VIRTUOSO® SOFTWARE

DESKTOP
PERFORMANCE STUDIO™

TECHNICAL

REFERENCE

MANUAL

DESK TOP PERFORMANCE STUDIO

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

SHOW EDITOR

Desk Top Performance Studio defines a show as a synchronized series of objects and animations. Use the Show Editor to access all the Music, Graphic, Text, Region, Speed, Linker and Delete Event Editors and to synchronize and edit object and animation libraries into shows. You can load a show from the Show Library or create a new show by combining objects and animations from the various editor libraries.

The length of a show is determined by the duration of all the objects and animations in its time stream. The insertion or deletion of an object or animation into the time stream of a show or recorded performance is an event. Any event in a show or performance is represented by a marker on the (G), (M), (T), and (R/L) time lines.

There are four categories of interaction for music, graphic and text shapes: initial shape, animation pattern, object, and object animators. Groups of notes or graphic lines are shapes. Shapes are animated by motion patterns. Animated shapes are called objects. Libraries of music, graphic or text shapes and libraries of animation patterns are combined to make music, graphic and text objects.

Graphic shapes (pictures) are animated by path, scale and rotation. Music shapes (notes) are animated by shift, envelopes, and volumes. Text shapes (letters) are animated by scrolling and wrapping. Regions can not be animated.

Speed and Linker are object animators. Speed controls the rate, increment and number of times an object executes an animation pattern. Linker overrides the current graphic animators and replaces them with the music animators (shift and volume) as the controller of graphic path, scale and rotation animations.

The Libraries area is used to bring shape, object and animation libraries to the Show Editor or Live Performance Editor, and provide access to the shapes, objects and animations saved on the numeric library grids.
Numeric Library Abbreviations:
GO Graphic Objects
G Graphic Shapes
P (path), S (scale), and R (rotate).
MO Music Objects
M Music Shapes
S (shift), (E) envelope, and V (volume). In order to animate music objects you must select voice 1, 2, 3 and/or 4 before you insert an animation.
T Text (In order to insert text objects into a show, you must insert a text region, otherwise the text can not be inserted).
R Regions
LNK Linkers
SPEED Speeds
GEO Geometric Slots
SPR Sprite Slots

A shape, object or animation library must be selected to insert shapes, objects or animations into the show or performance. To select a library and bring its contents to the numeric library grid of the Show or Performance Editors, move the cursor over GO,G,PSR, MO,M,SVE, R, T, LNK, or SPEED, press the trigger.

The GEO and SPR Slots are located above the library grids. Graphic objects must be placed into these slots to coordinate them with the Linker settings.

The numeric library grids in all editors have a 2 page storage system containing 32 storage positions for shapes, objects or animations. Next to the library grid (numbered 1 to 16) are the page select commands. Select page 1 for positions 1 to 16, page 2 for positions 17 to 32. Grid numbers do not change, both pages display the numbers 1 to 16. The library page is changed by selecting 1 or 2, the inverted number is the current library page.

Library position number 32 (page 2, number 16)in all music libraries contains a blank list for note shapes and objects. Use this position to delete a shape or object from a show or performance.

DELETE EVENT EDITOR

The Delete Event Editor is used to remove events from the show. An event is any action taken in the time stream of the show. Any time a shape, object or animation is inserted or deleted in a show or in a recorded performance, that action is displayed as a event marker on the (G), (M), (T), or (R/L) time lines of the Show Editor.

The event time lines are guides for editing animations and oblects. Each of the markers appearing on the GMTR/L time lines indicate events beginning at that point in the time stream of the show. The V pointer represents your present position in the show. It appears on top of the 30 second GMTR/L event window. On either side of the V pointer, 15 seconds of time (past and future) is represented.

Each dash on the time line represents one second of show time. Events that begin in less than one second increments do not have separate event markers but are included with the events at the nearest marker. In the show, however, they run at the time they were inserted.

The (G), (M), (T), or (R/L) time lines contain events specific to their category. Speed animations only apply to music and graphic objects, and appear as event markers on the G and M time lines.

Up to 16 (1 to G) events can be represented at any one point in time. Insertion or deletion of shapes, objects and animations appear as event markers on the appropriate GMTR/L lines. Use the Delete Event Editor to remove events from the time stream.

Insertion of a speed animation is reflected on its appropriate (G), or (M) time line.

To Access The Delete Event Editor:

Place the cursor over the event marker representing the event you want to delete on the G, M, T, or R/L time lines, press the trigger. The Delete Event Editor lists up to 16 of the events occurring at the selected marker.

To Delete An Event:

Deleting an event removes the selected shape, object or animation from the time stream of the show, but not from the library. Move the cursor over the event on the list you want to delete, press the trigger. Only the selected event is removed from the show. Deleting an animation event does not delete the object. Deleting events do not effect the contents of the libraries.

ILLUSTRATION 1   SHOW EDITOR

RUN SHOW   LIVE PERFORMANCE   NEW   STOP

SHOW TIME CLOCK   UP   00:00:00   DN   JUMP
  STEP INCREMENT   UP   00:10   DN
   V
   G
   M
   T
   R/L

DEL OBJ   STOP ANM   STEP MODE   RUN MODE
DEL BKG
                      SPR
GEO
        R   S   P   G   GO   1   5   9   13
        V   E   S   M   MO   1   2   6   10   14
1   2   3   4   T   2   3   7   11   15
ALL   SPEED   LNK   R   4   8   12   16

MUSIC   LINKER   GRAPHIC   REGION   TEXT

CLEAR   TELECOM   CONFIG   SHOW LIBRARY

8

SHOW EDITOR COMMANDS

COMMAND:	**RUN SHOW**
DESCRIPTION:	Use Run Show, accessed from the Show Editor, to view the show currently stored in memory. The run of the show can be paused by raising the menu (press the pad button).
HOW TO:	Move the cursor over Run Show, press the trigger. Press the pad button to pause during the run of the show.
NOTE:	To see a show other than the one in memory, use the Show Library command. To stop the show use Stop.

COMMAND:	**LIVE PERFORMANCE**
DESCRIPTION:	Takes your libraries to the Live Performance Editor where you can freely improvise a performance.
HOW TO:	Move the cursor over Live Performance, press the trigger.

COMMAND:	**NEW**
DESCRIPTION:	Use New to clear the show time lines to begin a new show. New clears the current show time lines but does not clear the contents of the libraries.
HOW TO:	Move the cursor over New, press the trigger.

COMMAND:	**STOP**
DESCRIPTION:	Use Stop to stop the run of the Show.
HOW TO:	Move the cursor over Stop, press the trigger.

COMMAND:	**SHOW TIME CLOCK / JUMP**
DESCRIPTION:	The Show Time Clock displays your current position in a show. When the show is paused, the current running time appears in the Show Time Clock window.
HOW TO:	To jump forward or backward in time, set the numbers on the Show Time Clock. To set the clock, move the cursor over either up (to move forward) or down (to move backward), press the trigger. Move the cursor over the numbers of the clock setting you want to change, press the trigger. A J (Jump) indicator appears over the time lines. As you change the clock time, the J follows the time adjustment by moving along the time line. When the clock displays the time you want to jump to, move the cursor over Jump, press the trigger. The show jumps to the new time. The V cursor appears at the new time. Desk Top Performance Studio calculates the new show time, drops the menu and displays that point in the show on the screen.

COMMAND:	**STEP INCREMENT**
DESCRIPTION:	Use Step Increment to set the amount of time each press of the trigger advances the show in Step Mode. This function only works in Step Mode. Each time the trigger is pressed the show advances by the amount of time set on Step Increment clock.
HOW TO:	To set the Step Increment time, move the cursor over either up (to increase) or down (to decrease) the step increment, press the trigger. Move the cursor over the numbers of the clock setting that you want to change, press the trigger until the clock displays the step increment you want.
NOTE:	Increments can be set from 1/60th of a second (:01) up to maximum of 1 second (:60). The default time is 1/10th of a second (:10).

COMMAND:	**DELETE OBJECT**
DESCRIPTION:	Use Delete Object to remove animated geometric and sprite graphic objects from the show.
HOW TO:	To delete a graphic object from the show, select Delete Object, the menu drops. Move the cursor to the graphic object on the screen that you want to delete, press the trigger and the object is deleted from that point in the show on.
NOTE:	Another way to delete objects from the show is to use the Delete Event Editor. When there are multiple objects running at the same time on the screen you may want to use the Delete Event Editor for accuracy. To delete a note shape or object a blank note list must be inserted, use M or MO library, page 2 number 16.

COMMAND:	**DELETE BACKGROUND**
DESCRIPTION:	Use Delete Background to remove non-animated background shapes and objects from the show.
HOW TO:	To delete a background shapes and objects from the show, select Delete Background, the menu drops. Move the cursor to the background shape or object on the screen that you want to delete, press the trigger and the object is deleted from that point in the show on.
NOTE:	Graphic shapes function like background objects until they are animated. Another way to delete background shapes and objects from the show is to use the Delete Event Editor. When there are multiple background shapes and objects on the screen at the same time you can use the Delete Event Editor. To delete a note shape or object a blank note list must be inserted, use M or MO library, page 2 number 16.

COMMAND:	**STOP ANIMATION**
DESCRIPTION:	Use Stop Animation to stop the animations of graphic, music and text objects running in the show.
NOTE:	There is a difference between Stop Animation and the Delete Event Editor: in the Delete Event Editor, the entire animation is removed from its beginning. With Stop Animation, you can stop the animation at any time in its progression through the time stream. Stopping an animations does not effect other animations running with the same object nor does it effect the libraries.
HOW TO:	To Stop Graphic Animations: 1. Select Stop Animation. 2. Move the cursor over (P) path, (S) scale, or (R) rotate, on the graphic line of the Libraries area and press the trigger. The menu drops. 3. Move the cursor to the object on the screen you want to edit, press the trigger. To Stop Music Animations: 1. Select Stop Animation. 2. Move the cursor to the voice number (1,2,3,4) in the Libraries area and press the trigger. 3. Move the cursor over (S), (V), or (E) on the music line of the Libraries area, press the trigger. To Stop Text Scrolling: 1. Select Stop Animation. 2. Move the cursor over (T) in the Libraries area, press the trigger. 3. Move the cursor to the text region on the screen you want to stop scrolling, press the trigger. Text cannot appear on the screen without first inserting the text region. Once you have inserted a text reion you can scroll from right to left.

COMMAND:	**STEP MODE**
DESCRIPTION:	Use Step Mode to move in programmable increments through a show. Step increments as precise as 1/60th of a second are possible.
HOW TO:	Each time the trigger is pressed, the action of the show advances by the amount of time represented on the Set Increment Clock. Once you step through the show to the point in time you want to edit, raise the menu (press the pad button), and follow the insert or delete commands.

COMMAND:	**RUN MODE**
DESCRIPTION:	In Run Mode, the trigger acts as a continuous on/off toggle. Use Run Mode to move through portions of the show.
HOW TO:	Each time the trigger is pressed and released, the show advances. To stop the

action, press the trigger or raise the menu.

Once you have run through the show and located the point in time you want to edit, press the trigger to freeze the action and raise the menu, (press the pad button). Then follow the insert or delete commands.

COMMAND: **SLOTS (GEO / SPR)**

DESCRIPTION: Use the Graphic Map area of the Linker Editor to create the interactive music animator and graphic animation synchronization. The Graphic Map area displays boxes for 8 geometric and 3 sprite objects. The three columns; (P) path, (S) scale, and (R) rotate display the voice number and type of music controller set for each animation. These 11 numbers are the interactive synchronization settings.

The graphic objects these settings refer to are set in the Show and Live Perform-ance Editors.Therefore, these settings can be applied to any graphic object through the Slot commands.

Selecting a graphic object and placing it in one of the Geo or Spr Slots causes that object to correspond to the settings of the Linker. The 11 linker boxes contain interactive music animator link controllers that apply to the objects set in the 11 Show and Live Editor Slots.

The animation links set for box Geo 1 in the Linker Editor effects the object placed in Slot 1 in the Show or Live Performance Editor.

