

PartyBlaster! Manual

Version 1.6

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INTRODUCTION

What is PartyBlaster!?

Congratulations on your selection of PartyBlaster!™ Laser Graphics Software.

PartyBlaster! is a powerful package. If you're a novice and unfamiliar with graphics and multi-media packages, you will quickly learn how to create a graphic image and display it. For a skilled producer, PartyBlaster! is both powerful and flexible. PartyBlaster! has comprehensive capabilities so you can incorporate Images in Scenes and then integrate the Scenes into a fully choreographed Show.

You can easily create three-dimensional images, beams, fans, text and more in Laser light with blanking! Display and interact with your creations in real time, or save them to disk for replay at a later date. A full range of special effects gives added impact.

How PartyBlaster! works

Laser shows are constructed much like a movie. First, the individual *Images* are created. Second, these *Images* are choreographed and grouped into *Scenes*. Finally, the *Scenes* are grouped into a complete *Show*.

Creating Images:

Easily create *Images* of 3D graphics, fans, beams, text and lissajous (geometric) patterns, using a Mouse, Tablet or Keyboard. PartyBlaster! allows *Images* up to 500 points in length and supports blanking (hidden lines).

Images are easily edited using PartyBlaster!'s editing tools.

Choreographing Scenes:

Choreograph *Scenes* by choosing any number of digital special effects such as size, zoom, sweep, position, rotation, duration, and animation rate. All parameters are easily manipulated in real time for professional results. *Scenes* may be created using individual *Images* or animation sequences that are hundreds of *Images* in length.

Presenting Shows:

Shows can be up to hundreds of *Scenes* in length. A full complement of special effects and specialized controls such as looping and single stepping allows for easy control of sophisticated shows.

The flexibility of PartyBlaster! allows you to create a show that plays and stops automatically, or can be overridden manually. A more experienced user may want to make changes on the fly, whereby you can create and edit images, scenes or shows and display them immediately.

This manual will show how easy it is to tap into the power of PartyBlaster!. Learning how to take advantage of all the flexibilities and features of this product will come with a little practice--and your imagination.

Before you begin...

If you bought your computer from us...

If you have purchased a computer with PartyBlaster! from Technological Artisans you can skip this section since PartyBlaster! and the PartyBlaster! library of images come pre-installed.

What you need to use PartyBlaster!

The following is required to use PartyBlaster!:

- **Pentium/586 processor with a 16 Bit "AT" slot and a printer port and DOS**
- **16 MB of RAM**
- **VGA monitor**
- **A hard-drive or optical disk for storing large graphic files**
- **DAC board (comes with package)**
- **Connector cables (come with package)**
- **Output device (e.g. a laser projector, oscilloscope, etc.)**

A mouse or tablet, although not required, is recommended.

To install PartyBlaster! on your own computer...

- **Install the DAC board into a 16 Bit "AT" slot**
- **Insert each PartyBlaster! disk into the A drive**
- **Type A:\SETUP and hit ENTER to copy all of the PartyBlaster! files into the new PBLASTER directory**
- **Make sure your machine's CONFIG.SYS file loads HIMEM.SYS**
A sample CONFIG.SYS file is included on the PartyBlaster software disk
- **Connect the cable to the PartyBlaster projector**
- **Set the OFFSET controls to 12 o'clock and the SIZE controls up about 1/4**

The PartyBlaster! application and library are now installed on your computer. A batch file to start the application is located in: **c:\pblaster\ver(xx)\pb.bat**. Please see below.

How this manual is organized

The PartyBlaster! Manual is a comprehensive guide for using PartyBlaster!. Information is broken down in the following manner:

Introduction: Provides an overview of PartyBlaster! and what you need to use it.

Shows: Describes all the commands you need to create a new show, display and/or edit an existing show, and delete a show.

Scenes: Describes all the commands/special effects available to create a new scene, display and/or edit an existing scene, delete a scene.

Images: Describes all the commands you need to create a new image, display and/or edit an existing image, delete an image.

Appendices: **A:** The PartyBlaster! Imaging Model, **B:** Technical Specifications

Getting Started

What you need to know

If you are using a Windows based machine, boot it into native DOS mode.

(Note: not a DOS window).

Getting your computer ready

- **Make sure to connect the cables and that the Party Blaster projector is turned on.**

To Start

If you bought your computer from us...

If you have purchased with a computer with PartyBlaster! from Technological Artisans, PartyBlaster! will automatically start when the system is powered up. A title screen and PartyBlaster!'s main menu bar will appear across the top of the screen.

To start Party Blaster on your own computer...

- **Boot up the computer into native DOS mode**
- **CD into the "C:\PBLASTER\VER16" directory**
- **Type "PB"**
- **Point the PartyBlaster! toward the projection screen**
- **Switch on the PartyBlaster! projector**

PartyBlaster! will start up and the title screen will appear.



Note: If a mouse is not plugged into the mouse port, a dialog box will appear stating that mouse support is not available. Press <ENTER> to continue.

If you have a mouse

Select the desired item from the Button Bar.

If you are using the key commands

- **Use the keyboard command for the desired Button Bar item**



Note: Generally, the desired control may be selected either with a mouse, or by typing the key command that appears within the <>.

PARTY BLASTER



Button Bar

Shows <f1>

The SHOWS menu provides all the commands required to create a new show, edit an existing show (using a number of digital special effects tools) run a show or delete a show.

Scenes <f2>

The SCENES menu provides all the commands required to create a new scene, edit an existing scene (using a number of digital special effects tools), run a scene or delete a scene.

Images <f3>

The IMAGES menu provides all the commands required to create a new image, edit an existing image (using a number of digital special effects tools), run an image or delete an image.

Quit <esc>

Exits the application and returns to the prompt.

Status Bar

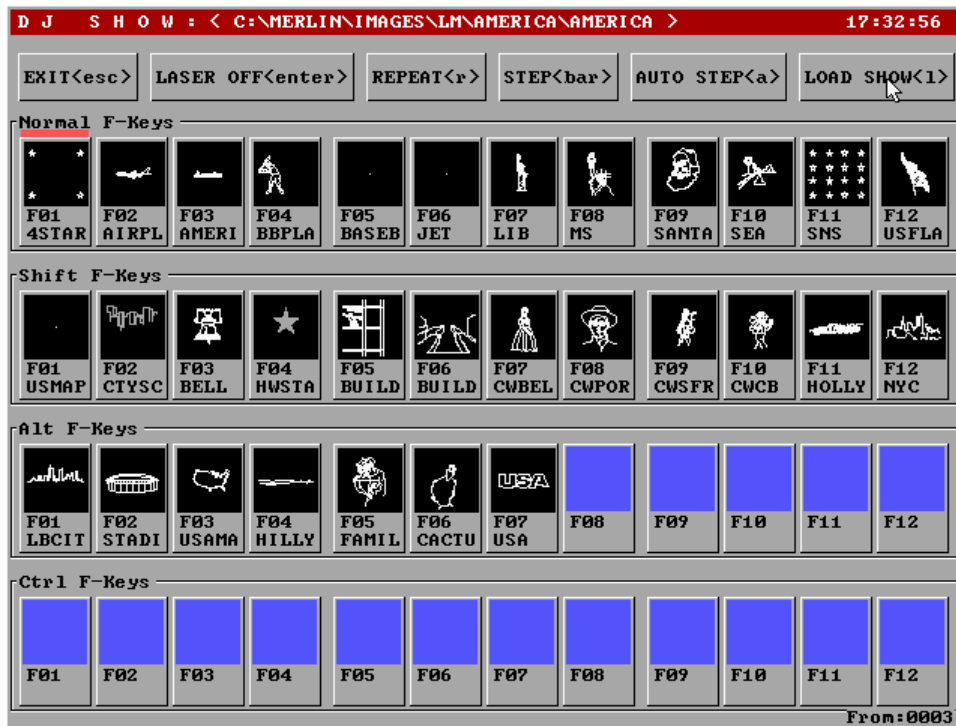
xxxx Available Image Cache Entries

Since disk drives are relatively slow, PartyBlaster! tries to cache as many Images as possible. This status entry shows the number [xxxx] of available image cache entries for PartyBlaster! to load with Image files. The number will vary depending on the amount of XMS memory supported by your system. Approximately 25 images can be cached per megabyte of memory. In reality, PartyBlaster! can never run out of memory since Images that are not cached will be loaded from the disk as needed during the running of PartyBlaster!.

xxxxx PPS

Shows the *Points Per Second* display rate for PartyBlaster!. The rate will never be changed since scanning rates can be adjusted in the *Images: Point Editor* menu.

DJ SHOWS



Top Controls

EXIT <esc>

Returns to the main screen.

LASER OFF<enter>

Turns OFF the laser and closes the shutter.

REPEAT<r>

Toggles the Show's *Repeat* action. When depressed it causes the current show to run indefinitely.

STEP <bars>

Advances to the next Scene on the list. Moves left to right, top to bottom and then resets.

AUTO STEP <a>

Causes the scenes automatically to run one after the other. Moves left to right, top to bottom and then back to the top left.

LOAD SHOW <l>

Bring up the Load Show screen so a show can be selected and loaded.

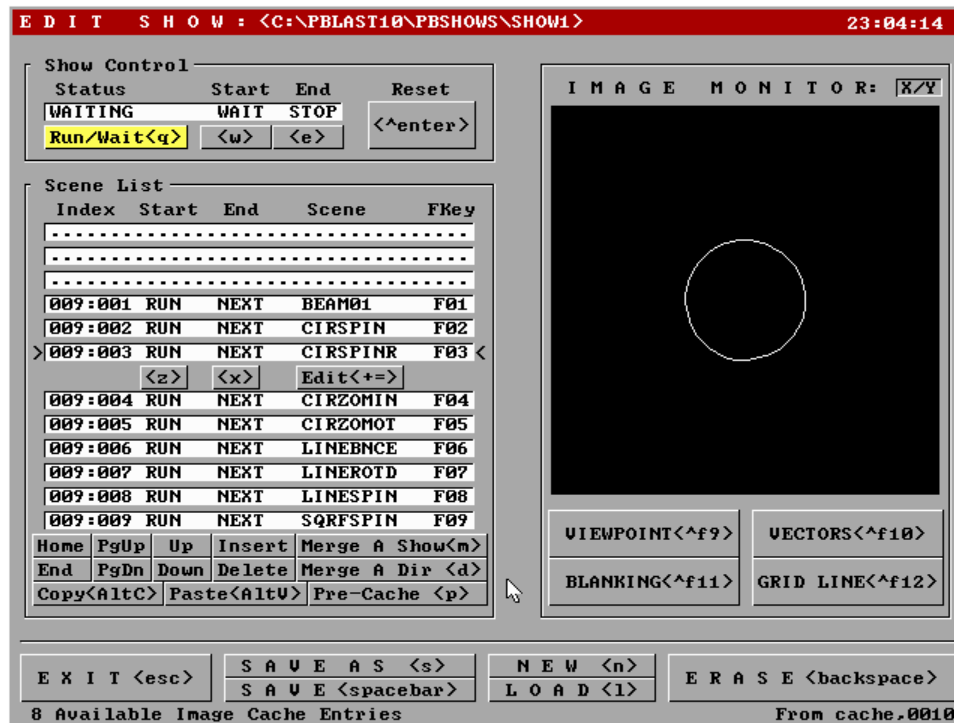
Scene Banks

The screen bank displays up to 4 banks of 12 Scenes each. Each with a thumbnail of the first Image in the associated Scene. Each bank is accessed by pressing a F-Key. Note that some banks will require the pressing of SHIFT, ALT or CTRL at the same time as the F-KEY to access the correct Scene in the bank.



Note: An indicator bars over the currently selected Scene lights RED for a stopped Scene or GREEN for running one.

