

**Vectrex**<sup>TM</sup>  
GRAPHIC COMPUTER SYSTEM

**Vectrex**<sup>TM</sup>  
GRAPHIC COMPUTER SYSTEM

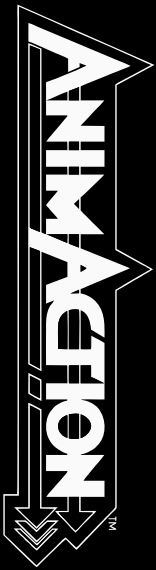
**GCE**<sup>TM</sup>  
A Milton Bradley Company

140016-0204 ART REV A

**LEGITIM**  
**ANIMATION**<sup>TM</sup>

**GCE**<sup>TM</sup>  
A Milton Bradley Company

©General Consumer Electronics, Inc. 1983 Santa Monica, California 90401 All Rights Reserved  
A copyright protection is claimed on the program stored within the cartridge.



## **90 Day Limited Warranty**

---

This Video Game Cartridge is warranted by General Consumer Electronics, Inc. to the original consumer purchaser in the U.S.A. for a period of 90 days from the original purchase date under normal use and service against defective workmanship and materials. ANY IMPLIED WARRANTIES ARE ALSO LIMITED IN DURATION TO THE NINETY (90) DAY PERIOD FROM THE ORIGINAL PURCHASE DATE. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS. SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

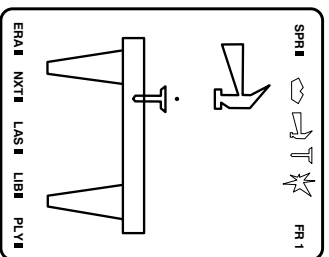
This warranty is void if the GCE Video Game Cartridge has been damaged by accident, unreasonable use, neglect, misuse, abuse, improper service, modification, subject to commercial use or other causes not arising out of defects in workmanship or materials and is limited to electronic and mechanical parts contained in the cartridge. GENERAL CONSUMER ELECTRONICS, INC. SHALL NOT BE LIABLE FOR LOSS OF USE OF THE VIDEO GAME CARTRIDGE OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES OR DAMAGES INCURRED BY THE PURCHASER RESULTING FROM BREACH OF ANY EXPRESS OR IMPLIED WARRANTIES ON THE VIDEO GAME CARTRIDGE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

During the warranty period, if found to be defective due to workmanship or materials, the GCE Video Game Cartridge will at the option of General Consumer Electronics, Inc. be repaired or replaced with a new or reconditioned GCE Video Game Cartridge without charge for parts or labor when returned by Purchaser with proof of purchase date, shipped prepaid to General Consumer Electronics, Inc. at the following address:

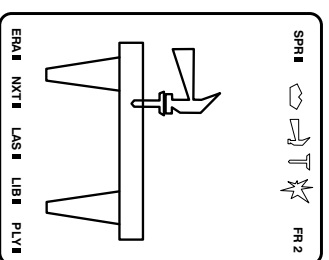
**General Consumer Electronics Inc.**  
233 Wilshire Boulevard  
Santa Monica, California 90401

In the event that your GCE Video Game Cartridge is replaced, the warranty on the replacement will be ninety (90) days from the date of its return to you.

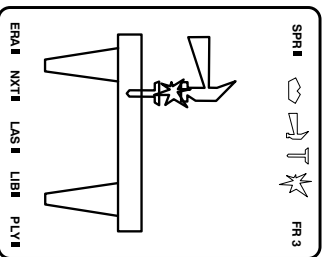
### Example 3



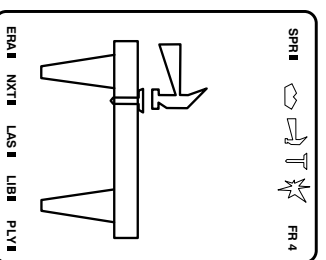
Then make the explosion 'invisible' by using Button 1.



In Frame 2, lower hammer to top of nail.



In Frame 3, bring up the intensity of the explosion by pressing Button 2.