Any graphic object can be placed in any slot. The contents of the Slots can be changed at any time by selecting another graphic object.

HOW TO: Move the cursor over GO, press the trigger. Move the cursor over one of the inverted numbers on the library grid, press the trigger. Move the cursor to one of the 11 Slots, press the trigger. The menu drops, place the cursor on the screen where you want the graphic object to execute its animation, press the trigger.

COMMAND: **R S P G GO**

DESCRIPTION: Use these symbols to bring the contents of the Rotate, Scale, Path, Graphic Shape, and Graphic Object libraries to the numeric library grid of an editor.

HOW TO: Move the cursor over either, R S P G or GO, press the trigger. Then move the cursor over the inverted number on the library grid that contains the animation, shape or object you want to insert, press the trigger.

COMMAND: **S V E M MO**

DESCRIPTION: Use these symbols to bring the contents of the Shift, Volume, Envelope, Music Shape, and Music Object libraries to the numeric library grid of an editor.

HOW TO: Move the cursor over either, S V E M or MO, press the trigger. Then move the cursor over the inverted number on the library grid that contains the animation or object you want to insert, press the trigger.

COMMAND:	**T**
DESCRIPTION:	Use T to bring the contents of the Text library to the numeric library grid of an editor.
HOW TO:	Move the cursor over T, press the trigger. Then move the cursor over the inverted library number that contains the Text object you want in your performance, press the trigger. The menu drops, move the cursor to the desired text region, press the trigger.
NOTE:	You can not insert a Text object into the Show or Live Performance editor unless you have inserted a text region. See the Region Editor section for description of HOW TO commands.

COMMAND:	**R**
DESCRIPTION:	Use R to bring the contents of the graphic and text Region library to the numeric library grid of an editor.
HOW TO:	Move the cursor over R, press the trigger. Then move the cursor over the inverted library number that contains the region you want in your performance, press the trigger. The menu drops and displays the region. See the Region Editor section for description of HOW TO commands.

COMMAND:	**LNK**
DESCRIPTION:	Use LNK to bring the contents of the Linker library to the numeric library grid of an editor.
HOW TO:	Move the cursor over LNK, press the trigger. Then move the cursor over the inverted library number that contains the link you want, press the trigger.
NOTE:	Linker animations only effect the graphic objects placed in the Slots. See the Linker Editor section for description of HOW TO commands.

COMMAND:	**SPEED**
DESCRIPTION:	Use SPEED to bring the contents of the Speed library to the numeric library grid.
HOW TO:	1. Move the cursor over SPEED, press the trigger. 2. Move the cursor over the shape, object or animation symbol in the library area that you want to effect, press the trigger. 3. Move the cursor over the inverted library number that contains the speed animation you want to insert, press the trigger.
NOTE:	When inserting speed animations into music shapes, objects or animations, the inverted Edit 1 2 3 4 voices are the ones effected. See the Speed Editor section for description of HOW TO make a Speed Animation.

COMMAND:	**MUSIC, LINKER, GRAPHIC, REGION, TEXT**
DESCRIPTION:	Selection of Music, Graphic or Text takes you to that editor where shapes and objects can be created and through which the animation editors are accessed. Selecting Region takes you to the region editor for making graphic and text regions and color palettes. Selecting Linker takes you to the linker editor for determining the music controllers of graphic animations.
HOW TO:	To access shape, object or animation editors, move the cursor over music, graphics, text or regions, press the trigger. This will take you to the editor selected. Once you are in that editor, follow the instructions to create a new shape, object, edit an existing shapes or objects, or access the animation editors. To get to the Linker Editor move the cursor over Linker, press the trigger.
NOTE:	· New shapes, objects and animations must be saved to their editor's library before they can be added to the show. See the Show Library section, in the Introduction, for a discussion of Show Library. See the individual Editor sections for specific HOW TO Save and Load instructions.The Speed Editor is accessed from the animation editors. There can be up to 12 graphic regions, or up to 12 intermixed graphic and text regions, with a maximum of 8 text regions. Each text and graphic region can have its own color palette.

COMMAND:	**CLEAR**
DESCRIPTION:	Use Clear to erase the contents of all the libraries and the time stream. Clear resets all the editors and libraries.
HOW TO:	Move the cursor over Clear, press the trigger. A menu appears asking if you are sure. Press Y for Yes N for No.

COMMAND:	**TELECOM**
DESCRIPTION:	Use Telecom to get to the Telecommunications Editors.
HOW TO:	Move the cursor over Telcomm, press the trigger.

COMMAND:	**CONFIG (SET CONFIGURATION)**
DESCRIPTION:	Use Config to change the initial configuration setup of Desktop Performance Studio for you computer.
HOW TO:	Move the cursor over Config, press the trigger.
NOTE:	The first time you boot Desktop Performance Studio the Configuration screen appears. Once the identification process for your computer system is completed it is automatically saved to the master disk when you exit, All future future boots will reflect that configuration. See the Desktop Performance User's Guide for a description of the configuraion setup commands.

SHOW LIBRARY COMMANDS

COMMAND: **SHOW LIBRARY**

DESCRIPTION: Use SHOW LIBRARY to access the Show Library where shows and performances can be saved to or loaded from a storage disk.

HOW TO: Move th cursor over Show Librar, press the trigger.

NOTE: When Show Library is selected, a prompt appears asking you to remove the master disk, insert the storage disk, and press the trigger when ready.
Shows and libraries cannot be saved on side one of the master disk. You must either use side two of the master disk for storage; or format a blank disk for storage. The Desktop Performance Studio format command is on the Show Library menu, or use any standard DOS format proceedure.
After a show has been saved or loaded, if you select Exit to Show Editor, a prompt appears asking you to insert the master disk and press the trigger.

COMMAND: **SAVE**

DESCRIPTION: Use Save Show to save a show to a storage disk under a new or existing name. Each show name can have up to 11 characters.

HOW TO: Select Save, move the cursor to the position on the library list where you want to save a show, press the trigger. A new menu appears prompting the use of the keyboard to type the name of your show; press return when completed.

NOTE: Using the name of a show already saved, replaces that show with the new show.

COMMAND: **LOAD**

DESCRIPTION: Use Load Show to load a show from the storage disk into the Show Editor.

HOW TO: Select Load, move the cursor to the show name on the library list that you want to Load, press the trigger. This automatically takes you to the Show Editor.

NOTE: The Desk Top Performance Studio demonstration shows are saved on side 2 of the Master disk.

COMMAND: **DELETE**

DESCRIPTION: Use Delete Show to delete a show from the storage disk. Do not use this command unless you want to delete the show time stream along with all the object and animation libraries associated with that show.

HOW TO: Select Delete, move the cursor to the show name on the library list that you want to delete, press the trigger.

NOTE: Deleting a show deletes everything connected with that show. Deleting a show not only removes the show time stream, it also deletes all the object and animation libraries.

COMMAND: **FORMAT**

DESCRIPTION: The format command is used to prepare a disk for storage of shows, performances and libraries.

HOW TO: Remove the Master Disk from the disk drive and insert the disk to be formatted. Move the cursor over Format, press the trigger.

NOTE: Side 1 of the Master Disk can not be formatted, side 2 is formatted and can be used for storage of up to 12 shows.

COMMAND: **EXIT TO SHOW EDITOR**

DESCRIPTION: Takes you back to the Show Editor.

HOW TO: Move the cursor over Exit to Show Editor, press the trigger.

NOTE: After you have saved or loaded a show, if you select Exit to Show Editor, a prompt appears asking you to insert the Master Disk and press the trigger.

SHOW EDITOR - FEATURE SUMMARY

Editing A Show: There are three ways to locate a position in a show for editing: Run Mode, Step Mode and the Show Time Clock.

Use Run mode to continuously run and stop the show with trigger control. Use Step mode to step through the show in the time increment you choose on the Set Step Increment clock, with trigger control. Step Mode and Run Mode provide a "stop-watch" for locating show positions so you can make accurate edits. Whenever you advance the show, the Show Time Clock automatically displays the current time.

Another way to move through the show is to use the Show Time Clock to "jump" forward or backward in time. The Show Time Clock indicates your position in the show.

The GMTR/L time line event window has a fixed length of 30 seconds. All events occurring 15 seconds before and 15 seconds after the time set on the Show Time Clock are represented by numeric markers on the (G), (M), (T) and (R/L) time lines.

The GMTR/L time lines have a pointer, represented by the letter V, which appears directly over the time lines. This V pointer marks your current position within the 30 second event window and indicates your position relative to the events on the (G), (M), (T) and (R/L) time lines below.

The numeric markers on the time lines represent the position and number of events beginning at that time in the show. Events occurring in the Region and Linker libraries are both indicated on the R/L time line.

To Insert Objects Into A Show (without Linker animations):
1. Move the cursor over (GO), (MO), (T), or (R) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
2. Move the cursor to the inverted number on the storage library that contains the object you want to insert, press the trigger.
3. For graphics: use the pad button to drop the menu, move the cursor to the point on the screen where you want insert the object, press the trigger.
For music: objects are automatically inserted into the inverted Edit 1 2 3 4 voices.
For text: the menu drops, move the cursor to the selected region, press the trigger.
For regions: the menu drops displaying the selected region.

To Insert Shapes Into A Show (without Linker animations):
1. Move the cursor over (G) or (M) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
2. Move the cursor to the inverted number on the storage library that contains the shape you want to insert, press the trigger.
3. For graphics: use the pad button to drop the menu, move the cursor to the point on the screen where you want insert the shape, press the trigger.
For music: shapes are automatically inserted into the inverted Edit 1 2 3 4 voices.

To Insert Graphic and Music Objects Into A Show (with Linker Animations):
1. Move the cursor over Lnk, press the trigger. Move the cursor over the inverted number in the library area that contains the Link you want to insert, press the trigger.
2. For graphics: move the cursor over (GO) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
For music: move the cursor over (MO) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
3. For graphics and music: move the cursor to the inverted number on the storage library that contains the graphic or music object you want to insert, press the trigger.
4. For graphics: move the cursor to the Graphic Slot that you want to contain that graphic object, press the trigger. The menu drops. Move the cursor to the point on the screen where you want insert the object, press the trigger.
For music: objects are automatically inserted into the voices in which they were saved in the Note ObjLib.

To Insert Graphic Animations Into A Show:
1. Move the cursor over (P), (S) or (R) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
2. Move the cursor to the inverted number on the numeric library that contains the animation you want to insert, press the trigger. The menu drops.
3. Move the cursor to the object on the screen you want animate, press the trigger.

To Insert Music Animations Into A Show:

1. Select the Edit 1 2 3 4 voice numbers.
2. Move the cursor over (S), (V) or (E) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
3. Move the cursor to the inverted number on the numeric library that contains the animation you want to insert, press the trigger.
4. Animations are automatically inserted into the inverted Edit 1 2 3 4 voices.

To Insert Regions or Linkers Into A Show:

1. Move the cursor over (R) or (LNK) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.
2. Move the cursor to the inverted number on the numeric library that contains the region or link you want to insert, press the trigger.

To Insert Speed Animations Into A Show:

1. Move the cursor over SPEED, press the trigger.
2. Move the cursor over the shape, object or animation symbol in the library area that you want to effect, press the trigger.
3. Move the cursor over the inverted library number that contains the speed animation you want to insert, press the trigger.
4. When inserting speed animations into music shapes, objects or animations, the inverted Edit 1 2 3 4 voices are the ones effected.

To Insert Text Scolling Into A Show:

1. insert text. Select Speed..
2. Move the cursor over T, press the trigger.
3. Move the cursor over an inverted library number that contains the speed pattern you want to insert, press the trigger.
4. Move the cursor to the text region on the screen that you want to animate, press the trigger.

Text cannot appear on the screen without first inserting a text region. Once a text region has been inserted you can scroll text from right to left.

Use this editor to create live performances of music and graphics. Once you have created a library of shapes, objects and animations in the shape, object and animation editors, you can improvise and perform using the libraries, live cursor controls, and instant edit commands.