EDIT SHOWS



Show Control

The Show Control status line indicates the *Status* of the Show that is cued, along with the *Start* action and the *End* action of the Show.

Run/Wait <q>

Toggles the *Status* between *Running* and *Waiting*. *Waiting* indicates that the Show is paused and is waiting for you to manually trigger the start by pressing the "q" key. *Running* initiates that the Show is currently running.

Start <a>

Toggles the Show's *Start* action between *Wait* and *Run*. *Wait* cues up the Show and lets you manually trigger the start by pressing the "q" key (See above). *Run* initiates the start of the scene immediately.

End <s>

Toggles the Show's *End* action between *Stop* and *Loop*. *Stop* causes the display to stop when the scene comes to its end. When *Loop* is set, as the Show comes to the end, it immediately goes back to the beginning of that same Show and starts it again. (*Loop* will continue to return to start until you EXIT).

Reset <^enter>

Resets the Show back to the beginning state. Has the same effect as reloading the Show.

Scene List

The Scene List status line displays an *Index* of Scenes that are in a Show, (*Total: Current*), the *Start* action, the *End* action as well as *Scene* name and the associated *Fkey*. Other controls provide a variety of controls for adding, deleting and editing Scene list. The currently active Scene is indicated by the line containing the > < braces.

Fkey:

The first 36 scenes of your show will have Fkeys associated with them. When you select a Scene from this list, you automatically trigger it to start and it will run according to the Scene's settings. Example: If you are doing an awards show, list all the names of the potential winners and hit the corresponding Fkey when the winner's name is called.

Start <z>

Toggles the Scene's Start action between *Wait* and *Run*. *Wait* cues up the Scene and lets you manually trigger the start by pressing the "q" key (see above). *Run* initiates the start of the Scene immediately.

End <x>

Toggles the Scene's End action between *Stop* and *Loop*. *Stop* causes the display to stop when the scene comes to its end. When *Loop* is preset, as the scene comes to the end, it immediately goes back to the beginning of that same scene and plays it again. (*Loop* will continue to replay until you EXIT via one of the navigation keys below)

Edit <+>

Edits the current Scene or replaces it with a new one. To insert a new Scene or delete the current one see the **Insert** and **Delete** controls described below.

To edit or replace the current Scene entry

- **Press the <+> Button**

The Scene Editing Screen appears with the current Scene loaded. You may edit the Scene you see displayed, save the changes, even go in and edit a single Image. See the Edit Scene section of the manual for all editing options. When the Scene is correct,

- **Press EXIT<esc> Button**

The Show Editing Screen appears--and the new/updated Scene is included on the Scenes Display List.



Note: Generally you will want to Insert a new entry before going to "edit" a scene--or the new scene will overwrite an existing one.

Insert

Inserts a new Scene into the Scene List.



Note: The new entry will have a duplicate of the preceding scene. Press Edit<+> in order to fill the entry with the desired scene.

Delete

Deletes the current Scene entry.

Home

Returns to the top of the Scene List (the first Scene that will play in the Show).

End

Goes to the end of the Scene List (the last Scene that will play in the Show).

PgUp

Scrolls up the Scene List a page at a time (toward the first Scene that will play in the Show).

PgDn

Scrolls down the Scene List a page at a time (toward the last Scene in the Show).

Up

Scrolls up the Scene List a line at a time (toward the first Scene in the Show).

Down

Scrolls down the Scene List a line at a time (toward the last Scene in the Show).

Copy <AltC>

Copies the Scene entry at the > < point into the edit buffer.

Paste <AltV>

Pastes the current edit buffer contents in the Scene entry at the > < point.

Merge A Show <m>

Merges a Show selected from directory. Each Scene from the Show is then added to the Scene List.

Merge A Dir <d>

Scans for all of the Scenes in the current directory and inserts them in the Scene List.

Pre-Cache <p>

Loads all Scenes (and their Images) into the Cache immediately for faster performance. Normally, the Scenes are cached when they actually run.

Bottom Bar

EXIT <esc>

Returns to the main PartyBlaster! screen.

SAVE AS <s>

Launches the *Show Save As* screen to save the current Show under a different name.

SAVE <spacebar>

Saves the current Show.

NEW <n>

Creates a new Show. This can also be done from the *Load Show* screen. (See next section).

LOAD <l>

Launches the *Load Show* screen to pick an existing Show to load.

ERASE <backspace>

PERMANENTLY deletes the current Show from the disk. You will be prompted for confirmation BEFORE any permanent action takes place. Note: only the Show will be deleted, The Scenes and Images contained in the Show WILL NOT be affected. To delete them, go to the Scene and Image sections of the PartyBlaster! program.

Image Monitor

A monitor showing the real-time display of the Show as it runs.

VIEWPOINT <^f9>

Toggles the monitor's viewpoint between X:Y and the X:Z perspectives

VECTORS <^f10>

Toggles the monitor's display between vectors and points.

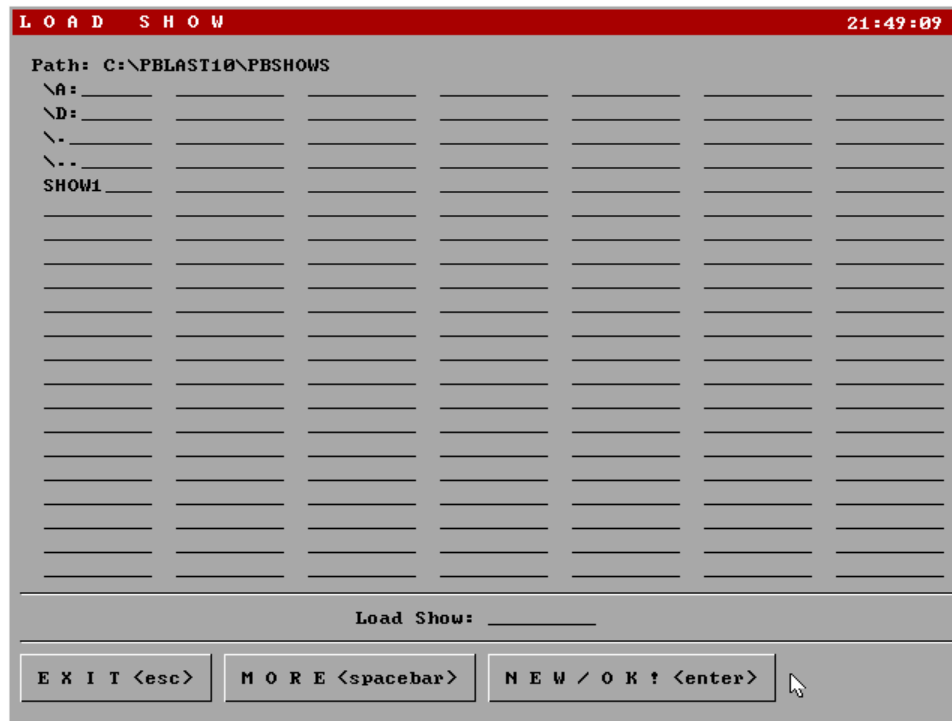
BLANKING<^f11>

Toggles the monitors blanking on or off. When off, blanking lines are displayed as grey points or vectors.

GRID LINE<^f12>

Toggles the monitor's grid line overlay between off, large grid, or small grid.

LOAD SHOWS



The *Load Show* _____ field lets you enter the name of the Show you wish to load. The mouse may also be used to select the Show to display. Simply click in the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Shows available there. Select \.. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

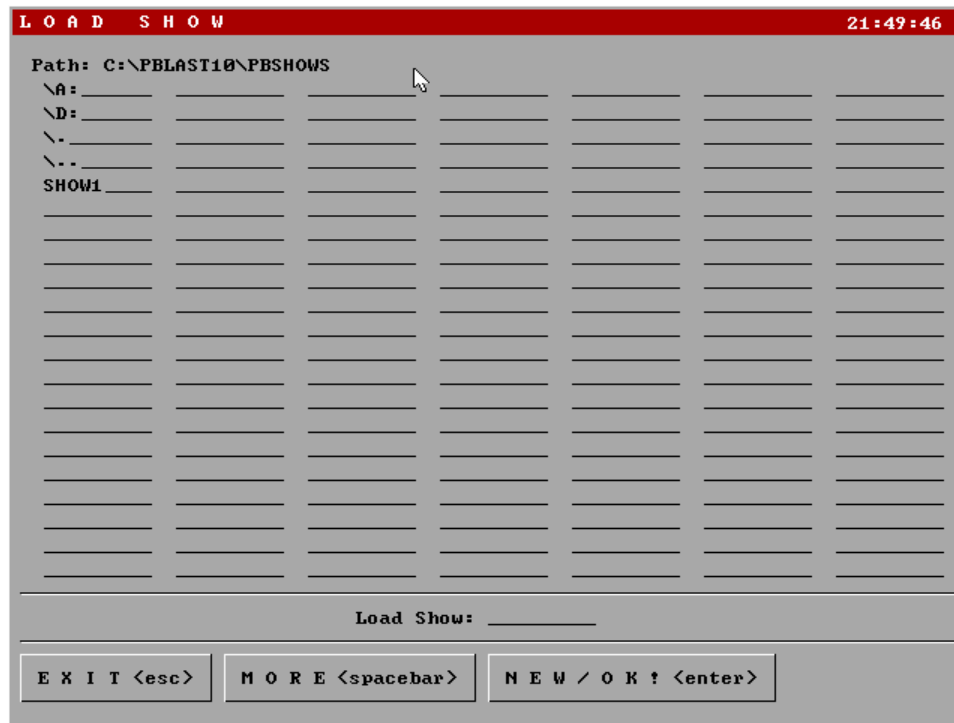
MORE <spacebar>

Lists Shows (if available).

NEW/OK! <enter>

Accepts the entry or directory entered on the *Select Show* line. If this entry is blank a *New Show* is assumed.

SAVE SHOW AS



The *Save Show As:* _____ field lets you enter the name of the Show you wish to save the Show As. The mouse may also be used to select an existing Show name to save over. Simply click in the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Shows available there. Select \.. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

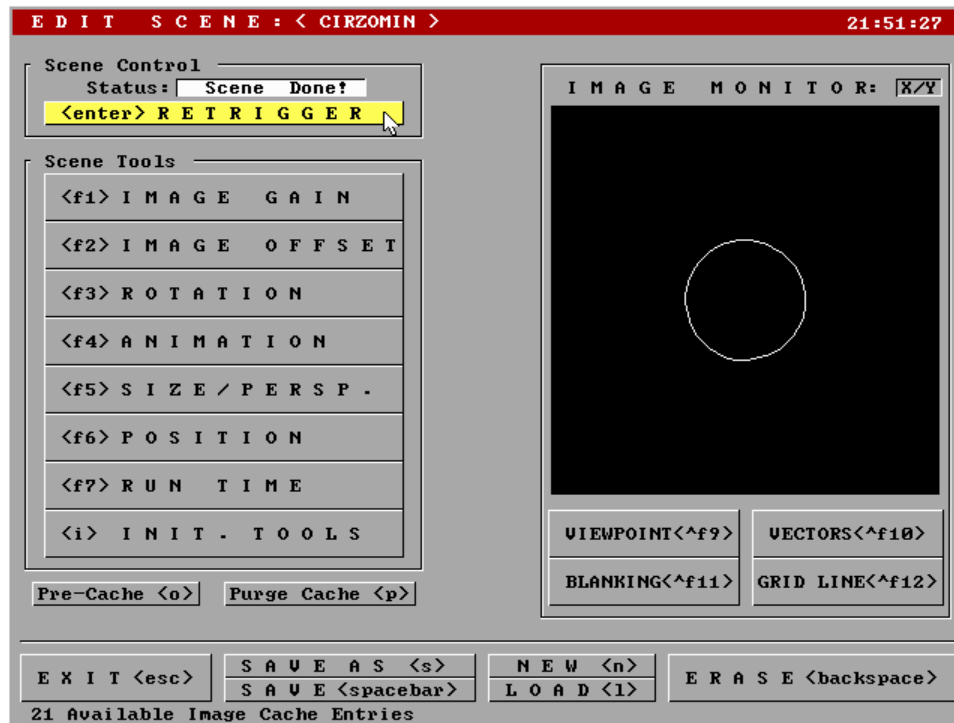
MORE <spacebar>

Lists more Shows (if available).

