be using the Text tool to use any of the options from either the Style or Size menu.
- \* Your ⇐ cursor must be in the drawing area to type.
- \* If you change drawing colors, widths, point sizes, fonts or typeface styles, all of your current text changes. If you do not want the text to change, reselect the Text tool.
- \* If you change tools, reselect the Text tool, select Undo, reposition the open box cursor (by pressing ⇐ ' or

scroll the screen, your type is set. Subsequent changes to color, size, font, or style can no longer affect that text.

- \* Although you can turn on more than one Style option, you can select only one option at a time. To activate more than one option, keep reselecting the menu until all options you want are activated.
- \* When a typeface option is activated, it is indicated by a check - . To deactivate the option, reselect it from the Style menu.
- \* The current drawing width affects stroke font characters. Smaller drawing widths are more appropriate with smaller text, whereas a wider drawing width looks better with larger text. If your large stroke font characters look as if they have gaps in them, increase the drawing width.
- \* Text characters will not extend beyond the drawing area. Use the scroll bars if you want to place text on another are of the screen.

#### 5.3a The Style Menu

The Style menu lets you change fonts and typefaces. The first option in the Style menu is Font is... . Highlight this option and press ⇐ to change fonts. The Font file directory box appears, with the available fonts listed in the center, and the current drive and directory at the top.

Not all the available fonts can be seen on the screen simultaneously. Use the scroll arrows to page through the list of available fonts.

Select a font in one of two ways: either scroll through the font list until you find the font you want to use, then select it by pressing ⇐ on the font name. Or you can type in the font name directly by selecting the line in the Font directory box with the ?? . The line

clears once its been selected, and you can type in the name of the font you want to use, including a drive and path, if necessary.

Choose OK at the bottom of the Font file directory box to load the selected font. (You can also click the font name in the directory box.)

The Style has two sets of typeface options, one for stroke fonts and one for bit-mapped fonts. If your current font is a stroke font, your typeface options are one of:

Light,  
Medium, or  
Bold

And any of:

Italic  
Underline  
Outline  
Kerning  
Shadow

You can use only one of the Light, Medium or Bold options at a time. Select the Style menu and move your cursor until one of the three is highlighted. Press ← to choose one. The activated option is indicated by . The other five options may be used in any combination. You can choose none, one, or more. Selecting one of these options activates it (indicated by ), selecting it a second time deactivates it.

Selecting **Italic** italicizes your text, **Underline** underlines it. **Outline** outlines your text - the background color is outlined by the foreground color. **Kerning** places the characters closer together. The **Shadow** effect is similar to **Outline**, but the background color lays slightly over one edge of the foreground color.



If your current font is a bit-mapped font, your Style typeface options are:

Proportional or  
Opaque

**Proportional** is similar to **Kerning**. The text is placed closer together. **Opaque** highlights the text characters with the current background color. If **Opaque** is not used, then the text is placed over the picture immediately behind them.

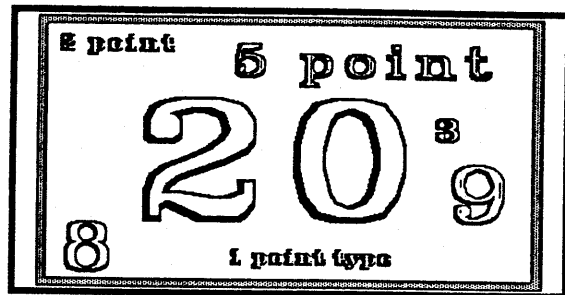
**Note:** If the current background color is the same as the screen color, the **Opaque** effect is invisible.

### 5.3b The Size Menu

The **Size** menu lists the range of type sizes available with the current font. If you are using a stroke font, the values of the smallest and largest sizes depends on the resolution and current mode of your display adapter (the higher the resolution, the wider the range of sizes available).

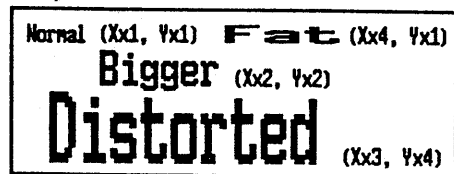
See the picture at the top of the next page for examples of the different stroke font **Size** options.





*Stroke font Size options*

If you are using a bit-mapped font, you actually have two Size options. You can change the height, width, or both. The X options change the width of the characters, the Y options change their height. You can select any combination of the X and Y settings.



*Bit-mapped font Size options*

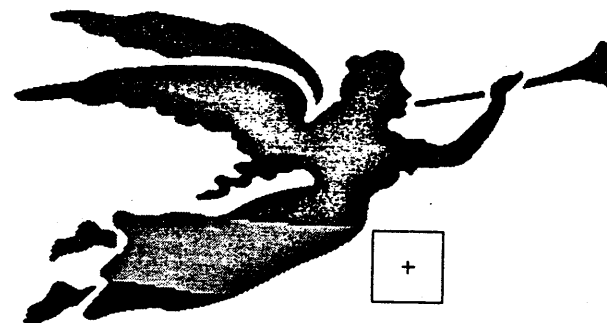
**Note:** Since you can change the height and width of your printout, the font Size that you select may not correspond to the actual printout font size.



## 5.4 The Color Eraser

The Color Eraser is used to erase a selected color. The foreground color alone is replaced by the background color. The Color Eraser is sensitive to drawing width settings, so you can erase small or large areas. The cursor size in the drawing area reflects the current drawing width setting.

Use the Color Eraser by holding  $\leftarrow$  and rubbing the cursor over the area you want to alter.



**Hint:** The Color Eraser is a great way to change one color to another without altering colors. For example, if you want to change blue to red:

- Select blue as your foreground color and red as your background color.
  - \* Remember, to change the foreground color, place the cursor on the desired color and press  $\leftarrow$ . To change the background color, press  $\Rightarrow$ .
- Move the Color Eraser over the area you want to change, holding down  $\leftarrow$ . In the above example, only blue changes to red. This technique is very useful when you have many small spots which need filling.

**Hint:** Constrain the Color Eraser to erase in a horizontal or vertical manner by holding down the Shift key as you erase.

If you want to change every occurrence on the screen of one color to another color, use the **double click option**. Follow this procedure:

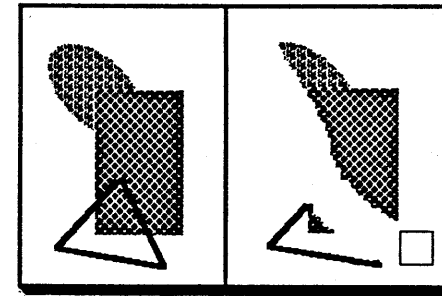
- Select the color you want to change as your foreground color and select the color you are changing to as your background color.
- Press  $\leftarrow$  twice quickly over the Color Eraser (double click) and everything in the drawing area that is the foreground color is changed to the background color.

In the above example, when you press  $\leftarrow$  twice in a row (double click) over the Color Eraser, everything that is blue changes to red.



## 5.5 The Eraser

The Eraser is used to erase parts of your picture. Every spot the Eraser touches is changed to the background color (erased). Rub the Eraser over an area while holding  $\leftarrow$ . The Eraser is sensitive to drawing width settings, so the larger the current drawing width, the larger the Eraser cursor.



**Hint:** Make sure your current background color is the same as your screen color, or the object will not be erased.

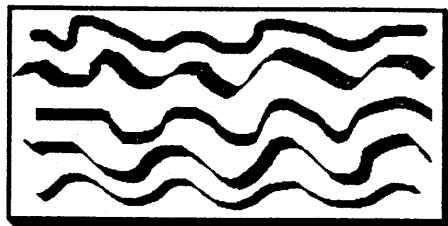
The Eraser also has a **double click option** that operates differently from the Color Eraser's. When you press  $\leftarrow$  twice on top of the Eraser tool, the **Clear** dialog box appears on the screen. Select **OK** if you want to clear your screen to the background color, or **CANCEL** if you want to return to the drawing area without clearing your screen. This double click option is a short cut to the **Clear** option in the **Page** menu.

**Hint:** Constrain the Eraser to erase in either a horizontal or vertical direction by holding down the Shift key as you erase.



## 5.6 The Paintbrush

The **Paintbrush** tool is used just like an everyday bristle paintbrush. Select a foreground color and drawing width. Hold down ← and move your ⇔ to draw free hand shapes.

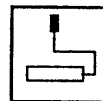


You can change the shape of the brush in two ways. One way to change brush shapes is to select the **Brush Shapes** option from the **Misc** menu. When the **Brush Shapes** box appears, select any brush shape by pressing ← over the desired shape.

The other way to change brush shapes is to use the **double click option**. Double click the **Paintbrush** tool. The different brush shapes appear in the drawing area, then select any shape by pressing ← over the shape.

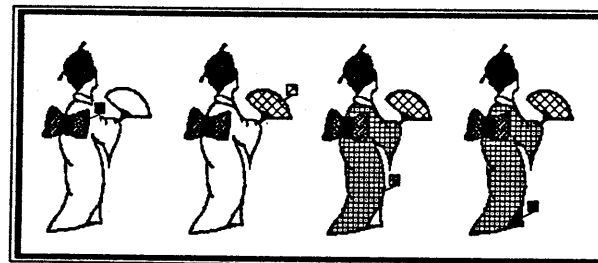
Each brush shape produces a different effect, as you can see from the picture above. The default brush shape is the black square in the upper left corner of the brush shapes box. The larger the drawing width, the longer the brush stroke. The cursor resembles the brush shape, so if the brush shape is circular, for example, the cursor is a circle in the drawing area.

**Hint:** Constrain the **Paintbrush** to move in a horizontal or vertical manner by holding down the **Shift** key as you draw.



## 5.7 The Paint Roller

The **Paint Roller** is used to fill in any closed shape with the foreground color. Place the cursor inside the area you want to fill and press ← to fill a solid colored area, or press ⇒ to fill a patterned area.



**Hint:** If you want to fill an area with a pattern, try pressing ⇒ instead of ←, for a quicker and more even fill.

If your area has any openings, the paint leaks and fills the screen. If this should happen, either wait for the paint to stop leaking and select the **Undo** menu to clean it up, or press the **Esc** key to stop the filling immediately, then select **Undo**.

**Hint:** Any object that was just filled since selecting the **Paint Roller** is affected by selecting **Undo**. To prevent **Undo**-ing work that you are satisfied with, reselect the **Paint Roller** each time you fill in an object.

Use one of the zoom-in options from the **Misc** menu to close the opening in your image where the paint leaked out during a fill. See **Section 6.7 - Misc Menu** for additional information.

You may also find that after you fill an object, some of the paint leaks out of the object but does not fill the entire screen. This occurs when the color pattern has one or more colors in common with the outline of the object that you wish to fill. To prevent this from happening, first fill the object with a color that neither the object nor the desired color pattern has. Then select the desired color pattern and fill the object by pressing  $\leftarrow$ .

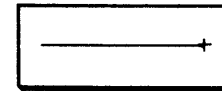


## 5.8 The Curve

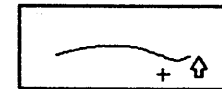
The Curve tool lets you draw precise curved lines, instead of drawing them free-hand using the Paintbrush. Each curve has two control points which determine its "curviness".

To draw curved lines:

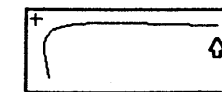
1. Select the Curve tool. Your cursor appears as a plus in the drawing area.
2. Press  $\leftarrow$  to set one end of the curve. You then see a rubber band line with a plus at your cursor spot.



3. Move your cursor to another point and press  $\Rightarrow$ . This sets the two endpoints of your curve. Note that an arrow now points to the first endpoint.

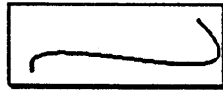


4. Move your cursor to set the angle of the curve into the first endpoint (the first control point). When you are satisfied with the angle of the curve, press  $\Rightarrow$ . Note that the arrow moves to the second endpoint.

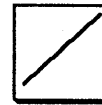
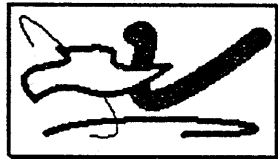




5. Now set the other angle and the entire curve. When the curve and the angle are acceptable, press  $\Rightarrow$  and your curve is pasted on the screen.



- \* Pressing  $\Leftarrow$  backs you up one step at a time.
- \* Pressing  $\Leftarrow$  three times always lets you start over.

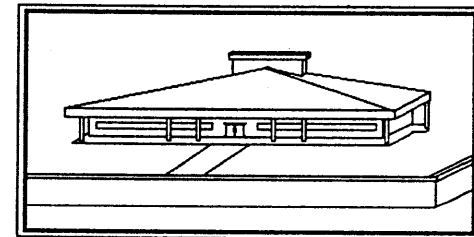


## 5.9 The Line

The **Line** tool draws connected or separate straight lines. Press  $\Leftarrow$  to paste one endpoint of the line. Move the rubber band line around until you are satisfied with its position, then press  $\Rightarrow$  to paste the line on the screen. The starting point for the next line is set to the ending point of the first line. Press  $\Leftarrow$  to reset the starting endpoint to a new position.

Although the rubber band line on the screen is always thin, the actual line thickness is determined by the current drawing width.

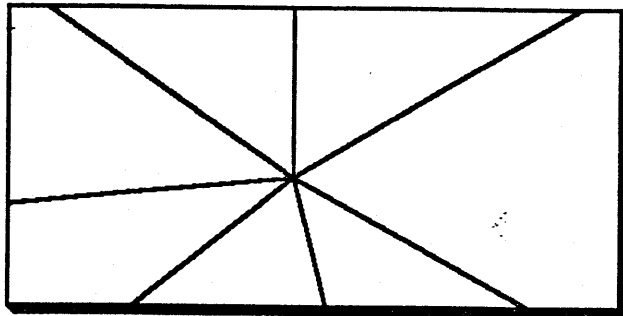
Every time you change drawing widths or foreground colors, you effectively change line types, since you are changing the appearance of the line.



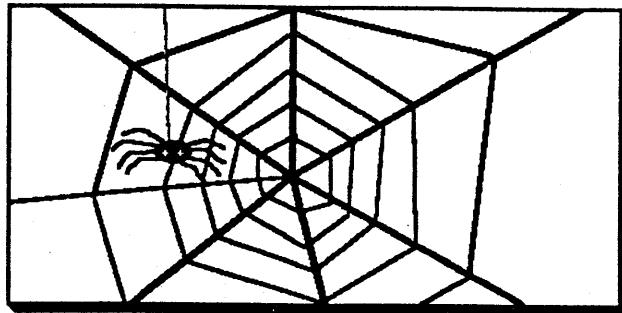
The F1 and F2 function keys can be used with the Line tool to create radial or "sunburst"-type pictures, where a number of straight lines radiate outward from a central point. Pressing F1 marks a point, pressing F2 moves the cursor from its current position back to the point marked by F1. Let's say you want to draw a spider web. Using the F1 and F2 keys, you create the web so that each line originates from the same point.

1. Select the Line tool from the toolbox by pressing  $\Leftarrow$  over its picture.
2. Begin in the middle of the drawing area and press  $\Leftarrow$  to set an endpoint.

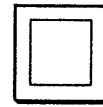
- Press the F1 key to mark the point as the anchor point. Position a line radiating out from the anchor point, then press  $\Rightarrow$  to draw the line on the screen. Notice that the cursor moves to the end of the new line.
- Press the F2 key and the fixed point of your line moves back to the anchor point marked by F1. Continue until you have several lines radiating outward from the central point. Remember to press F2 each time before drawing a line from the center.



- Finish your spider web picture with the Line and Paintbrush tools.



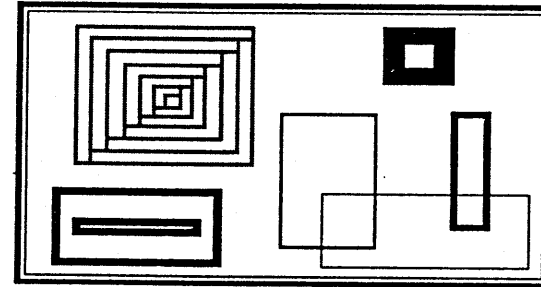
**Hint:** Constrain the Line tool to move in a horizontal or vertical direction only by holding down the Shift key as you draw.



### 5.10 The Hollow Box

The **Hollow Box** is used to draw squares or rectangles on the screen. Pressing  $\leftarrow$  anchors one corner of the box, and  $\Rightarrow$  fastens the entire box to the screen.

The current drawing width determines the width of the box - the thicker the width, the thicker the sides of the box. Regardless of the currently-selected drawing width, the rubber band box in the drawing area always appears as a thin box.



**Hint:** If you want to draw a square, hold down the Shift key as you move your cursor. Press  $\Rightarrow$  when you are satisfied with the size of your square.

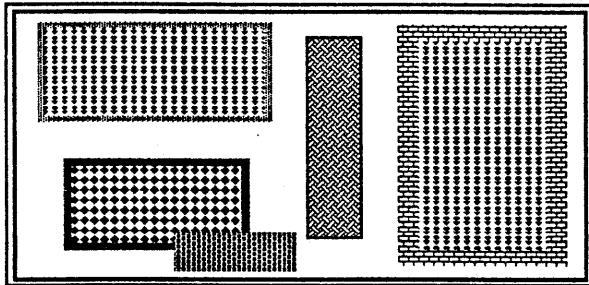
If the Shift key does not make a perfect square, the current aspect ratio is probably wrong. See Section 6.7h for directions for setting the aspect ratio.



### 5.11 The Filled Box

The Filled Box works similarly to the Hollow Box tool, except that it lets you add a border around the box. The box is filled with the current foreground color, and the border is drawn in the current background color.

The width of the colored border is determined by your current brush width. To change widths, move your cursor down to the drawing widths area of the PC Paintbrush screen and click on the desired width. If you want a filled box with no border, select the top (most narrow) width. When you fasten (draw) the box to your picture, by pressing  $\Rightarrow$ , the box is filled with the foreground color and the box's border is drawn in the background color.

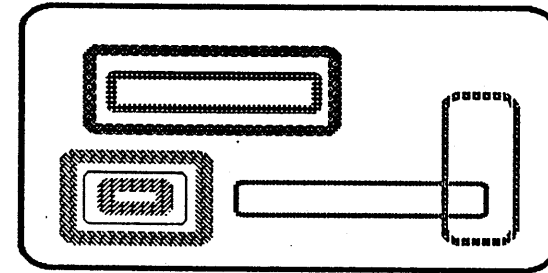


You can draw solid squares by holding down the Shift key. If the squares aren't square enough, try setting the aspect ratio as described in Section 6.7h.