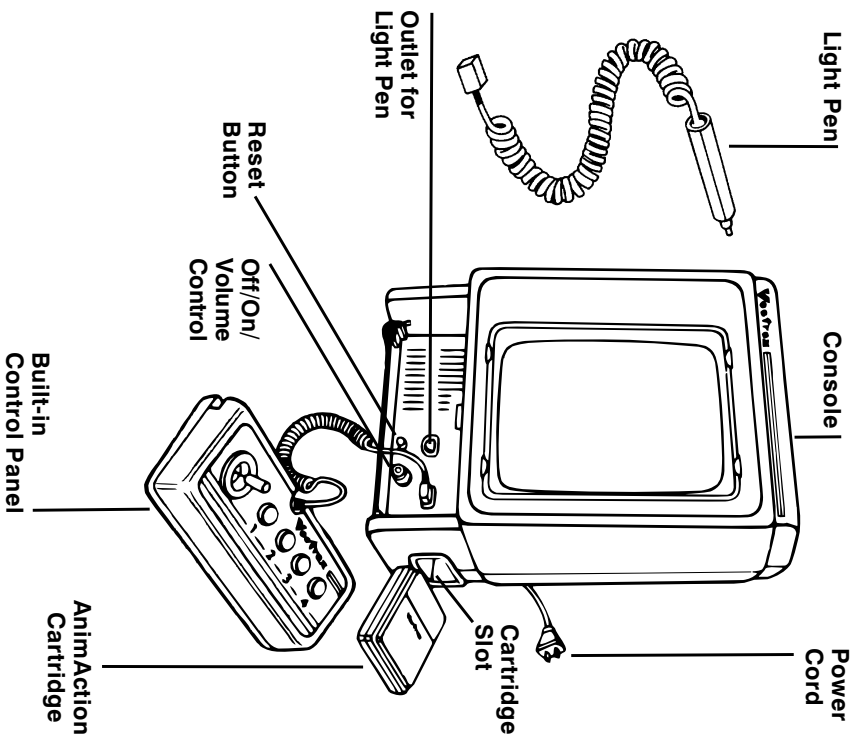


In Frame 4, lower nail into table and move hammer to top of nail. Then make the explosion 'invisible' by using Button 1.

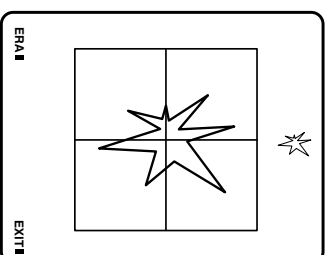
Play sequence by pointing Light Pen at 'PLY'.

**ANIMACTION™ is the first video craft of its kind that enables you to create and animate your own art like never before! ANIMACTION's totally new concept lets you create any scene using pre-drawn figures and shapes... and then combine those with other figures, backgrounds and scenery you draw yourself! Follow the easy-to-read instructions in this manual and animate your basic scene, watching your creations come to life right in front of your eyes! It's easy... fun... and ANIMACTION brings a whole new dimension to your art!**

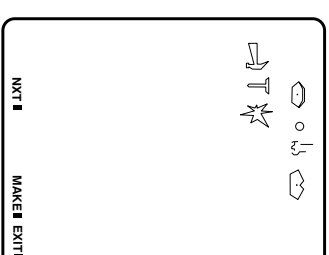
## Setting Up



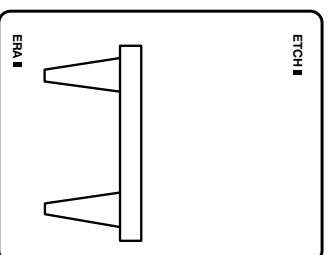
## Example 3



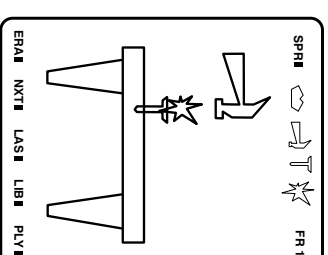
Repeat procedure to draw an explosion and add it to the library.



Select these 3 sprites you've just drawn for the basic scene.

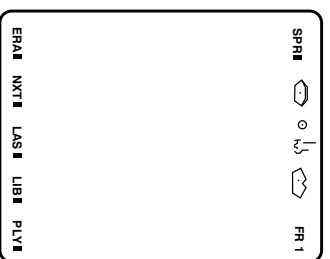


In 'ETCH' mode, create the stationary background (table).