OK! <enter>

Accepts the entry or directory entered on the *Save Show As* line.

EDIT SCENES



Scene Control

The Scene Control status line indicates the *Status* of the Scene that is cued.

<enter> Retrigger

Resets the Scene and sets the *Status* back to the beginning state. Has the same effect as reloading the Scene fresh.

Scene Tools

The Scene Tools allow for adjustment of Image Gain, Image Offset, Rotation, Animation, Size/Perspective, Position, Timing/Sync and Initialize Tools.

<f1> Image Gain

Controls the gain for an image's X, Y and/or Z-axis. This gain is applied prior to rotation and is normally used to correct for image errors and special effects.

<f2> Image Offset

Adjusts the relative position of an image's X, Y and/or Z-axis. This offset is applied prior to rotation and is normally used to correct for image errors and special effects.

<f3> Rotation

Rotates the current image.

<f4> Animation

Controls the rate of delay between images being animated.

<f5> Size/Perspective

This is a "Master Control" for the size of the scene. These controls are applied post rotation.

<f6> Position

This is a "Master Control" for positioning of the scene. These controls are applied post rotation.

<f7> Run Time

Determines the length of time the scene will run (selectable between clock driven and data driven).

<i> Initialize Tools

Clears all of the parameters that have been set.

Pre-Cache <o>

Loads all Scenes (and their Images) into the Cache immediately for faster performance. Normally, the Scenes are cached when actually run.

Purge Cache <p>

Purges the cache of all Scene and associated Image entries.

Bottom Bar

EXIT <esc>

Returns to the main PartyBlaster! screen.

SAVE AS <s>

Launches the *Scene Save As* screen to save the current Scene under a different name.

SAVE <spacebar>

Saves the current Scene.

NEW <n>

Creates a new Scene. This can also be done from the Scene Load screen.

LOAD <l>

Launches the Scene Load screen to pick a Scene to load.

ERASE <backspace>

PERMANENTLY deletes the currently displaying Scene from the disk. You will be prompted for confirmation BEFORE any permanent action takes place. Note: only the Scene will be deleted, the Images contained in the Scene WILL NOT be affected. To delete them, go to the Image section of the PartyBlaster! program.

Image Monitor

A monitor showing the real-time display of the Scene as it runs.

VIEWPOINT <^f9>

Toggles the monitor's viewpoint between X:Y and the X:Z perspectives

VECTORS <^f10>

Toggles the monitor's display between vectors and points.

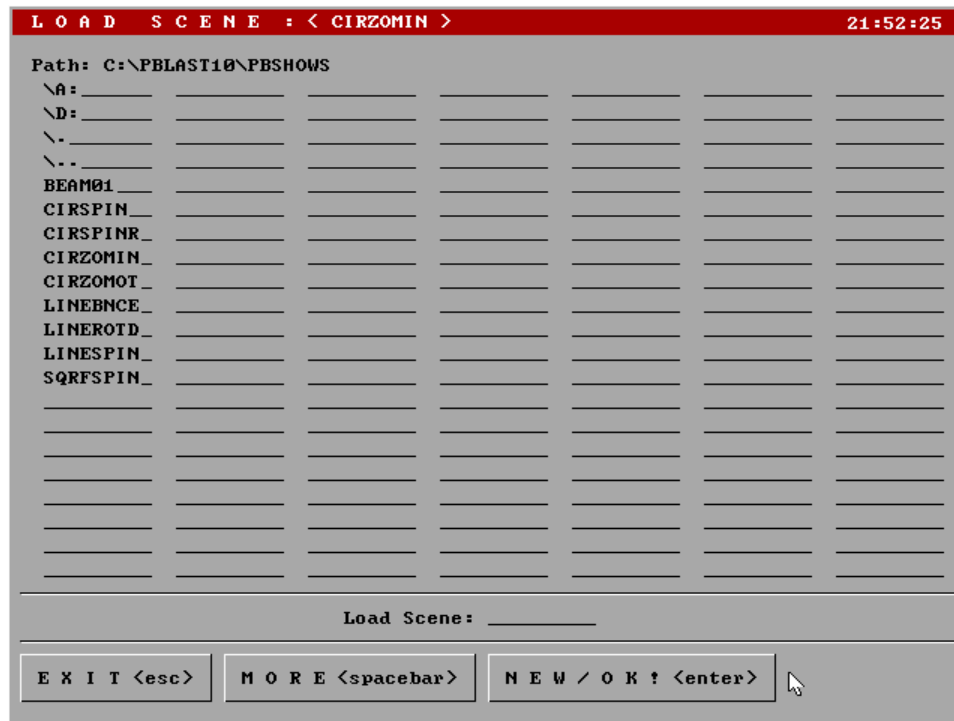
BLANKING<^f11>

Toggles the monitor's blanking on or off. When off, blanking lines are displayed as grey points or vectors.

GRID LINE<^f12>

Toggles the monitor's grid line overlay between off, large grid, or small grid.

LOAD SCENES



The *Load Scene* _____ field lets you enter the name of the Scene you wish to load. The mouse may also be used to select the Scene to display. Simply click in the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Scenes available there. Select \ .. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

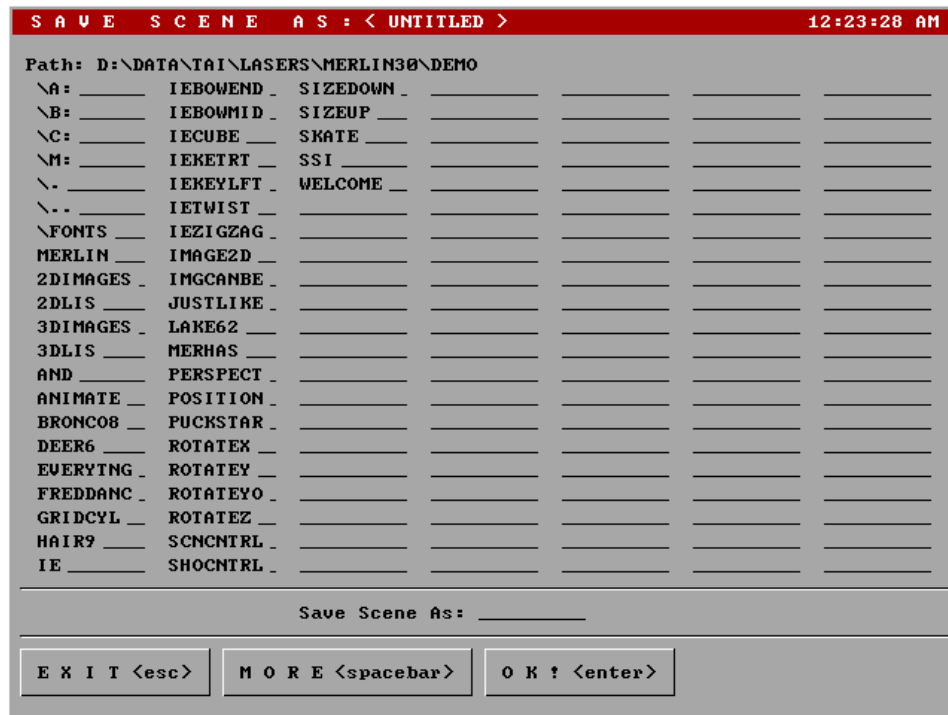
MORE <spacebar>

Lists more Scenes (if available).

NEW/OK! <enter>

Accepts the entry or directory entered on the *Load Scene* line. If this entry is blank a *New Scene* is assumed.

SAVE SCENE AS



The *Save Scene As* _____ field lets you enter the name of the Scene you wish to save the Scene as. The mouse may also be used to select an existing Scene name to save over. Simply click on the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Scene available there. Select \ .. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

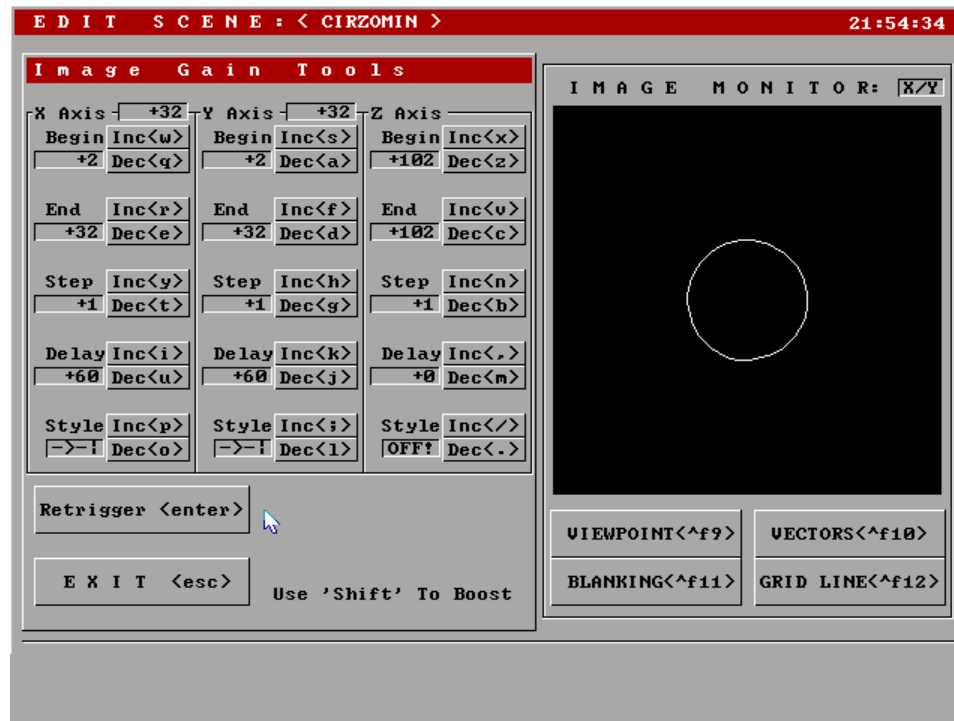
MORE <spacebar>

Lists more Scenes (if available).

NEW/OK! <enter>

Accepts the entry or directory entered on the *Save Scene As* line.

EDIT SCENES: <F1> Image Gain Tools



These controls let you preprocess the Image gain before any of the Scene functionality takes effect. *Inc* increases a value, *Dec* decreases it.

X-Axis, Y-Axis and Z-Axis Controls

The *Begin* field shows the beginning gain value for each axis of your image.

The *End* field shows the ending gain value for each axis of your image.

The *Step* field shows how large each step will be moving toward the End value.

The *Delay* field shows the amount of "time" between each Step.

Note: The duration of delay is dependent upon the clock speed of your computer.

The *Style* field shows the repeat style for an axis when it has reached the End value.

There are three styles:

- Off** = no action taken.
- >:** = Run the action once, when it hits the ending value, stop.
- >->** = Run the action, when it hits the ending value, repeat (loop).