### 5.12 The Rounded Box

The Rounded Box is drawn in the foreground color, in the same way as the Hollow and Filled Boxes are drawn. Press  $\Leftarrow$  to anchor one corner of the box, move the rubber band box around until you are satisfied with its shape, then press  $\Rightarrow$  to attach the completed box to the screen.



The thickness of the box is determined by the current drawing width. Change drawing widths or change box thicknesses.

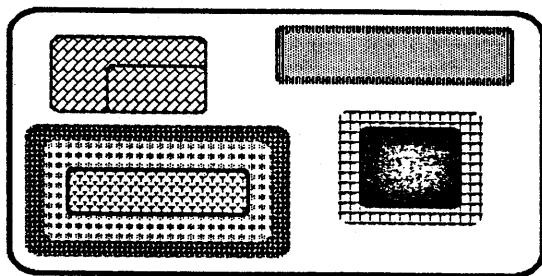
To draw rounded squares, hold down the Shift key as you position the rubber band box. If the squares aren't square, follow the aspect ratio setting instructions in Section 6.7h.



### 5.13 The Rounded Filled Box

The **Rounded Filled Box** works just like the **Rounded Box** except the box is filled with the foreground color and bordered by the background color when you press  $\Rightarrow$ .

Change the width of the border by changing the currently-selected drawing width. Select the narrowest (topmost) width for no border at all.



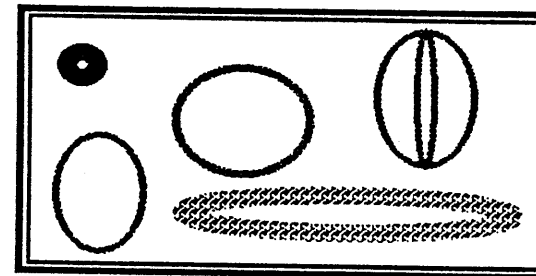
**Hint:** Filled rounded squares are drawn by holding the Shift key down while drawing the box. See Section 6.7h about adjusting the aspect ratio if your squares aren't square enough.



### 5.14 The Hollow Circle/Ellipse

The cursor for the **Hollow Circle** tool appears as a plus in the drawing area. To draw a circle or an ellipse:

1. Select the **Hollow Circle**. When you move your cursor into the drawing area, you see a rubber band circle.
2. Press  $\Leftarrow$  to set the center of your circle.
3. Stretch the rubber band circle or ellipse until it is the size you want.
4. Press  $\Rightarrow$  to paste your circle or ellipse on the screen.



Whether your object is a circle or an ellipse depends on how you move your cursor while drawing the object. Hold down the Shift key to create perfect circles. Once you are satisfied with the size of the circle, press  $\Rightarrow$ .

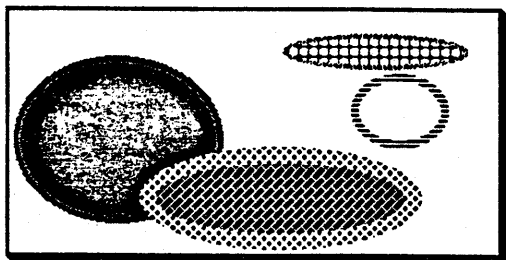
If the Shift key does not produce perfect circles, see Section 6.7h to adjust the aspect ratio.





### 5.15 The Filled Circle/Ellipse

The **Filled Circle** works in the same manner as the **Hollow Circle** tool except that the circle/ellipse is filled with the foreground color and bordered by the background color. The cursor for the **Filled Circle** tool appears as a plus in the drawing area.



To draw an filled circle or ellipse:

1. Select the **Filled Circle** tool from the toolbox.
2. Select the foreground color (filling color), background color (border color, if any), and drawing width (border width - choose the top drawing width for no border at all).
3. When you move your cursor into the drawing area, you see a rubber band circle. Press ← to set the center of the circle.
4. Stretch the rubber band circle/ellipse until it is the correct size.
5. Press ⇒ to paste your circle or ellipse on the screen.

Change border widths by changing drawing widths.

Hold down the **Shift** key to draw perfectly round filled circles. If your filled circles are not round, set the aspect ratio as described in **Section 6.7h**.

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## Chapter 6 The Menus

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The menus are found across the top of the drawing area:

**Undo Page Edit Style Size Pick Misc**

Move your cursor into the menu area to select a menu, press ⇐, and the menu unfolds.

Any time you select a menu and then decide not to use a menu option, remove the menu by moving your cursor out of the menu and pressing ⇐, or by selecting another menu.

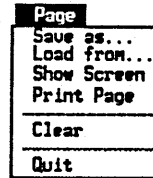
### 6.1 Undo

The **Undo** menu allows you to change your mind. Choosing **Undo** "undoes" everything you have done to your picture since selecting the current tool. For example, if you draw several squares with the **Filled Box** tool, then decide that you don't like them, select the **Undo** menu and they disappear from your drawing. Reselecting **Undo** replaces whatever objects the first **Undo** erased. If you change your mind and decide you really did like those squares, reselect **Undo** and your squares are redrawn.

**Hint:** If you are using the same tool for a long period of time, reselect the tool every once in a while. Otherwise, selecting **Undo** deletes all the work you did with that tool. By reselecting the tool periodically, **Undo** will delete only your most recent work.

## 6.2 Page

The **Page** menu has options that let you load, save, and print pictures, change screen types, show the entire screen, clear the screen, and exit PC Paintbrush.



### 6.2a Save as/Load From

The **Save as...** and **Load from...** options save and restore your pictures to and from disk. When you select **Save as...**, the entire picture is saved to your disk. To save a picture using this option:

1. Select the **Page** menu. Move your cursor until **Save as...** is highlighted. Press ←.
2. The **Save as...** file directory box appears, displaying the current directory and a file name list. If no **.PCX** files have been saved to the current directory, this list is empty.

\* To change the current directory/drive, select the line in the file directory box header containing the directory information. Now type in the new directory/drive name, then press the Enter key.

Move your cursor to the ?? line under the current directory listing and press ←.

3. Type in a valid DOS file name and press the Enter key. If you do not specify an extension (such as **.PCX**), your picture receives the **.PCX** extension by default.

\* You can save your pictures with any extension, or with no extension. However, if you don't use the **.PCX** extension, PC Paintbrush can't "see" the files, so they don't show up in the **Load from...** file list. To load an extensionless file, you must type in the full name of the picture on the line under the current directory listing in the directory box's header.

\* If you do not want your picture saved with an extension, type the name followed by a period. For example: *Graph.*

4. You can save pictures over previously-saved pictures. Find the name of the file you wish to overwrite, using the scroll arrows to page through the file name list if necessary. Highlight the name of the file and press ← to select it. You are then asked **Write over existing file?** Select **Yes** to overwrite the picture or **No** if you change your mind.

If you are using the floppy disk drive and you save many cutouts and pictures, you eventually run out of room on your disk. When this happens, you receive the error message:

**ERROR**  
**Write Error**

You have two choices: You can:

- Replace the disk in the A drive with another disk. Repeat the procedure above to save your cutout.

Or, you can:

- Select the line containing the current directory information in the **Save as...** file directory box. Type in the new drive/directory information, then press the Enter key. Now continue with the above procedure to save your picture.

**Note:** You can save cutouts using the Scissors or Pick tool and the Edit menu (see Section 5.2).

To restore a picture using the Load from... option:

1. Select the Page menu and move your cursor until Load from... is highlighted. Press ←
2. The Load from... file directory box appears on the screen, with a list of previously-saved pictures in the center of it. Move your cursor until the name of the file you want to restore is highlighted and press ←.
3. If more than six pictures were saved, use the scroll arrows in the file directory box to page through the files until your file appears in the list.
4. If your picture was saved onto a different disk, make sure that that disk is in the default drive. If your picture is on a different drive or directory, select the line in the file directory box header under the Load from... line. When the line clears, change drives or directories by typing in the new name, then pressing the Enter key. Now you can select the picture you want to restore.

### 6.2b Screen Type

The Screen Type menu option lets you modify the way your monitor displays graphics images. This option is mainly used in special situations, such as if you wanted to videotape the monitor or input an external video signal.

Selecting Screen Type displays a dialog box containing four options: Interlace, Genlock, B/W Only, and Fixed Phase. Each of the four options can be turned On or Off.

Turn Interlace on to send the M-3000's video output in interlaced fields - first all even-numbered scan lines are displayed, then all odd-numbered scan lines are displayed.

Turn Interlace on if you are planning on videotaping the images on the monitor. (It is normal for the image on the monitor to flicker a bit when Interlace is turned on.)

**Note:** Interlace defaults to on when PC Paintbrush is started up ALTHOUGH IT IS SHOWN AS OFF IN THE SCREEN TYPE DIALOG BOX.. Turning it on or off functions correctly however (ie - select Off to turn it off), and once it has been set manually it will register the correct setting.

Turning Genlock on lets an external video signal show through certain keyed (selected) colors on the screen. Section 6.7g explains how to key the desired colors. If Genlock is turned off none of the external signal will be displayed.

If B/W Only is turned on, only black and white (monochrome) images can be displayed on the screen. Turn B/W Only on to display color images.

If you are having a problem with certain colors flickering on your composite monitor (and Interlace is not turned on), try setting Fixed Phase to On. Note that thin straight vertical lines may appear to be jagged with Fixed Phase turned on.

### 6.2c Show Screen

Show Screen lets you see and draw on the entire screen, which is the drawing area plus the part of the screen normally covered by the toolbox, color set, menus, and scroll bars. Press the Esc key to return to the drawing area and the tool set.

When you are in Show Screen mode you can continue to draw with the active tool. This has many advantages. For example, you can draw complete circles that would be clipped if you were restricted to the drawing area.

The Pick tool has a **double click option** that is similar to **Show Screen** but **does not** provide you with a cursor, so no tools can be used in that mode.

### 6.2e Print

PC Paintbrush is not initially configured to support a printer. If you want to print your PC Paintbrush pictures, read **Appendix D**.

You can print your screen with the **Print** option. Select **OK** to print or **CANCEL** if your printer is not ready. If the printout quality is unsatisfactory, read **Chapter 10** for tips about how to optimize your printout.

The **Print** dialog box lets you set the height, width, top, and left margins - measured in inches. It also lets you print your picture wholly or partially, landscape or portrait, and in quality or draft mode. You can even print more than one copy at a time.

**Hint:** The default height and width dimensions are the ideal print-out dimensions for your picture. The best way to change them is to multiply **both** dimensions by the same number, to avoid distorting the image's aspect ratio.

To change the height, width, top, or left margin, point your cursor at the present value and press ←. Then type in a new value. For example, if you want your picture to be eight inches high, type 8 for the value of height. When you have made all the changes you want, select **OK**.

Select **Landscape** if you want your printed picture to be rotated sideways (90°), or **Portrait** if you want it to be printed normally (no rotation).

**Note:** The terms **Landscape** and **Portrait** are used to describe horizontal and vertical printouts because most pictures of

landscapes are horizontally-oriented, while most portraits are vertically-oriented.

If you only want to print part of your picture, choose the **Partial** option. A miniature version of your picture appears on the screen, and the cursor becomes a rubber band box. Move the box until it contains the portion of your picture that you want to print, then press ⇒. The printer then prints the selected portion of your picture. Note that printing occurs **immediately** after the rubber band box is set.

Press the Esc key at any time to stop printing and return to PC Paintbrush.

### 6.2e Clear

When you want to clear your drawing area of everything, choose **Clear**. Select **OK** if you want to clear everything from the screen or **CANCEL** if you change your mind. **The screen is cleared to the background color.** If, for instance, your current background color is yellow, the screen is cleared to yellow. The default width and height **Clear** values are the currently-installed graphics mode horizontal and vertical resolutions, respectively. The default units system is **PELS** (picture elements, or pixels).

Enter new picture size...

Width:   CH

Height:   IN

PELS

The **Clear** options allow you to create pictures with dimensions larger than the drawing area. Pictures whose dimensions are larger than one screen are called **virtual images** or **large image pictures**.

To create a large image, simply enter height and/or width dimensions larger than the default Clear dimensions. Remember that the maximum size of the image is limited by the amount of disk space available. Large images, especially those created in 16-color mode, require large amounts of disk space, so choose the Height and Width values carefully. Note that pictures with dimensions larger than the current screen resolution can NOT be used with other Mindset M-3000 applications!

When you select a picture size, you can set the dimensions in pixels (PELS), inches (IN), or centimeters (CM). When it comes time to print your picture, the Print dialog box also lets you adjust the printout size. The height and width selections in Clear and Print are independent of one another, so you can create an 5"x5" picture and print it at 3"x5", or 1"x25", if you so desire!

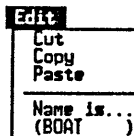
### 6.2f Quit

When you are ready to exit PC Paintbrush, select Quit. You are asked if you are sure, so select Yes if you do want to quit, No if you don't.

**Hint:** PC Paintbrush has a shortcut exit: hold down the Alt key and press the X key. This takes you directly out of the program and returns you to DOS or your previous application.

### 6.3 Edit

The three Edit menu options Cut, Copy, and Paste are used with the Pick and Scissors tools. Cut remove the defines cutout from the screen and saves it to the specified disk/directory. Copy leaves the cutout on the screen and saves a copy of it to disk. Paste loads a previously-saved cutout from disk to the screen.

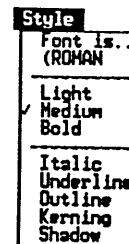


See Section 5.2 for a detailed discussion about using the Edit menu with these tools.

### 6.4 Style

The Style menu is used in conjunction with the Text tool to change fonts and typefaces. The Style options vary, depending whether you are using a bit-mapped font or a stroke font. The picture at the right shows how the Style menu looks when your current font is a stroke font.

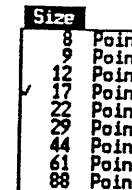
See Section 5.3 for additional information about the Style menu.



### 6.5 Size

The Size menu is also used with the Text tool. Which type point sizes are available depends primarily on whether the font you are using is a bit-mapped font or a stroke font, and to a lesser degree on the the currently-installed graphics mode.

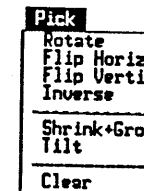
See Section 5.3 for a more detailed explanation of the Size menu.



### 6.6 Pick

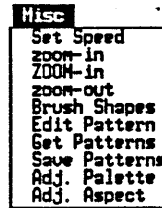
The Pick menu options are used to modify cutouts defined by the Scissors and Pick tools.

See Section 5.1 for additional information about these two tools and the different effect each Pick menu option produces.



## 6.7 Misc

The Misc menu options let you set the speed of your joystick (if one is installed as your drawing device), shrink and magnify your picture, change the shape of the Paintbrush tool's bristles, create new colors and patterns, and change the aspect ratio.



### 6.7a Set Speed

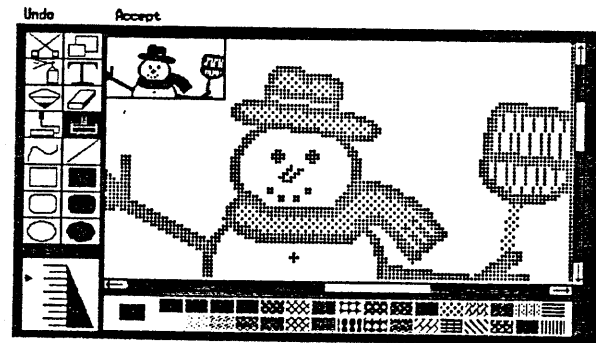
The Set Speed option lets you set the joystick response to a comfortable speed. If you do not have a joystick or installed PC Paintbrush for a different drawing device, you are unable to choose this menu option.

### 6.7b zoom-in/ZOOM-in

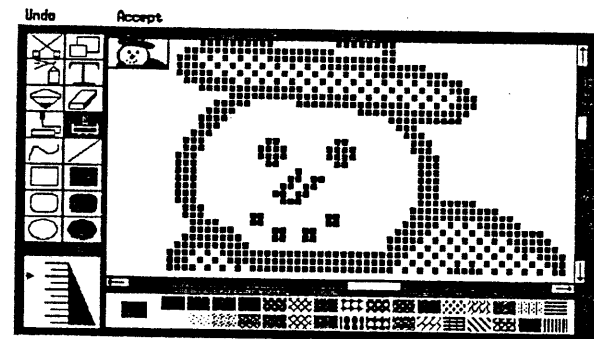
These two options are similar to one another and are helpful in doing fine detailed drawings. Both magnify a selected portion of your image, Zoom-in to a greater extent than zoom-in. To use either option:

- Select either zoom option from the Misc menu by pressing  $\leftarrow$  over the option name.
- When you move your cursor into the drawing area, your cursor appears as a hollow box. Use this box to define the area you want to zoom in. Press  $\leftarrow$  over the area. The upper left corner of the drawing area is converted to the area you zoomed in. The rest of the drawing area becomes a blown up view of that area.
- You can now alter the magnified area. Press  $\leftarrow$  to change one square (pixel) at a time to a different color. Pressing  $\leftarrow$  changes the square to the current background color while pressing  $\Rightarrow$  changes the square to

the foreground color. You can hold down either  $\leftrightarrow$  button and color a larger area at once. Watch the upper left corner of the drawing area to see how your zoomed in area is being changed.



*zoom-in*



*Zoom-in*

- You can change foreground and background colors and scroll your image without leaving either zoom in mode.
  - \* Once you use the scroll bars, Undo will not delete your previous zoom in changes, only your most recent work.

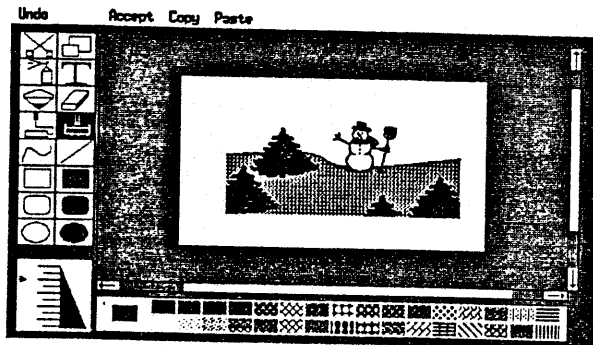
- Once you are satisfied with the changes, select **Accept** at the top of the screen. If you make a mistake, select **Undo** and you are returned to normal resolution mode without any changes made to your picture.

**Hint:** If you use the Paint Roller tool and the paint leaks, the zoom-in options are very useful for patching the areas where the paint leaked.