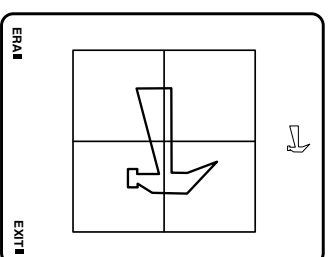


In Frame 1, using your Light Pen, place the hammer, nail and explosion on the table.

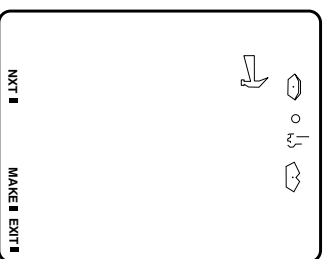
## Example 3



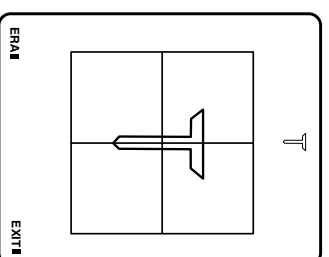
Point Light Pen at 'LIB1' and press Button 3. Then point pen at 'MAKE' and press Button 3.



Use Button 1 and 2 to draw a hammer.



Point Light Pen at 'EXIT' and press Button 3 to add hammer to the blank library page.



Repeat procedure to draw a nail and add it to the library.

## Setting Up

- Make sure the console power cord is plugged into a 120 volt AC 60 cycle electrical outlet.
- Check to be sure the plug for the built-in control panel is firmly seated in the control panel outlet on the right.
- Plug the Vectrex Light Pen into the outlet marked '2nd Player' (to the left of where the control panel is plugged in).
- MAKE SURE THE CONSOLE IS TURNED OFF BEFORE INSERTING THE CARTRIDGE. Insert the ANIMATION cartridge into the cartridge slot with the label side up. Be sure it is firmly inserted to the guideline marked on the cartridge.
- Turn the OFF/ON/VOLUME CONTROL to the ON position (clockwise). You will see the Vectrex title for a few seconds, then the ANIMATION title, followed by the Menu.
- Adjust the volume control to the desired listening level.
- IMPORTANT: Adjust the BRIGHTNESS CONTROL (on back of console) so that the white dot in the center of the screen just barely disappears. If the brightness is too dim, the Light Pen will not provide maximum performance.

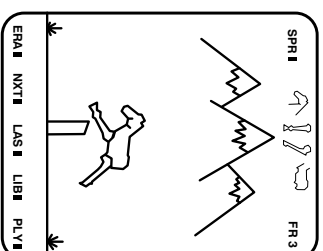
## BEFORE YOU BEGIN...

AnimAction's features make it one of the most amazing video crafts available today so before we go into all the details, here's a simple summary of the basic steps involved in creating and animating art with AnimAction:

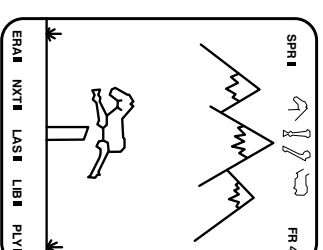
- Review the pre-drawn figures and shapes (called 'sprites') in the AnimAction library and decide which ones you want to use in your basic scene. If you like, you can make your own figures and shapes and add them to the AnimAction library!
- Select any of the sprites (both pre-drawn and your own) from the library and put them into your basic scene.
- Adjust the sprites in your basic scene ... You can make them larger or smaller ... turn them around ... flip them inside out... or make them brighter or dimmer.
- Add other details to your basic scene (called 'etching')—backgrounds like mountains, a horizon, trees, houses, pastures, the ocean—anything that you want to remain stationary while your sprites are animating.
- Once your basic scene is composed in Frame 1, proceed on to other frames where you can make changes to the sprites ... move them around to different areas, enlarge or reduce them, turn them around! You can do something different in each frame!
- After you've animated all the frames you wish, you can 'play' them back... watch them animate... forward, backward and at different speeds!

Now let's take these basic steps and explain them in more detail ...