General Controls

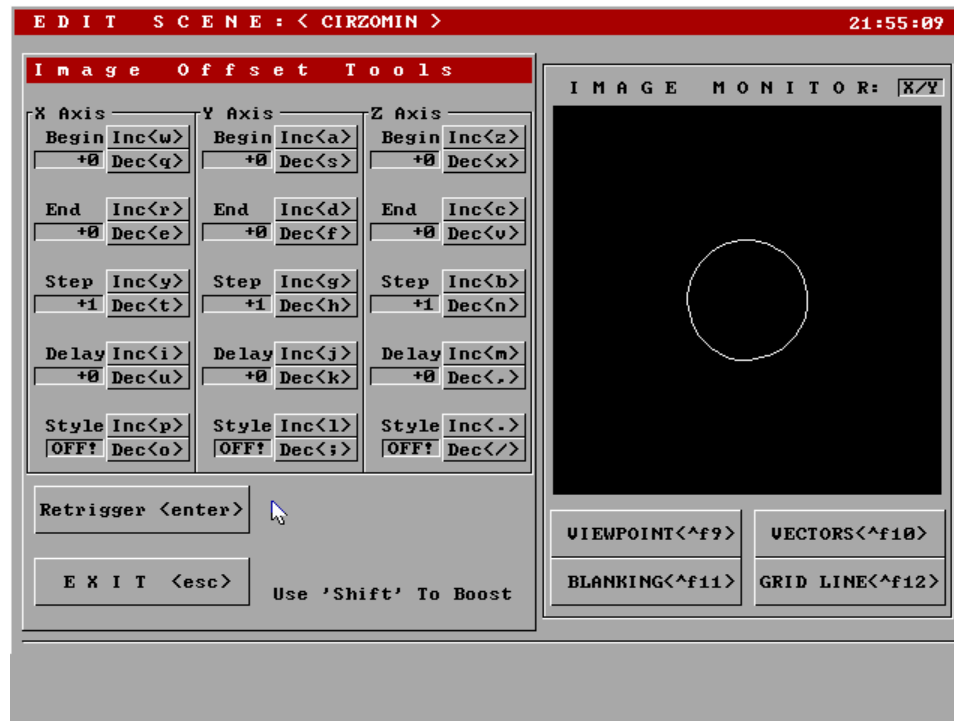
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENES: <F2> Image Offset Tools



These controls let you preprocess the Image offset before any of the Scene functionality takes effect. *Inc* increases a value, *Dec* decreases it.

X-Axis, Y-Axis and Z-Axis Controls

The *Begin* field shows the beginning offset value for each axis of your image.

The *End* field shows the ending offset value for each axis of your image.

The *Step* field shows how large each step will be moving toward the End value.

The *Delay* field shows the amount of “time” between each Step. Note: The duration of delay is dependent upon the clock speed of your computer.

The *Style* field shows the repeat style for an axis when it has reached the End value.

There are three styles:

- Off** = no action taken.
- >:** = Run the action once, when it hits the ending value, stop.
- >->** = Run the action, when it hits the ending value, repeat (loop).

General Controls

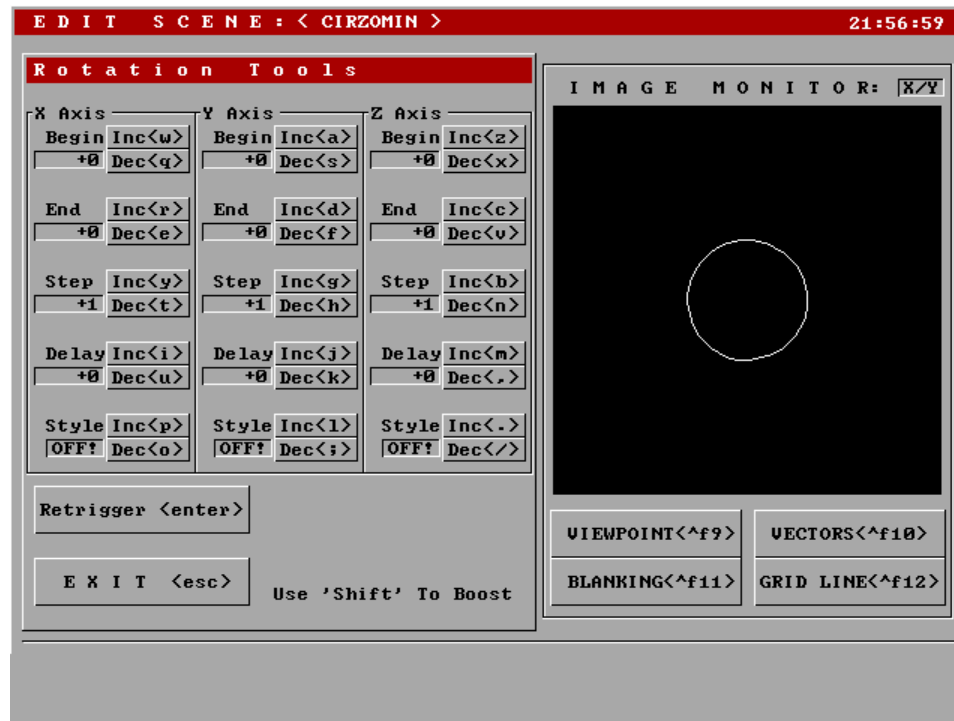
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENES: <F3> Image Rotation Tools



These controls let you process the Image rotation before any of the Scene functionality takes effect. *Inc* increases a value, *Dec* decreases it.

X-Axis, Y-Axis and Z-Axis Controls

The *Begin* field shows the beginning rotation value for each axis of your image.

The *End* field shows the ending rotation value for each axis of your image.

The *Step* field shows how large each step will be moving toward the End value.

The *Delay* field shows the amount of “time” between each Step. Note: The duration of delay is dependent upon the clock speed of your computer.

The *Style* field shows the repeat style for an axis when it has reached the End value. There are three styles:

- Off** = no action taken.
- >:** = Run the action once, when it hits the ending value, stop.
- >->** = Run the action, when it hits the ending value, repeat (loop).

General Controls

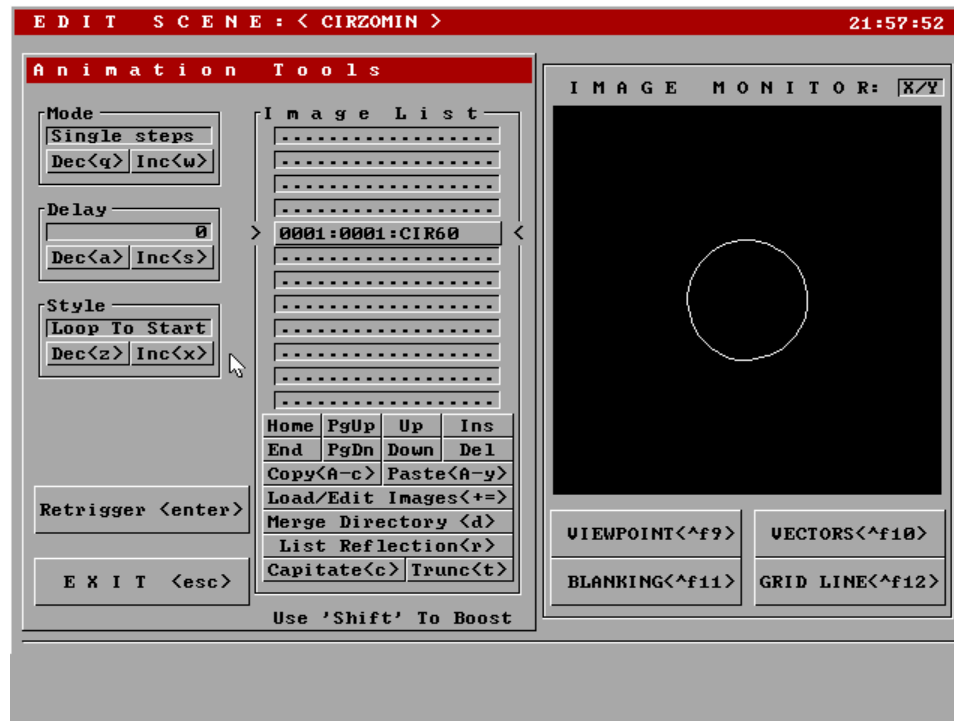
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENES: <F4> Animation Tools



These controls let you process the Scene's Image animations.
Inc increases a value, *Dec* decreases it.

Mode Controls

The *Mode* field displays how the animation runs. The values are:

- Automatic** The Image animation runs automatically.
- Single Steps** The Image selection is via manual control.

Delay Controls

The *Delay* field displays the amount of "time" between each animation Image. Note: The duration of delay is dependent upon the clock speed of your computer.

Style Controls

The *Style* field shows the repeat style for when the animation has reached the end. There are two styles:

- Loop to Start** Start the animation again from the first Image.
- Once to End** Run animation one time and then stop.

Images List Controls

The Image List status line displays an Index of Images that are in a Scene, (*Total:Current*), as well as the Image name. The <> braces indicate the active image.

Home

Returns to the top of the list (the first image that will play in the scene).

End

Goes to the end of your list (the last image that will play in the scene).

PgUp

Scrolls up the list a page at a time (toward the first image in the scene).

PgDn

Scrolls down the list a page at a time (toward the last image in the scene).

Up

Scrolls up the list one entry at a time (toward the first image in the scene).

Dn

Scrolls down the list one entry at a time (toward the last image in the scene).

Ins

Inserts a new image.

Del

Deletes an image.

Copy <A-c>

Copies an image into the edit buffer.

Paste <A-v>

Pastes an image from the edit buffer.

Load/Edit Images <+>

Edits or changes the indicated > < image entry on the list

Merge Directory <d>

Scans for all the images in the current directory, adding each image to the Image List.

List Reflection <r>

Reflects the list entries. Ex: image entries 1,2,3,4 become 1,2,3,4,3,2,1.

Captivate <c>

Remove all scenes *above* the > < point.

Truncate <t>

Remove all scenes *below* the > < point.

General Controls

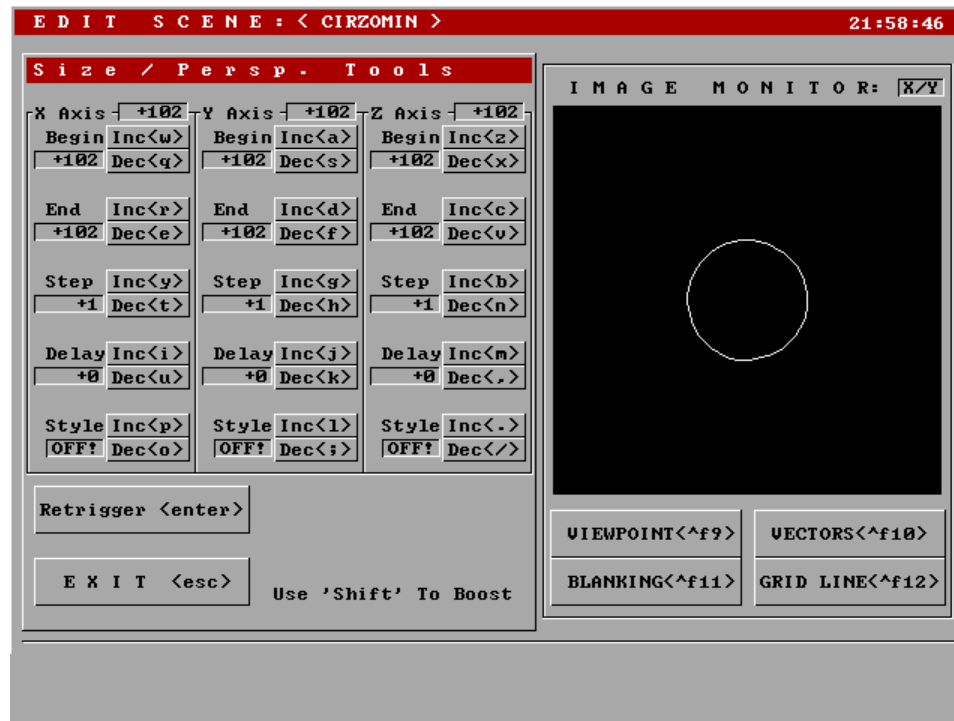
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENE: <F5> Size/Perspective Tools



These controls process the Scene size and perspective after the Image gain, offset & rotation have taken effect. *Inc* increases a value, *Dec* decreases it.