### 6.7c Zoom-out

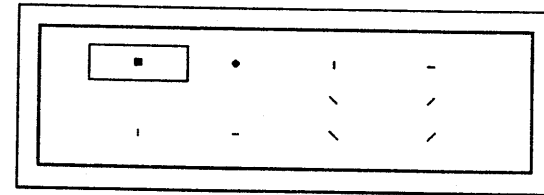
The **zoom-out** option shrinks your entire picture to fit on the screen, even if your picture's dimensions are larger than the screen size.

When you select **zoom-out** from the Misc menu, your picture is automatically shrunken and displayed in a small rectangle in the center of the screen. **Zoom-out** differs from the **Show Screen** option in that large (virtual) images can be displayed. Some picture information is omitted from the compacted image. Generally, the larger the picture size, the greater the amount of information omitted when the picture is compacted. Remember - **this loss of picture information is NOT permanent and does not effect your full size picture in any way.** When you zoom back in your picture will be intact.



### 6.7d Brush Shapes

The **Brush Shapes** option lets you change the shape of the Paintbrush tool's bristles. The picture below shows the different brush shapes available. Each shape produces a different effect when the tool is used (see the picture in Section 5.6).



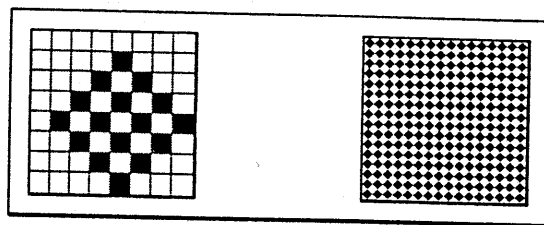
**Hint:** By varying both brush shape and drawing width you can produce a variety of effects.

### 6.7e Edit Pattern

Each color and pattern in the color set is actually an 8X8 pixel matrix. If you installed PC Paintbrush for a 16-color mode, the **Edit Pattern** matrix will be 4 pixels wide by 8 pixels tall.

With the **Edit Pattern** option, you can change the matrix, creating different patterns and **dithered colors** (checkerboard patterns that appear to be new, "pure" colors). If you want to create new patterns:

1. Select as the foreground color any solid color or pattern you wish to change.
2. Select the **Edit Pattern** option from the Misc menu. A rectangle containing two boxes appears on the screen. The box on the left contains an enlarged cell of the pattern (one 8x8 pixel matrix). The box on the right shows how the entire pattern will look on the screen. See the picture below.



3. Select any combination of foreground and background colors. You can actually edit only the matrix in the box on the left. Press ← to change a square to the background color or press ⇒ to change a square to the foreground color.

**Hint:** For best results, use solid colors as foreground and background colors when editing.

4. Watch the alterations to the pattern as you work displayed in the box on the right.
5. Once you are satisfied with your new pattern, select **Accept** in the top left corner of the screen. The new pattern takes the place of the old pattern in the color set. If you do not like your changes, choose **Undo** and reselect the **Edit Pattern** option from the **Misc** menu.

**Edit Pattern** also has a shortcut double click option. To use it:

1. Move to the color or pattern in the color set that you want to edit.
2. Press ← twice quickly over the desired color/pattern. The 8x8 pixel matrix of the color or pattern appears.
3. Edit your pattern as you would if you had selected **Edit Pattern**.

You can use your new colors and patterns until you quit PC Paintbrush. If you like the new colors/patterns, you can save them so that they are available the next time you run PC Paintbrush. See the next section for instructions.

### 6.7f Get Patterns and Save Patterns

The **Get Patterns** file directory box is composed of the current sub-directory and a list of various sets of color patterns. Originally the list is made up of two options:

DEF3416  
DEF644

Each of these color/pattern choices is a default setting for a specific graphics mode. Which pattern set you use depends on your display adapter and the current graphics mode. For example, if you installed PC Paintbrush for a 2-color mode, you should not select a palette that has four or sixteen colors. If you choose one that can not be used with your card, you may receive the error message:

**ERROR**  
**Not found**

Press ← and no harm is done. Then reselect your correct default setting or a pattern set appropriate for your current graphics mode.

When you make a selection from the list, your color patterns will change to those of the new set. If you select an option but receive neither an error message nor a change in patterns, then you have reselected the current set. If this occurs when you first choose **Get Patterns**, you selected the default pattern set. As a general rule, any pattern set changes should be saved under a new set name, **NOT** to the default name.



You can easily switch between sets of patterns. Changing pattern sets **does not** affect anything in the drawing area. This allows you to use more than one set of patterns in a single picture.

Once you have created a pattern you like, select the **Save Patterns** option.

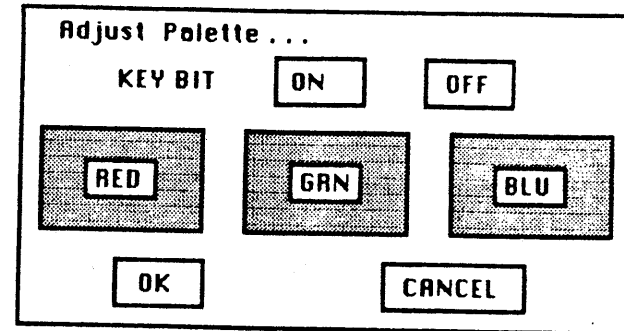
1. Select **Save Patterns** from the **Misc** menu.
2. A list of previously saved pattern settings appears on your screen in the **Save Patterns** file directory box. If you have saved many patterns, use the scroll arrows to get the desired pattern set name to appear in the list.
3. To overwrite a previously-saved pattern set, simply select the name of that set, then press **OK**.
4. To save your patterns under a different name, move to the **??** line under the current directory listing and press **←**. Type in a new name and press the **Enter** key. Then select **OK**.

When you want to retrieve a color/pattern set, choose **Get Patterns** and select the name of the set from the **Get Patterns** file list, then press **←**.

### **6.7g Adj. Palette**

The Mindset M-3000 displays 4 or 16 colors out of a total of 512 different colors, depending on the currently-installed graphics mode. The **Adjust Palette** option lets you change the colors in the current color/pattern set by performing full **RGB-type** palette adjustment.

Choose **Adjust Palette** from the **Misc** menu and the dialog box at the top of the next page appears.



Full RGB (Red, Green, Blue - the video primary colors) palette adjustment lets you alter the hue of each on-screen color individually. This option has three boxes, one for red, one for green, and one for blue.

Each color on your screen is made by mixing different amounts of red, green, and blue together. The color black is made by mixing zero intensity of red, zero intensity of blue, and zero intensity of green together; white is made by mixing full intensity of red, green, and blue together. How many total colors you can make in this manner is determined by how many intensity levels of each video primary color your display adapter supports.

Follow these steps to change the hue of a specific color:

1. Select the **Adj. Palette** option from the **Misc** menu.
2. Now select any of the colors or patterns in the color set across the bottom of the screen as your foreground (drawing) color. This is the color or pattern that will be altered throughout your picture. For example, if you pick black, *everything* in your picture, including patterns, that contains black will also change.
3. Now position the cursor over one of the **RED**, **GRN**, or **BLU** boxes. Press **←** to gradually decrease the amount of

that component (red, green, or blue) in the color being adjusted. Press  $\Rightarrow$  to gradually increase the amount of that component in the selected color. Remember, you can create a total of 512 possible colors in this way.

4. Move the cursor to the **KEY BIT** box and press  $\Leftarrow$  to toggle the setting of the **KEY** attribute for the color being adjusted. Keying is discussed further below.
5. Press  $\Leftarrow$  over **OK** if you are satisfied with the palette changes or press  $\Leftarrow$  over **CANCEL** to disregard the changes.

Keying is used when an valid NTSC external video source is connected to NTSC IN. Certain screen colors can be keyed to allow the NTSC signal to show through them. For example, suppose you use the Text tool to write a paragraph or two in red on a blue background. If you have turned **KEY BIT** on through **Adjust Palette** for blue, and turned **Genlock** on through **ScreenType**, the text will be displayed on top of the incoming video signal. (See Section 6.2b for more information about the **Genlock** option.)

You can key as many colors as you wish, however you should avoid keying black and white (the two leftmost colors in the color set), since they are used to draw the PC Paintbrush menus. If either of these colors are keyed, the menus may be difficult to read, although they will still function correctly.

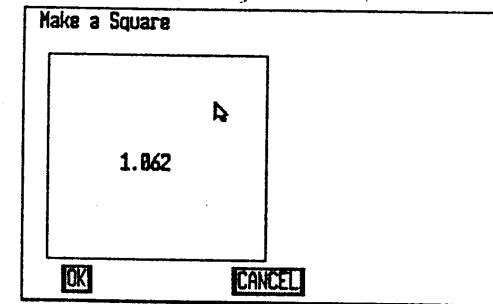
**Note:** Be careful when changing the appearance of a dither or pattern from the color/pattern set. Dithers and patterns are made of two or more colors, so when you select one of these to change, you actually only select one of the colors in that dither or pattern, and not the entire pattern.

### 6.7h Adj. Aspect

The aspect ratio of a screen or printer is the ratio of the height of one pixel to the width of one pixel. Thus, an aspect ratio of 1 means your dots are square. An aspect ratio of 2 implies tall and skinny pixels.

The aspect ratio setting is used to determine:

- \* the ratio of height to width for stroke font characters.
- \* the ratio of height to width for wide box sides.
- \* the roundness of circles and the squareness of squares.



To change the aspect ratio:

1. Select the **Adj. Aspect** option from the **Misc** menu.
2. Place your cursor at the upper right corner inside the aspect ratio box.
3. Press  $\Leftarrow$  and pull the the box down and left or up and right. The aspect ratio value changes as the box moves.
4. Press **OK** to accept the new ratio, **CANCEL** to return the old value.

Set the aspect ratio using the method above to make a square out of the aspect box. This produces the best-looking screens for photography and projection purposes (ie - circles are really round when displayed on the screen).

**Hint:** To check the aspect ratio, try drawing a circle (or square).

Be sure to hold down the Shift key while drawing your circle (square) on the screen. If you get an elliptical (rectangular) shape, reset the aspect ratio and try again until you get a perfect circle (square).

## 6.8 The Function Keys

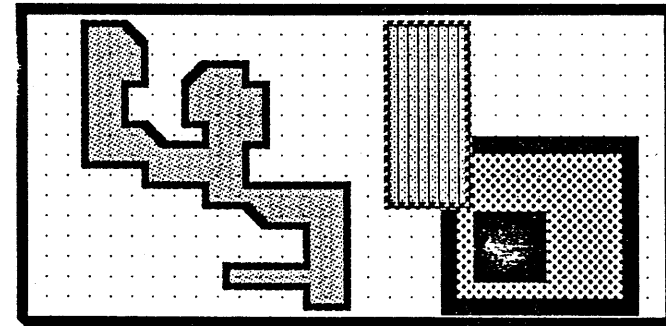
The function keys, F1, F2, and F5 - F8 are used by PC Paintbrush.

- The F1 and F2 keys are used to set and remember points on the screen. F1 marks a spot while F2 moves the cursor back to the point marked by F1. These two keys are especially useful for doing "sunburst"-type drawings with the Line tool. See Section 5.9 about the Line tool for more information.
- The F5 and F6 keys each place a grid on the screen. F5 places a more closely-spaced grid than does F6. Press F5 (or F6) to place a grid over the drawing area. Press F5 (or F6) again to remove the grid. You can display both grids simultaneously.

When you want to remove the grid from the screen, make sure that your foreground color is the same color that you used when you first invoked the grid. This is very important! Otherwise, you get another grid invoked by the new foreground color. To remedy this situation, press F5 (or F6) again, to release that grid, then

select the original foreground color and press F5 (or F6) to release the original grid.

If you draw over some of the grid points while the grid is on your screen, those points will remain in your drawing when you remove the grid. If you want to remove them, select one of the zoom-in options from the Misc menu and pixel-edit the grid points or use the Color Eraser.



- The F7 and F8 keys limit cursor movement so that you can draw only between invisible grid points, horizontally, vertically, and diagonally. If you also use the F5 or F6 key, the grid points become visible. This constrained movement is called **grid snap**. F7 lays down a smaller invisible grid than does F8. To release either grid snap, press F7 or F8 again.

**Hint:** The F7 and F8 keys are very useful for drawing floor-plans or similar line drawings.

### 6.8a Constraining Cursor Movement

You can constrain your cursor movement so that it is easier to make certain types of drawings or perform certain functions.

1. The F7 and F8 keys limit your movement between grid points. See the previous section for more information.
2. The Shift key constrains cursor movement with most tools. For example, you can draw perfect squares and circles by holding down the Shift key. You can also constrain your cursor movement to a horizontal or vertical direction with the Paintbrush tool, Line tool, Color Eraser, and Eraser (see each tool in Chapter 5). The Shift key can even be used with either of the grid snaps, F7 or F8.

To constrain movement, hold down the Shift key, then move your cursor in either a horizontal or vertical direction. Even the slightest movement locks the cursor into one direction. If your cursor becomes locked into the wrong direction, release the Shift key and start again. Release the Shift key to return to normal cursor movement.

You can also use the Shift key to constrain Shrink + Grow (a Pick menu option) to produce proportional shrinkage/growth of the defined cutout. Just hold down the Shift key while setting the second rubber band box - you will notice that it only changes dimensions in proportion to its original size.

## Chapter 7 Quick Reference

### 7.1 Menus

The menus are found along the top of the PC Paintbrush screen.

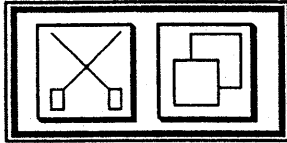
Menus	
Menu	Function
Undo	Erases all changes made since selecting current tool
Page	Lets you load, save, show screen, print, clear, and quit
Edit	Cuts, copies, pastes, and names cutouts
Style	Selects fonts and font characteristics
Size	Sets character type size
Pick	Manipulates cutouts on the screen
Misc	Set joystick speed, zoom in and out, change brush shapes, adjust aspect ratio, edit, save, and load color sets

### 7.2 Double Click Options

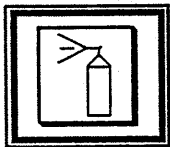
The double click options are shortcuts to some PC Paintbrush features. Press  $\leftarrow$  twice quickly over the tool, color, or pattern.

Double Click Shortcuts	
Object	Result
Pick	Shows entire screen (no cursor).
Color Eraser	Changes all occurrences of foreground color to background color.
Eraser	Displays Clear dialog box.
Paintbrush	Lets you select different brush shapes.
Color Set	Edits selected color/pattern.

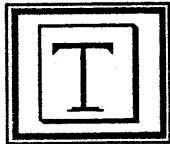
### 7.3 Tools



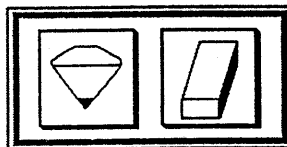
The Scissors and Pick tools are used to define cutouts. Scissors draws a free-hand line around the object to be cut out, Pick surrounds it with a rubber band box. Both tools are used with the Edit menu options.



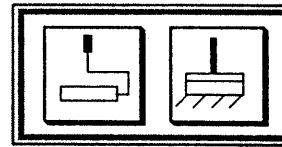
The Airbrush tool sprays random dots on the screen in the foreground color. Drawing width affects the density of the dots.



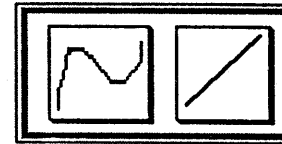
The Text tool lets you add text to your images. The text is drawn in the foreground color, with the current font and font options, and at the current drawing width. The Style and Size menu options are used with the Text tool.



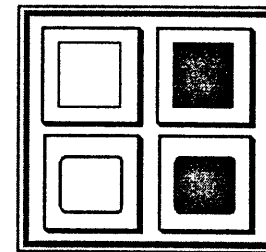
The Color Eraser and Eraser erase portions of a picture when either is rubbed over the picture. The Color Eraser changes the foreground color to the background color, the Eraser changes all colors to the background color.



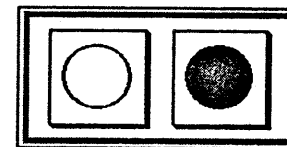
The Paint Roller fills a closed area with the foreground color or pattern. The Paintbrush lets you draw free-hand shapes and lines in the foreground color, at the current drawing width.



The Curve tool draws precise curves, the Line tool draws straight lines. The curves and lines are drawn in the foreground color at the current drawing width.



Draw hollow rectangles in the foreground color with the Hollow Box and Rounded Hollow Box tools. Hold down the Shift key to draw squares. Filled rectangles are drawn in the foreground color, and bordered in the background color. The current drawing width determines the width of the border.



Draw hollow or filled ellipses in the foreground color. Hold down the Shift key to draw circles. Filled circles are bordered in the background color. The current drawing width determines the width of the border.

## 7.4 Local Undo

Local Undo turns your cursor into a selective eraser and lets you undo your latest work. To use the Local Undo feature:

1. Press the Backspace key. Your cursor turns into a square with an "X" inside. The size of this square depends on the current drawing width.
2. Move your cursor over the area you wish to undo and press ←. Rub the Local Undo box on the screen just as you would the Eraser (Section 3.8 - Backspace).
3. When you are finished, release ← and you are returned to drawing with the current tool.

Local Undo only erases what you have drawn since selecting a tool. So, if you used the Hollow Box tool, then the Hollow Circle tool, you would only be able to use Local Undo to erase the work done with the Hollow Circle tool.

**Hint:** Local Undo is very helpful for cleaning up small mistakes. It is particularly handy for cleaning up stray dots made by the Airbrush.

## 7.5 Exiting PC Paintbrush

Select the Quit option from the Page menu, or hold down the Alt key and press the X key.

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## Appendix A File Extensions

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There are four file extensions that should become familiar to you. Most of these extensions are created by default by PC Paintbrush. Which extension a file receives depends on the contents of that file.

1. .PCX. This file extension is used when you save a screen through the Save as... option in the Page menu.
2. .PCC. This extension is created when you Cut or Copy a cutout with the scissors or pick tool and save it to disk.
3. .FON. All PC Paintbrush fonts have an .FON extension.
4. .PAL. When you retrieve a color/pattern set or create a new palette through the Save Pattern option in the Misc menu, the palette is saved with the .PAL extension.

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## Appendix B Saving and Restoring Pictures

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There are two ways to save and restore pictures:

1. *The Scissors and Pick tool and the Edit menu.* First select the **Name is...** option in the **Edit** menu. When the file directory box appears, press ← on the ?? line, type in a valid file name, and press the Enter key. Select **OK** if you are satisfied with the file name or **CANCEL** if you want to retype it. Now define the cutout that you want to save using either tool. Then select either the **Cut** or **Copy** option in the **Edit** menu and your cutout is stored.