In the Linker Editor, music can be selected as the controller of the graphic animators. You can select the shift and volume animation patterns and make them the controllers of any graphic object animation.

Live Performance Editor performances can be recorded, saved, and taken to the Show Editor for further editing.

In the Live Performance Editor you can use the cursor to independently control the transposition, volume and speed of each of the 4 music voices.
You can accurately modify key, transposition (shift, chromatic and linear), speed and volume through the increment and decrement commands.

In the Live Performance Editor insertions of objects or animations from the libraries do not interrupt the performance.

IILLUSTRATION 2   LIVE PERFORMANCE EDITOR MENU

```
                    LIVE PERFORMANCE EDITOR                    00:00

NEW   RUN    STOP        DELOBJ                    PAUSE ON/OFF
RECORD ON/OFF           DEL BKG
                                         SPR
         GEO

            R     S     P     G     GO        1     5     9     13
            V     E     S     M     MO   1    2     6     10    14
                                    T    2    3     7     11    15
            SPEED       LNK         R         4     8     12    16

PLAY                                EDIT
ALL  1     2     3     4            ALL  1    2     3     4

                                    CURSOR  T  S  V

        C  L  S
TRANS        U    1     2     3     4     5     6     7     8 RESET
SPEED        U    1     2     3     4     5     6     7     8 RESET
VOLUME       U    1     2     3     4     5     6     7     8 RESET

                   MA  NM  HM  CH  WT  PT  B1  B2  RESET
                        TO SHOW EDITOR
```

00:00 (Clock)

DESCRIPTION: The clock on the upper right corner of the Live Performance editor is a clock displays the elapsed time of performances.

HOW TO: No user action is required, the clock runs when the performance is in Run mode; and stops during Pause On or Stop modes.

COMMAND: **NEW**

DESCRIPTION: Use New to begin a new performance. New clears the Live Performance the time stream editors of the current performance. New does not clear the libraries.

HOW TO: Move the cursor over New, press the trigger.

COMMAND: **RUN**

DESCRIPTION: Use Run to play the recorded portions of your performance from the beginning.

HOW TO: Move the cursor over Run, press the trigger.

COMMAND: **STOP**

DESCRIPTION: Use Stop to stop the Live Performance.

HOW TO: Move the cursor over Stop, press the trigger.

NOTE: Once you have selected Stop you can not restart the performance at that point, you can only use Run, which plays the recorded performance from the beginning.
If you want to stop and start again and the same point: use Pause On to stop the performance, and Pause Off to continue playing from the same point.

COMMAND: **DELETE OBJECT**

DESCRIPTION: Use Delete Object to remove graphic objects from the Live Performance Editor.

HOW TO: To delete an object from the live editor, move the cursor over Del Obj, press the trigger, the menu drops. Move the cursor over the moving object you want to delete, press the trigger, the object is deleted at that point in the live editor. Select Pause On, or the performance continues to run and you will have to "catch" the graphic objects with cursor.

NOTE: The Delete Event Editor is not accessible from the Live Performance Editor, however you can take your performance to the Show Editor by selecting Exit to Show Editor.
A blank note list must be inserted to delete note shapes from the performance. Use M or MO library page 2, number 16.

COMMAND:	**DELETE BACKGROUND**
DESCRIPTION:	Use Delete Background to remove non-animated background shapes and objects from the performance.
HOW TO:	To delete a background shapes and objects from the performance, select Delete Background, the menu drops. Move the cursor to the background shape or object on the screen that you want to delete, press the trigger and the object is deleted from that point on.
NOTE:	Graphic shapes function like background objects until they are animated. Another way to delete background shapes and objects from the recorded portion of the performance is to use the Delete Event Editor. A blank note list must be inserted to delete note shapes from the performance. Use M or MO library page 2, number 16.

COMMAND:	**PAUSE ON**
DESCRIPTION:	Use Pause On to pause the performance. When Pause On is selected the music voices audibly hold the last note played; the graphics, texts and regions "freeze" on the screen. During Pause On, you can insert or delete events at that point in the time stream.
HOW TO:	Move the cursor over Pause On, press the trigger.

COMMAND:	**PAUSE OFF**
DESCRIPTION:	Use Pause Off to cancel Pause On and to resume the performance. If you have not made any changes, the performance continues to run the same objects and animations when you select Pause On. If you have inserted or deleted from the time stream, the performance runs with the new edits.
HOW TO:	Move the cursor over Pause Off, press the trigger.

COMMAND:	**RECORD ON**
DESCRIPTION:	Use Record On to record the sequence of events generated by your performance.
HOW TO:	Move the cursor over Record On, press the trigger.
NOTE:	There is a limit to the available Atari RAM memory for recording events. In a complicated performance you may run out of memory. Use the Record Off mode to perform without any time limit, and use Record On to record sections of performances. Recorded portions of performances can be taken to the Show Editor for additional editing by selecting Exit to Show Editor.

21

COMMAND	**RECORD OFF**
DESCRIPTION:	Use Record Off when you do not want to record your performances.
HOW TO:	Move the cursor over Record Off, press the trigger.
NOTE:	In this mode there is no time limit to the performance.

COMMAND:	**SLOTS (GEO / SPR)**
DESCRIPTION:	Use the Graphic Map area of the Linker Editor to create the interactive music animator and graphic animation synchronization. The Graphic Map area displays boxes for 8 geometric and 3 sprite objects in three columns; (P) path, (S) scale, and (R) rotate. These 11 numbers represent only the interactive synchronization settings.

The graphic objects that these settings refer to are set in the Show and Live Performance Editors. Therefore, these settings can be applied to any graphic object through the Slot commands.

Selecting a graphic object and placing it in one of the Geo or Spr Slots causes that object to correspond to the settings of the Linker. The 11 linker boxes contain interactive link patterns that apply to the 11 Slots. The animation links set for box Geo 1 in the Linker Editor effects the object placed in Slot 1 in the Show or Live Performance Editor.

Any graphic object can be placed in any slot. The contents of the Slots can be changed at any time by selecting another graphic object. |

HOW TO:	Move the cursor over GO, press the trigger. Move the cursor over one of the inverted numbers on the library grid, press the trigger. Move the cursor to one of the 11 Slots, press the trigger. The menu drops, place the cursor on the screen where you want the object to execute its animation, press the trigger.

COMMAND:	**R S P G GO**
DESCRIPTION:	Use these symbols to bring the contents of the Rotate, Scale, Path, Graphic Shape and Graphic Object libraries to the numeric library grid.
HOW TO:	Move the cursor over either, R S P G or GO, press the trigger. Then move the cursor over the inverted number on the library grid that contains the animation or object you want to insert, press the trigger.

COMMAND:	**S A V M MO**
DESCRIPTION:	Use these symbols to bring the contents of the Shift, Volume, Envelope, Music Shape and Music Object libraries to the numeric library grid.
HOW TO:	Move the cursor over either, S V E M or MO, press the trigger. Then move the cursor over the inverted number on the library grid that contains the animation or object you want to insert, press the trigger.

COMMAND:	**T**
DESCRIPTION:	Use T to bring the contents of the Text library to the numeric library grid.
HOW TO:	Move the cursor over T, press the trigger. Then move the cursor over the inverted library number that contains the Text object you want in your performance, press the trigger. The menu drops, move the cursor to the desired text region, press the trigger.
NOTE:	You can not insert a Text object into the performance editor unless you have already inserted a Text Region. (See the Region Editor section for description of HOW TO commands).

COMMAND:	**R**
DESCRIPTION:	Use R to bring the contents of the graphic and text Region library to the numeric library grid.
HOW TO:	Move the cursor over R, press the trigger. Then move the cursor over the inverted library number that contains the Region you want in your performance, press the trigger. The menu drops and displays the region.
NOTE:	There can be up to 12 graphic regions, or up to 12 intermixed graphic and text regions, with a maximum of 8 text regions. Each text and graphic region can have its own color palette.

COMMAND:	**LNK**
DESCRIPTION:	Use LNK to bring the contents of the Linker library numeric library grid.
HOW TO:	Move the cursor over LNK, press the trigger. Then move the cursor over the inverted library number that contains the Link you want, press the trigger.
NOTE:	Linker animations only effect the graphic objects you have placed in the Slots. (See the Linker Editor section for description of HOW TO commands). Shift and Volume animations can be used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors through settings in the Linker Editor. The loop and speed settings determine the number and rate of executions of graphic animations. In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 is the largest). When a loop/speed/increment animation is applied to a shift or volume animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes or volumes of each successive loop of the object. The numbers 1 to 8 indicate the redraw increment that each half step interval or single step volume change generates. For example: if the increment is set to 2 and the resulting first notes of the shift animation starts on C, and then E and A as the first notes of successive loops, then the redraw calculation produces increments of 8 (C to E) and 10 (E to A). And for example: if the increment is set to 3 and the resulting first volume setting of

the volume animation is volume 2, and then volume 6 and 9 as the first volumes of successive loops, then the redraw calculation produces increments of 8 (2 to 6) and 6 (6 to 9).

COMMAND:	**SPEED**
DESCRIPTION:	Use SPEED to bring the contents of the Speed library to the numeric library grid.
HOW TO:	1. Move the cursor over SPEED, press the trigger. 2. Move the cursor over the shape, object or animation symbol in the library area that you want to effect, press the trigger. 3. Move the cursor over the inverted library number that contains the speed animation you want to insert, press the trigger.
NOTE:	When inserting speed animations into music shapes, objects or animations, the inverted Edit 1 2 3 4 voices are the ones effected. See the Speed Editor section for description of HOW TO make a Speed Animation.

COMMAND:	**PLAY ALL 1 2 3 4**
DESCRIPTION:	Use these indicators to determine which voice is heard during performances. Any combination of the 4 voices can be selectively toggled on and off. Inverted numbers indicate the voices that are heard. The music objects and animations playing in the voice are not changed, only the audible output of the selected voice(s) is effected.
HOW TO:	Move the cursor over the voices you want to hear or not hear, press the trigger. Inverted numbers indicate voices on.

COMMAND:	**EDIT ALL 1 2 3 4**
DESCRIPTION:	Use these indicators to determine which voice is effected by the insertion of music into the performance editor. These indicators toggle on and off allowing you to create multiple voice insertions. Inverted numbers indicate the voices that any library or cursor actions effect.
HOW TO:	Move the cursor over the number (s) you want to toggle on or off, press the trigger.

COMMAND:	**CURSOR T S V**
DESCRIPTION:	Use these indicators to determine which live animation mode the cursor controls. Selecting T causes the cursor to Transpose the voice(s) selected either up or down in pitch, and transposes the entire note pattern including any Shift patterns. S causes the selected voice(s) to increase or decrease in Speed. V causes the selected voice(s) to get louder or softer. Only one mode at a time is selectable.
HOW TO:	Move the cursor over either T, S, or V, press the trigger.

NOTE:	Only the selected voices are effected.
	Cursor transposition has three modes: shift, chromatic and linear. Mode is determined by the inverted S, C, or L indicator.
	The rate of change that the cursor initiates is determined by the inverted number on the TRANS, SPEED, and VOLUME lines.
	The direction of the cursor transposition is not effected by the U/D status of the TRANS, SPEED, or VOLUME lines.
	In Record On, the live cursor only records the trans, speed or volume changes each time the trigger is pressed. Move the cursor up and down until you have the effect you want, then press the trigger to record.