X-Axis, Y-Axis and Z-Axis (Perspective) Controls

The *Begin* field shows the beginning size value for each axis of your image.

The *End* field shows the ending size value for each axis of your image.

The *Step* field shows how large each step will be moving toward the End value.

The *Delay* field shows the amount of "time" between each Step. Note: The duration of delay is dependent upon the clock speed of your computer.

The *Style* field shows the repeat style for an axis when it has reached the End value.

There are three styles:

- Off** = no action taken.
- >:** = Run the action once, when it hits the ending value, stop.
- >->** = Run the action, when it hits the ending value, repeat (loop).

General Controls

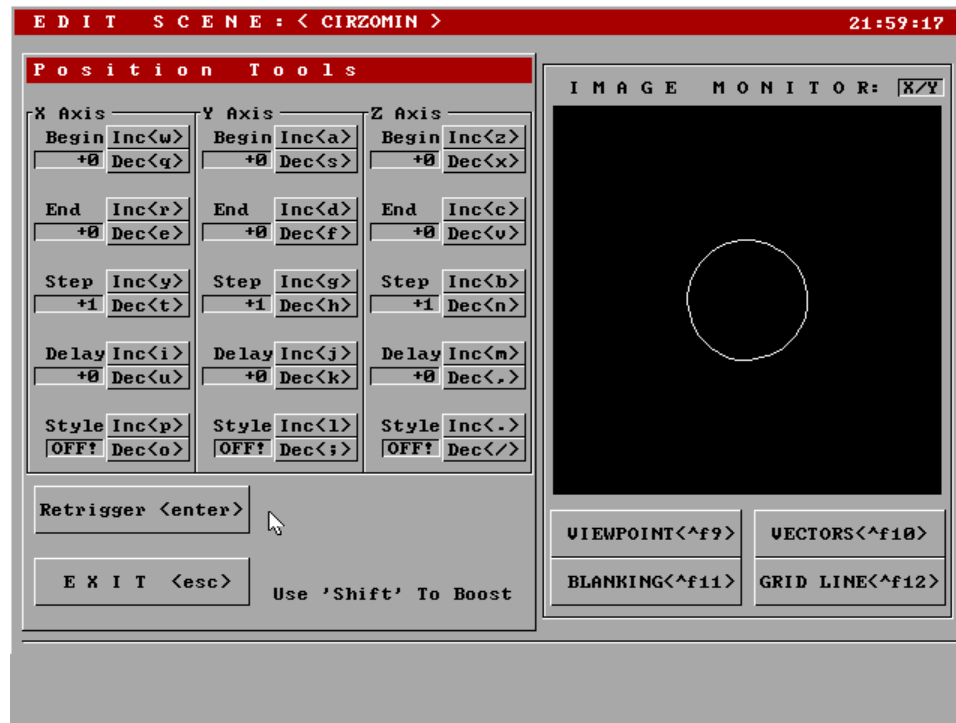
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENE: <F6> Position Tools



These controls process the Scene master position after the Image gain, offset & rotation functionality has taken effect. *Inc* increases a value, *Dec* decreases it.

X-Axis, Y-Axis and Z-Axis *n*

The *Begin* field shows the beginning position value for each axis of your image.

The *End* field shows the ending position value for each axis of your image.

The *Step* field shows how large each step will be moving toward the End value.

The *Delay* field shows the amount of “time” between each Step. Note: The duration of delay is dependent upon the clock speed of your computer.

The *Style* field shows the repeat style for an axis when it has reached the End value.

There are three styles:

- Off** = no action taken.
- >:** = Run the action once, when it hits the ending value, stop.
- >->** = Run the action, when it hits the ending value, repeat (loop).

General Controls

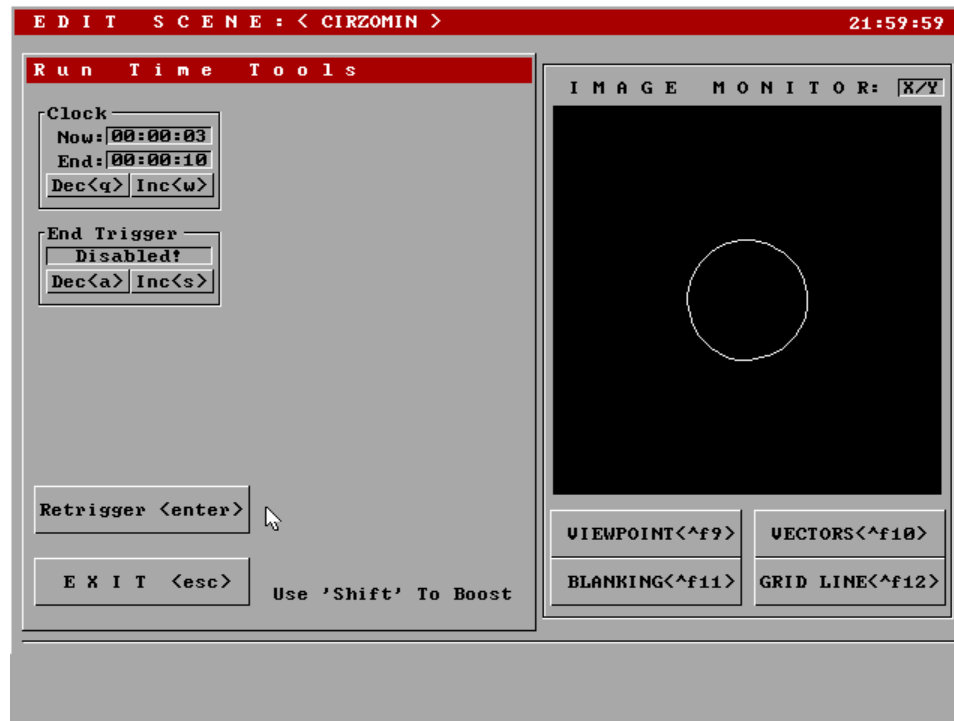
RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT SCENE: <F7> Run Time Tools



These controls process the Scene run time. *Inc* increases a value, *Dec* decreases it.

Clock Controls

The *Now* field displays how long the Scene has been running.

The *End* field value is the time when the Scene will end.

All times are in the format: *hours:minutes:seconds*.

End Trigger Controls

The *End Trigger* field displays what will trigger an end of Scene. The values are:

Disabled! Scene runs continuously.

Based on Time Scene ends when the clock *End* field value is reached.

Based on Data Scene ends when effects and animations are complete.

General Controls

RETRIGGER <enter>

Replays the scene.

EXIT <esc>

Returns to the Editing Screen.

EDIT IMAGES

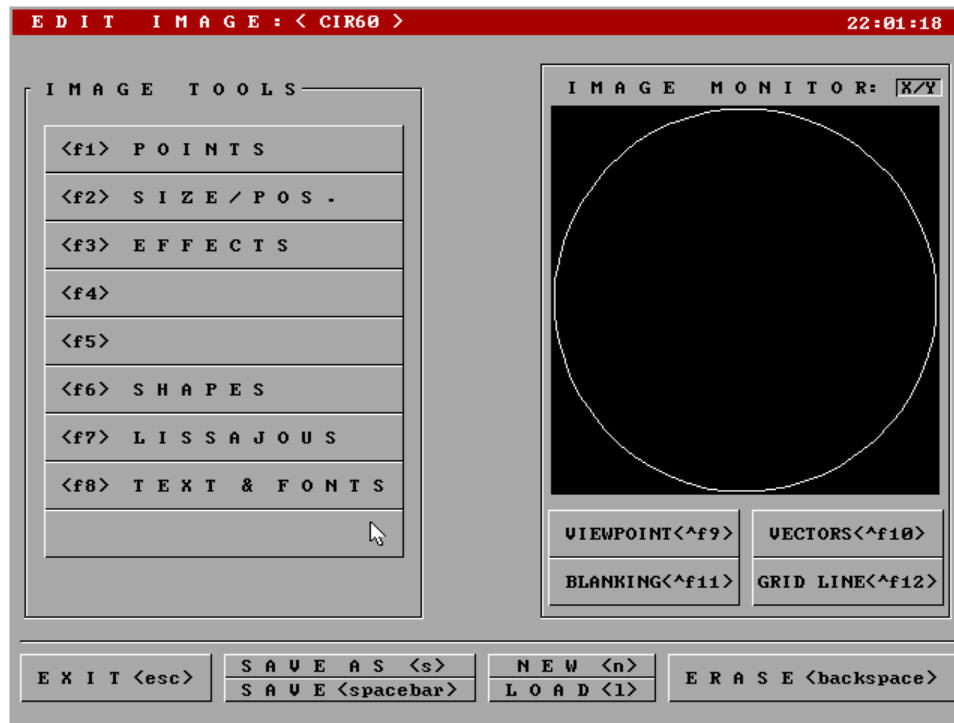


Image Tools

The Image Tools allow for adjustment of Points, Size/Position, Effects, Shapes, Lissajous, Text & Fonts, and Clear All. The desired tool may be selected either with a mouse, or by choose the key command that appears within the <>.

<f1> Points

Controls the gain for an image's X, Y and/or Z-axis. This gain is applied prior to rotation and is normally used to correct for image errors and special effects.

<f2> Size / Position

Adjusts the relative position of an image's X, Y and/or Z-axis. This offset is applied prior to rotation and is normally used to correct for image errors and special effects.

<f3> Effects

Controls several special effects which can be applied to an image

<f6> Shapes

Controls the creation of several geometric shapes such as circles, boxes and lines.

<f7> Lissajous

Controls the creation of "spirographic" type images.

<f8> Text & Fonts

Creates text style images.

Bottom Bar

EXIT <esc>

Returns to the main PartyBlaster! screen.

SAVE AS <s>

Launches the *Save Image As* screen to save this Image under a different name.

SAVE <spacebar>

Saves the current Image.

NEW <n>

Creates a new Image. This can also be done from the Load Image screen.

LOAD <l>

Launches *Load Image* screen to pick an Image to load

ERASE <backspace>

PERMANENTLY deletes the currently displaying Image from the disk. You will be prompted for confirmation BEFORE any permanent action takes place.

Image Monitor

A monitor showing the real-time display of the Image as it runs.

VIEWPOINT <^f9>

Toggles the monitor's viewpoint between X:Y and the X:Z perspectives.

VECTORS <^f10>

Toggles the monitor's display between vectors and points.