To restore the cutout, choose **Paste** from the **Edit** menu. Select the name of the file you wish to restore from **Name is...** in the **Edit** menu. Next select the **Scissors** or **Pick** tool and your picture becomes available to paste. This procedure is discussed in **Section 5.1c**.

2. *The Save as... and Load from... options in the Page menu.* Once you have completed the picture that you want to save, select **Save as...** When the file directory box appears, press ← on the ?? line, type in a valid file name, and press the Enter key. Then select **OK** if the file name is satisfactory, or **CANCEL** if it is not. PC Paintbrush now saves your picture. To restore a picture, select the **Load from...** option and choose the name of the file you wish to restore. You may need to change subdirectories or to use the scroll arrows in the **Load from...** file directory box to get your picture name to appear in the file list.

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## Appendix C PC Paintbrush Fonts

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Fonts are used by the Text tool and modified with the Style and Adjust menu options. Changing the drawing width and the foreground and background colors also changes the appearance of the font characters. The font examples shown in this appendix are drawn using the Plain Style option and the thinnest (topmost) drawing width.

Two types of fonts are provided with PC Paintbrush - bit-mapped fonts and stroke fonts. All fonts have a .FON file extension.

### Bit-mapped Fonts

Bit-mapped font characters are stored internally as a pattern of bits or single "dots". These fonts are best used at small point sizes. At large or expanded sizes bit-mapped fonts often appear to be rough-edged and curved characters often suffer from a case of the "jaggies". The rough-edgedness is due to the fonts' structure. The individual bits in each character are more visible as the point size increases.

The size of bit-mapped fonts can be adjusted by changing their height and/or width factor with the Size menu. The current drawing width has no effect on bit-mapped characters. The Style menu has two options for bit-mapped fonts - Proportional and Opaque.



Bit-mapped Fonts	
AaBbCcDdEeFfGg 012345.....	bit5x7.fnt
AaBbCcDdEeFfGg 012345.....	bit5x8.fnt
AaBbCcDdEeFfGg 012345.....	bit8x8.fnt
AaBbCcDdEeFfGg 012345.....	bit8x14.fn
AaBbCcDdEeFfGg 012345.....	bit8x16.fn
AaBbCcDdEeFfGg 012345.....	bit9x14.fn
AaBbCcDdEeFfGg 012345.....	bit16x16.fi
AaBbCcDdEeFfGg 012345.....	bit16x32.fi
AaBbCcDdEeFfGg 012345.....	bitmicr.fn
AaBbCcDdEeFfGg 012345.....	bitpeig.fn

PC Paintbrush bit-mapped fonts

## Stroke Fonts

Stroke fonts differ from bit-mapped fonts in the way their character data is stored. Stroke font characters are stored internally as a series of lines and curves instead of as individual bits. Since the font characters are made up of geometrically defineable shapes, they can be greatly enlarged (up to about 40 points) and still look smooth.

Each stroke font character is stored as a vector (line). Many stroke fonts have fine character details (such as OEnglish.fnt) and are highly drawing-width sensitive. If the drawing width is too wide, stroke font characters lose their details and look like large blobs.

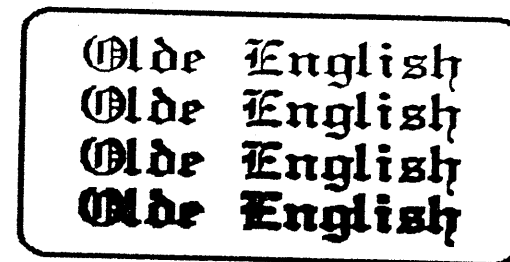
## Changing Font Appearances

Stroke Fonts	
AaBbCcDdEeFfGg 012345.....	computer.fnt
AaBbCcDdEeFfGg 012345.....	OEnglish.fnt
AaBbCcDdEeFfGg 012345.....	euro.fnt
AaBbCcDdEeFfGg 012345.....	Greek.fnt
AaBbCcDdEeFfGg 012345.....	ltRoman.fnt
AaBbCcDdEeFfGg 012345.....	Roman.fnt
AaBbCcDdEeFfGg 012345.....	san serif.fnt
AaBbCcDdEeFfGg 012345.....	script.fnt

PC Paintbrush stroke fonts

All the fonts shown in the two previous pictures were drawn as "normal" as possible. The bit-mapped fonts were all drawn at "normal" resolution (Xx1, Yx1). The stroke fonts were drawn with a point size of 5, using the narrowest (topmost) drawing width.

By changing any of the Style or Size menu options (for stroke fonts only), drawing width, or foreground/background colors, you can alter the appearance of a font's characters. The picture below demonstrates the effect of changing only the drawing width of the characters of the OEnglish stroke font.



The effect of drawing width on a font

The PC Paintbrush program supports a large number of printers and plotters, (see section 2.1 PCINSTAL on how to select which printer device to use) which makes it possible to print the graphic image from the screen.

To print an image from the PC Paintbrush screen to your selected printer, you must use the following procedure:

If you are in the PC Paintbrush program, select Quit from the Page menu.

From the M-3000 MAIN MENU:

Press: the ALT-CTRL-INS keys at the same time, then release.

Press the letter: Q.

When the C> prompt appears,

Type the letters: CD\ and press RETURN.

Type: CD PAINT and press RETURN.

At the C> prompt:

Type: PAINT and press RETURN.

## APPENDIX D

The PC Paintbrush program will load, including the printer driver program called FRIEZE, which enables you to print. To print, refer to Section 4.3. When you are done printing your image(s) and want to return to the M-3000 MAIN MENU to use other programs, do the following:

Press and while holding the ALT key, press the RESET key.

OR... Turn the power switch OFF, wait for the hard disk to stop spinning (about 15 seconds), then turn the power switch ON.

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MINDSET GLYPH  
M-3000 USER'S GUIDE

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## INTRODUCTION

This manual describes how to use your MINDSET GLYPH Program. It explains what you will need to get started, the steps in operating the program, and how it fits with PC PAINTBRUSH II and VIDEO TITLER II.

The main function for GLYPH is to allow VIDEO TITLER II to display PC PAINTBRUSH II pictures. The variety of objects that can be displayed is only limited by your imagination. Some of the picture possibilities are: logos, charts, products, people, and any special symbols.

Using GLYPH is a simple process. The program displays text instructions at each step. The object of GLYPH is to outline one or more sections of a picture and assign them to the keyboard characters which will invoke the pictures in VIDEO TITLER II.

Read the section GETTING STARTED describing how to begin the GLYPH process.

## GETTING STARTED

### SYSTEM REQUIREMENTS

#### MINDSET M-3000 SYSTEM

#### TO START THE SYSTEM

Turn on the system with the power switch located on the front of the system. After a few seconds the MAIN MENU with seven program choices will appear.

If the system is already on, the MAIN MENU is displayed and you proceed from here.

#### TO LOAD THE GLYPH PROGRAM

Press F4 on the keyboard and the program will be loaded.



## OVERVIEW

## PURPOSE

GLYPH is used to define graphic symbols which can be used with the VIDEO TITLER II. With GLYPH, you can create a VIDEO TITLER II font using images or characters drawn with PC PAINTBRUSH II.

## OPERATION

The VIDEO TITLER II uses fonts in the creation of titles and sequences. GLYPH can transform picture files created with PC PAINTBRUSH II into a file which the VIDEO TITLER II can use as a font, thereby allowing the intermixing of graphics and text into the VIDEO TITLER II. We call these custom made font files "glyphs".

There are three major steps required to create glyphs for use with the VIDEO TITLER II:

1. Create an image with PC PAINTBRUSH II
2. Transform the image into a font file using GLYPH
3. Create titles with TITLER II using a font that has been converted by GLYPH

## CREATING THE IMAGE

All images to be used with GLYPH must be created using PC PAINTBRUSH II in the 640 x 400 x 4 color mode. The images should be created in the drawing area bounded by the menus in PC PAINTBRUSH II. If additional space is required, use only the areas directly to the left and right of the drawing area. This is the only area usable in GLYPH.

The palette boxes in PC PAINTBRUSH II can be changed to any color from 512 colors available. The colors that are used to create the image will be used by GLYPH to display the image.

Glyph and font files do not contain any COLOR information. Therefore, it is necessary to adjust the colors in the VIDEO TITLER II after you have loaded your glyph. The actual color that you use in creating your image in PC PAINTBRUSH II does not matter since this color information will not be a part of your font file. The important thing to remember is to use the correct palette LOCATION as described below for the design of your image.

The background in VIDEO TITLER II is always Color 1 which corresponds to the upper left color box of the PC

---

PAINTBRUSH II palette. The PC PAINTBRUSH II background should always be this color. If it is different, clear the picture area to this color.

Color 2 in the VIDEO TITLER II corresponds to the second color box in the lower row of the PC PAINTBRUSH II palette.

Color 3 in the VIDEO TITLER II corresponds to the second color box in the upper row of the PC PAINTBRUSH II palette.

Color 4 in the VIDEO TITLER II corresponds to the lower left color box of the PC PAINTBRUSH II palette. Color 4 is the default character color used by VIDEO TITLER II.

As an example, suppose that you are creating a custom character, and use the lower left box of the PC PAINTBRUSH II palette to create the main part of the character. When you load your glyph into the VIDEO TITLER II and adjust COLOR 4, the color in the main part of your character will be changed. Remember that its the palette LOCATION that is used that is important, not the color, since the color will have to be adjusted in the VIDEO TITLER II anyway.

For convenience sake, the palette color locations chosen for the creation of the

---

image in PC PAINTBRUSH II should match those used by the VIDEO TITLER II.

After you have created an image, save it using the "PAGE" "SAVE AS" function of PC PAINTBRUSH II, using a file name that is 7 characters or less.

#### TRANSFORMING THE IMAGE

All images created with PC PAINTBRUSH II which are to be used with the VIDEO TITLER II must be turned into a font using GLYPH.

Most selections in GLYPH are made using either the Mindset mouse or a graphics tablet. Filenames are entered through the keyboard.

GLYPH leads the user step-by-step through the program with text prompts at the bottom of the screen.

There are 8 basic steps in creating a font using GLYPH:

1. Loading a picture file
2. Choosing create or edit
3. Loading a font file
4. Setting the height
5. Verifying the height
6. Setting the width
7. Identifying the glyphs
8. Saving the glyphs

**LOADING A PICTURE FILE**

At the prompt at the bottom of the screen, type in the name of a picture file to be loaded. The file name can be preceded by A: to load a picture from the floppy disk drive. For example, A:GLIPART would load a file called GLIPART from the floppy disk drive. If you don't type a disk drive designator, GLYPH will look on the hard disk for picture files. When you have entered the name of the picture file to load, press the RETURN key. The file will load and in a few seconds the picture will appear on the screen.

**CHOOSING CREATE OR EDIT**

If you want to use GLYPH to add to or change an existing font, select EDIT. If you want to create a new font, select CREATE. In this case the next step will be skipped.

**LOADING A FONT FILE**

This option is reached if EDIT an existing font is selected. At the prompt at the bottom of the screen, type in the name of a font to be loaded. The height is already set. so you can skip the next two steps.

**SETTING THE HEIGHT**

All glyphs in one font must have the same height in order to be used by the VIDEO TITLER II. This step allows you to set the height of the glyphs to be used. You need to use the tallest image on your picture screen as the height of your glyphs. Move the mouse to align the horizontal line with the bottom of the tallest picture. When the line is placed correctly, press the mouse button and then select OK.

Now, align the second horizontal line at the top of the tallest image. When it is placed correctly, press the mouse button and then select OK.

**VERIFYING THE HEIGHT**

Now, verify that all the images you wish to define fit between the two white lines. Glide the mouse around to move the lines. When you are satisfied that the lines are the right height, select OK.

**SETTING THE WIDTH**

The width of individual glyphs must now be marked and identified by selecting a right and left edge. By moving the mouse, align the bottom horizontal line beneath an image and press the mouse

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button, then select OK.

Now, set the left side of the glyph image by moving the vertical line and pressing the mouse button. When the left edge is where you want it, press OK.

Next, set the right edge of the glyph in the same manner.

#### IDENTIFYING THE GLYPH

When you have outlined the glyph you must choose a keyboard character with which to associate the glyph. It is this key which will be used in VIDEO TITLER II to show this particular glyph.

Move the cursor to a letter or symbol on the left side of the screen and press the mouse button. The letter chosen will change color. If you want to change your mind, select another letter or symbol. If you have defined a space character, select SPACE from the menu on top, instead of a letter.

If the glyph height and width are correct and the keyboard character is the one you want, press OK. The glyph is now sized and identified. This glyph is now a permanent part of the font file and cannot be removed without restarting the program.

---

At this point additional glyphs can be outlined and identified by repeating steps 6 and 7. A maximum of 90 glyphs can be identified in this manner.

#### TO CREATE A "SPACE BAR"

If you are creating a custom font, you also need a "space bar" character. To do that, select (and accept) a row on the picture screen that contains a small blank space. Set the left edge first. While moving the vertical line to set the right edge, watch the "Glyph width" number on the right bottom of the screen. Chose "20" for a medium sized font. Press the left button to set the right edge, then press O.K. When the keyboard characters appear on the left, there will also be the word "SPACE" on top of the screen. Select it, then press O.K. Now your font will contain a space bar character that is 20 pixels wide.

#### SAVING THE GLYPHS

After you have identified all the glyphs that you want to use, you will save them on a disk as a font that the VIDEO TITLER II can use. To do this, select DONE.

A new menu of choices is now shown on the screen. They are QUIT, RESUME, RESTART, and SAVE.

---

At this point, the normal procedure is to SAVE the glyphs to disk. When you select SAVE, you are prompted to enter a file name for the font file you have just created. If you simply press the RETURN key at this point, the font file will be saved with the same name as the PC PAINTBRUSH II picture file that you loaded at the start of the GLYPH program. Doing this will not destroy the picture file. If you want to use another name, type it in with the keyboard.

RESTART starts the GLYPH program over from the beginning, requiring you to load a picture file.

RESUME puts you back to the point you were at when you selected DONE. This allows you to periodically save the work that you have in progress, in other words, backup your glyphs and resume working.

QUIT exits the program.

It is important to remember that RESTART, RESUME, and QUIT do not automatically save the glyphs to disk. This must be done by selecting SAVE.

#### IMPORTANT NOTES

- 
- o Fonts created using GLYPH do not contain any kerning information.
  - o Any key not assigned in GLYPH will display a blank space 8 pixels wide when typed in VIDEO TITLER II.
  - o GLYPH creates images for the VIDEO TITLER II small edit screen by using every fourth pixel of every fourth scan line of the original image. Therefore, VIDEO TITLER II edit screen images may lose detail. The worst case would be a glyph where nothing would show on the small edit screen. However, it would show up on the VIDEO TITLER II display screen.
  - o DO NOT rename GLYPH-created font files using MS-DOS. To be safe, do not rename any files that have a file extension of .FNT or .FON.
  - o Use the VIDEO TITLER II COLOR menu to set the palette the same as the original PC PAINTBRUSH II picture.
  - o VIDEO TITLER II can crawl images up to 55 scan lines high. If your glyph is higher than this, it will be clipped.

- o Glyphs larger than 55 scan lines should only be rolled on the first two pages of a rolled sequence.
- o To use GLYPH-created fonts in the VIDEO TITLER II, treat them as any other font. Use the LOAD FONT function on the VIDEO TITLER II system menu. Each new font loaded must replace one of the existing fonts in VIDEO TITLER II.

Every font has a certain size in the system's memory:

SWISS03	uses	65500 bytes
SWISS02	uses	32700 bytes
SWISS01	uses	20400 bytes
GLYPH1	uses	53200 bytes
GLYPH2	uses	65500 bytes.

Every font created with Glyph has a different size. When you substitute a font in VIDEO TITLER II with a new font from GLYPH, you need to make sure that the new font is not larger than the font you are replacing.

When VIDEO TITLER II is first loaded and LOAD FONT is chosen, the following fonts are shown: SWISS03, SWISS02, SWISS01, GLYPH1, GLYPH2. If, for example, you choose to replace SWISS01 with your GLYPH created font and this new font is

too large, the VIDEO TITLER II will not allow this font to be loaded. A different font must be replaced. GLYPH does not allow you to create a font that does not fit anywhere.

---

**SCREEN PROMPTS**

This section shows the text prompts and messages that are displayed by GLYPH and explains the functions of the three menus. It provides the user an overview of the GLYPH process.

"GLYPH V1.1"

**LOAD A FILE**

Type a PC Paintbrush II picture file name and press RETURN, or press ESC to quit.

File name >

If the filename was entered incorrectly, or that file does not exist on the disk, you will get the following message:

```
** ERROR**  
> CANNOT FIND XXX  
PRESS ANY KEY TO CONTINUE
```

If you entered the name of a picture that was created in the 16-color mode, you get the following message:

```
**ERROR**  
640 X 400 COLOR MOCE PICTURES ONLY !  
Press the space bar to continue.
```

CREATE / EDIT

---

Select CREATE to start a new font file. Select EDIT to modify an existing font file.

**EDIT**

If the EDIT menu is chosen, the following prompt appears:

**LOAD A FONT FILE**

Type the Titler II font file name and press RETURN, or press ESC to quit.  
File name>

**OK MENU**

OK

The current step is complete and correct; proceed to the next step. The keyboard space bar can be used instead of OK.

Cancel

Return to the start of the current series of steps, either set height or outline.

Palette

Switch the display colors between those set by the user in PC PAINTBRUSH II and

---

a fixed high contrast set of colors.

DONE

Switch to the " QUIT " menu.

Either the "OK" menu or the "QUIT" menu appear at the top of the screen at all times.

#### SET HEIGHT

Set height for entire set of glyphs in one font file.

#### SET BOTTOM EDG

Position horizontal line on bottom edge of tallest glyph and press pen. Select OK when correct."

#### SET TOP EDGE

Position horizontal line on top edge of the same glyph and press pen. Select OK when correct.

Glyph Height is

#### CHECK HEIGHT AGAINST OTHER GLYPHS

Select OK if correct, or select CANCEL if incorrect."

Glyph Height is

The height cannot be changed

---

after O.K. has been selected. The constant height for a single font file is a requirement of VIDEO TITLER II.

#### OUTLINE GLYPH

Outline the individual glyphs and assign keyboard names to each.

#### OUTLINE THE CURRENT GLYPH

Position the two horizontal lines around the current glyph and press pen. Select OK when correct.