COMMAND:	**TRANS C L S U/D 1 2 3 4 5 6 7 8 RESET**
DESCRIPTION:	Use these indicators to transpose the note setting of the selected voices up or down by intervals. S = Shift transposition (within the original object key). C = Chromatic transposition by half step intervals (changes the original object key). L = Linear interval transposition (eliminates all key settings). Linear intervals are smaller than one half step, there are about 10 linear intervals to each half step.
	The numbers 1 through 8 indicate the number of S, C, or L intervals that the selected voices transpose. In S (Shift) the numbers 1-8 indicate the number of key degrees the object transposes. In C (Chromatic) the numbers 1-8 indicate the number of half steps the object transposes.
	In L (Linear) the numbers 1-8 indicate the number of 10th steps the object transposes.
	Adjustments to the Trans line increase or decrease the shift settings when a loop/speed pattern is running.
HOW TO:	Move the cursor over either S, C, or L, press the trigger. Move the cursor over the U/D (up/down) toggle and press the trigger.
	Move the cursor over the number representing the distance of the transposition, press the trigger. The transposition occurs immediately.NOTE:Only the selected voice(s) are effected.
	The S, C, L, or 12345678 settings on this line directly effect the live cursor status. Any transposition made by the cursor occurs in the mode and the interval set.
	U/D does not effect the cursor actions.
	Reset returns the selected voice to its original object setting.
	In Record On, the live cursor only records the trans, speed or volume changes each time the trigger is pressed. Move the cursor up and down until you have the effect you want, then press the trigger to record.

COMMAND:	**SPEED U/D 1 2 3 4 5 6 7 8 RESET**
DESCRIPTION:	Use these indicators to increase or decrease the current speed of the selected voice(s). U/D is the up down toggle. The numbers 1 through 8 indicate the amount of increase or decrease.
	Adjustments to the speed line increase or decrease the speeds set when a loop/speed pattern is running.

HOW TO:	Move the cursor over U or D, as necessary, press the trigger. Move the cursor over the number representing the amount of speed change, press the trigger.
NOTE:	Only the selected voice(s) are effected. Selecting an increase or decrease in Speed causes a proportional change in the executing Speed patterns. The 12345678 settings on this line directly effect the live cursor status. Any speed change made by the cursor occurs in the increment set. U/D does not effect the cursor actions. Reset returns the selected voice to its original object setting. In Record On, the live cursor only records the trans, speed or volume changes each time the trigger is pressed. Move the cursor up and down until you have the effect you want, then press the trigger to record.

COMMAND:	**VOLUME U/D 1 2 3 4 5 6 7 8 RESET**
DESCRIPTION:	Use these indicators to increase or decrease the Volume of selected voice(s). U/D is the up down toggle. The numbers 1 through 8 indicate the amount of increase or decrease. Adjustments to the Volume line increase or decrease the volumes set when a loop/speed pattern is running.
HOW TO:	Move the cursor over U or D, as necessary, press the trigger. Move the cursor over the number representing the amount of the desired Volume change, press the trigger.
NOTE:	Only the selected voice(s) are effected. Selecting an increase or decrease in Volume causes a proportional change in the entire Volume pattern.The 12345678 settings on this line directly effect the live cursor status. Any change in volume made by the cursor occurs in the increment that is set. U/D does not effect the cursor actions. Reset returns the selected voice to its original object setting. In Record On, the live cursor only records the trans, speed or volume changes each time the trigger is pressed. Move the cursor up and down until you have the effect you want, then press the trigger to record.

COMMAND:	**MA NM HM CH WT PT B1 B2 RESET**
DESCRIPTION:	Use these indicators to change the current Key of any of the voices. MA = major, NM = natural minor, HM = harmonic minor, CH = chromatic, WT = whole tone, PT = pentatonic, B1 = blues 1, B2 = blues 2.
HOW TO:	Move the cursor over the desired Key, press the trigger.
NOTE:	Only the selected voices are effected. Reset changes the selected voice back to the Key of the original object.

COMMAND:	**EXIT TO SHOW EDITOR**
DESCRIPTION:	Use this command to exit from the Live Performance Editor and return to the Show Editor.
HOW TO:	Move the cursor over Exit to Show Editor, press the trigger.
NOTE:	If you have used Record On, the recorded portion of your performance is moved to the Show Editor for further editing.

LIVE PERFORMANCE EDITOR - FEATURE SUMMARY

Creating a Performance:

Use Run mode to continuously run the performance. Use Pause On and Pause Off to pause the performance. In Pause On mode, the music "freezes" while playing the last notes. During Pause On make any number of synchronized insertions of shapes, objects or animations.

Record On is used to record portions of performances. The memory capacity of the Atari is limited, so use the Record On and Record Off functions selectively. The recorded portions of a performance can be taken to the Show Editor for additional editing.

To Insert Objects Into A Performance (without Linker animations):

1. Move the cursor over (GO), (MO), (T), or (R) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
2. Move the cursor to the inverted number on the storage library that contains the object you want to insert, press the trigger.
3. For graphics: use the pad button to drop the menu, move the cursor to the point on the screen where you want insert the object, press the trigger.
For music: objects are automatically inserted into the inverted Edit 1 2 3 4 voices.
For text: the menu drops, move the cursor to the selected region, press the trigger.
For regions: the menu drops displaying the selected region.

To Insert Shapes Into A Performance (without Linker animations):

1. Move the cursor over (G) or (M) in the Libraries area, press the trigger to bring that numeric storage library to the Show Editor.
2. Move the cursor to the inverted number on the storage library that contains the shape you want to insert, press the trigger.
3. For graphics: use the pad button to drop the menu, move the cursor to the point on the screen where you want insert the shape, press the trigger.
For music: shapes are automatically inserted into the inverted Edit 1 2 3 4 voices.

To Insert Graphic and Music Objects Into A Performance (with Linker Animations):

1. Move the cursor over Lnk, press the trigger. Move the cursor over the inverted number in the library area that contains the Link you want to insert, press the trigger.
2. For graphics: move the cursor over (GO) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.

27

For music: move the cursor over (MO) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.

3. For graphics and music: move the cursor to the inverted number on the storage library that contains the graphic or music object you want to insert, press the trigger.

4. For graphics: move the cursor to the Graphic Slot that you want to contain that graphic object, press the trigger. The menu drops. Move the cursor to the point on the screen where you want insert the object, press the trigger.

For music: objects are automatically inserted into the voices in which they were saved in the Note ObjLib.

To Insert Graphic Animations Into A Performance:

1. Move the cursor over (P), (S) or (R) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.

2. Move the cursor to the inverted number on the numeric library that contains the animation you want to insert, press the trigger. The menu drops.

3. Move the cursor to the object on the screen you want animate, press the trigger.

To Insert Music Animations Into A Performance:

1. Select the Edit 1 2 3 4 voice numbers.

2. Move the cursor over (S), (V) or (E) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.

3. Move the cursor to the inverted number on the numeric library that contains the animation you want to insert, press the trigger.

4. Animations are automatically inserted into the inverted Edit 1 2 3 4 voices.

To Insert Regions or Linkers Into A Performance:

1. Move the cursor over (R) or (LNK) in the Libraries area, press the trigger to bring that numeric storage library to the Performance Editor.

2. Move the cursor to the inverted number on the numeric library that contains the region or link you want to insert, press the trigger.

To Insert Speed Animations Into A Performance:

1. Move the cursor over SPD, press the trigger.

2. Move the cursor over the shape, object or animation symbol in the library area that you want to effect, press the trigger.

3. Move the cursor over the inverted library number that contains the speed animation you want to insert, press the trigger.

4. When inserting speed animations into music shapes, objects or animations, the inverted Edit 1 2 3 4 voices are the ones effected.

To Insert Text Scolling Into A Performance:

1. insert text. Select Speed..

2. Move the cursor over T, press the trigger.

3. Move the cursor over an inverted library number that contains the speed pattern you want to insert, press the trigger.

4.Move the cursor to the text region on the screen that you want to animate, press the trigger.

SPEED EDITOR

In the Speed Editor variable interactive loop, speed and increment patterns can be set and applied to the animation of any graphic or music object.

The loop count is the number of times an object executes its animation pattern; speed is the rate at which loop executes; increment is the distance an object moves between each redraw and applies only to the path, scale and rotation animations of graphic objects.

An independent redraw increment factor for graphic animations can be set for each loop/speed/increment pattern. Speed Editor increment settings are overridden by the Interval Increment settings of the Linker Editor.

There are up to 8 sequential settings for loop/speed/increment patterns. At the end of the execution of the 8 settings, the entire pattern automatically repeats.

Variable speed is essential to creating layered sound and graphics. Write a five note music object. Apply shift, volume and envelope animations. Apply different loop/speed/increment patterns to the notes, shifts, and volumes. Finally place graphic objects in the linker slots so the music controls the graphic animations.

In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 is the largest). When a loop/speed/increment animation is applied to a shift or volume animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes or volumes of each successive loop of the object. In Linker modes, the numbers 1 to 8 indicate the redraw increment each half step interval or single step volume change that each successive loop of the music object generates.

In the Speed Editor, the name of the editor you just came from is displayed on the top line of the menu. Use the Exit To Animator command at the bottom of the Speed Editor to return to that editor.

ILLUSTRATION 3   SPEED EDITOR

——— SPEED CONTROL

```
LOOPS        UP DN   01 00 00 00 00 00 00 00
SPEED        UP DN   10 00 00 00 00 00 00 00
INCRE        UP DN   03 00 00 00 00 00 00 00

                          1    5    9   13
                     1    2    6   10   14
                     2    3    7   11   15
                          4    8   12   16

                            SAVE    LOAD
            EXIT TO ANIMATOR
```

SPEED EDITOR COMMANDS

COMMAND: **LOOPS**

DESCRIPTION: A Loop is one execution of an animation pattern from beginning to end. Use Loops to determine the number of times an object executes its animation pattern in conjunction with its speed and increment settings. A pattern of up to 8 loop settings can be set, each with its own speed setting, and in the case of path animations, increment setting.

The Speed Editor presets the first loop count setting to 1 loop, at speed 10, with increment 3. The maximum number of loops for each setting is 99, the minimum 1.

HOW TO: It is not necessary to select the word Loops. The number of loops the object executes is set by changing the numbers on the Loop line. UP is the preset condition. Move the cursor over the first set of numbers (01), press the trigger. Each time you press the trigger the number the cursor is pointing to increments by 1. To decrement the numbers, select Down. When you have set the first set of numbers to the desired loop count, move the cursor over the second set of numbers and repeat the procedure for up to 8 Loop settings.

NOTE: You must save your patterns before you leave the Speed Editor, or they will be lost.

COMMAND: **SPEED**

DESCRIPTION: The rate at which an object executes an animation is its Speed. Use Speed to determine the rate at which Loops execute.

The number of times an object executes its animation pattern is determined by the loop count, the rate of each loop setting is determined by the speed settings. You can set a pattern of 8 loop/speed/increment settings. The Speed Editor presets the first speed setting to 10, loop 1, increment 3. The fastest speed is 1, the slowest speed 99.

HOW TO: It is not necessary to select the word Speed. The speed the object executes its animation is set by changing the numbers on the Speed line. UP is the preset condition. Move the cursor over the first set of numbers (10), press the trigger. Each time you press the trigger the number the cursor is pointing to increments by 1. To decrement the numbers, select Down. When you have set the first set of numbers to the desired speed, move the cursor over the second set of numbers and repeat the procedure for up to the 8 Speed settings.

NOTE: You must Save your patterns before you leave the Speed Editor, or they will be lost.

COMMAND: **INCRE (INCREMENT)**

DESCRIPTION: Increment controls the distance between each redraw of a graphic object during the execution of its animations. The increment factor can be included in the pattern of loops and speeds or it can be controlled by the Interval Increment factor set in the Linker Editor.

The number of times an object executes its animation pattern is determined by the loop count, the rate of the loops is determined by the speed settings, and the

increments of the graphic redraw by the increment settings. You can set a pattern of up to 8 increment settings.

Increment settings apply to graphic animations but can be controlled by music animators. The Linker Interval Increment overrides the graphic increments set in the Speed Editor, and increments the object according to the changes in shift and volume.

The Speed Editor presets the first increment setting to 3, speed 10, loop 1. The minimum increment is 1 pixel, the maximum 8.

HOW TO:
It is not necessary to select the word Increment. The increment ratio is set by changing the numbers on the Increment line. UP is the preset condition. Move the cursor over the first set of numbers (03), press the trigger. Each time you press the trigger the number the cursor is pointing to increments by 1. To decrement the numbers, select Down. When the first set of numbers have been set to the desired increment, move the cursor over the second set of numbers and repeat the procedure for up to the 8 Increment settings.