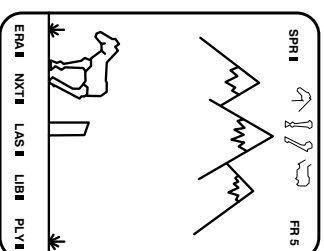
## Example 2



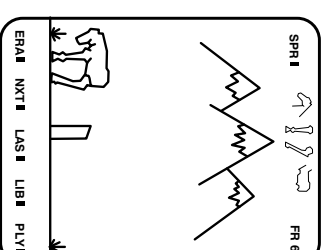
*Raise the horse's head and body, and place his legs in jumping position.*



*Position his legs so that they are fully extended over the hurdle.*

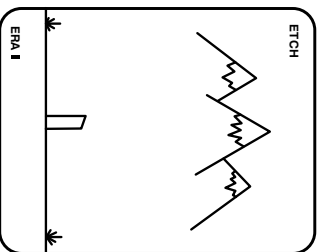


*Lower his head and body and place his legs on the ground.*

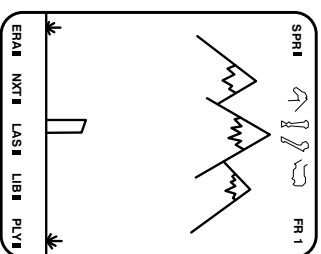


*Lower the horse's head to graze.*

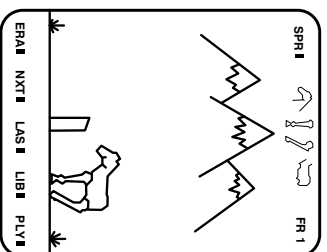
## Example 2



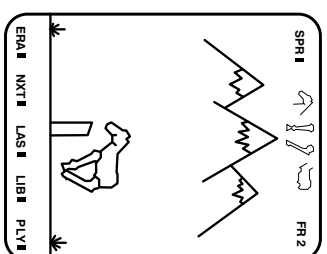
Go to 'ETCH' mode and draw your own design.



Go to 'SPRITE' mode and select these sprites from the third library page.



Assemble all the pieces, making whatever adjustment necessary in Frame 1.



In Frame 2, bring the horse's body and head forward and place legs in running position.

## CREATING THE BASIC SCENE

Put your Light Pen in hand ... and get ready for the most mind-boggling art experience of your life! First you must create a basic scene — and the possibilities are endless. Compose a country setting with trees, birds, wild horses, the sun and a mountain backdrop. Create your own faraway galaxy with stars, planets, comets, meteors, spaceships! Draw your own racecourse with hot Formula 1 cars, a pace clock, even the cheering crowd! After you've created your basic scene, you can then animate and watch your creation come to life!

### Reviewing the Pre-Drawn Sprites

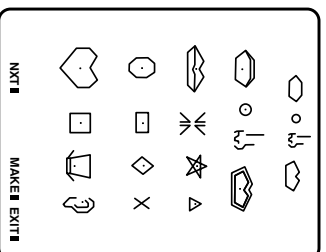
AnimAction has been pre-programmed with 48 sprites—pre-drawn shapes and figures—which you can use in your basic scene. It's a good idea to take a look at all of these sprites in the 3 Sprite Libraries before you start creating your scene so you can decide which ones you'll want to use.

After the AnimAction title, you'll see this on the screen:

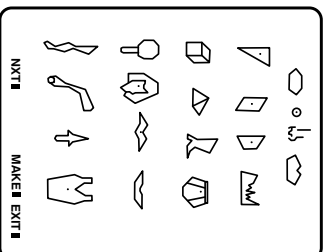


This is Frame 1 of your composition. It is where you'll create your basic scene before moving on to Frames 2, 3 and beyond to animate your scene.

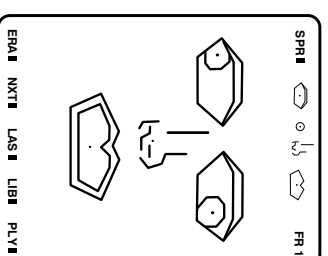
To review the first page of the sprite library, aim the Light Pen at the word, 'LIB'. When the other words at the bottom of the screen disappear, press Button 3 on the control panel. You will see:



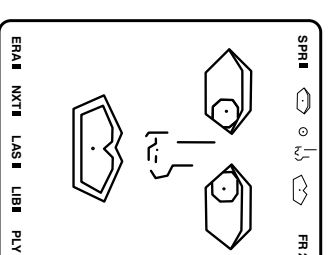
Take a look at these sprites and make a mental note of those you think you might want to use in your basic design. Then aim the Light Pen at the word, 'NXT' and press Button 3 to see the next page of sprites.