#### SET LEFT EDGE

Position vertical line over left edge of glyph and press pen. Select OK when correct.

#### SET RIGHT EDGE

Position vertical line over right edge of glyph and press pen. Select OK when correct. Glyph Width is

#### ASSIGN KEYBOARD CHARACTER NAME

Position the cursor over a character in the list at the left and press pen. Select OK when correct. Name is ' '



---

**VERIFY CURRENT GLYPH**

Glyph name is ' '. Glyph width is  
Glyph file size will be . Select  
OK if correct or CANCEL if incorrect.

This series of steps will be repeated  
until "DONE " is selected on the menu.  
If "CANCEL " is selected anywhere  
the series of steps will start over at  
"OUTLINE THE CURRENT GLYPH".

GLYPH will not allow a font file larger  
than 65500 bytes. If adding your current  
glyph would exceed this number you will  
get the following message:

WARNING !! The glyph font file does not  
have enough room for this glyph.  
Select 'DONE' then 'Save' your existing  
glyphs. Press a key to continue.

**QUIT MENU****QUIT**

Exit from GLYPH (does not save a font  
file).

**Resume**

Return to the glyph definition where  
you left off (glyphs already defined are  
preserved, but not saved to disk).

---

**Restart**

Start over with new PC PAINTBRUSH II  
file (does not save a font file).

**Save**

Save the defined glyphs to disk as a  
font file.

**SAVE AND QUIT**

Save to save your glyphs to disk.  
Resume to add more glyphs.  
Restart to start GLYPH over again.  
QUIT to leave GLYPH.

If you select SAVE, you will get the  
following prompt:

Type up to a 7 character file name for  
this glyph font, and then press RETURN.  
Use BACK SPACE to erase. Just press the  
RETURN key if name is correct>

When you press RETURN, you get the  
following message:

**SAVING**

If your data disk is full, you get the  
following message:

\*\* ERROR \*\* THERE IS NOT ENOUGH SPACE

LEFT ON THIS DISK TO SAVE YOUR FILE.  
INSERT A NEW FORMATTED DISK AND SELECT  
SAVE AGAIN. PRESS ANY KEY TO PROCEED.

When you are attempting to save a font  
that already exists on the disk, you get  
the following message:

CAREFUL! The file already exists on  
your disk. Press the Y key if you wish  
to overwrite this file. Press the space  
bar to cancel this save.

If you select QUIT before saving your  
file, you will get the following  
message:

CAREFUL! You have not SAVED your file.  
Press the space bar and then press SAVE  
if you wish to save your file. To exit  
glyph without saving, press the Y key.

## Animation & Effects

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## Introduction

Animation & Effects is a unique, powerful animation tool. Developed to answer the need for smooth, multicel, real-time animation, *Animation & Effects* works in conjunction with the *PC-Paintbrush II*, *Video Titrer II*, *Glyph*, and *Image Capture* packages. You can use it to create many kinds of animation sequences from simple wipes to elaborate special effects.

Not only does *Animation & Effects* give you the ability to create nearly any type of animation sequence, it also offers a wide variety of special effects, easily accessible.

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## HOW TO USE THIS GUIDE

Before you begin to work, please take a moment to skim through this guide to see how it's put together.

The final sections of this "Introduction" cover important technical issues and contain a glossary of terms.

In the reference section, "*Animation & Effects* Menus," you'll find complete details on each menu and function. Use this section to explore the full range of the *Animation & Effects* capabilities. Pay particular attention to the "Hints & Tips" section.

The Appendices will be of interest to the advanced user; however, beginners and advanced users alike will find "Appendix B" particularly useful.

### NOTE:

We highly recommend you go through the tutorial section of the M-3000 manual. It is a guide to the basic functions of *Animation & Effects* and will give you hands-on experience with the many things you can do. The tutorial also teaches you how *Animation & Effects* interacts with the other M-3000 programs.

---

## GLOSSARY OF TERMS

There are certain terms, used throughout this guide, with which you should become familiar:

### Accept

Press the right button on the mouse — the same as pressing the spacebar on the keyboard when using a pen and tablet.

### Animation

A set of animated events.

### Animation sequence file

An ASF is a file that contains any animation created using *Animation & Effects*.

### Cancel

Cancel the operation you're currently doing by pressing the ESC key in the upper left portion of the keyboard.

### Cel

An outlined portion of a picture that can be used in creating an animation.

### Chain

A sequence of cels.

### Cursor

The cross-hair shape that moves around the screen as you move your input device.

### Cursor direction keys

The arrow keys located at the far right of the keyboard. There are four cursor control keys; each one corresponds to a particular direction. Use them when you need precise control of the cursor.

### Event

A moving image, a pause, a color change, and so forth.

### Events list

The "script" containing all the information needed for an animation sequence.

---

**Input device**

A mouse or graphics tablet used to move the pointer around the screen and make selections.

**Instruction box**

Located at the bottom of many screens, this box will give you step-by-step instructions and prompt you if you forget how to do something.

**Load**

Retrieve a file from disk.

**Palette**

A set of 4 to 16 colors with which you can work, selected from a range of 512 colors.

**Parallel animation**

An animation sequence containing multiple simultaneously moving objects. This is achieved by playing two or more events simultaneously. See Appendix B for more information.

**Save**

Store a file on a disk.

**Scroll**

Move a list of directory or file names vertically on the screen.

**Select**

Move the cursor to the area of the screen where you want to make a selection and press down with the pen or press the left button on the mouse. The center of the cursor should be used to point inside the area to be selected.

**Trace**

Press and hold the pen or the left button on the mouse while moving the pen or mouse.

**Work Diskette**

A diskette used to store your Animation sequence files or pictures.

---

**GETTING STARTED**

Just one more note before you begin. *Animation & Effects* is designed to take advantage of the unique features of the Mindset M-3000. You can use a mouse or a pen and tablet along with the keyboard. However, the instructions in this guide are based on a system with a mouse attached to the right side of the keyboard.

The following table shows how the pen and tablet controls correspond to mouse controls:

Term	Mouse	Tablet
Select	left button	Press pen down on tablet
Accept	right button	Press space bar on the keyboard

**TO START THE SYSTEM**

Turn on the system with the power switch located on the front of the system. After a few seconds the MAIN MENU with seven programs choices will appear.

If the system is already on and the MAIN MENU is displayed, proceed from here.

Loading *Animation & Effects*.

Press F2 on the keyboard and the program will be loaded.

You are now ready to begin using *Animation & Effects*.

# Animation & Effects Menus

## INTRODUCTION

This part of your *Animation & Effects User's Guide* covers all seven *Animation & Effects* menus and the procedures for using each one.

You can refer to this section when you have a specific question about a menu, or you can simply browse through it.

In either case, you'll find that this part of the guide covers the details, but not all the possibilities of *Animation & Effects*. Experimenting with various animation menus — and submenus— is the key to discovery. So let your imagination be your guide as you get to know the program.

Two more reminders. *First*, the word "select" means:

- move the cursor to the function you want, then —
- press the left button on the mouse or press the pen down if you're using a tablet.

*Second*, "accept" means:

- press the right button on the mouse or the space bar on the keyboard if you're using a tablet.

## MAIN MENU

The MAIN MENU presents all the functional submenus available for use:

SET COLOR MODE — set the color mode for your animation, either 4 or 16 colors.

EDIT CELS — add, view, rename, or delete cels in the cel list.

EDIT ANIMATION — make, edit, copy, move, or delete an event. Edit the color palette, create or delete a chain, and edit special animation attributes.

PLAY ANIMATION — play an animation repeatedly.

---

**LOAD ANIMATION** — load an animation sequence file from a disk.

**SAVE ANIMATION** — save on a disk an animation sequence file containing your animation and cels.

**QUIT** — exit the program and return to the start-up menu.

To choose one of the submenus or to quit the program, select the desired function.

## SET COLOR MODE

This menu allows you to set the resolution and color mode. Once you've set the resolution, you can go to **MAKE CELS** in the **CREATE CELS** menu to make your cels. The options available in this menu are:

1. HIGH RES — 4 COLORS
2. MED RES — 16 COLORS

The high-resolution mode offers 640 x 400 pixel resolution and 4 colors. Select this mode if you have high-resolution, 4-color images captured with the *Image Capture* package or pictures created in the high-resolution, 4-color mode using *PC Paintbrush II* or *Video Titler II*.

The medium-resolution mode offers 320 x 400 pixel resolution and 16 colors. Select this mode when you want to work with images captured in 16 colors using the *Image Capture* package or pictures created in 16 colors using *PC Paintbrush II*.

It's important to remember that when you select the **SET COLOR MODE** menu, an animation previously being worked with will be erased. *Animation & Effects* will remind you to save an animation if you attempt to enter the **SET COLOR MODE** menu. If you want a second chance to save your animation, press **ESC** on the keyboard and you'll return to the **MAIN MENU**, where you may select **SAVE ANIMATION**.

There's no need to select a new color mode when you load an animation. *Animation & Effects* automatically changes to the color mode in which the animation was created.

---

## SCREEN BORDER ADJUSTMENT

The Mindset screen is surrounded by a small border which cannot contain graphics, but which shows either incoming video or a solid background color. It's possible to adjust the position of the Mindset graphics within the border area. This allows the screen image to be centered in the border area or positioned flush with one or two edges of the border.

This feature is valuable when you're creating an animation in which cels are to move from completely off the left side of the video screen to some point on the screen. With the Mindset graphics screen set to the extreme left, the left border area can effectively be eliminated.

To adjust the screen border:

- From the **MAIN MENU**, select the **SET COLOR MODE** box.
- Press the four arrow keys, at the right side of the keyboard, to adjust the screen position. The border area is the dark blue area surrounding the screen in this menu.
- When the screen is properly positioned, select the **EXIT THIS MENU** box.
- Play your animation as usual.

## EDIT CELS

The **EDIT CELS** menu is used with the **EDIT ANIMATION** menu to create animations. The options are:

1. MAKE CELS
2. VIEW CELS
3. RENAME A CEL
4. DELETE A CEL
5. EXIT THIS MENU

When you're finished editing cels, select **EXIT THIS MENU**. You'll return to the **MAIN MENU**.



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## MAKE CELS

The MAKE CELS option is used to create new or additional cels to be used for animation.

When you first select the MAKE CELS option, *Animation & Effects* will ask you to select the picture file from which you wish to create cels. Follow the directions in the instruction box. *Animation & Effects* will tell you if you attempt to load a picture in the wrong resolution.

You may exit this menu by pressing the **ESC** key on the keyboard.

When the picture you selected to work with is loaded, you may create cels. Start by outlining the cel. If you make a mistake, press the **ESC** key to begin outlining again. When you're finished, give the cel a name. If you don't know how to create a cel, see the tutorial.

The name for your cel may be up to eight characters long. If you make a mistake in spelling, use the **BACKSPACE** key on the keyboard. When you're finished, press the **RETURN** key.

If you don't wish to type a name for your cel, press the **RETURN** key or the left button on the mouse and your cel will automatically be given a name.

You may now create additional cels, or return to the **EDIT CELS** menu. If you wish to create another cel, begin by outlining the new cel. If you're finished creating cels from the current picture, press the **ESC** key and return to the **EDIT CELS** menu.

A few tips on adding cels:

1. You can always use the **HOME** key to invoke the high-contrast color palette. This may make it easier to read the instruction box.
2. At any time, pressing the **ESC** key will take you back to the previous option or menu. (Pressing the **ESC** key three or four times consecutively will generally take you back to the **MAIN MENU**.)
3. Sometimes the image is out of phase. If that happens simply press the **PG UP** key on the keyboard to get the image back in phase.

---

## VIEW CELS

The **VIEW CELS** option allows you to "page" through all the cels you've created for an animation. Use the right button on the mouse to flip to the next page of cels. When you're finished, press the **ESC** key to return to the **EDIT CELS** menu.

## RENAME A CEL

The **RENAME A CEL** option allows you to change the name of any cel.

To rename a cel:

- Select **RENAME A CEL** from the **EDIT CELS** menu.
- Follow the directions in the instruction box:
  - Select which cel you wish to rename.
  - Type a new name for the cel. It may be up to eight characters long. If you make a mistake, use the **BACKSPACE** key on the keyboard.
  - When you're finished press the **RETURN** key.
  - The new name will also appear in the events list.

Use the right button on the mouse to see the next page of cels.

To cancel, press the **ESC** key — you'll return to the **EDIT CELS** menu without renaming a cel.

---

## DELETE A CEL

This option allows you to delete any cel. Use this option when you have created more cels than you need for your animation.

To delete a cel:

- Select **DELETE A CEL** from the EDIT CELS menu.
- Select the cel you wish to delete. (It may take a few seconds to actually delete the cel.)

Use the right button on the mouse to see the next page of cels.

To cancel, press the **ESC** key — you'll return to the EDIT CELS menu without deleting a cel.

## LOAD ANIMATION

You can load — that is, retrieve — any animation that's been saved. Loading an animation, automatically puts the sequence in the EVENTS LIST, erasing whatever was there.

Here's the loading procedure:

1. Select **LOAD ANIMATION** from the MAIN MENU — *Animation & Effects* displays the directory window, the instruction box, and the use drive box. All the files from the hard disk are listed in the directory window.

2. Follow the instructions in the instruction box:

- Select drive A only if you are using a floppy disk.
- Select the animation file in the directory window you wish to work with.

If there's an animation you've already edited in the computer's memory, *Animation & Effects* reminds you that loading the new file will erase any animation currently in memory.

3. If you're sure there's nothing valuable in the EVENTS LIST, press the space bar on the keyboard.

When you have more than 12 files on a work diskette, you can use the up and down arrows to "page" through the file directory. The up and down arrows are located at the very bottom of the directory window. To look up the list of files, select the up arrow — the list of file names moves up one page (12 file names). To look down the list of files, select the down arrow — the list of file names moves down one page.

If you change your mind at any time prior to the loading process, press the **ESC** key —you'll return to the MAIN MENU.

## PLAY ANIMATION

Selecting the **PLAY ANIMATION** box will take you to the PLAY menu. Once an animation has been loaded from disk, this menu will allow you to play the animation.

To play an animation:

- Select **PLAY ANIMATION** in the MAIN MENU. The PLAY menu appears.
- Select **PLAY**. The PLAY menu disappears, and the animation begins to play.
- Press the **ESC** key to interrupt the animation. The animation will play repeatedly until the **ESC** key is pressed.
- To return to the MAIN MENU, select the **EXIT THIS MENU** box.

---

## LINKING ANIMATION FOR EXTENDED PLAY

At the bottom of the PLAY menu are six boxes which can contain a list of animations that can be linked together to play whenever PLAY is selected. To put animations in this list:

- Select the first empty box in the list. The screen shows a list of animations.
- Select an animation from the list.
- The PLAY menu returns to the screen. The name of the animation just selected is added to the list of animations to link.
- You can keep adding files to this list until the slots are filled.
- Select **PLAY**. The first animation in the list begins to play. After the first animation finishes, the second animation in the list is automatically loaded from disk and begins to play. This continues until each animation in the list is played.
- Press the **ESC** key on the keyboard to interrupt the animation. The list of animations will play repeatedly until the **ESC** key is pressed.
- To start a new list of animations, select the **CLEAR LINK LIST** box and repeat the above steps.

---

## EDIT ANIMATION

This is the most powerful of all the *Animation & Effects* menus. It allows you to create sophisticated animations at the touch of a button. The submenus are:

1. MAKE EVENTS
2. EDIT EVENT
3. COPY EVENT
4. MOVE EVENT
5. DELETE EVENT
6. EDIT PALETTE
7. MAKE CHAIN
8. DELETE CHAIN
9. ANIMATION INFO
10. PREVIEW
11. EXIT THIS MENU

When you're finished editing the animation, select **EXIT THIS MENU**. You'll return to the MAIN MENU.

## EDIT ANIMATION MAKE EVENTS

The MAKE EVENTS submenu consists of ten options:

1. WIPE TRANSITION
2. BLOCK TRANSITION
3. CEL PATH
4. SPECIAL EFFECT
5. CHAIN PATH
6. COLOR TRANSITION
7. VIDEO TRANSITION
8. TIMING CONTROL
9. PREVIEW
10. EXIT THIS MENU

Each option can be used to create an animation.

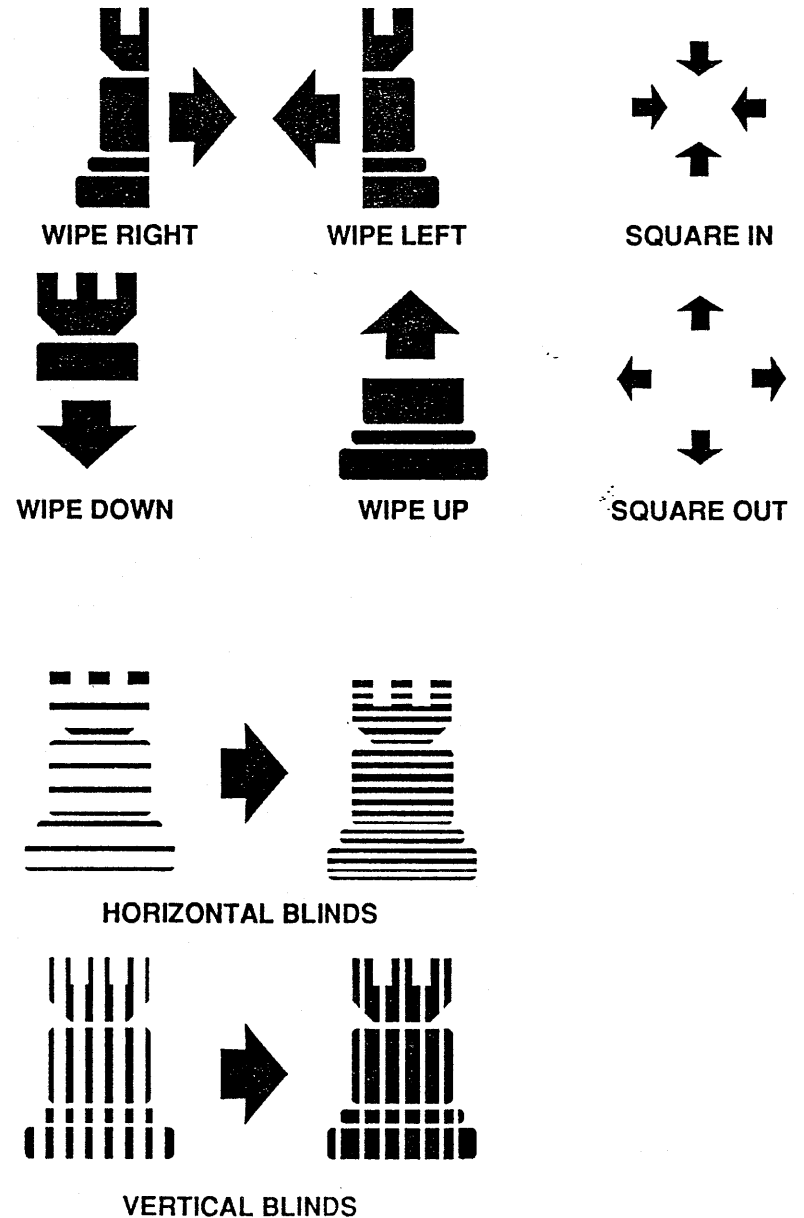
When you're finished adding events, select **EXIT THIS MENU**. You'll return to the EDIT ANIMATION menu.