NOTE:
Increment settings apply only to graphic object animations. Save your loop/speed/increment settings before leaving the Speed Editor, or they will be lost.

COMMAND: **PLAY ALL 1 2 3 4**

DESCRIPTION:
Use these indicators to determine which voice is heard during speed edits. Any combination of the 4 voices can be selectively toggled on and off. Inverted numbers indicate the voices that are heard. The music objects and animations playing in the voice are not changed, only the audible output of the selected voice(s) is effected.

HOW TO:
Move the cursor over the voices you want to hear or not hear, press the trigger. Inverted numbers indicate voices on.

COMMAND: **SAVE**

DESCRIPTION:
Use Save to save loop/speed/increment settings to the numeric library grid.

HOW TO:
Move the cursor over Save, press the trigger. Move the cursor over one of the numeric library positions, press the trigger.

NOTE:
Saving over an inverted library number replaces the shape or object saved in that location. The selected number inverts, indicating the shape or object has been saved.

COMMAND: **LOAD**

DESCRIPTION:
Use Load to load a saved loop/speed/increment setting to the Speed Editor.

HOW TO:
Move the cursor over Load, press the trigger.

COMMAND:	**EXIT TO ANIMATOR**
DESCRIPTION:	In the Speed Editor, the name of the editor you just came from is displayed on the top line of the menu. Use the Exit To Animator command at the bottom of the Speed Editor to return to that editor.
HOW TO:	Move the cursor over Exit to Animator, press the trigger.

LINKER EDITOR

Use the Linker Editor to create a series of settings that determine which music animator controls which graphic animation. Shift and Volume animators are the controllers of the path, scale and rotation animations of graphic objects.

ILLUSTRATION 4 -   LINKER PERFORMANCE EDITOR MENU

LINKER PERFORMANCE EDITOR

```
                                        GRAPHIC MAP
                                    P       S       R
SHIFT            VOLUME      GEO1
VCE   1          1         1         2
      2          1         1         3
      3          1         1         4
      4          1         1         5
                                    6
INTERVAL  INCREMENT                 7
1  2    3    4    5    6    7    8   8

      1    5    9    13    SPR1
1     2    6    10   14          2
2     3    7    11   15          3
      4    8    12   16
      SAVE     LOAD

CLEAR         TO SHOW EDITOR
```

COMMAND:	**SHIFT**
DESCRIPTION:	Use Shift to select the shift animator as the controller of the path, scale and rotation animations of graphic objects and to set the interval increment factor for those animations.

Shift animations are used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors through settings in the Linker Editor. The loop, speed and increment settings determine the number, rate and redraw increment for graphic animations.

In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 the largest). When a loop/speed/increment animation is applied to a shift animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes of each successive loop of the object. The numbers 1 to 8 indicate the redraw increment that each half step interval change generates.

For example: if the increment is set to 2 and the resulting first notes of the shift animation starts on C, and then E and A as the first notes of successive loops, then the redraw calculation produces increments of 8 (C to E) and 10 (E to A).

The shift animator controls the intervals of the animation of a note shape. Each successive loop of a shift animation causes the note shape to begin on a new note. The interval distance and rate of execution between each successive shift animation becomes the graphic animation pattern. The smallest interval available is one half step.

The Interval Increment setting determines the redraw factor for graphic motion. The number set in the Interval Increment box is the redraw increment factor for the animation of the graphic object.

Shift animations generate control data for scale and rotation animations. It is not necessary to insert scale or rotation animations from the graphic editors.

Shift can only control the execution of existing paths. A path animation must be inserted in the time stream with your object in order for shift to have any effect on path animation.

Ascending intervals produce increased size in scale animations and clockwise motion in rotation animations.

Descending intervals produce decreased size in scale animations and counterclockwise motion in rotation animations.

The interval distance controls the direction of change; the speed setting controls the rate of change; the increment controls the degree of change.

HOW TO:	It is not necessary to select the word Shift. Move the cursor over one of the four voice selections under Shift, press the trigger. Move the cursor to the Graphic Map area and place it over any of the path, scale and rotation positions for graphic objects, press the trigger. The voice number appears in the selected graphic positions.

Repeat this procedure until the shift animation controllers are set.

Move the cursor over one of the Interval Increment numbers, press the trigger. Move the cursor to the small increment setting box next to the voice select box, press the trigger. The Interval Increment selected appears in the box.

NOTE:	Each of the 4 voices can have its own increment setting. The Interval Increments

set override the Speed Editor increment settings and control the redraw position of the graphic objects path, scale and rotation animations.

Sprites do not rotate.

Rotation only applies to the first four graphic objects inserted into show or performance.

COMMAND: **VOLUME**

DESCRIPTION: Volume animations can be used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors through settings in the Linker Editor. The loop and speed settings determine the number and rate of executions of graphic animations.

In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 is the largest). When a loop/speed/increment animation is applied to a volume animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first volumes of each successive loop of the object.

The numbers 1 to 8 indicate the redraw increment that each single step volume change generates.

For example: if the increment is set to 3 and the resulting first volume setting of the volume animation is volume 2, and then volume 6 and 9 as the first volumes of successive loops, then the redraw calculation produces increments of 8 (2 to 6) and 6 (6 to 9).

The volume animator controls the changes in loudness for the animation of a note shape. Each successive loop of a volume animation causes the note shape to begin on a new volume. The volume interval distance and rate of execution between each successive volume animation becomes the graphic animation pattern. The smallest interval available is one volume change.

In the Interval Increment setting determines the redraw factor for graphic motion. The number set in the Interval Increment box is the redraw increment factor for the animation of the graphic object.

Volume animations generate control data for scale and rotation animations. It is not necessary to insert scale or rotation animations from the graphic editors.

Volume can only control the execution of existing paths. You must have a path animation inserted in the time stream with your object in order for volume to have any effect on path animation.

Increasing volume intervals produce increased size in scale animations and clockwise motion in rotation animations.

Decreasing volume intervals produce decreased size in scale animations and counterclockwise motion in rotation animations.

The interval distance controls the direction of change; the speed setting controls the rate of change; the increment controls the degree of change.

HOW TO: It is not necessary to select the word Volume. Move the cursor over one of the four voice selections under Volume, press the trigger. Move the cursor to the Graphic Map area and place it over any of the path, scale and rotation positions for graphic objects, press the trigger. The voice number appears in the selected graphic positions.

Repeat this procedure until the volume animation controllers are set.
Move the cursor over one of the Interval Increment numbers, press the trigger.
Move the cursor to the small increment setting box next to the voice select box, press the trigger. The Interval Increment selected appears in the box.

NOTE: Each of the 4 voices can have its own increment setting. The Interval Increments set override the Speed Editor increment settings and control the redraw position of the graphic objects path, scale and rotation animations.
Sprites do not rotate.
Rotation only applies to the first four graphic objects inserted into show or perform-ance.

COMMAND: **INTERVAL INCREMENTS**

DESCRIPTION: The Interval Increment setting determines the redraw factor for graphic motion. The number set in the Interval Increment box is the redraw increment factor for the animation of the graphic object. The interval distance controls the direction of change; the speed setting controls the rate of change; the increment controls the degree of change.
In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 is the largest). When a loop/speed/increment animation is applied to a shift animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes of each successive loop of the object. The numbers 1 to 8 indicate the redraw increment that each half step interval change generates.
In the Linker Editor increments are determined by calculation of the interval values. In Shift the smallest interval is one half step, in volume the smallest interval is one adjacent volume change. In both animators the maximum interval is 8 (8 half steps or 8 volume changes). When an increment animation is set in a shift animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes of each successive loop of the object. The numbers 1 to 8 indicate the redraw increment that each half step interval change generates.
The volume animator controls the changes in loudness for the animation of a note shape.
Each successive loop of a volume animation causes the note shape to begin on a new volume. The volume interval distance and rate of execution between each successive volume animation becomes the graphic animation pattern. The smallest interval available is one volume change. The numbers 1 to 8 indicate the redraw increment that each adjacent volume interval change generates.

HOW TO: Move the cursor over one of the Interval Increment numbers, press the trigger.
Move the cursor to the small increment setting box next to the voice select box, press the trigger. The Interval Increment selected appears in the box.

NOTE: Each of the 4 voices can have its own increment setting. The Interval Increments set override the Speed Editor increment settings and control the redraw position of the graphic objects path, scale and rotation animations.
Sprites do not rotate.

Rotation only applies to the first four graphic objects inserted into show or perform-
ance.

COMMAND: **GRAPHIC MAP**

DESCRIPTION: Use the Graphic Map area of the Linker Editor to create the interactive music
animator and graphic animation synchronization. The Graphic Map area displays
boxes for 8 geometric and 3 sprite objects in three columns; (P) path, (S) scale,
and (R) rotate. These 11 numbers represent only the interactive synchronization
settings. The graphic objects that these settings refer to are set in the Show and
Live Performance Editors. Therefore, these settings can be applied to any graphic
object through the Slot commands.
The linker settings (for the 11 P,S or R boxes) control the interactive music and
graphic animations; the graphic objects that these settings control are set in the
Graphic Slot area of the Show and Live Performance Editor.

HOW TO: It is not necessary to select the word Shift or Volume. Move the cursor over one of
the four voice selections under Shift or Volume, press the trigger. Move the cursor
to the Graphic Map area and place it over any of the path, scale and rotation
positions for geometric or sprite objects, press the trigger. The voice number
appears in the selected graphic animation box.
Repeat this procedure until the shift and volume animation controllers are set.
Move the cursor over one of the Interval Increment numbers, press the trigger.
Move the cursor to the small increment setting box next to the voice select box,
press the trigger. The Interval Increment selected appears in the box.

NOTE: Each of the 4 voices can have its own increment setting. The Interval Increments
set override the Speed Editor increment settings and control the redraw position of
the graphic objects path, scale and rotation animations.
Sprites do not rotate.
Rotation only applies to the first four graphic objects inserted into show or perform-
ance.

COMMAND: **SAVE**

DESCRIPTION: Use Save to save Linker settings.

HOW TO: Move the cursor over Save, press the trigger. Move the cursor over the number in
the library where you want to Save the Link, press the trigger.

NOTE: Saving over an inverted library number replaces the shape or object saved in that
location. The selected number inverts, indicating the shape or object has been
saved.

COMMAND: **LOAD**

DESCRIPTION: Use Load to load Link settings into the editor.

HOW TO: Move the cursor over Load, press the trigger. Move the cursor over the number in
the library that contains the Link you want to Load, press the trigger.

COMMAND:	**NEW**
DESCRIPTION:	Use New to remove the current linker settings from the editor. New does not effect the library.
HOW TO:	Move the cursor over New, press the trigger.

COMMAND:	**EXIT TO SHOW EDITOR**
DESCRIPTION:	Takes you back to the Show Editor.
HOW TO:	Move the cursor over Exit to Show Editor, press the trigger.

SHAPE, OBJECT AND ANIMATION LIBRARIES

Shapes and animations can be assembled into objects. Shapes and animations must be saved individually in their libraries: they become objects when assembled and saved in the Graphic Editor Object Library (ObjLib).

There are four categories for the interaction of shapes: initial shape, animation pattern, object, and object animators. The procedure for creating and saving objects in the music, graphic and text is as follows:

1 Create a shape; save the shape in its library.
2 Take the shape to an animation editor, create an animation; save the animation in its library.
3 Return to the shape editor and save the animation and the shape together as an object in the ObjLib (Object Library).
4 Use the Show and Live Editors to add additional Speed and Linker animations.

When an animation is saved in its library only the animation not the shape is saved. This procedure is not an Object save.

MUSIC: Groups of notes are shapes. Shapes are animated by Shift, Volume and Envelope patterns. Animated shapes are called objects. Libraries of music shapes and libraries of animation patterns are combined to make music objects. In the Music Editor, the Object Library is part of the Note Library. The Note library serves two functions. You can save both note shapes and assembled objects. The Note Library has a both the Shape Library (ShpLib) and the Object Library save function (ObjLib). These two save functions toggle to provide access to both libraries.