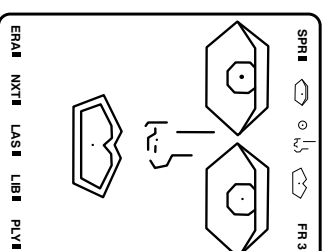
## Example 1



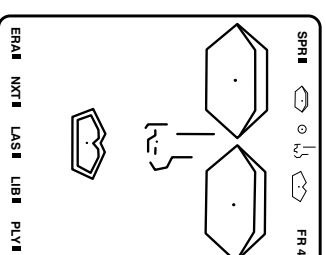
Create this basic scene using the first set of sprites on the screen.



In Frame 2, move the eyes around.



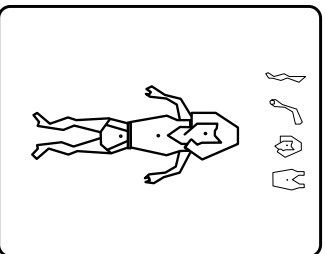
In Frame 3, make more adjustments.



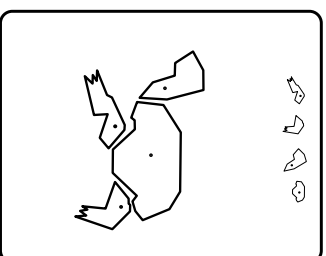
Fine-tune your animation before you go into the 'play' mode.



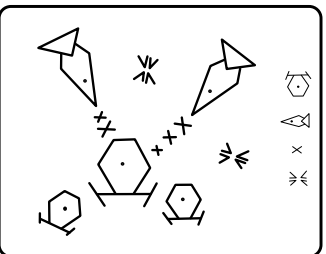
## There's No Limit To What Animation™ Can Do!



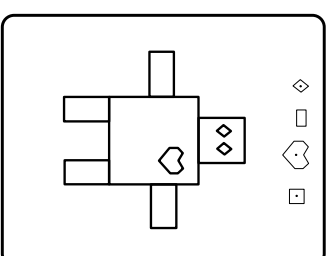
Make her run, walk, send her out on a shopping spree! Draw your own background and send her camping, sailing, climbing, dancing!



Speed him up, slow him down, send him through tunnels, across bridges, into a dangerous jungle!

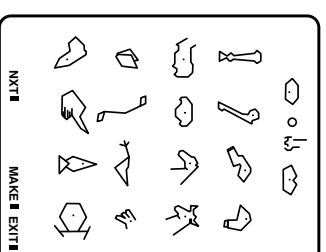


Create your own star wars! The enemy fleet attacks! Dive bombs! Soar through the galaxy! Fire your secret weapons!



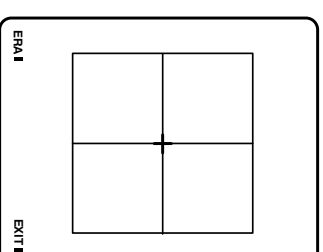
He's your own personal robot—with special powers! Make him spin his arms, his eyes grow brighter, then make him disappear! Send him flying through space... you're in control of all his actions.

Again, pick out the sprites you might want to use. Then aim the Light Pen at 'NXT' and press Button 3 to see this last page of pre-drawn sprites:



### Making Your Own Sprites

If you wish, you can now draw your own sprites and add them to the library. Point the Light Pen at the word, 'MAKE' and press Button 3. You will see this:



This is your 'sketch pad'. The lines you see are simply guidelines to help you sketch your own sprites. Remember that your sprite must be drawn within the *outer* box. These guidelines will not show up in your finished sprite.

## DRAWING THE SPRITE

To draw your sprite, aim the Light Pen at your desired starting point and press Button 1 to get a dot and '+' to appear. To create a line *starting* at this dot, aim the Light Pen at another point where you want the line to *end* and press Button 2. In creating your sprite, use Buttons 1 and 2 to define starting points and draw lines. To close a figure, aim the Light Pen at a previously defined point. When it is detected, a square will appear around the point. Then press Button 2. You can also move the '+' sign by aiming the Light Pen at your desired new starting point and pressing Button 1. (Note: Your sprite can contain up to 29 lines.)

If you press Button 2 a second time, your scene will then animate in a forward direction only—*without* a smooth loop from the last frame back to the first. For example, in a seven frame animation, it would 'play' as follows:

Frame:	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7

etc.

If you press Button 2 a third time, you will return to the original forward and reverse animation sequence.