---

**EDIT ANIMATION**  
**MAKE EVENTS**  
**WIPE TRANSITION**

Here are the general instructions for generating simple wipe transitions:

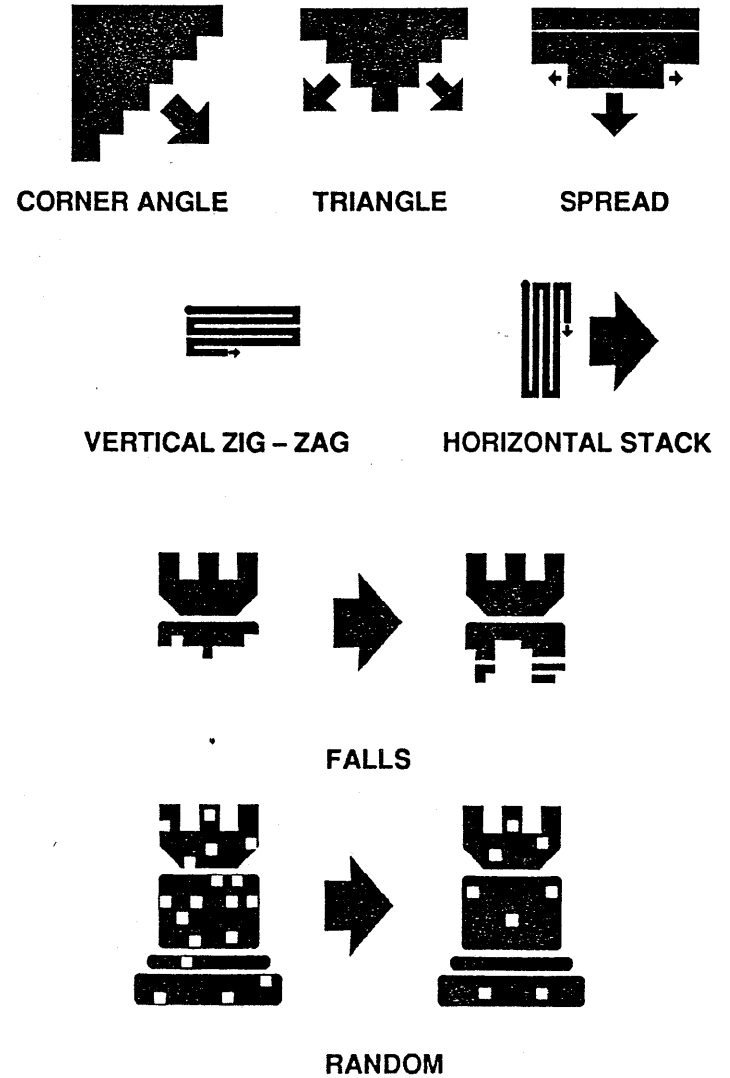
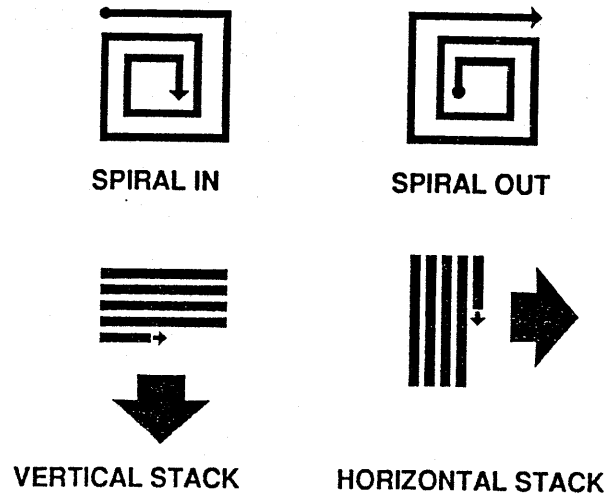
- Select **WIPE TRANSITION** from the **MAKE EVENTS** submenu — a list of various wipe transitions appears.
- Select the type of wipe transition you want to generate — see the following graphic for visual examples of the various wipe transitions available.
- Select the cel you wish to work with — use the right button on the mouse to see the next screen of cels.
- Select where you want the wipe transition to occur. When you're satisfied with this location, accept it.



**EDIT ANIMATION  
MAKE EVENTS  
BLOCK TRANSITION**

The procedure for generating a block transition is exactly the same as for generating a wipe transition.

- Select **BLOCK TRANSITION** from the **MAKE EVENTS** submenu — a list of various block transitions appears.
- Select the type of block transition you want to generate — see the following graphic for visual examples of the various block transitions possible.
- Select the cel you wish to work with — use the right button on the mouse to see the next screen of cels.
- Select where you want the block transition to occur. When you're satisfied with this location, accept it.



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## **EDIT ANIMATION MAKE EVENTS CEL PATH**

The CEL PATH option allows you to set a path for a cel created through the MAKE CELS option in the CREATE CELS menu.

A path created using the CEL PATH option will automatically be inserted into the Events List.

You may preview the movement you've created for your cel by using the PREVIEW selection.

If you're not satisfied with the movement, you may delete it using the DELETE EVENT submenu, or you may change its speed using the EDIT EVENT submenu.

There are three selections available with the CEL PATH option: LINE PATH, TRACE PATH, and POINT PATH.

### **LINE PATH**

This selection allows you to move a cel along a straight line.

You can change the various attributes of this event by using the EDIT EVENT submenu.

To create a line path:

- Select the **LINE PATH** box — the SELECT CEL menu appears.
- Select the cel you wish to work with.
- Select the starting, or first, point of your line — your cel is deposited at this first point for reference. (Remember to press the left mouse button).
- Accept the location of the first point (remember to press the right mouse button).
- Select the ending, or second, point of your line — another cel is deposited at this second point for reference.

- 
- Accept the location of the second point — you automatically return to the MAKE EVENTS submenu.
  - **PREVIEW** your event. You should see the cel move along a straight line between the two points you selected.

To cancel before selecting a cel, press the **ESC** key — you'll return to the MAKE EVENTS submenu without making any changes.

### **LINE PATH SPEED**

A high number results in fast movement, for slow speeds use low numbers.

**NOTE:** Do not use a speed lower than 3.

### **TRACE PATH**

This selection allows you to move a cel along a path which you "trace" out.

You can change the various attributes of this event by using the EDIT EVENT submenu.

To create a traced path:

- Select **CEL PATH** from the MAKE EVENTS menu.
- Select the **TRACE PATH** box — the SELECT CEL MENU appears.
- Select the cel you wish to work with.
- Trace the path you wish your cel to follow by pressing and holding the left button of the mouse while moving the mouse - a temporary path will be drawn for your reference.

Your traced path need not be continuous. If you like, you may break the path into parts. To do so, release the left button on the mouse. You may now move the cursor anywhere on the screen without tracing out a path. Move the cursor to a new

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location and continue to trace out the new segment of the path by pressing and holding the left button on the mouse while moving the mouse.

- Accept the entire traced path when you're finished — you automatically return to the MAKE EVENTS submenu (remember to press the right mouse button to accept).
- **PREVIEW** the event. Your cel should move along the path you traced.

To cancel before selecting a cel, press the **ESC** key — you'll return to the MAKE EVENTS submenu without making any changes.

### TRACE PATH SPEED

The initial play speed (5) is set between medium and fast. A high number results in fast movement, for slow speeds use low numbers.

### POINT PATH

This selection allows you to move a cel along a path that you've created using individual points.

This selection is particularly useful in achieving smooth cel motion around corners and sharp curves. In addition, it can be used to achieve the appearance of acceleration by varying the spacing between the points in the path. You can change the various attributes of this event by using the EDIT EVENT submenu.

To create a point path:

- Select the **CEL PATH** box from the MAKE EVENTS menu.
- Select the **POINT PATH** box — the SELECT CEL menu appears.
- Select the cel you wish to work with.
- Select each location where the cel should appear by clicking the left mouse button. At each press of the left button on the mouse, the cel is deposited as a reference point.

- 
- Accept the path when you're finished — you automatically return to the MAKE EVENTS submenu.

- **PREVIEW** the event.

To cancel before selecting a cel, press the **ESC** key — you'll return to the MAKE EVENTS submenu without making any changes.

### POINT PATH SPEED

The speed is determined by the number of points. A low number results in fast movement, a high number gives slow movement.

### EDIT ANIMATION MAKE EVENTS SPECIAL EFFECT

There are six special effect options available:

1. DRAW CHAIN
2. ZOOM
3. H FLIP ON
4. H FLIP OFF
5. V FLIP ON
6. V FLIP OFF

### DRAW CHAIN

DRAW CHAIN allows you to draw a freehand image on the screen and play back your exact drawing strokes when you play the event.

**IMPORTANT:** To use this event, you must first create a chain of cels in the MAKE CHAIN menu. For starters, you can simply make a chain containing a single cel. This cel will take the place of the cursor and become a "brush" with which you can draw.

- Create a chain of one or more cels in the MAKE CHAIN menu. A cel created with *PC Paintbrush II*, containing a 1/4-inch white filled circle with a black background, will make a nice brush.

- Select **MAKE EVENTS**.
- Select **SPECIAL EFFECT**.
- Select **DRAW CHAIN**. A list of cels contained in chain #1 appears.
- Select the **NEXT CHAIN** box until the desired chain appears.
- Press the space bar to accept the chain as the one to use. The first cel in the chain appears and is controlled by the pen or mouse.
- Trace a path with the cel by pressing down and holding the pen or left mouse button while moving the pen or mouse around. A trail is deposited as you trace. You may stop tracing by releasing pressure on the mouse or pen.
- When you're done drawing, press the space bar.

When the event is played, the image you drew will be recreated as you drew it. Each brush stroke will be replayed.

To trace perfectly straight horizontal and vertical lines:

- If you're using a tablet,
  - Move the pen to the location where the line is to start.
  - Slowly lift up the pen, raising it *straight up* about six inches above the tablet.
  - Lay the pen on the table, away from the tablet.
- If you're using a mouse,
  - Move the mouse to the location where the line is to start.
  - Adjust the position of the cel with the arrow keys, if necessary.
  - Press and hold the **SHIFT** key on the keyboard while simultaneously pressing one of the four arrow keys.

- To make a right angle turn,
  - Release the shift key
  - Press the **SHIFT** key again and hold it down while pressing the arrow key pointing at a right angle to the first direction.
  - Release the **SHIFT** key to stop tracing or to reposition the cel for another trace.
  - Press the space bar to accept your drawing.
- Select **PREVIEW** to see your animation.

### CHAIN SPEED

Adjusting the **CHAIN SPEED** will give a variety of effects if you have two or more different colored cels in your chain. High numbers will lengthen the pen strokes, low numbers will shorten them.

This event is particularly useful in creating flow paths for cycle palette animation. During the actual draw event, no other events can run at the same time. To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

### PLAY SPEED

The **EDIT EVENT** menu allows you to adjust the speed at which the drawing is played back. Adjusting the **PLAY SPEED** to 1 will cause the drawing to be played back accurately but somewhat slowly. Adjusting the **PLAY SPEED** to a higher number will cause the drawing to be played back with the pen strokes more spread out.



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## ZOOM

ZOOM is a special effect that makes a cel appear to shrink, grow, come closer, move away. This effect is generated in real time from a single cel. In ZOOM, a cel may change size from 0.06X magnification to 2.00X magnification, or any range in between.

NOTE: For a ZOOM use cels that are less than one fourth the size of the screen.

To create a ZOOM special effect:

- Select **SPECIAL EFFECT** in the MAKE EVENTS menu.
- Select **ZOOM**.
- Select the cel you want to **ZOOM**.
- Choose the starting size for the ZOOM by moving the mouse to the left or right until the correct size is displayed. Accept the size. The image will return to the original size.
- Choose the ending size for the ZOOM by moving the mouse slowly to the left or right until the correct size is displayed.

(You may move the cel anywhere on the screen to compare it with a previous animation frame by holding down the **SHIFT** key while moving the mouse; however, this technique should not be used with very large cels.)

- Accept the ending size. The **SELECT PATH** menu appears.
- Select **SINGLE LOCATION** for this example. The screen shows the selected cel at 1.000X magnification.
- Select a position where you want the event to occur. In the case of **POINT PATH**, select each position along the path.
- Accept the position by pressing the space bar.
- **PREVIEW** the animation.

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## ZOOM SPEED

For a single-position ZOOM, you can adjust the speed of the ZOOM in the **EDIT EVENT** menu. Setting the **PLAY SPEED** value to 20 will cause 20 zoom stages to be generated between the starting and ending zoom sizes selected. Smaller numbers will yield a rapid zoom, while larger numbers will yield a slower, smoother zoom.

To get optimum frame speed performance while zooming, keep these guidelines in mind:

- Zooming smaller cels gives smoother results.
- When possible, setting **TRANS/SOLID** to **SOLID** in the **EDIT EVENT** menu gives smoother results.
- Zooming in the 16-color mode gives smoother results, but at a lower resolution.

## H FLIP (ON or OFF) / V FLIP (ON or OFF)

These events create a turning effect with a cel. An **H FLIP** will appear to turn on a horizontal axis, while a **V FLIP** will appear to turn on a vertical axis. **H FLIP ON** first displays a thin, on-edge view of the cel, which then stretches in size as it appears to turn to face the viewer, like a card flipping over. **H FLIP OFF** works in the opposite way, with the cel first displayed facing the viewer, and then turning on edge. **V FLIP ON** and **V FLIP OFF** work in a similar way.

These events, in addition to ZOOM, are actually real-time special effects. All the stages or intermediate images in these events are created on the fly from a single cel.

To Create a Flip:

- Select **H FLIP ON**.
- Select a cel to Flip.
- Select the **SINGLE LOCATION** box rather than a **POINT PATH** for this example.

- The mouse controls the cel on screen. Select a location for the flip to occur by pressing the left mouse button.
- Accept the location by pressing the space bar (or the right mouse button).
- **PREVIEW** the animation to see the flip.

## FLIP SPEED FOR A SINGLE POSITION FLIP

The speed of a flip can be increased by adjusting the **PLAY SPEED** in the **EDIT EVENT** menu to a lower number. The **PLAY SPEED** actually sets the number of stages and the number of animating frames that the event will last. A value of 25 will generate 25 different stages in a flip, which will appear to flip faster than a flip with a play speed of 35 with 35 stages.

## FLIP SPEED FOR A POINT PATH FLIP

The speed of a flip with a multi-point path is determined by the number of points specified for the path. A path of only 10 points will create only 10 stages for the flip, which will play for only 10 animation frames. A point path of 30 points will give the flip 30 smoother stages and a slower path velocity.

## EDIT ANIMATION MAKE EVENTS CHAIN PATH

The **CHAIN PATH** option allows you to set a path for a chain of cels created through the **MAKE CHAIN** submenu.

**REMEMBER:** A chain of cels must have already been created through the **MAKE CHAIN** submenu in the **EDIT ANIMATION** menu.

The instructions for this option are similar to those for the **CEL PATH** option.

A path created using the **CHAIN PATH** option will automatically be inserted into the **EVENTS List**.

You may preview the movement you've created for your chain by using the **PREVIEW** selection.

If you're not satisfied with the movement, you may delete it using the **DELETE EVENT** submenu or change it using the **EDIT EVENT** submenu.

There are three selections available in the **CHAIN PATH** option:

1. **LINE PATH**
2. **TRACE PATH**
3. **POINT PATH**

## LINE PATH

This selection allows you to move a chain of cels along a straight line path.

You can change the path speed by using the **EDIT EVENT** submenu.

To create a line path:

- Select **CHAIN PATH** — the **SELECT PATH** menu appears.
- Select **LINE PATH** — one list of chained cels appears.
- Select the chain you wish to work with. Select the **NEXT CHAIN** box to cycle through your list of chains. When the chain you wish to work with appears, accept it.
- Select the starting or first point of your line — your cel is deposited at this first point for reference. (Remember to press the left mouse button to select).
- Accept the location of the first point. (Remember to press the right mouse button to accept).
- Select the ending or second point of your line — another cel is deposited at this second point for reference.
- Accept the location of the second point — you automatically return to the **MAKE EVENTS** submenu.
- **PREVIEW** the event.

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To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

### **CHAIN SPEED**

The chain speed determines how quickly the cels are played. A high number results in slow cel changes, a low number gives fast cel changes.

### **PLAY SPEED**

The play speed determines how quickly the path is completed. A high number will finish the path quickly, a low number will complete the path slowly.

### **TRACE PATH**

This selection allows you to move a chain of cels along a path that you've traced out.

The initial path speed (**CHAIN SPEED** = 3, **PLAY SPEED** = 5) is set between medium and fast. You can change the various attributes of the path by using the **EDIT EVENT** submenu.

To create a traced path for your chain of cels:

- Select **CHAIN PATH** — the **SELECT PATH** menu appears.
- Select **TRACE PATH**.
- Select the chain you wish to work with. Select the **NEXT CHAIN** box to cycle through your list of chains. When the chain you wish to work with appears, accept it.
- Trace the path you wish your chain of cels to follow by pressing and holding the left button of the mouse while moving the mouse — a temporary path will be drawn for your reference.

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Your traced path need not be continuous. If you like, you may break the path into parts. To do so, release the left button on the mouse. Your cursor is now free to move anywhere on the screen without tracing a path. Move it to a new location and continue to trace the new segment of the path by pressing and holding the left button while moving the mouse.

- Accept the entire traced path when you're finished — you automatically return to the **MAKE EVENTS** submenu.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

### **CHAIN SPEED**

The chain speed determines how quickly the cels are played. A high number results in slow cel changes, a low number gives fast cel changes.

### **PLAY SPEED**

The play speed determines how quickly the path is completed. A high number will finish the path quickly, a low number will complete the path slowly.