Shapes and animations playing in a voice become an object when saved in the Note ObjLib. To save an object: select Save; select ObjLib; use the 1 2 3 4 voice indicators (on the Note Library menu) to determine which voices are saved as the object; select a library position. The contents of the inverted voices are saved under the selected library number.

If you do not use the ObjLib command, the note shapes in each voice can be saved individually by selecting Save; select ShpLib, select 1 2 3 or 4; and select a library position.

GRAPHICS: Groups of lines are shapes. Shapes are animated by Scale, Path and Rotation patterns. Animated shapes are called objects. Libraries of graphic shapes and libraries of animation patterns are combined to make graphic objects. In the Graphics Editor, the Object Library is part of the Graphic Object Editor. The Graphic Object library serves two functions. You can save both shapes and assembled objects. The Graphic Library has a both the Shape Library (ShpLib) and the Object Library save function (ObjLib). These two save functions toggle to provide access to both libraries.

Shapes and animations become objects when saved in the Note ObjLib. To save an object: select Save; select ObjLib; select a library position. The shape and animations are saved under the selected library number.
If you do not use the ObjLib command, the shapes can be saved individually by selecting Save; select ShpLib, and select a library position.

Speed and Linker are object animators. Speed controls the rate and number of times an object executes its animation patterns. Linker overrides the Scale, Path and Rotate graphic animators and replaces them with the Shift and Volume music animators as the controller of graphic path, scale and rotation animations. Envelope is not a Linker animator.

Desk Top Performance Editor provides the basic tools for both composition and performance. In the Music Editor, you can compose music patterns, make detailed edits, transpose notes, rhythms and volumes, and synchronize music control over graphics. Use the Music Editor to create music or to select Library music to be synchronized within a Show or in the Live Performance Editor.

Atari computers have four independent musical "voices" which are accessed and controlled through the Music editors. Desk Top Performance Studio allows you to control each voice independently through a notation system equivalent to standard musical notation, and to create Linker animations in which changes in the music are used to control the path, scale and rotation animations of graphic objects.

NOTE: To prevent confusion, note, pitch and frequency are synonymous. Note is used to indicate any frequency or pitch generated by the Atari.

There are four categories of interaction for music shapes: initial shape, animation pattern, object, and object animators. Groups of notes are shapes. Shapes are animated by Shift, Volume and Envelope patterns. Animated shapes are called objects. Libraries of music shapes and libraries of animation patterns are combined to make objects.

Speed and Linker are object animators. Speed controls the rate and number of times an object executes its animation patterns. Linker overrides the graphic animators and replaces them with the Shift and Volume music animators as the controller of graphic path, scale and rotation animations. Envelope is not a Linker animator.

Key is used to transpose an object from its original key to another key. The intervals between the notes of the original object and the key of the transposed object remains the same, but play in the new key. For example: If the original object was in C Major and had the notes C, E, F, G, A, C, and the Key transposition indicated D Major, the result would be D, F sharp, G, A, B, D.

Notes default to the key of C major in the composition editors. Changes in key can be saved with the shape and the object. Patterns of key changes can not be made since Key is not an animator. In the Live Performance Editor, however, the key of any voice can be changed at any time.

Shift is used create a pattern of transpositions for the original object. Shift transpositions keep the notes in the original Key. The exact intervals between the notes of the original object and the shift transposed object does not remain constant. For example: If the original object was in C Major and had the notes C, E, F, G, A, C, and the Shift animation indicated a Shift to the note D, the result would be D, F, G, A, B, D.

The Music Editor is used for composing note patterns. There are four standard musical Staffs (5 lines and 4 spaces) for drawing notes and rests.

In Desk Top Performance Studio, music is always playing. In the music editors, once notes are placed on a staff, they play. As you add, delete or alter notes, the pattern of notes playing changes to reflect the new pattern, and loops continuously from the beginning. Use the Play All 1 2 3 4 commands to turn the voices on and off. Note patterns continue to play during all edits. When you take a voice to an animation editor, both the notes and the animation are playing at all times for accurate editing.

The lower section of the Music Editor has two menus which toggle:
1. the Icon menu, which controls the composition functions on the staffs.
2. the Music Editor menu, which accesses the music editors and libraries.

To toggle between these two menus, Press the Pad Button.

Use the Icon indicators menu to access: Clef, Rhythm, Rests, Incidentals (natural, sharp and flat); the Normal, Move, Replace, Insert, and Delete status modes, the page right/page left markers, and the Run Marker. Selected Status indicators change from default-grey to the coded color.

Use the Editor menu to access: New, Stop, Run, Notes, Speed, Key, Save/Load, Shift, Envelope and Volume, Reset, Play 1 2 3 4 and Edit 1 2 3 4.

Shapes and objects are saved in the Notes Library. Animations are saved in the animation Libraries and can be saved as an object in the Notes   Library.

You can not create an animation without an shape. You can create an shape without animations, and then create a series of animations to be applied to that shape, or to any other shape. You must use an shape when you create your initial animations so that your animations can be previewed. Once you have created and stored an animation you can apply that animation to any shape or object.

ILLUSTRATION 5 - MUSIC EDITOR

MUSIC EDITOR

RUN		ALL	1	2	3	4	STOP	NEW
	NOTES		SPEED		KEY			
	EDIT	1	2	3	4	RESET		
	SHIFT		VOLUME			ENVELOPE		
TO LIBRARIES				TO SHOW EDITOR				
00:00:00					EDITOR			
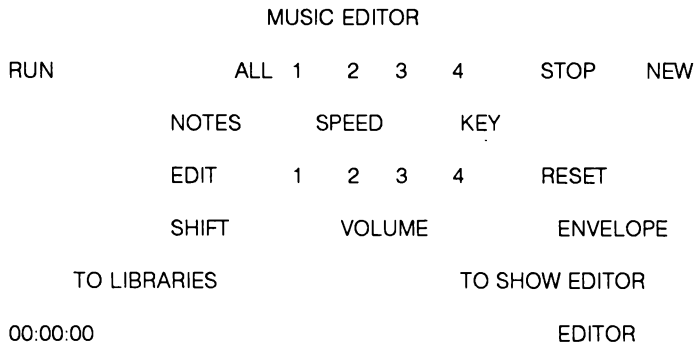
Color Code: The Music Editors use a color coded system to differentiate between notes, rests, and notes with Incidentals (natural, sharp or flat).

Icons first appear in default-grey and change to their coded color when selected.

Notes are yellow and can be placed on any Staff line or space.

Rests are light blue and are automatically placed on the middle line of the Staff.

Incidental Naturals are white and are placed on any Staff line or space.

Incidental Sharps are green and are placed on any Staff line or space.

Incidental Flats are purple and are placed on any Staff line or space.

Staffs are blue.

Status markers; Normal, Move, Replace, Insert, and Delete, are red.

Run Box, in the lower right corner, is yellow.

MUSIC ICON EDITOR

The Music Editor Icons are: Clef Signs (G/Treble and F/Bass); Rhythmic duration symbols (whole note, half note, quarter note, eighth note and sixteenth note); Rest Indicators;, Page right/left markers; Incidental Symbol (Natural, Sharp and Flat); Run Marker; Status markers (Normal, Move, Replace, Insert, and Delete).

COMMAND: **STATUS INDICATORS**

DESCRIPTION: Directly above the Status indicators menu is the Status Marker line. These Status flags when lit (Red) indicate the current composition mode. The five composition modes are: Normal (left flag), Move (second), Replace (third), Insert (fourth), Delete (right).
Normal status means that when you move the cursor over one of the Staff lines and press the trigger, the note is drawn in the selected rhythm. The cursor automatically jumps to the end of the note and into position to compose the next note. In this status you can not go back and change the notes.
Move status changes the position of any note on a staff. Select Move status, place the cursor over the note you want to change, press the trigger and hold it down. Move the cursor up or down to the new position for the note, release the trigger. Notes are moved to their new location without changing status (original, natural, sharp, or flat).

Replace status means that the cursor is free to be placed over any note or rest on a staff and replaces it with another. Use replace to change note and rest rhythms and to change incidentals.

Insert status is used to put new notes or rests between or after the other notes or rests. Use Insert to place a note or rest anywhere on a staff. Insert causes all the notes to the right of the inserted note to move over to accommodate the inserted rhythmic value(s).

Delete status is used to remove any notes or rests from the time stream. Delete causes all the notes to the right of the deleted note to more inward to close the gap made by the Deletion.

NOTE: Insert and Delete modes alter the alignment of harmonies between voices and can effect the rhythmic relationships of a composition.
To draw notes on a staff you must be in Normal or Insert mode.

COMMAND: **CLEFS:**

DESCRIPTION: There are two Clefs, (G/Treble and F/Bass). Clefs determine the position on a staff of a note from which all other notes on that staff are determined.
The G/Treble Clef places the note G (above Middle C) on the second from the bottom line. The F/Bass Clef places the note F (below Middle C) on the fourth from the bottom line.

HOW TO: To select a Clef, move the cursor over one of the two symbols, press the trigger. Move the cursor to the Staff you wish to designate in that Clef, press the trigger. The Clef symbols appear on the appropriate line as a white box when inserted on the Staff.

NOTE: The notes of the lower octave of the F/Bass Clef are not in tune with the rest of the Atari note settings. Desk Top Performance Studio uses a special setting of notes to compensate for this problem. The notes you write below C on the second space of the F/Bass Clef sound one octave below their written value.

COMMAND: **RHYTHMS**

DESCRIPTION: To compose music you must select a rhythmic duration for each note. The horizontal Rhythm lines indicate the length of the notes. The longer the line, the longer the note. The standard notation terms: whole, half, quarter, eighth, and sixteenth, equate to the length of these rhythmic duration lines.

RHYTHMIC LENGTH EQUIVALENTS

whole note	——————————
half note	———————
quarter note	——
eighth note	—
sixteenth note	-

HOW TO:	Move the cursor over your selection, press the trigger. Move the cursor to the line or space on the staff where you want to place a note, press the trigger.
	The rhythm value you select is placed as a yellow note line on a staff each time you press the trigger. To compose with notes of different rhythmic values, move the cursor to the rhythm status indicators, select another value, and repeat the procedure.

COMMAND:	**REST INDICATOR**
DESCRIPTION:	Use Rest Indicators to create silence within a composition. Rests have the same rhythmic value as notes. A rhythmic value must be selected for each rest used in a composition.
	Rests only appear on the third line of a staff, as light blue lines in the selected rhythmic value.
	Replacing (using Replace Status) a previously drawn note value erases the original note and places a light blue line in its place.
	Using a shorter or longer rhythmic rest value than the original note replaces the original note with the rest.
HOW TO:	To select a Rest, move the cursor over the Rest Indicator, press the trigger. Move the cursor anywhere on a Staff, press the trigger.

COMMAND:	**PAGE RIGHT/LEFT MARKERS**
DESCRIPTION:	On each Page of the composition screen you can compose a maximum of 64/16th notes or their equivalent in other rhythmic values. At the end of each page you can "turn the page" to add more composition space.
HOW TO:	Select the Page Right arrow on the bottom of the Status indicators menu and the composition screen readjusts by moving to the left, leaving blank composition area on the right. To move back in time (left) or forward in time (right) through your music use the Left Page or Right Page markers.
NOTE:	For reference, the last note drawn on a page becomes the first note of the next page.

COMMAND:	**INCIDENTAL SYMBOLS**
DESCRIPTION:	Use one of the three Incidental Symbols when you want to change a note from a selected key to a note that is not part of that key.
	After selecting a key, you can alter individual notes in a composition. In Desk Top Performance Studio these alterations are called Incidentals (Accidentals in most music texts).
	Sharp raises a note one-half step. Flat lowers a note one-half step. Natural effects notes of the original key by lowering the sharps or raising the flats one-half step, but does not effect notes that are naturally natural. In any key a half-step is the smallest distance available between two adjacent notes.