You can also control the speed of the animation while it's in motion in any of the 'play' options. While the animation is 'playing', you can *speed it up* by pressing *Button 4* one or more times... or *slow it down* by pressing *Button 3* one or more times.

You can always *stop* the animation at any time by pressing *Button 1* which will return you to the last frame you were in before 'play'.

## Editing Your Animation

You can go back to any frame and make adjustments to your sprites. You can also go to additional frames (if they are available) and continue your animation. First press Button 1 to stop the 'play' mode. Go backward or forward to any frame to re-edit that frame by aiming the Light Pen at 'LAS' or 'NXT' and pressing Button 3 one or more times. To *erase all frames*, simply aim the Light Pen at the word, 'ERA' and press Button 3. You can then start over again and create a whole new scene.

After making all adjustments in Frame 2, you can advance to Frame 3 and beyond by using the same procedure. The total number of frames available for animation depends on the number of sprites you used in your basic scene:

<b>Number of Sprites in Scene</b>	<b>Number of Frames Available for Animation</b>
3 sprites or less	28 frames
4-16 sprites	14 frames
17-32 sprites	7 frames

You don't need to use all of the frames available for your animation...you can animate as few as two frames.

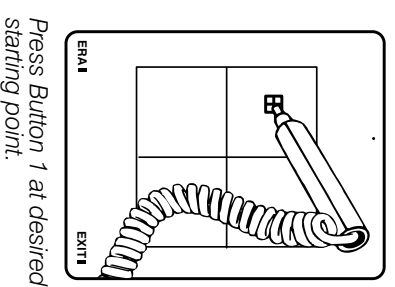
### 'Playing' Your Animation

To watch your creation come to life, aim the Light Pen at the word, 'PLY' at the bottom of the screen and press Button 3. This animation shows your scene in a continuous forward and reverse motion. You'll see your scene beginning in Frame 1, progressing frame by frame through the last frame you completed. It then progresses frame by frame in reverse back to Frame 1. This animation will continue until you press Button 1 to stop it. For example, if you completed seven frames, it would 'play' this way:

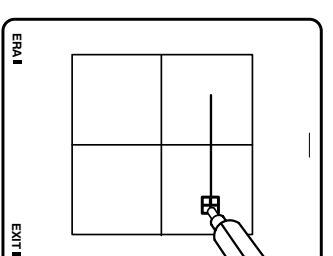
Frame: 1234567654321234567 etc.

There are two other play options for your animation. If you press Button 2 once while your scene is animating, it will move in a forward direction only, smoothly looping from the last frame back to the first frame. For example, in a seven-frame animation, it would 'play' like this:

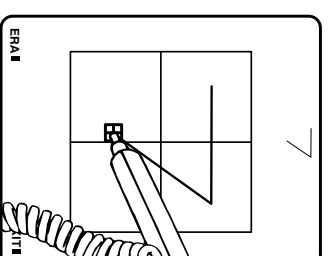
Frame: 123456712345671234567 etc.



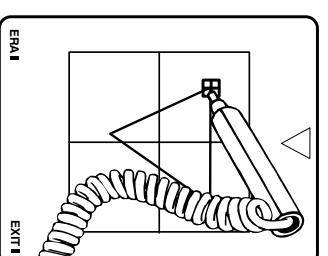
Press Button 1 at desired starting point.



Press Button 2 to draw line starting at first point.



Press Button 2 again to continue the drawing.

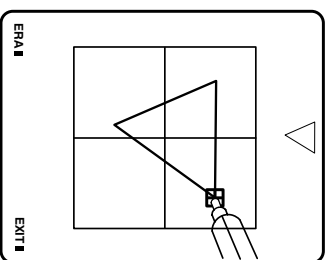


To close figure, aim Light Pen at existing point and press Button 2.

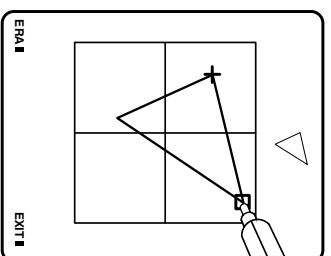
## MAKING ADJUSTMENTS

Before adding your sprite to the library, you can make any adjustments you feel necessary. Just aim the Light Pen at any point on your sprite. When the point is detected, a square will appear around the point. Press Button 3 and hold it while you move the point with the Light Pen. This will also move the line or lines connected to that point (like a 'rubber band' effect). Release Button 3 when that point is in the desired location. Continue to adjust your figure until it is completed and looks just the way you want it to look!