### **POINT PATH**

This selection allows you to move a chain of cels along a path that you've created using individual points. It's particularly useful for achieving acceleration, and smooth motion around corners.

You can change the independent path speed and the independent cel cycle speed by using the **EDIT EVENT** submenu.

To create a point path for your chain of cels:

- Select **CHAIN PATH** — the **SELECT PATH** menu appears.
- Select the **POINT PATH** box.

- Select the chain you wish to work with. Select the **NEXT CHAIN** box to cycle through your list of chains. When the chain you wish to work with appears, accept it.
- When the first cel of your chain appears on the screen, select each location where the cel should appear by clicking the left mouse button. At each press of the left button, the cel is deposited as a reference point.
- Accept the path when you're finished — you automatically return to the **MAKE EVENTS** submenu.
- **PREVIEW** the event.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

To make a chain play in a single location on the screen:

- Select **LINE PATH**.
- Select the **NEXT CHAIN** box until the chain you wish to use is displayed.
- Press the right mouse button or the space bar to accept this chain.
- The first cel of the chain appears in place of the cursor.
- Position the cel at the desired screen location. Adjust the position of the cel with the arrow keys if necessary.
- Press the **RETURN** key two times *without moving the mouse*.

## **EDIT ANIMATION MAKE EVENTS COLOR TRANSITION**

The **COLOR TRANSITION** option allows you to create animation effects through changes in color. This option may be used in conjunction with the **EDIT PALETTE** submenu to create and store up to 32 color palettes.

Changing even one color in the palette can produce subtle changes, such as a sky that gradually lightens, or dramatic changes, such as a figure that suddenly appears.

There are three different selections available in the **COLOR TRANSITION** option:

1. **CUT TO PALETTE**
2. **FADE TO PALETTE**
3. **CYCLE TO PALETTE**

### **CUT TO PALETTE**

This selection will cause the color palette listed under **DESIRED PALETTE** to appear on the screen.

**CUT TO PALETTE** is initially set to occur immediately before an event. However, you can change when you want a **CUT TO PALETTE** to occur by using the **MOVE EVENT** submenu.

To cut to a palette:

- Select **CUT TO PALETTE**.
- Select the desired palette by selecting the **+** and **-** boxes until the palette you wish to work with appears.
- Accept this palette.

Use the **LAST CEL / NEXT CEL** boxes to browse through your cels.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

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## FADE TO PALETTE

This selection will cause the current color palette to fade toward the DESIRED PALETTE.

To fade to a palette:

- Select **FADE TO PALETTE**.
- Select the desired palette by selecting the + and - boxes until the palette you wish to work with appears.

**NOTE:** You can use the **LAST CEL/NEXT CEL** boxes to browse through your cels and compare colors.

- Accept this palette.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

## FADE SPEED

A low number creates a fast fade, a high number lets the image fade slowly.

## CYCLE PALETTE

This event uses color changes to achieve a color effect called cycle palette animation. For example, the lights surrounding a marquee often appear to "move". This effect is the result of rapidly switching on and then off single lights around the edge of the marquee. Each time a single light is switched off, its neighbor (say, to the right ) is switched on. The light thus appears to move from the left to the right, even though the actual light bulbs do not move. This is in part due to the eye's natural tendency to follow the "movement" of the brightly lit bulbs.

The **CYCLE PALETTE** event allows a series of two or more screen colors to exchange color values at the rate of several times a second.

To create a cycle palette event:

- Select **CYCLE PALETTE** in the **COLOR TRANSITION** menu. The screen displays the colors in palette F1.

- 
- Select the + and - boxes at the top of the screen to view the other 36 available palettes.
  - Press the space bar when the palette you want to cycle appears.
  - Select the area just to the left of each color box containing each color you wish to cycle. See "Selecting Cycle Colors," below, for guidelines. Next to each color you select, a **C** will appear to indicate that it's a color to be cycled. If you change your mind about cycling a color, select the **C** again to turn it off.

Use the **LAST CEL / NEXT CEL** boxes to browse through your cels.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** sub-menu without making any changes.

Select **PREVIEW** to view your **CYCLE PALETTE**.

## SELECTING CYCLE COLORS

As you select your cycle colors, keep the following restrictions in mind.

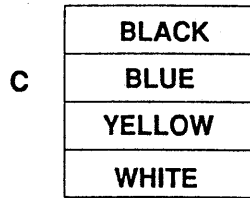
You must select at least two colors to cycle out of the 4 or 16 color boxes at the left of the screen.

The colors you select must be next to each other in the color boxes. For example:

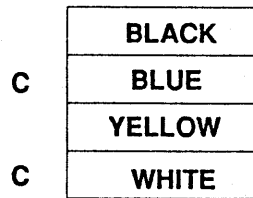
	<b>BLACK</b>
<b>C</b>	<b>BLUE</b>
<b>C</b>	<b>YELLOW</b>
<b>C</b>	<b>WHITE</b>

The colors blue, yellow, and white will be the colors that exchange values, or cycle, when the CYCLE PALETTE event is played. When played, black parts of the screen will remain black at all times, while parts of the screen that were originally blue, yellow, or white will appear to change among white, yellow, and blue at the rate of several times a second. As a result, colored areas will appear to flash.

**INCORRECT EXAMPLES:**



Example A



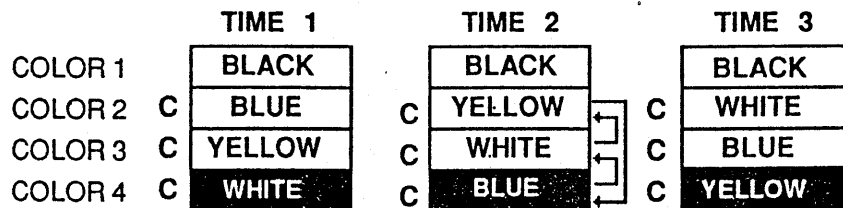
Example B

Example A shown here will not work, because only one color has been selected, so there's no second color with which to exchange values.

Example B will not work because the cycle colors chosen must not be separated by a non-cycle color (yellow, in this case).

**DIRECTION OF CYCLE**

The manner in which the cycle colors exchange values is illustrated below:



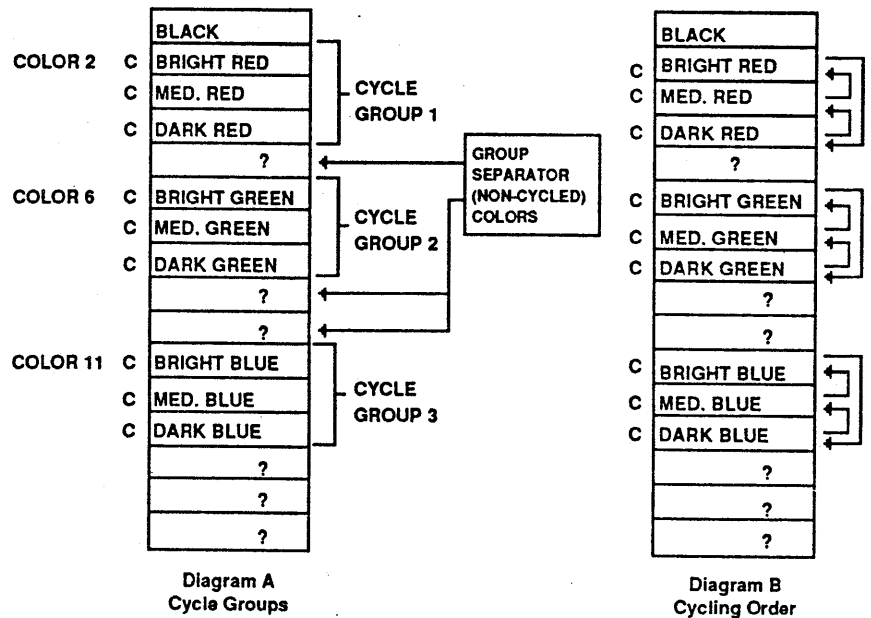
Circle drawn with Color 4.



Cycled colors will change to a higher position in the list when the event is played. If a white circle is on screen before the CYCLE PALETTE event, then the circle will change from white to blue to yellow and then back to white when the event is played. This is because the circle was drawn with color 4 in the list, which changes to blue, then to yellow, and then back to white.

**COLOR GROUPS WITH 16 COLORS**

The best use of cycle palette animation is achieved when your animation is created with the medium resolution 16-color mode. This is simply because there are more screen colors to cycle — as many as 16 altogether. Because of the number of colors, it's possible to create groups of colors that cycle independently. For example —



— as shown in Diagram A, the three shades of red constitute the first cycle group. Cycle groups must be separated by at least one non-cycled color. The three shades of green make up the second group, and three shades of blue make up the third group. When played, the three cycle groups will exchange colors as shown in Diagram B. Thus, a letter R drawn with color 2 (bright red), will cycle only through the shades of red, since only those three shades of red will be exchanged through color 2.

---

Similarly, a **G** drawn with color 6 will cycle only through shades of green, and a **B** drawn with color 11 will cycle only through shades of blue.

## CONTROLLING CYCLE SPEED AND DURATION

The **CYCLE PALETTE** event is pre-set to cycle the colors once every three frames of animation. In the **EDIT EVENTS MENU**, you can increase the speed with which the colors cycle by changing the **PLAY SPEED** value to a smaller number, or you can slow down the cycle by changing the **PLAY SPEED** value to a larger number.

The length of time the **CYCLE EVENT** plays depends on the **REPEAT** count value in the **EDIT EVENTS MENU**. The **REPEAT** value represents the total number of color changes that will take place during the event. If the **REPEAT** value is 128, then the event will end after the 128th color change during the cycle. Changing the **REPEAT** value to a smaller number will shorten the time the cycle plays; a larger number will lengthen its play time.

## EDIT ANIMATION MAKE EVENTS VIDEO TRANSITION

The **VIDEO TRANSITION** option allows you to control a variety of effects that affect the entire screen, from genlock fading to clearing the background with any color.

There are five selections available with the **VIDEO TRANSITION** option:

1. **CLEAR SCREEN**
2. **MINDSET FADE IN**
3. **MINDSET FADE OUT**
4. **CUT TO BLACK**
5. **FADE TO BLACK**

Each selection will be inserted at the end of the Events List.

To exit this option without making any changes, press the **ESC** key on the keyboard and you'll automatically return to the **MAKE EVENTS** submenu.

---

## CLEAR SCREEN

This selection allows you to clear the background with any of the 4 or 16 colors found in the color palette currently on screen.

To clear the screen with a color:

- Select the **CLEAR SCREEN** box — the **DESIRED PALETTE MENU** appears.
- Select the color palette which will be visible during the animation sequence.
  - Select the **+** and **-** signs until the palette you want appears in the **DESIRED PALETTE** box, and accept this palette.
- Select the color with which you wish to clear by placing the cursor just to the left and pressing the left button. The letter **C** appears next to the color you select.
- Accept this color — you automatically return to the **MAKE EVENTS** submenu.

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

## MINDSET FADE IN

This selection allows you to fade in Mindset graphics over an incoming video signal. Initially, the video output from the Video Production Module will contain the incoming video image only. As the event plays, the Mindset graphics will fade in. Only palette colors with **KEY OFF** (see "EDIT PALETTE") will appear to fade in. Palette colors with **KEY ON** will be transparent to the incoming video signal.

To fade in Mindset graphics over video, select **MINDSET FADE IN** and play the animation.

To adjust the speed of the fade:

- Select **EDIT EVENT** in the **EDIT ANIMATION** menu.
- Select **MS FADE IN** in the Events List.

- Select **PLAY SPEED**.
- Type in the number of frames over which the fade will take place.
- Select **DONE**.
- Exit the events list.
- Select **PREVIEW** and repeat the steps above, if necessary.

## MINDSET FADE OUT

This selection allows you to fade out Mindset graphics over an incoming video signal. Initially, the video output from the Video Production Module will contain the incoming video image mixed with Mindset graphics. As the event plays, the Mindset graphics will fade out until only the incoming video image is visible.

To fade out Mindset graphics over video, select **MINDSET FADE OUT** and preview the animation.

To adjust the speed of the fade:

- Select **EDIT EVENT** in the EDIT ANIMATION menu.
- Select **MS FADE OUT** in the Events List.
- Select **PLAY SPEED**.
- Type in the number of frames over which the fade will take place.
- Select **DONE**.
- Exit the Events List.
- Select **PREVIEW** and repeat the steps above, if necessary.

## CUT TO BLACK

This section allows you to cut from MINDSET graphics to a black screen.

To cut to black, select and **CUT TO BLACK**.

## FADE TO BLACK

This selection allows you to fade from Mindset graphics to a black screen. This event fades *only* Mindset graphics, not incoming video.

To fade to black, select **FADE TO BLACK**.

Fade in from black can also be achieved by later making a **FADE TO PALETTE** event, which will fade to a selected palette.

## EDIT ANIMATION MAKE EVENTS TIMING CONTROL

The **TIMING CONTROL** option allows you to set up attributes for the execution of an animation.

A selection made with the **TIMING CONTROL** option will automatically be inserted at the end of the Events List.

You may preview any changes you've made in an animation by using the **PREVIEW** option in the **MAKE EVENTS** submenu.

There are 11 selections available with the **TIMING CONTROL** option:

1. PAUSE 1 SECOND
2. PAUSE 5 SECONDS
3. PAUSE 10 SECONDS
4. FRAME SPEED 30 FPS
5. FRAME SPEED 20 FPS
6. FRAME SPEED 15 FPS
7. FRAME SPEED 10 FPS
8. SYNCHRONIZE EVENT
9. HALT EVENTS
10. KEY WAIT
11. TTL WAIT



---

To cancel, press the **ESC** key — you'll return to the **MAKE EVENTS** submenu without making any changes.

## PAUSE

The three pause selections, when used in various combinations, allow you to create pauses of any length in an animation.

To insert a pause in an animation, select one of the three pause boxes.

## FRAME SPEED

The four frame speed selections allow you to increase or decrease the maximum number of animation frames per second.

This selection is useful for maintaining a constant animation play speed. Normally an animation is played at top speed, or 30 frames per second. When more than one event is active, the animation play speed may slow down. Lowering the frame speed guarantees an even play speed throughout an animation.

To set the frame speed in an animation, select one of the four frame speeds.

## SYNCHRONIZE EVENT

This selection will cause *Animation & Effects* to wait until all parallel events are completed before proceeding to the next event.

To insert a synchronize event command before a group of parallel animation events:

- Select **SYNCHRONIZE EVENT**.
- If necessary, move the **SYNCHRONIZE EVENT** command to the beginning of a sequence of parallel events by using the **MOVE EVENT** menu.

You can change the various attributes of a synchronized event by using the **EDIT EVENT** submenu.

---

**START FRAME** determines when a new group of parallel events begins to play. When the **START FRAME** = 0, all previous events will complete their movement, before the next group begins to play. If, for example, the **START FRAME** = 20 and **PARALLEL** = **ON**, then the first group of parallel events will play and the second group will begin to move after 20 frames.

**REPEAT** has no effect.

## HALT EVENTS

This selection will cause all parallel animation to simultaneously stop. Animation will then resume with the next playable event. For example, **HALT EVENTS** can be used to stop a cycle palette event at a particular stage in the cycle.

An example of the use of the **HALT** event would be:

**CYCLE PALETTE**  
(with **PARALLEL** = **ON**)

**HALT EVENT**  
(with **PARALLEL** = **ON** and **START FRAME** = 20)

This combination allows you to stop the cycle at a point where three colors would be back in their original position.

Insert the **HALT EVENTS** command at the point where you want all events to stop by selecting **HALT EVENTS**.

You can change the various attributes of a **HALT EVENTS** command by using the **EDIT EVENT** submenu.

## KEY WAIT

This selection will cause all animation immediately following in the **Events List** to wait until a key is pressed on the keyboard.

During a "key wait," pressing the **ESC** key on the keyboard will exit the animation sequence and return to the **MAIN MENU** or the **MAKE EVENTS** menu.

---

You can change the various attributes of KEY WAIT by using the EDIT EVENT submenu.

An example for the use of the KEY WAIT would be:

H FLIP ON  
(PARALLEL = ON)

KEY WAIT  
(PARALLEL = ON and START FRAME 8)

This combination will play 7 frames of the FLIP event (computers like to start counting from 0 . Therefore a computer 7 is human 8). The animation will stop until a key is pressed on the keyboard.

To insert a KEY WAIT command, select KEY WAIT.

## TTL WAIT

This selection, similar to KEY WAIT, causes all animation immediately following in the events list to wait until a contact closure is received from an external device. The external device must be connected to either mouse port on the keyboard.

Pressing the left button on the mouse will act as a contact closure and will satisfy a TTL WAIT.

A TTL WAIT may be placed at the very beginning of an animation to assist in video editing. When contact closure occurs, the animation will immediately begin, thus ensuring precise timing.

To insert a TTL WAIT command, select TTL WAIT.

You can change the various attributes of TTL WAIT using the EDIT EVENT submenu.

The example from KEY WAIT can be used by substituting TTL WAIT for KEY WAIT.

---

## EDIT ANIMATION EDIT EVENT

The EDIT EVENT submenu allows you to change the various attributes of an event.

These are the general instructions for editing an event:

- Select the event you wish to edit:
  - Select **UP ARROW** to move up one page (10 places).
  - Select **DOWN ARROW** to move down one page.
  - Press the **ESC** key to cancel this operation.
- Select inside the boxes for the attributes you wish to change.
- Select the **DONE** box to save changes.

You may now select another event to edit, or you can select the **EXIT** box to save all changes and return to the EDIT ANIMATION menu.

Here are some specifics about the attributes page:

**EVENT #:** Tells you what event number you're currently editing in your events list.

**EVENT:** Tells you what type of event you're currently editing.

**CEL:** Tells you the name of the cel the event uses. To replace this cel with another:

- Select the cel name — the SELECT CEL menu appears.
- Select the new cel with which you wish to replace the old cel.

When using a FLIP event, there will be two cel entries: CEL and CEL2. After creating a FLIP event, you can change CEL2 to an inverted version of the original image. Refer to the advanced tutorial for instructions.

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**TRANS/SOLID:** Sets the cel's background as either transparent or opaque. To toggle this setting, select **TRANS** or **SOLID**.

**CHAIN SPEED:** Sets the rate at which cels in a chain are paged. To change this value:

- Select the value box, then —
- Type in a new speed value between 1 and 20. A value of 20 is the slowest speed, a value of 1 the fastest.

Use the **BACKSPACE** key on the keyboard if you make a mistake.