HOW TO:	Move the cursor over one of the three Incidental status indicators: Natural, Sharp or Flat, press the trigger. The next note you draw or replace, is altered to that Incidental.
	Move the cursor to the line or space of the Staff where you want to place a new note or alter a drawn note (in Replace Status), press the trigger. The rhythm value for notes remains constant, except in Replace mode, and are placed as a white (Natural), green (Sharp) or purple (Flat), rhythmic lines on a staff each time you press the trigger. To change rhythmic values, move the cursor to the rhythm status indicators, select another value, and continue. New notes are drawn in the current Incidental color. To disengage the Incidental mode, move the cursor over the Incidental Symbol, press the trigger.
NOTE:	Incidental status indicators toggle on and off. Move the cursor over an status indicators, press the trigger to turn it on. Move the cursor over the same status indicator, press the trigger again to turn it off. Once selected, an Incidental status indicators remains in effect until you toggle it off or select a different Incidental.

COMMAND:	**RUN (BOX)**
DESCRIPTION:	Use the Run Box to play the voice (s) from the beginning. Run resets the editor and synchronizes all the patterns from the beginning.
HOW TO:	Move the cursor over the word Run Box on the right side of this menu, press the trigger.
NOTE:	The Music Editor defaults to Run status; notes play as they are drawn.

MUSIC EDITOR COMMANDS

COMMAND:	**RUN**
DESCRIPTION:	Use Run to play through the pattern you are working on from the beginning. Run resets the editor and synchronizes the patterns from the beginning.
HOW TO:	Move the cursor over the word Run on the main menu, or the Run Box in the editors, press the trigger.
NOTE:	The Music Editor defaults to Run status; notes play as they are drawn.

COMMAND:	**(PLAY) ALL 1 2 3 4**
DESCRIPTION:	Use these indicators to determine which voice is heard during edits. Any combination of the 4 voices can be selectively toggled on and off. Inverted numbers indicate the voices that are heard. The music objects and animations playing in the voice are not changed, only the audible output of the selected voice(s) is effected.
HOW TO:	Move the cursor over the voices you want to hear or not hear, press the trigger. Inverted numbers indicate voices on.

COMMAND:	**STOP**
DESCRIPTION:	Use the Stop command to stop the music.
HOW TO:	Move the cursor over Stop, press the trigger.

COMMAND:	**NEW**
DESCRIPTION:	Use New to erase the contents of the current Music editor. New erases the patterns of only one editor. New does not effect the contents of the Libraries.
HOW TO:	Move the cursor over New, press the trigger.
NOTE:	New only effects the object or animation editor you are working in.

COMMAND:	**NOTES**
DESCRIPTION:	The screen displays four music staffs. A Staff is a series of lines and spaces, which are used to designate the relative positioning of notes. The notes on the top lines and spaces of a staff are higher notes than those on the bottom. Once you have selected a rhythmic value you can place notes of that value on any of the lines or spaces of a staff. Each note pattern can have its own speed/loop/increment settings.
HOW TO:	Move the cursor over the line or space on a staff where you want to place a note, press the trigger.
NOTE:	In the Music Editors, only half and whole step intervals are possible. However, in the Live Performance Editor, Linear intervals of less than one half step are accessible in live and cursor transposition modes. The Note library serves two functions. You can save both note shapes and assembled objects. Only the Note Library has a Object Library save function (ObjLib). Shapes and animations playing in a voice become an object when saved in the Note ObjLib. To save an object: select Save; select ObjLib; use the 1 2 3 4 voice indicators (on the Library menu) to determine which voices are saved as the object; select a library position. If you do not use the ObjLib command, the note shapes in each voice can be saved individually by selecting Save; select ShpLib, then 1 2 3 or 4; and select a library position.

When note shapes are saved with animations playing, all the animations are saved with the note shape as an object in the Note ObjLib.

COMMAND	**SPEED**
DESCRIPTION:	The number of times an object executes its animation pattern is determined by the loop count, the rate of each loop setting is determined by the speed settings. The horizontal redraw increment of the animations is determined by the increment settings. You can set a pattern of 8 loop/speed/increment settings.
HOW TO:	Move the cursor over Speed, press the trigger, this takes you to the Speed Editor. (See the Speed Editor for complete description of the HOW TO commands).
NOTE:	There is only one Speed Editor for the entire system. Loop/speed/increment patterns from the Speed Editor Library can be applied to any music or graphic animation.

–

COMMAND:	**KEY**
DESCRIPTION:	Use Key to create a pattern of half steps and whole steps that are the intervals from which transpositions are calculated. When the key of an object is changed, the notes of the object are moved the same interval up or down into the new key. In Key you select both the key and the key types. Key selection is used to determine the key of note shapes and objects. Key can be changed any time in the Live Performance Editor.
HOW TO:	Select Key on the Command menu. A menu with selections for Key note, Incidentals, and Key type appears. Move the cursor over one of the Key Note selections, press the trigger; (optional select of none, sharp or flat); move the cursor over one of the Key Types, press the Trigger. The key changes in the voices that are inverted. Move the cursor over Enter, press the trigger.
NOTE:	The default Key is C major (CDEFGABC). Be careful in your selection of keys. If you have created an object in a key with seven notes and you transpose to a key with only five notes something has to give. We have done our best to make compensations for this kind of problem, a seven note scale compressed to a five note key causes the last two notes of the seven note key to "wrap around" and be added to the next octave of the five note key. For example: C D E F G A B C in seven note C major becomes C D F G A C D when transposed to C Pentatonic.

ILLUSTRATION 6   KEY SELECTION MENU

KEY NOTE	INCIDENTAL	TYPE	ABBR.
C	NONE	MAJOR	MA
D		NATURAL MINOR	NM
E	SHARP	HARMONIC MINOR	HM
F		CHROMATIC	CH
G	FLAT	PENTATONIC	PE
A		WHOLE TONE	WT
B		BLUES ONE	B1
		BLUES TWO	B2
	1 2 3 4		
	ENTER		

COMMAND:	**EDIT 1 2 3 4**
DESCRIPTION:	Use these indicators to determine which voice will be effected by the insertion of music into an editor. These indicators toggle on and off allowing you to create multiple voice insertions. Inverted numbers indicate the voices that any library or cursor actions effect.
HOW TO:	Move the cursor over the number(s) you want to toggle on or off, press the trigger.

COMMAND:	**RESET**
DESCRIPTION:	Use Reset to erase the contents of all of the Music Editors..Reset erases the current patterns and resets the editors. Reset does not effect the contents of the Libraries.
HOW TO:	Move the cursor over Reset, press the trigger.

COMMAND:	**SHIFT**
DESCRIPTION:	Use Shift to create a pattern of notes that will become the starting note for each transposition of the original note shape. In Shift animation every note is transposed but key remains the same. A shape or an object must be taken to the Shift animation editor. The inverted Edit 1 2 3 4 voice is taken to the animation editor. In shift draw a pattern of notes using the rhythm settings. When the shift note pattern is applied to a music shape or object, the result causes a transposition of the original notes. All the notes of are transposed keeping the original interval and key relationships, but starting on new notes. The shift animator controls the intervals of the animation of a note shape or object. Each successive loop of a shape or object, with a shift animation, causes the note shape or object to begin on a new note. The smallest shift interval is one half step. The interval distance and rate of execution between each successive shift anima-

tion becomes the graphic animation pattern when shift is used in a Linker Animation.

The Interval Increment setting in the Linker Editor determines the redraw factor for graphic motion.

Shift animations generate control data for path, scale and rotation animations. It is not necessary to insert scale or rotation animations from the graphic editors.

Shift can only control the execution of existing paths. You must have a path animation inserted in the time stream with your object in order for Shift to have any effect on the existing path animation.

Ascending intervals produce increased size in scale animations and clockwise motion in rotation animations.

Descending intervals produce decreased size in scale animations and counter-clockwise motion in rotation animations.

Path animations move in a clockwise direction only.

The up or down direction of the intervals between each successive shift loop controls the direction of change; the speed setting controls the rate of change; the distance of the interval increments between each successive shift loop controls the degree of change.

HOW TO: Select the Edit 1 2 3 4 voice to be taken to the shift editor.

Select Shift, a music staff appears. The default note value is one quarter note. Draw the pattern of shift notes and rhythms you want.

Shift patterns must be saved in the Shift Library before exiting the shift editor. The Shift animation can be saved with the note shape as an object in the Note Object Library.

Follow the Insert Animation procedures for inserting Shift animations into the Show or Live Performance Editors.

Shift animations can be used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors through settings in the Linker Editor.

In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw, 8 is the largest). When a loop/speed/increment animation is applied to a shift animation and linked to a graphic animator, the redraw increment is determined by the interval distance between the first notes of each successive loop of the object.

The numbers 1 to 8 indicate the redraw increment that each half step interval generates.

For example: if the shift interval increment is set to 2 and the first notes of the shift animation is C: then E and A are the next notes of successive loops: then the redraw calculation produces increments of 8 (C to E) and 10 (E to A).

COMMAND: **VOLUME**

DESCRIPTION: The Volume settings determine the relative loudness or softness of the notes. There are 12 available volume settings ranging from very loud to off.

A shape or an object must be taken to the Volume animation editor. The inverted voice on the Edit 1 2 3 4 line is the voice taken to the animation editor.

When Volume is selected, a screen with a staff appears, the top marker is for the

loudest volume, the bottom marker indicates off.

Draw Volume patterns using the rhythm status indicators. The rhythmic durations for the volumes pattern do not have the be the same as those used for the original shape or object. Volume patterns are applied in whatever rhythm they are drawn. Volume animation patterns can have their own speed factors. Desk Top Performance Studio automatically compensates for the difference in speed of execution between Note and Volume patterns.

Volume loop/speed/increment patterns that are faster than the note patterns repeat as many times as necessary to complete the performance of the notes. Volume loop/speed/increment patterns that are slower than the note patterns can only execute that part of the volume pattern occurring in the first loop of the notes; the remaining volumes are applied to each successive loop.

Each successive loop of a volume animation causes the note shape or object to begin on the next volume in the pattern.

The smallest interval available is one volume change.

The interval distance and rate of execution between each successive volume animation becomes the graphic animation pattern when volume is used in a Linker Animation.

The Interval Increment setting in the Linker Editor determines the redraw factor for graphic motion.

Volume animations generate control data for path, scale and rotation animations. It is not necessary to insert scale or rotation animations from the graphic editors.

Volume can only control the execution of existing paths. You must have a path animation inserted in the time stream with your object in order for Volume to have any effect on the existing path animation.

Increasing volume intervals produce increased size in scale animations and clockwise motion in rotation animations.

Decreasing volume intervals produce decreased size in scale animations and counterclockwise motion in rotation animations.

Path animations move in a clockwise direction only.

The up or down direction of the volume intervals between each successive loop controls the direction of change; the speed setting controls the rate of change; the distance of the interval increments between each successive volume loop controls the degree of change.

HOW TO:

Select the Edit 1 2 3 4 voice to be taken to the volume editor.

Select Volume, a music staff appears. The default note value is one quarter note. Draw the pattern of volume notes and rhythms you want.

Move the cursor over one of the rhythmic indicators, press the trigger. Move the cursor to one of the staff lines, press the trigger. The top line is the loudest volume, the next to the bottom line is the softest volume, the bottom line is off (no volume). Off allows silences to be part of the Volume animation.

Volume patterns must be saved in the Volume Library before exiting the volume editor. The Volume animation can be saved with the note shape as an object in the Note Object Library.

Follow the Insert Animation procedures for inserting Volume animations into the Show or Live Performance Editors.

Volume animations can be used as controllers of graphic path, scale and rotation

animations in the Show and Live Performance Editors through settings in the Linker Editor.

In the Speed Editor increments are determined by setting a redraw factor from 1 to 8. (1 is the smallest redraw increment, 8 the largest). When a loop/speed/increment animation is applied to a volume animation and linked to a graphic animator, the redraw increment is determined by the volume interval distance between the first notes of each successive loop of the object.

The numbers 1 to 8 indicate the redraw increment that each successive volume interval generates.