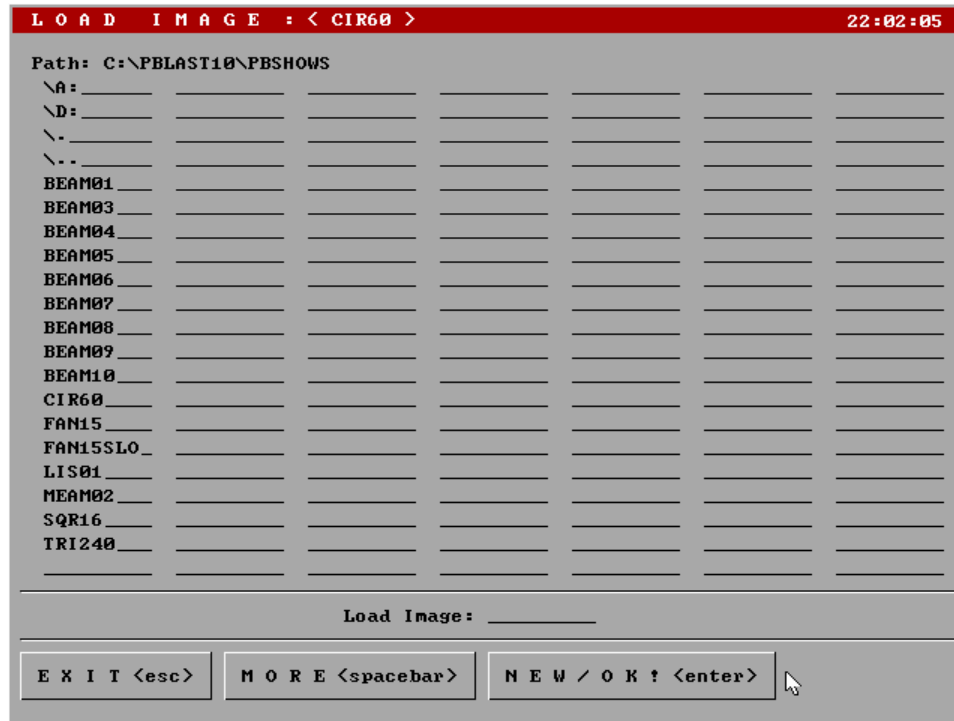
BLANKING <^f11>

Toggles the monitor's blanking on or off. When off, blanking lines are displayed as grey points or vectors.

GRID LINE <^f12>

Toggles the monitor's grid line overlay between off, large grid, or small grid.

LOAD IMAGES



The *Load Image* _____ field lets you enter the name of the Image you wish to load. The mouse may also be used to select the Image to display. Simply click on the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Images available there. Select \ .. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

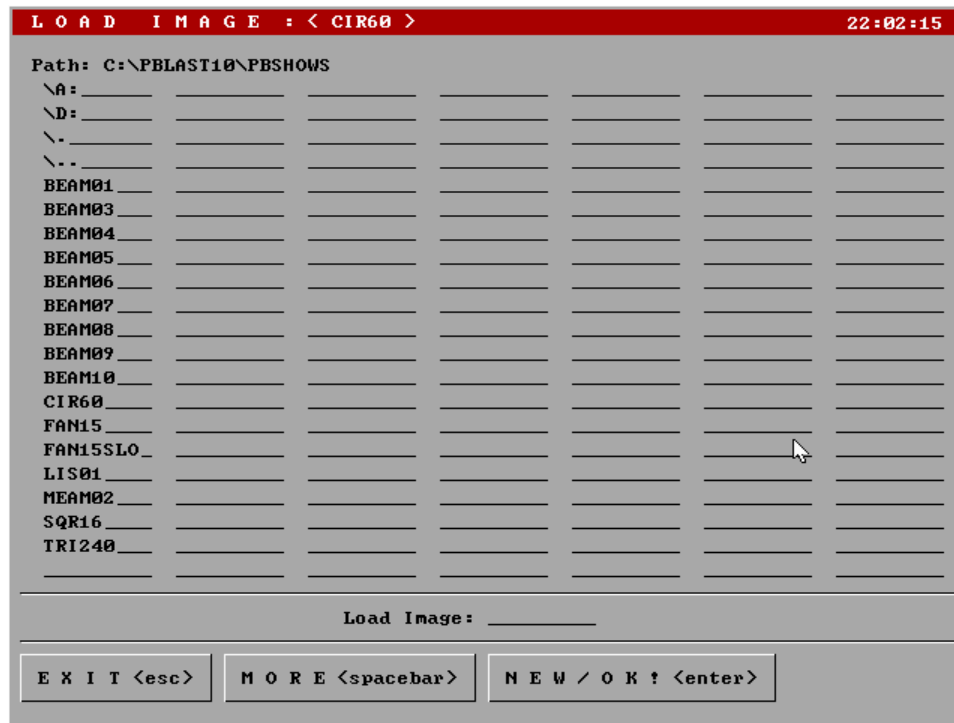
MORE <spacebar>

Lists more Images (if available).

NEW/OK! <enter>

Accepts the entry or directory entered on the *Load Image* line. If this entry is blank a *New Image* is assumed.

SAVE IMAGE AS



The *Save Image As* _____ field lets you enter the name of the Image you wish to save the Image As. The mouse may also be used to select an existing Image name to save over. Simply click in the desired entry.



Entering or selecting a directory will cause the system to navigate to the selected directory and list the Images available there. Select \ .. to navigate up the directory tree.

EXIT <esc>

Returns to the main menu.

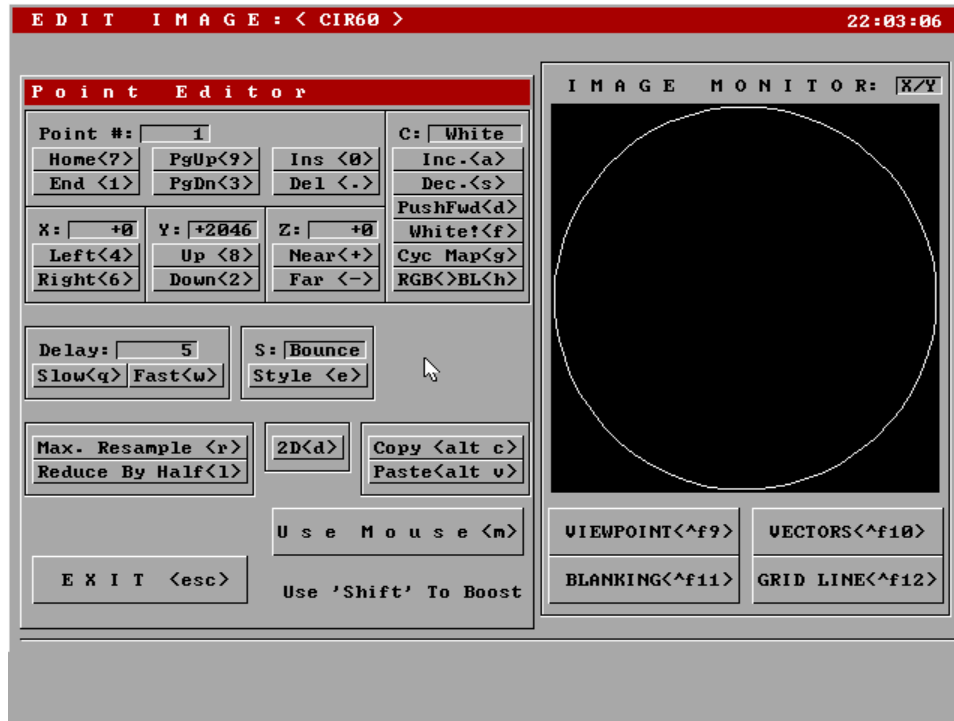
MORE <spacebar>

Lists more Images (if available).

NEW/OK! <enter>

Accepts the entry or directory entered on the *Save Image As* line. If this entry is blank a *New Image* is assumed.

EDIT IMAGES: < F1> Points



An Image is created by drawing a series of points - much like the child's game "connect the dots". The laser will then retrace the points in the order that they were drawn. When the laser reaches the last point you can program it to either loop back to the first point, or trace back through the points in descending order. If the laser is programmed to go fast enough, then this stream of light will blur giving the illusion of a solid line. On the other hand, if you want to create distinct beams of light, you may deliberately want the laser to redraw the points slowly in a staccato fashion--as if points of light were streaking across the sky.

When you use the Point Editor you are drawing your image point by point.

Remember that Laser scanners are mechanical systems with relatively high mass. Often the scanners will not be able to track an image as initially drawn--it will require adjustment of the number of points or the refresh speed to achieve a professional result.

Point Controls

As you create a point, the *Point #:*_____ field displays the point you are currently working on. It starts on point 1 by default but may be moved to any point within an image. Use the following controls:

Home <7>	Moves the editor to the first point in the image.
End <1>	Moves the editor to the last point in an image.
PgUp <9>	Moves the editor forward one point in an image.
PgDn <3>	Moves the editor backward one point in the image.
Ins <0>	Inserts a new point at the current point.
Del <.>	Deletes the current point.

X, Y, Z Position Controls

The *X, Y, & Z* (Horizontal, Vertical and Depth) fields show the position values for the current point (refer to *Point #:* above). Any change of position of the point will be reflected in these readouts and in the Image Monitor.

<6>	Moves the point right.
<4>	Moves the point left.
<8>	Moves the point up.
<2>	Moves the point down.
<+>	Moves the point toward the user.
<->	Moves the point away from the user.



Note: +/- Depth (Z) changes cannot be seen on the monitor unless the Viewpoint <^f9>is changed.

Color Controls

The *C:* field shows the color value for the current point (refer to *Point #:* above). Any change of color of the point will be reflected in these readouts and in the Image Monitor. Note: multiple colors are only available on multi-color systems.

Inc. <a>	Scrolls up the color value list.
Dec. <s>	Scrolls down the color value list.
PushFwd <d>	Pushes the current point's color onto the next point.
White! <f>	Changes all of the points to white.
Cyc Map <g>	Cycles the color map of the image.
RGB<>BL <h>	Exchanges visible points and blanking points.

Delay Controls

The *Delay* field displays the relative speed that the image is refreshed. Remember that there is a tradeoff between the total number of points and the refresh speed.

Slow <q>	Makes the image display slower.
Fast <w>	Makes the image display faster.

Style Controls

The **S:** field shows the style setting for the current image. PartyBlaster! supports two display styles: **Repeat** and **Bounce**. Repeat “draws” from points 1 through N, and loops back to 1. Bounce “draws” from points 1 through N and N back to 1. Choose for different effects. Repeat is used most often.

Style <e> Toggles style between **Refresh** or **Bounce**.

Sampling Controls

The sampling control allows for the image to be re-sampled from how it was drawn.

Max Resample <r> The image is re-sampled to maximum PartyBlaster! resolution of 2500 points -smoothing out the image. This is useful for cleaning up unevenly drawn images as well as vector drawn images.

Reduce By Half <l> The image is re-sampled so it is reduced to ½ of its original point count. This is useful for shrinking over drawn images. Often useful following a **Max Resample**.

2D Controls

Normally, images drawn in PartyBlaster! are 3D in nature. Sometimes, for sample, such as in the case of an imported image, it is desirable to normalize the Z dimension. This process reduces a 3D image to 2D one.

2D <d> Reduces a 3D image to 2D.

Edit Controls

Images or image parts can be copied into a temporary buffer and then later pasted into a second image. The stored image is inserted after the current point. See **Point Controls** above for changing the insertion point.

Copy <alt c> Copies the image into the temporary buffer.

Paste <alt v> Pastes the image from the temporary buffer.

General Controls

Use Mouse <m>

Pressing this button toggles Mouse (if used) drawing on and off. When on, the current point's Horizontal (X) and Vertical (Y) position is determined by the mouse. Moving the mouse moves the current point in the Image Monitor.