Press the **ESC** key to cancel this operation.

- Press the **RETURN** key to accept the new value you typed in.

**PLAY SPEED:** Sets the rate at which an event is played. To change this value:

- Select the value box, then —
- Type in a new speed value between 1 and 20. A value of 1 is the slowest speed, a value of 20 the fastest.

Use the **BACKSPACE** key on the keyboard if you make a mistake.

Press the **ESC** key to cancel this operation.

- Press the **RETURN** key to accept the new value you typed in.

**LEAVE CEL:** Tells you if the cel will remain on or disappear from the screen after the event is completed. This setting will toggle between **ON** and **OFF**. To toggle this setting, select **ON** or **OFF**.

**PRIORITY:** This value determines which cel will be visible when two or more events overlap. There are 31 levels of priority, with a value of 0 being the lowest priority and a value of 31 being the highest priority. A cel at priority 31 will appear to cover a cel at priority 0. To change this value:

- 
- Select the **PRIORITY** box.
  - Type in a new value from 0 to 31.

Press the **BACKSPACE** key on the keyboard if you make a mistake.

Press the **ESC** key to cancel this operation.

- Press the **RETURN** key to accept the new value you typed in.

**START FRAME:** This value is used when creating parallel animation events. The frame number listed refers to the number of animation frames elapsed since the start of the previous event. A start value of 10 will cause an event to wait 10 animation frames before beginning to play. This is used to stagger parallel events.

To change this value:

- Select the value box, then —
- Type in the new starting frame number. Use the **BACKSPACE** key on the keyboard if you make a mistake.

Press the **ESC** key to cancel this operation.

- Press the **RETURN** key to accept the new value you typed in.

**END FRAME:** This line appears when you edit an event by turning the **PARALLEL** feature **ON**. (In some events you also need to **PREVIEW** the event first.) The frame number listed refers to the animation frame when a parallel event will finish. Use the end frame number to synchronize the ending of parallel events. If all parallel events have an ending frame of 100, then all the events will be automatically started at a time that guarantees that all will finish on animation frame 100.

To change this value:

- Select the value box, then —
- Type in the new starting frame number. Press the **BACKSPACE** key on the keyboard if you make a mistake.

- 
- Press the **ESC** key to cancel this operation.
  - Press the **RETURN** key to accept the new value you typed in.

**REPEAT:** Tells you the number of times the event is to repeat.

To change this value:

- Select the value box, then —
- Type in the number of times you wish the event to repeat. You can repeat up to 255 times.

Press the **BACKSPACE** key on the keyboard if you make a mistake.

Press the **ESC** key to cancel this operation.

- Press the **RETURN** key to accept the new value you typed in.

## **EDIT ANIMATION COPY EVENT**

The **COPY EVENT** submenu allows you to copy any event in the events list.

An event that has been copied will be placed directly below the event from which it was duplicated. You may then use the **MOVE EVENT** submenu to move the new event somewhere else in the events list.

To copy an event:

- Select the event you wish to copy — the newly copied event is placed directly below the event from which it was copied.
- Select the **DOWN ARROW** to move down one page (10 spaces) of events, if required.
- Select the **UP ARROW** to move up one page of events, if required.

- 
- Select **EXIT** when you're finished copying events — you'll automatically return to the **EDIT ANIMATION** menu.

You may copy an event as many times as you like. If you want to copy a different event, simply select it and a duplicate copy will be made.

Press the **ESC** key to return to the **MAKE EVENTS** submenu without making any changes.

## **EDIT ANIMATION MOVE EVENT**

The **MOVE EVENT** submenu allows you to move any event in the events list to a new position.

To move an event:

- Select the event you wish to move — the event is highlighted for your reference.
  - Select the **DOWN ARROW** to move down one page (10 spaces) of events, if required.
  - Select the **UP ARROW** to move up one page of events, if required.
- Select the new position for this event — the event is inserted in this new position.
- Select **EXIT** when you're finished moving events — you'll automatically return to the **EDIT ANIMATION** menu.

If you want to move a different event, simply select it, then select its new position.

Press the **ESC** key to return to the **MAKE EVENTS** submenu without making any changes.

---

## EDIT ANIMATION DELETE EVENT

The DELETE EVENT submenu allows you to delete any event in the events list.

To delete an event:

- Select the event you wish to delete — the event is highlighted for your reference.
  - Select the **DOWN ARROW** to move down one page (10 spaces) of events, if required.
  - Select the **UP ARROW** to move up one page of events, if required.
- Accept this event if you're certain it's the event you wish to delete.
- Select **EXIT** when you're finished deleting events — you'll automatically return to the EDIT ANIMATION menu.

If you want to delete another event, simply select it, then accept it if you're certain you want it deleted.

Press the **ESC** key to return to the MAKE EVENTS submenu without making any changes.

## EDIT ANIMATION EDIT PALETTE

The EDIT PALETTE submenu allows you to change the color values of your stored palettes.

There are 32 color palettes that are saved as part of your animation when you select **SAVE ANIMATION** from the MAIN MENU.

There are three basic steps you must follow in order to edit and store a color palette:

1. Select a color palette to edit.

2. Adjust the palette's color values.
3. Select where you want the new color palette to be stored.

If you press the **ESC** key or the right button at any time prior to completing the last step, you'll automatically return to the EDIT ANIMATION menu without making any changes.

Step 1: Selecting a color palette to edit.

- Select the **+** and **-** boxes until the color palette you wish to work with is listed next to EDIT PALETTE.
- Accept this color palette.

Step 2: Adjust the color palette's values.

For each color in the palette, there are three numbers displayed horizontally beside the color — these numbers indicate the red, green, and blue (R,G, and B) intensities, respectively.

- Select the area directly to the left of any number to decrease its value.
- Select the area directly to the right of any number to increase its value.

To the left of the color bars, you'll see the letters **B** and **K**. The letter **B** is for Border — you may select any one color as the color of the screen border. The letter **K** is for Key. Keyed colors will become invisible and allow an incoming video image to show through when used with the Video Production Module. You may key any number of colors.

- Select the area to the far left of any color to set that color as the border color — the letter **B** will appear for your reference.
- Select the area directly to the left of any color to key it — the letter **K** will appear for your reference. To turn the key off, select it again.

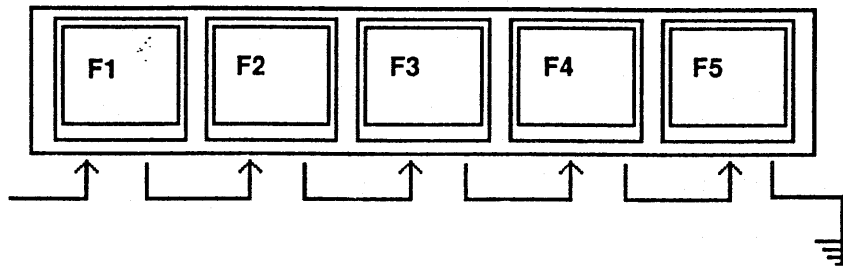
Use the **LAST CEL / NEXT CEL** boxes to view your cels if you want to make sure the color palette matches the colors in the cels you want to use.

Step 3: Select where you want the new color palette to be stored.

- Accept this palette.
- Select the + and - boxes until the color palette you wish to replace is listed next to **REPLACE PALETTE**.
- Accept this color palette.

**REMEMBER:** It's a good idea to store your color palette in one of the 32 color palettes reserved for storage.

Direction of color palettes



**Each new palette takes the F1 position and moves the other palettes one to the right.**

The function keys, F1 — F5, are located at the very top of the keyboard. They allow you to recall the color palettes of the last five picture files loaded to create cels.

The F1 key will recall the color palette of the most recent picture file you loaded, the F2 key will recall the color palette of the second most recent picture file you loaded, and so forth.

When you create a cel, its color palette is stored in the F1 palette position. To use this palette in animation, you should preserve this palette in any of the numbered palettes 1 through 32. This is because the palette in position F1 may be changed the next time you create cels. So to copy the palette in F1 to palette location 8:

- Select **EDIT PALETTE**.
- Accept palette F1 as the one you wish to edit.
- You could edit the palette now, but instead "accept" again to indicate that you're done editing the palette. Thus you've made no changes to the palette.
- Now go to the + box next to **REPLACE PALETTE**, and select the + box until **08** appears in the number box.
- Accept this palette.

Now palette 8 contains the same colors as palette F1. To display these colors in an animation, create a **CUT TO PALETTE** event and select palette number 8. Again, this is necessary because palettes F1 through F5 may change from time to time, while palettes 1 through 32 only change if you edit them, so they're more permanent.

Use the **MOVE** command to place the **CUT TO PALETTE** event in the first position of your animation sequence.

---

## EDIT ANIMATION MAKE CHAIN

The MAKE CHAIN submenu allows you to assemble a chain of cels. A chain of cels is simply a list of cels which are to be displayed in sequence, much like a cartoon flip book. Once a chain has been created, the CHAIN PATH option in the MAKE EVENTS submenu can be used to give the chain a path along which to move.

Each chain created will automatically be given a numerical name such as CHAIN 1.

To create a chain of cels:

- Select each cel you want to be included in the chain by pressing inside the cel— as you select them, the cels are listed by name at the left of the screen.
- Accept the chain when you're finished.

Use the LAST CEL / NEXT CEL boxes to page through your cels.

To cancel, press the ESC key to return to the EDIT ANIMATION MENU without making any changes.

## EDIT ANIMATION DELETE CHAIN

The DELETE CHAIN submenu allows you to delete any chain of cels.

- Select the NEXT CHAIN box until the chain you wish to delete appears.
- Accept this chain if you're certain you want to delete it — you'll automatically return to the EDIT ANIMATION MENU.

Use the NEXT CHAIN box to page through your list of chains.

Press the ESC key to return to the EDIT ANIMATION MENU without making any changes.

---

## EDIT ANIMATION ANIMATION INFO

ANIMATION INFO allows you to print out the events list and other information which you may find useful when creating and editing an animation sequence.

Before you select this option, make sure, a printer is connected to the Mindset, M-3000 Printer Connector and the printer is ready to print.

- Select ANIMATION INFO to activate the printer.

## PREVIEW

PREVIEW will play an animation, beginning with any selectable event in the events list. This is very useful when you're editing events at the end of a long events list. At the starting point of the preview, you can choose any event in the events list.

To Use PREVIEW:

- Go to the EDIT EVENT MENU.
- Select the area to the left of the event slot you wish to be the first event played during a PREVIEW. The Start -- > pointer marks the starting event. This pointer is only visible in the EDIT EVENTS MENU.
- Exit the EDIT EVENTS MENU.
- Select PREVIEW. The animation begins with the event selected. The animation will cease after the last event is played, or when the ESC key is pressed.

The starting event may be changed by repeating the above steps.

The starting event selected for PREVIEW has no effect in the PLAY ANIMATION menu.

---

## SAVE ANIMATION

This menu allows you to save an animation to the hard disk or a floppy disk for permanent storage.

To save an animation:

- Select the **SAVE ANIMATION** box from the **MAIN MENU**.
- Type a name for your animation sequence.

The name may be up to eight characters long. Do not use blanks as part of the name. If you make a mistake, use the **BACKSPACE** key on the keyboard. If you're using a floppy disk, type: **A:**, then the name. When you're finished —

- Press the **RETURN** key.

If you're working on an animation that has already been saved once, the name of the animation will appear at the bottom of the screen.

To save this animation again:

- Press **RETURN**.
- Press the space bar.

This will replace the previous version with the new one.

**WARNING:** When saving to a floppy disk, make sure a data diskette is in the floppy disk drive and the disk lever is down, before attempting to save. Otherwise, you may need to restart the system.

---

## HINTS & TIPS

- The instruction box appears at the bottom of most pages. It's there to provide general instructions and prompts. If you forget how to do something, look for the instruction box. It will generally outline what needs to be done.
- Pressing the space bar is the same as pressing the right button on the mouse. Use the space bar to accept settings when using a pen and tablet.
- Pressing the **RETURN** key selects *and* accepts a cursor location. Use the **RETURN** key when doing very precise work — where pressing the button might jiggle the mouse slightly and move the cursor.
- Use the cursor direction keys — the arrow keys located at the far right of the keyboard — instead of the mouse when you want precise placement of an event. When you're satisfied with its placement, use the **RETURN** key to select *and* accept this position.
- The last picture loaded to create cels or the screen at the *end* of an animation just played will remain on the screen when you go to place a cel for any event. Use that image for orientation or precise placement of an event.
- Use the **DEL** key, located at the far right of the keyboard, to erase the background.
- The **TAB** key, located below the **ESC** key, will toggle a cel's transparency or opaqueness. A cel with a transparent background is easily aligned with an image on the screen.
- Use the **HOME** key to reset the palette to its original color. Sometimes it becomes difficult to read things inside the instruction box. When this happens, press the **HOME** key and the instructions will be more readable.
- The function keys (**F1 - F5**) are located at the very top of the keyboard. They can be used to flip through five different color palettes, which are automatically assigned to a function key upon loading a new picture. For a full explanation of the palette functions, refer to the "EDIT PALETTE" section of this guide.



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- The **PGDN** (Page Down) key, located to the right of the **DEL** key, will reduce a picture to one quarter size when you're creating cels. This reduction in size improves the sharpness of the picture.

- The **PGUP** (Page Up) key gets an image back in phase in the **MAKE CELS** menu.

- Be careful when loading a new animation. When you load an animation, any animation currently being worked on is erased. **Animation & Effects** will tell you when you need to save something; just read what's in the instruction box.

## Internal Operation

*Animation & Effects* allows you to create cels from PC-Paintbrush II picture files. Nearly three screens of cel data, or up to 239 cels, can be created and stored for animation.

Up to 250 separate events can be created per animation, and up to 30 events can be played in parallel at one time. In addition, animation sequence files may be linked together, through the **PLAY ANIMATION** menu, making longer animation possible.

32 user-defined color palettes, with up to 16 colors per palette, are available per animation.

# Advanced Features

## INTRODUCTION

The information in this appendix is primarily for users who are comfortable using *Animation & Effects* and who can create relatively sophisticated animation sequences.

## PARALLEL ANIMATION

**REMEMBER:** Transitions except CUTs cannot run in parallel animation and a special effect cannot be in parallel with another special effect.

## CREATING PARALLEL ANIMATION: Visual Method

- Create the first event of the animation you wish to run in parallel.
- Select **PLAY ANIMATION** and play this first event.
- Press the **PAUSE** key, to the right of the function keys, to pause the animation.
- With each press of the **PAUSE** key, your animation will advance one frame. Continue pressing the **PAUSE** key until you find the exact frame where you wish your new event to begin playing. (The **START** key, to the left of the **PAUSE** key, will resume playing the animation.)
- When paused on the desired frame, press the **INS** key to insert a parallel event to begin at the frame number displayed.

- Use the **START** and **PAUSE** keys to resume playing the animation. When you're paused on a frame where you'd like the image on the screen to be saved for your reference, press the **ESC** key on the keyboard — you'll automatically return to the submenu.
- Make the second event which is to be run in parallel. *Only* this event will be inserted at the designated frame number.

Use the image on the screen for precise placement of this second event.

Up to 30 events may be played in parallel.

- Use the **EDIT EVENT** submenu to change the **PLAY SPEED** and **START FRAME** values.

## **CREATING PARALLEL ANIMATION: Editing Method**

When used in conjunction with **CEL PATH** or **CHAIN PATH**, this method is especially useful for creating parallel animations composed of several events, such as exploding and imploding logos.

This method does not require that you replay the animation for each parallel event you wish to create, as in the visual method outlined above.

To create a parallel animation using this alternative method:

- Insert a **SYNCRONIZE EVENT** command, (found in the **TIMING CONTROL** submenu) as the first event in the series.
- Make the first event you want to run in parallel.
- Make the second event you want to run in parallel (it's not necessary to replay the animation at this point).
- Continue making the events that you want to run in parallel. When you're finished, select **EDIT EVENT**.
- Select the first parallel event you made.

- Select the **PARALLEL** box, so that parallel is **ON**.
- Select **DONE**.
- Continue selecting **PARALLEL ON** for each event you want to run in parallel.
- Play the animation when you're finished creating parallel events.

## **EDITING PARALLEL ANIMATIONS**

Changing play speeds, number of repeats, and the starting frame number can all be done when editing parallel events.

In addition, changing the ending frame number can help synchronize parallel events.

To synchronize the ending time for a series of events, such as several cels coming together in an imploding logo, follow these steps:

- Create the parallel animation.
- Play the animation and note the frame number at which the last cel reaches its ending position.
- Use **EDIT EVENT** to change the ending frame number of each parallel event, using the frame number at which the last cel reached its ending position, as noted in the step above.

## **ACCURATE CEL PLACEMENT**

The proper placement of cels on the screen is necessary to achieve the highest quality animations. *Animation & Effects* was designed to allow visual placement of cels. To take full advantage of this, it's often helpful to preview an animation so that all reference cels will appear on the screen.

Pressing the **PAUSE** key repeatedly during preview will allow you to step through the animation one frame at a time. When the frame appears that provides the best reference point for placing an event, press the **ESC** key.

Next, go to the MAKE EVENT menu and create your next event. Notice that when you're asked to place the cel for the event, the animation frame you previewed is displayed for reference.

It's now a simple matter to place the cel in exact relation to cels in the animation frame. Very precise placement of the cel can be achieved by pressing the arrow keys, found at the right side of the keyboard, to move the cel. To see through a cel, remember to press the TAB key to switch between a solid cel and a transparent cel. This will permit you to align the cel precisely, by comparing details inside the rectangle of the cel.

When using the arrow keys to place a cel, select and accept the position by pressing the RETURN key on the keyboard in order to avoid using the mouse button, which might move the cel accidentally.

## Animation Speeds At A Glance

ANIMATION	LOW #	HIGH#
Wipe Transitions	Fast	Slow
Block Transitions	Fast	Slow
Cel Path		
Line path	Slow	Fast
Trace path	Slow	Fast
Point path	Fast	Slow
Special Effects		
Draw chain		
Chain speed	Short pen	Long
Play speed	Tight	Spread
Zoom	Fast	Slow
Flips (all paths)	Fast	Slow
Chain path (all paths)		
Chain speed	Fast	Slow
Play speed	Slow	Fast
Color Transitions		
Cut to palette	n/a	n/a
Fade to palette	Fast	Slow
Cycle palette	Fast	Slow
Video Transitions		
Clear screen	n/a	n/a
Mindset fade	Fast	Slow
Cut to black	n/a	n/a
Fade to black	Fast	Slow