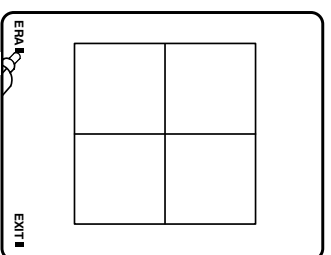
You can remove lines from your sprite... one at a time... in the reverse order than you drew them. Each time you press Button 4, a line will be erased. (Note: you don't need to aim the Light Pen at the line being erased.) You can also erase the entire sprite by aiming the Light Pen at the word, 'ERA' and pressing Button 3.



Aim the Light Pen at any point.



Press Button 3 and move point with the Light Pen.



To erase everything, aim the Light Pen at 'ERA' and press Button 3.

## ADDING YOUR SPRITE TO THE LIBRARY

When your sprite is complete, add it to the blank library page by aiming the Light Pen at the word, 'EXIT' and pressing Button 3.

the screen... watch your line stretch and pull to all directions, just like a rubber band! Release Button 2 when your straight line is at the desired location and the desired length. (Note: you can etch up to approximately 40 straight lines.)

■ *Erasing:* You can erase your entire etching or just one line at a time. To erase the entire etching, aim the Light Pen at the word, 'ERA' and press Button 3. To erase one line at a time—in the reverse order that you drew them—press Button 4 once for each line you wish to erase. (Note: you don't need to aim the Light Pen at the line being erased.)

When you have finished etching, you must go back to the 'sprite' mode before you start to animate. Aim the Light Pen at the word 'ETCH' at the top left side of the screen and press Button 3. When you release the button and move the Light Pen away from the screen, you will be back in the 'sprite' mode and ready to animate!

## ANIMATING YOUR SCENE

When your basic scene is completed in Frame 1 of the 'sprite' mode, you can start to animate it!

### Advancing to New Frames & Adjusting Sprites

To advance to Frame 2 and begin animating your scene, aim the Light Pen at the word, 'NEXT' at the bottom of the screen and press Button 3.

Once you're in Frame 2, you can adjust your sprites in any way using the same methods described earlier in 'Adjusting The Sprites'. If you wish to see a 'shadow' of the previous frame's figures, press Button 4 twice. (Pressing Button 4 once will remove the words from the bottom of the screen which will also reduce any 'flicker' in your drawing.) Pressing Button 4 a third time will remove the previous frame's 'shadow' and will cause the words at the bottom to reappear.

## Selecting and Using Additional Sprites For The Basic Scene

After using the first four sprites you selected, you can go back to the library and select more sprites... up to four at a time. Simply follow the same procedure described above. (Note: you can use up to 32 sprites in the basic scene.)

### Adding Other Details To The Basic Scene

When you've finished selecting and placing sprites into your basic scene, you can add other details. This process is called 'etching'. For example, you can draw a mountain backdrop, a horizon line, trees, houses—anything that you want to remain stationary while your sprites are animating.

To enter the 'ETCH' mode, aim the Light Pen at the word, 'SPR' at the top left side of the main compose screen. Then press Button 3. When you release the button and move the Light Pen away from the screen, you will be in the 'ETCH' mode and you will see the cursor ('+') in the center of the screen.

- **'Free Hand' Etching:** To start etching, aim the Light Pen at the '+' and use the Light Pen to move the '+' to your desired starting position. To draw free hand lines, press and hold Button 1 on the control panel while you move the '+' around the screen with the Light Pen. The slower you draw, the easier it will be to create curved lines. To draw another figure or part of the background on the screen, release Button 1 and move the '+' with your Light Pen to another starting position. Then press and hold Button 1 again as you draw more lines. (Note: you can etch up to approximately 80 free hand lines.)
- **'Straight line' Etching:** To draw straight lines in the 'ETCH' mode, move the '+' with the Light Pen anywhere on the screen. This will be your starting point. Then press and hold Button 2 and move the Light Pen around

## CREATING EVEN MORE SPRITES!

You can create up to 20 of your own sprites and enter them on your library page. Just aim the Light Pen at the word, 'MAKE' to get back to the 'sketch pad' mode and then follow the same procedure for each sprite you want to make.