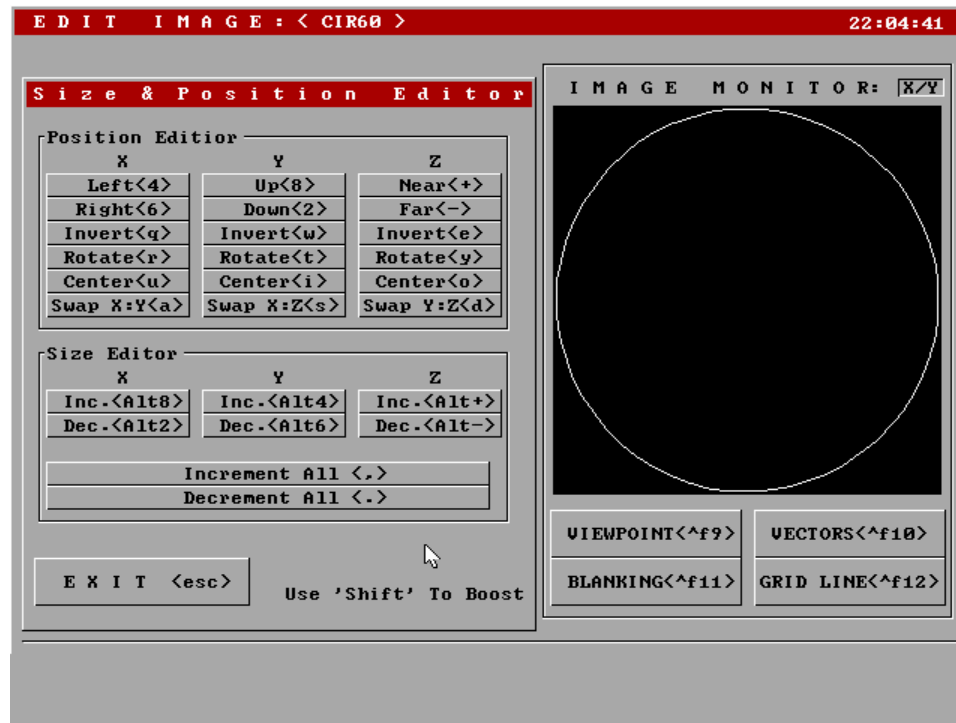


Note: Pressing mouse button one (left) inserts a point at the current position. Pressing button two (right) inserts a continuous stream of points while the button is pressed. Regular mouse selection of the other controls is disabled until mouse drawing mode is exited <ESC>.

EXIT <esc>

Returns to the main menu.

EDIT IMAGES: < F2> Size & Position



Use these commands to change the overall position of an image as well as its size.

Position Editor Controls

Controls the overall position of the image in 3D space.

X Axis:

Up <8>	Moves the image up.
Down <2>	Moves the image down.
Invert <q>	Inverts the image.
Rotate <r>	Rotates the image.
Center <u>	Centers the image.
Swap X:Y <a>	Swaps the image axes.

Y Axis:

Left <4>	Moves the image left.
Right <6>	Moves the image right.
Invert <w>	Inverts the image.
Rotate <t>	Rotates the image.
Center <i>	Centers the image.
Swap X:Z <s>	Swaps the image axes.

Z Axis:

Near <+>	Moves the image near.
Far <->	Moves the image far.
Invert <e>	Inverts the image.
Rotate <y>	Rotates the image.
Center <o>	Centers the image.
Swap Y:Z <d>	Swaps the image axes.



Note: Z axis changes may not be seen on the monitor unless the view is changed.

Size Editor Controls

Controls the overall size of the image in 3D space.

X Axis:

Inc. <alt 4>	Makes the image larger.
Dec. <alt 6>	Makes the image smaller.

Y Axis:

Inc. <alt 8>	Makes the image larger.
Dec. <alt 2>	Makes the image smaller.

Z Axis:

Inc. <alt+>	Makes the image larger.
Dec. <alt ->	Makes the image smaller.

X,Y& Z Axis:

Increment All <, >	Makes the image larger.
Decrement All <., >	Makes the image smaller.



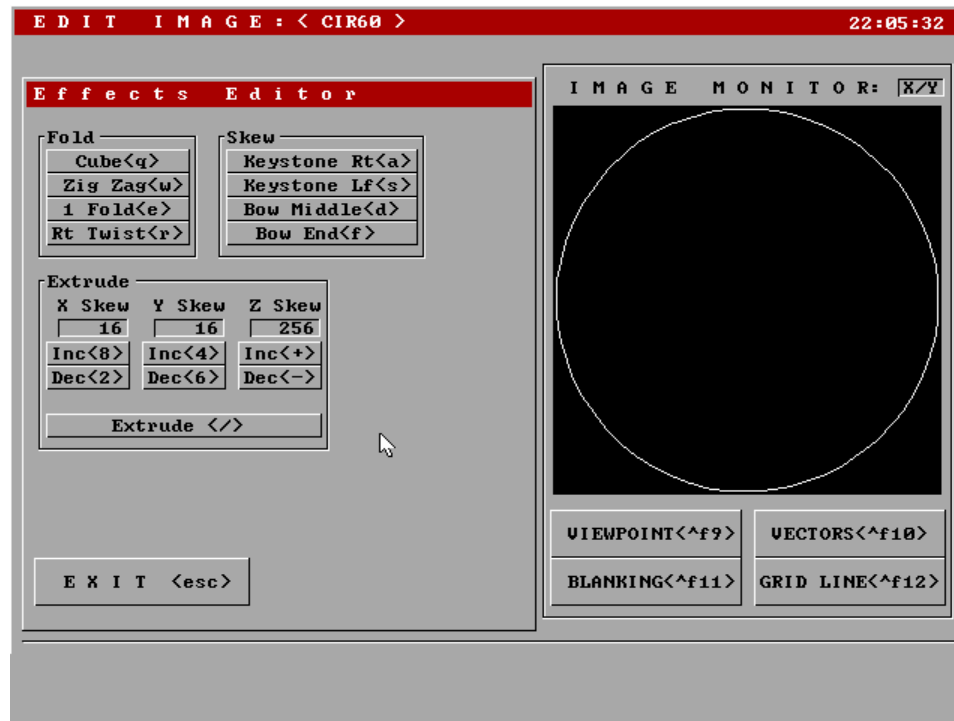
Note: Z axis changes can not be seen on the monitor unless the view is changed.

General Controls

EXIT <esc>

Returns to the main menu.

EDIT IMAGES: < F3>: Effects Editor



Use these commands to create several effects in the existing Image including folds, skews and extrusions.

Folds Controls

Controls the folding of the image in 3D space.

Cube <q>	Folds the image around a cube.
Zig Zag <w>	Folds the image in a zig zag pattern.
1 Fold <e>	Folds the right side of the image back.
Rt Twist <r>	Twists the right side back.



Note: Z Axis- changes may not be seen on the monitor unless the view is changed.

Skews Controls

Controls the skewing of the image in 3D space.

Keystone Rt <a>	Keystone the image: left smaller & right larger.
Keystone Left <s>	Keystone the image: left larger & right smaller.
Bow Middle <d>	Bows image: middle larger & ends smaller.
Bow Ends <f>	Bows image: middle smaller & ends larger.



Note: Z Axis- changes may not be seen on the monitor unless the view is changed.

Extrude Controls

Controls the extruding of the image in 3D space. The **X, Y & Z** fields show the extrusion amounts expressed in point sizes.

Inc <8>	Increases the extrusion on the x axis.
Dec <2>	Decreases the extrusion on the x axis.
Inc <4>	Increases the extrusion on the y axis.
Dec <6>	Decreases the extrusion on the y axis.
Inc <+>	Increases the extrusion on the z axis.
Dec <->	Decreases the extrusion on the z axis.
Extrude </>	Applies the desired extrusion settings.

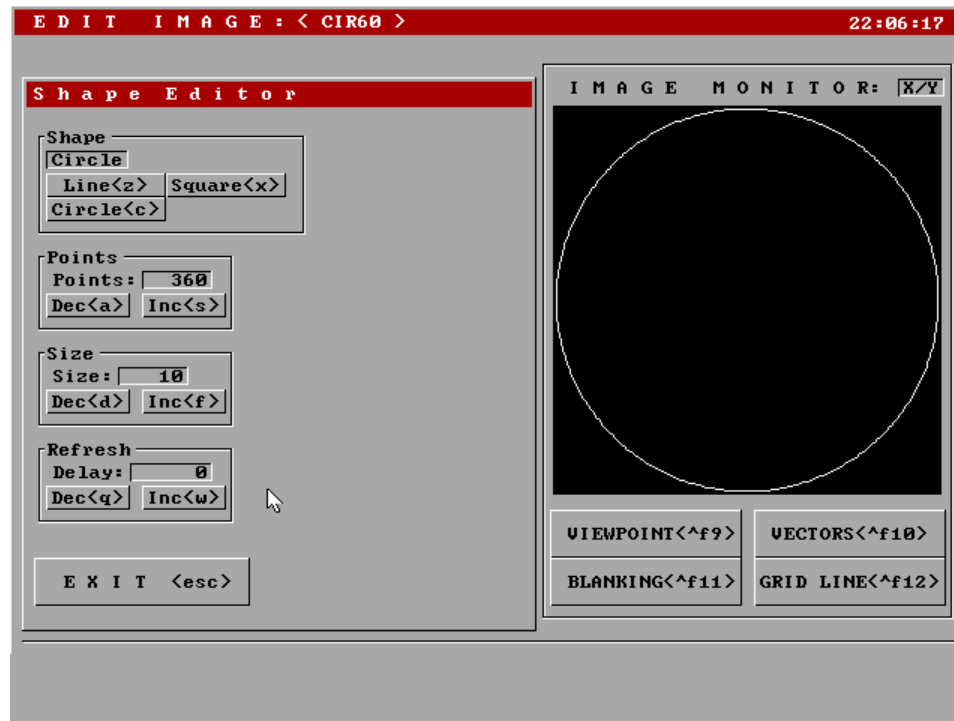


Note: Z Axis- changes may not be seen on the monitor unless the view is changed.

General Controls

EXIT <esc>
Returns to the main menu.

EDIT IMAGES: < F6> Shape Editor



The Shape Editor allows for the creation of standard geometric shapes.

Shape Controls

Selects the desired geometric shape.

- Line <z>** Selects a Line.
- Square <x>** Selects a Square.
- Circle <c>** Selects a Circle.

Point Controls

Controls the number of points in the geometric shape. The **Points** field displays the current point count in the shape.

- Dec <a>** Decrements the shape's point count.
- Inc <s>** Increments the shape's point count.

Size Controls

Controls the size of the geometric shape. The **Size** field displays the current shape size from 1 to 10.

- Dec <d>** Decrements the shape's size.
- Inc <f>** Increments the shape's size.

Refresh Controls

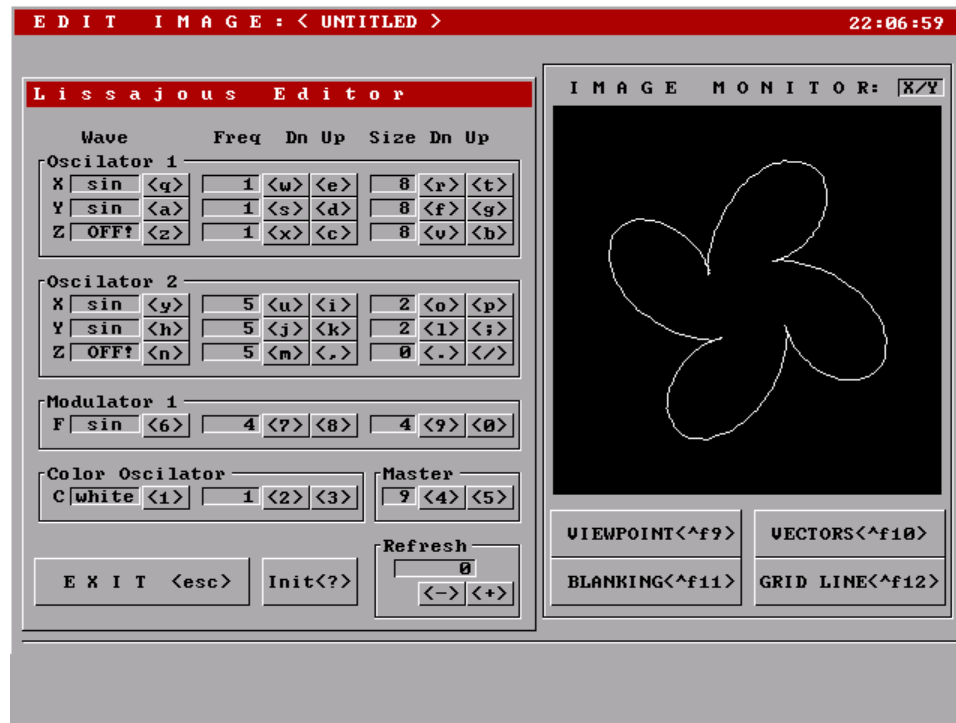
The **Delay** field displays the relative speed that the image is refreshed. Remember that there is a tradeoff between the total number of points in a shape and the refresh speed.