### DELETING SPRITES FROM YOUR LIBRARY

Should you want to delete one or more of your sprites from the library, simply go to the library page and aim the Light Pen at the sprite you want to delete. Then press and hold Button 3 and press Button 4.

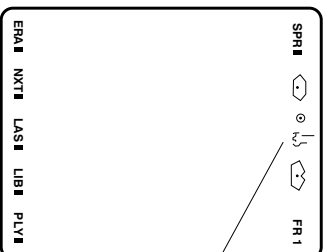
### Selecting The First Four Sprites For The Basic Scene

You can select four sprites at a time from the entire library of sprites and use them in your basic scene.

To select a sprite, first go to the library page on which the sprite is located. Aim the Light Pen at the word, 'LIB' or 'NXT' and press Button 3 one or more times until you find the right page. To select a sprite, aim the Light Pen at the sprite. When it gets brighter, press Button 3. You'll see the sprite you selected appear at the top of the screen. Continue to select up to three more sprites in this same manner.

### Placing The First Four Sprites In The Basic Scene

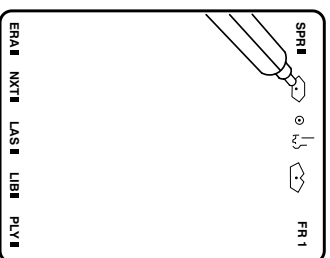
After selecting the first four sprites, you can use them in composing your basic scene. Point the Light Pen at the word 'EXIT' on any library page and press Button 3. This will take you to the main compose screen—Frame 1—which looks like this:



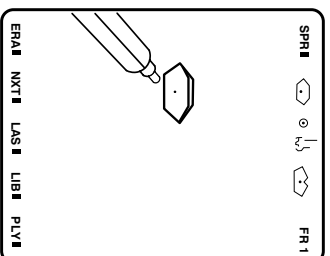
These are your four selected sprites.

To enter a sprite into the basic scene, aim the Light Pen at that sprite at the top of the screen. (Note: be sure to always aim the Light Pen at the dot in the center of the sprite.) When the sprite gets brighter, press and hold Button 3 and use the Light Pen to move the sprite down into the main part of the screen. Then release Button 3. Don't worry about the exact positioning of the sprite right now. You'll be able to move it around, make it bigger or smaller later.

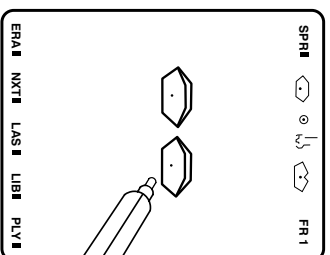
You can use each sprite as many times as you wish in your basic scene. Just go back up to the sprite Menu at the top of the screen and move it down again into your basic scene.



Aim the Light Pen at the sprite.



Press & hold Button 3 and move the sprite down with the Light Pen.



Use any sprite as many times as you wish.

## Adjusting The Sprites

You can make many adjustments to any or all of your sprites now. Move them anywhere on the screen! Make them larger or smaller, brighter or dimmer, rotate them... even flip them inside-out! Here's how:

- **To Move a Sprite Around the Screen:** Aim the Light Pen at the bright dot in the center of the sprite. Press and hold Button 3 and move the sprite with the Light Pen anywhere you want on the screen.
- **To Make a Sprite Larger or Smaller:** Aim the Light Pen at the dot in the sprite and push the joystick *forward* to make the sprite *larger* or *backward* to make it *smaller*.
- **To Make a Sprite Brighter or Dimmer:** Aim the Light Pen at the dot in the sprite. Press and hold Button 1 to make the sprite *dimmer*. Or press and hold Button 2 to make the sprite *brighter*.
- **To Rotate a Sprite:** Aim the Light Pen at the dot in the sprite and push the joystick to the *right* for *clockwise* rotation or to the *left* for *counter clockwise* rotation.
- **To Flip a Sprite in Three Directions:** Aim the Light Pen at the dot in the sprite and press and *hold down* Button 3. Then press Button 2 one or more times. Each time you press Button 2, you will get one of three different mirror images of the sprite.
- **To Erase a Sprite:** If you decide that you don't want to use a sprite in your scene, simply aim the Light Pen at the sprite. Press and hold Button 3 and then press Button 4 and the sprite will vanish from your scene. Although you have erased this sprite at this time, it is available for use again later if you wish.