Dec <q> Makes the shape display slower.
Inc <w> Makes the shape display faster.

General Controls

EXIT <esc>
Returns to the main menu.

EDIT IMAGES: < F7> Lissajous Editor



The Lissajous Editor allows for the creation of various “spirographic” shapes.

Oscillator 1 Controls

Controls the X, Y & Z parameters of Oscillator 1.

- | | |
|-----------------------|--|
| Wave <q> | Selects the x oscillator’s waveform. |
| Up <w> | Increments the x oscillator’s frequency. |
| Dn <e> | Decrements the x oscillator’s frequency. |
| Up <r> | Increments the x oscillator’s size. |
| Dn <t> | Decrements the x oscillator’s size. |
| | |
| Wave <a> | Selects the y oscillator’s waveform. |
| Up <s> | Increments the y oscillator’s frequency. |
| Dn <d> | Decrements the y oscillator’s frequency. |
| Up <f> | Increments the y oscillator’s size. |
| Dn <g> | Decrements the y oscillator’s size. |
| | |
| Wave <z> | Selects the z oscillator’s waveform. |
| Up <x> | Increments the z oscillator’s frequency. |
| Dn <c> | Decrements the z oscillator’s frequency. |
| Up <v> | Increments the z oscillator’s size. |
| Dn | Decrements the z oscillator’s size. |



Note: Z Axis- changes may not be seen on the monitor unless the view is changed.

Oscillator 2 Controls

Controls the X, Y & Z parameters of Oscillator 2

Wave <y>	Selects the x oscillator's waveform.
Up <u>	Increments the x oscillator's frequency.
Dn <i>	Decrements the x oscillator's frequency.
Up <o>	Increments the x oscillator's size.
Dn <p>	Decrements the x oscillator's size.
Wave <h>	Selects the y oscillator's waveform.
Up <j>	Increments the y oscillator's frequency.
Dn <k>	Decrements the y oscillator's frequency.
Up <l>	Increments the y oscillator's size.
Dn <v>	Decrements the y oscillator's size.
Wave <n>	Selects the z oscillator's waveform.
Up <m>	Increments the z oscillator's frequency.
Dn <w>	Decrements the z oscillator's frequency.
Up <x>	Increments the z oscillator's size.
Dn </>	Decrements the z oscillator's size.



Note: Z Axis- changes may not be seen on the monitor unless the view is changed.

Modulator 1 Controls

Controls the parameters of Modulator for Oscillator 1

Wave <6>	Selects the modulator oscillator's waveform.
Up <7>	Increments the modulator oscillator's frequency.
Dn <8>	Decrements the modulator oscillator's frequency.

Color Oscillator Controls

Controls the parameters of Color Oscillator on multi-color equipped systems.

Wave <1>	Selects the modulation oscillator waveform.
Up <2>	Increments the modulation oscillator frequency.
Dn <3>	Decrements the modulation oscillator frequency.

Master Size Control

Controls the master size of the Lissajous shape.

Up <5>	Increments the Lissajous size.
Dn <4>	Decrements the Lissajous size.

Refresh Controls

The field displays the relative speed that the Lissajous is refreshed.

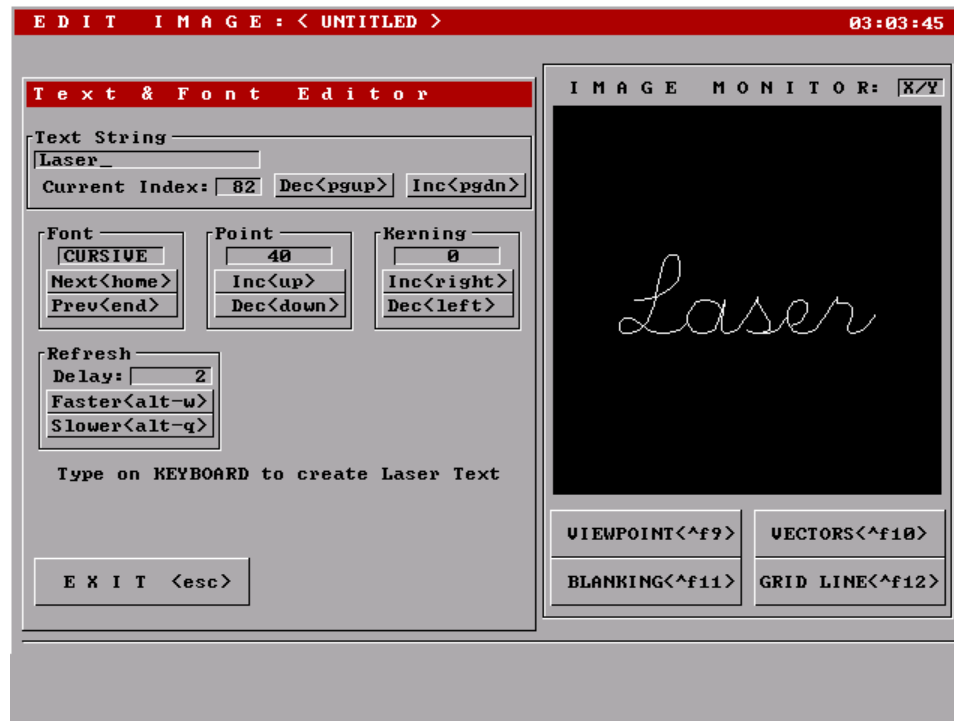
Inc <+>	Makes the Lissajous display faster.
Dec <->	Makes the Lissajous display slower.

General Controls

Defaults <+>
Resets all oscillators to their initial setting.

EXIT <esc>
Returns to the main menu.

EDIT IMAGES: < F8> Text & Font Editor



The Text & font Editor allows for the creation of text Images.

Text Controls

The **Text String** field shows the current text string. Up to 8 characters may be entered.

Index Controls

The **Current Index** control helps to select “unprintable” but legal character from the font or that are hard to generate from the keyboard.

The value shown is the current font index.

- Inc <pgdn>** Selects the next available character.
- Dec <pgup>** Selects the previously available character.

Font Controls

The **Font** field shows the current font family.

- Next <home>** Selects the next available font.
- Prev <end>** Selects the previously available font.

Point Controls

The **Size** field shows the current font size.

- Inc <up>** Increments the fonts size.
- Dec <dn>** Decrements the fonts size.

Kerning Controls

The **Kerning** field displays the relative letter spacing between the letters.

Dec <left> Makes the lissajous display slower.

Inc <right> Makes the lissajous display faster.

Refresh Controls

The **Delay** field displays the relative speed that the image is refreshed.

Slower <alt-q> Makes the lissajous display slower.

Faster <alt-w> Makes the lissajous display faster.

General Controls

EXIT <esc>

Choose this command if you want to return to the main menu.

APPENDIX A

The PARTY BLASTER Imaging Model

Base Images (Images)

PartyBlaster! images are three dimensional in nature with a resolution of 12 Bits (± 2047) along each axis (X, Y, Z). This is the image resolution displayed in the Image Editor.

$$X = \pm 2047$$

$$Y = \pm 2047$$

$$Z = \pm 2047$$

Images Gain and Offset (Scenes)

Images Gain and Offset can be adjusted with these controls. The Normal value for Gain is 100% and for Offset is 0%. If the gain is adjusted too high the image will wrap. Likewise, if the Offset is set to the extreme the image will also wrap around. These controls are normally used to correct for images, which are initially drawn too small or off center. However, since these controls are applied prior to Rotation they can also be used to generate a variety of special effects such as orbits and others. For example, to orbit an image, reduce the gain to avoid clipping and add offset to the image, and then apply rotation. Experiment for the desired effect.

$$(X * \text{Gain}) + \text{Offset} \rightarrow \text{Limited to } \pm 2047 \rightarrow X$$

$$(Y * \text{Gain}) + \text{Offset} \rightarrow \text{Limited to } \pm 2047 \rightarrow Y$$

$$(Z * \text{Gain}) + \text{Offset} \rightarrow \text{Limited to } \pm 2047 \rightarrow Z$$

Rotation (Scenes)

Images can be rotated along any of the three axes (X, Y, Z). Rotations are calculated using the standard SIN/COS transformation matrices. Remember that any Offset in an Image will change the center point of the Rotation.

$$X * \text{Rotation} \rightarrow X$$

$$Y * \text{Rotation} \rightarrow Y$$

$$Z * \text{Rotation} \rightarrow Z$$

Size/Perspective (Scenes)

Size and Perspective are calculated after an Image is rotated and determine the Size and Offset for the Scene. The Normal value for Size is 100% and for Offset is 0%. As Size is increased the Image will enlarge. Unlike the Image Gain above, increasing Size will *not* cause the Image to wrap. Rather, the Size can be increased and the Image will expand past the limits of the "frame". This because the Scene Size can be ± 4095 with only the Images ± 2047 visible. This means an Image can be expanded larger than the visible part of the Scene or moved "off frame" in any direction.

$$((X * \text{Gain}) + \text{Offset}) * \text{Perspective} \rightarrow \text{Limited to } \pm 4095 \rightarrow \text{Display to } \pm 2047 \rightarrow \text{OUT}$$

$$((Y * \text{Gain}) + \text{Offset}) * \text{Perspective} \rightarrow \text{Limited to } \pm 4095 \rightarrow \text{Display to } \pm 2047 \rightarrow \text{OUT}$$

$$((Z * \text{Gain}) + \text{Offset}) * \text{Perspective} \rightarrow \text{Limited to } \pm 4095 \rightarrow \text{Display to } \pm 2047 \rightarrow \text{OUT}$$

APPENDIX B

The PARTY BLASTER Interface Connections

Interface Specifications:

Resolution	Professional 12-Bit resolution.
Output levels	X, Y @ ±5 Volts Full Scale.
Blanking	TTL, 0V=Off, +5V = Beam On. (optional, requires modulatable lasers or equivalent)
RGB Color	TTL, 0V=Off, +5V = Color On. (optional, requires add on kit)
Connector	37-pin female D connector, 25-pin male D connector.

DB-37 Female Connector Specifications

	--		
		\	
Gnd X	19	• •	37
Dac X	18	• •	36
Gnd Y	17	• •	35
Dac Y	16	• •	34
Gnd B	15	• •	33
Dac B	14	• •	32
Gnd R	13	• •	31
Dac R	12	• •	30
DGD BI	11	• •	29
TTL BI	10	• •	28
	9	• •	27
	8	• •	26
	7	• •	25
	6	• •	24
	5	• •	23
	4	• •	22
	3	• •	21
Dac G	2	• •	20
Dac B	1	• /	
			Gnd G
			Gnd B
	--		

DB-25 Male Connector Specifications

		\	
X	1	• •	14
Y	2	• •	15
Blank	3	• •	16
Interlock	4	• •	17
Red	5	• •	18
Green	6	• •	19
Blue	7	• •	20
Violet	8	• •	21
Yellow	9	• •	22
Cyan	10	• •	23
Z Depth	11	• •	24
DigGnd	12	• •	25
Shutter	13	• /	
			Ground
	--		

Interlock (pins 4 and 17 are shorted)