Follow the Insert Animation procedures for inserting Volume animations into the Show or Live Performance Editors.

For example: if the volume interval increment is set to 3 and the first volume set is volume 2: then volume 6 and 9 are the next volumes of successive loops: then the redraw calculation produces increments of 12 (2 to 6) and 9 (6 to 9).

COMMAND:	**ENVELOPE**
DESCRIPTION:	Envelopes determine the beginning (attack) parameter of each note. Only one Envelope can be applied to each shape or object. The envelope animation starts again on each note. If the notes are playing faster than the envelope animation executes, only a portion of the envelope will be heard. There are 12 available envelope settings ranging from very sharp attacks to attacks beginning with silence. When you select Envelope, a screen with a staff appears, the top marker is for the sharpest attack, the bottom marker indicates silent attack. Draw Envelope patterns using the rhythm status indicators. The Envelope patterns are applied in whatever rhythm they are drawn.
HOW TO:	Move the cursor over one of the 4 voice select numbers, press the trigger. Move the cursor over Envelope, press the trigger. A staff appears. Use the rhythmic status indicators to construct your envelope pattern. Move the cursor over one of the rhythmic indicators, press the trigger. Move the cursor to one of the staff lines, press the trigger (top line is the sharpest attack, the next to the bottom line is the most gradual attack, the bottom line is silence). Off allows silences to be part of the Envelope animation.
NOTE:	Envelope patterns must be saved in the Envelope Library. The envelope animation can be saved with the note shape as an object in the Note Object Library. Follow the Insert Animation procedures for inserting envelope animations into the Show or Live Performance Editors. Envelope animations can not have loop/speed/increment settings applied to them.

COMMAND:	**TO LIBRARY**
DESCRIPTION:	The To Library Command takes you to the Library Storage areas where you can Save and Load shapes, objects and animations.
NOTE:	The To Library indicator has multiple functions. The Libraries are accessed from

each of the Editors (Note, Shift, Volume and Envelope). Shapes and animations must be saved in their appropriate libraries and then assembled into objects that are saved in the Note Object Library.

The bottom line of the screen displays the name of the current editor. When you access the Libraries this indicator represents which library you are using.

COMMAND: **SAVE (To Library)**

DESCRIPTION: Use Save to save your shape, object and animation in its appropriate Library. Each of the music categories (note shapes, objects, shift, volume and envelope) has its own library.

The bottom line of the screen displays the name of the current editor. When you access the Libraries this indicator represents which library you are using.

HOW TO: Move the cursor over To Library, press the trigger. Move the cursor over Save in the library area, press the trigger. Move the cursor over the number on the Library Grid where you want to save, press the trigger.

In the case of notes and objects, see Notes and Libraries for HOW TO descriptions.

NOTE: Saving over an inverted library number replaces the shape or object saved in that location. The selected number inverts, indicating the shape or object has been saved.

COMMAND: **LOAD (To Library)**

DESCRIPTION: Use Load to load shapes, animations and objects into their appropriate editors. Each of the music categories (note shapes, objects, shift, volume and envelope) have their own libraries.

The bottom line of the screen displays the name of the current editor. When you access the Libraries this indicator represents which library you are using.

HOW TO: Move the cursor over To Library, press the trigger. Move the cursor over Load in the library area, press the trigger. Move the cursor over the number on the Library Grid that contains the data you want to load, press the trigger.

In the case of notes and objects, see Notes and Libraries for HOW TO descriptions.

COMMAND: **EXIT TO SHOW EDITOR**

DESCRIPTION: Exits from the Music editors and takes you to the Show Editors.

HOW TO: Move the cursor over Exit to Show Editor, press the trigger.

GRAPHIC AND GRAPHIC ANIMATION EDITORS

Use the Graphic Editors to create graphic shapes, animations, and graphic objects. A graphic object is an animated shape. Path, Scale and Rotate are the graphic animators. Animation editors are accessed from the Graphic Editor and from each other. Once an animation is applied to a shape it becomes an object.

Complex shapes made of multiple lines and boxes created within the same drawing are treated as one shape. Complex shapes are saved as one shape and any animations applied to them effect the entire object. Only one graphic shape at a time can be loaded into the graphic or animation editors.

To draw different shapes, select either the Box, Line, or Lines commands, in the graphic editors. As you move your cursor a continuous preview shape is drawn. Shapes are modified by adding other shapes or changing the draw command.

Objects are animated shapes. Graphic shapes and objects are saved in the Graphic Library: shapes are saved in the SHPLIB (Shape Library), and objects are saved in the OBJLIB (Object Library).

Animations are saved in their own libraries. To save objects with their animations return to the Graphic Editor after creating the animations and save the animated object in the Graphic OBJLIB.

Shapes and animations become objects when saved in the ObjLib. To save an object: select ObjLib; select Save; select a library position. The shape and animations are saved as an object in the selected library number. If you do not use the ObjLib command, the shapes can be saved individually by selecting ShpLib; select Save, and select a library position.

Animations can only be applied to shapes. An animation can not be created without an shape. A shape can be created without animations, and then animated in the Show or Live Performance Editors.

There are two types of graphic shapes; geometric and sprite. The maximum number of animated objects allowed on the screen at the same time is 11, 8 geometric, and 3 sprites.

The maximum number of unanimated filled background shapes allowed on the screen at the same time is 16.

There can be up to 12 graphic regions, or up to 12 intermixed graphic and text regions, with a maximum of 8 text regions. Each text and graphic region can have its own color palette.

ILLUSTRATION 7   GRAPHIC EDITOR

GRAPHIC EDITOR

C1	C2	C3		1	5	9	13
			1	2	6	10	14
GEOMETRIC		SPRITE	2	3	7	11	15
BOX	LINE	LINES		4	8	12	16

FILL OFF   ON   NEW   SAVE   LOAD

PATH SCALE   ROTATE   SHP/OBJ LIB

EXIT TO SHOW EDITOR

GRAPHIC EDITOR COMMANDS

COMMAND: **C1 C2 C3 (Drawing Colors)**

DESCRIPTION: The default drawing colors are (C1) green - luminescence 4, (C2) yellow - lumines-
cence 7, (C3) light blue -luminescence 5. The default region background color is
gray - luminescence 1.

HOW TO: To select a drawing color, move the cursor over one of the color selections (C1, C2
or C3) and press the trigger.

NOTE: Colors in the Graphic Editor do not reflect the color palette changes until they are
applied to graphic regions in the Show or Live Performance Editors.
In Geometric mode colors can be changed at any time within complex shapes.
Sprites can be drawn in only one color.

COMMAND: **GEOMETRIC**

DESCRIPTION: Geometric is used to make shapes that can be animated by Path, Scale and
Rotate. The first point drawn in a shape is its center point. The center point is the
point from which all animations originate.

HOW TO: Move the cursor over Geometric, press the trigger.

NOTE: There are size limitations for draw and animation functions. The length of a single
line in any direction is limited to 60 pixels. To draw longer lines, connect multiple
lines. The more complex a shape is, the slower it executes animations. Inserting
complex geometric objects into the show or performance slows all objects animat-
ing at that time.

53

| COMMAND:	**SPRITE**
DESCRIPTION:	Sprites are player/ missile graphics. Use Sprite to draw graphic shapes that when animated can move faster than animated geometric objects. Sprites are single color shapes and objects that have screen priority, they appear in front of all other objects in shows and performances.
HOW TO:	Move the cursor over Sprite, press the trigger.
NOTE:	Sprites must be animated. Sprites have a size boundary of 8 horizontal pixels by 127 vertical pixels. Sprites scale horizontally in increments of 2 and 4 times the original size, but do not scale vertically. Rotation animations can not be applied to Sprites.

COMMAND:	**BOX**
DESCRIPTION:	Use Box to draw filled or unfilled boxes.
HOW TO:	Place the cursor where you want a box to begin, press the trigger. As you move the cursor a preview box appears. When you see the size you want, press the trigger.

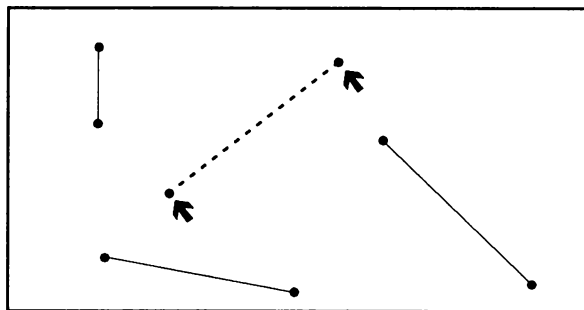ILLUSTRATION 8
BOX SHAPE
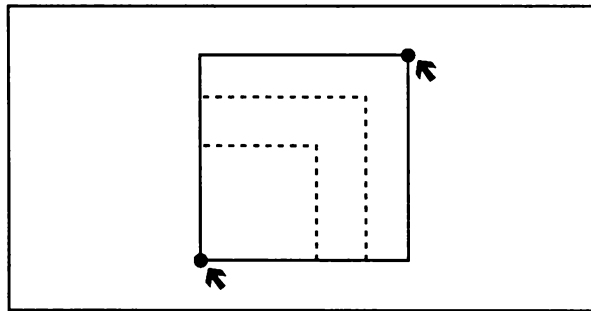
| COMMAND:	**LINE**
DESCRIPTION:	Use Line to draw single line segments.
HOW TO:	Place the cursor where you want the line to begin, press the trigger. As you move the cursor a preview of the line appears. When you locate the end point you want, press the trigger.

ILLUSTRATION 9
LINE SHAPE

COMMAND:	**LINES**
DESCRIPTION:	Use Lines to draw a connected line segments.
HOW TO:	Place the cursor where you want the lines to begin, press the trigger. As you move the cursor a preview of the lines appears. When you locate the end point of the lines segment, press the trigger. This end point becomes the starting point of the next lines. Move the cursor to the next end point, press the trigger again. Each time you press the trigger, the line you are drawing ends and becomes the starting point for the next line. End a connected lines shape by double clicking the trigger or raising the menu.

ILLUSTRATION 10
LINES SHAPE
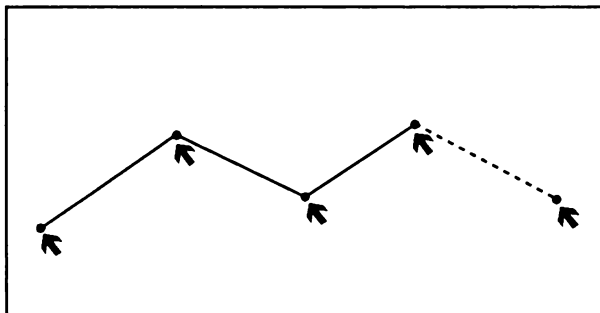
COMMAND:	**FILL OFF/ON**
DESCRIPTION:	Fill On makes a filled shape using the current color. Fill Off leaves shapes unfilled. The fill status must be selected before your shape is drawn and can be used with both geometric and sprite shapes. When fill is on, a fill occurs whenever you draw an enclosed shape. By switching Fill on and off, you can draw a series of hollow and solid shapes within a single shape.
HOW TO:	Move the cursor over either Fill On or Fill Off, press the trigger.
NOTE:	Fill can only be used for Background Objects. Filled objects can not be animated but must be saved as unanimated objects in the graphic ObjLib (Object Library).

COMMAND:	**NEW**
DESCRIPTION:	Select New to reset the Graphic Editor. New removes the current shape or object from the screen.
HOW TO:	Move the cursor over New, press the trigger.

COMMAND:	**SHPLIB OBJLIB**
DESCRIPTION:	SHPLIB (Shape Library) is used to save unanimated graphic shapes to the shape library.

55

OBJLIB (Object Library) is used to save animated graphic objects to the object library.

HOW TO: ShpLib and ObjLib toggle, move the cursor over ShpLib or ObjLib and press the trigger, if necessary to toggle. The selected library appears. Move the cursor over the number on the library grid where you want to save a shape or object, press the trigger.

COMMAND: **SAVE**

DESCRIPTION: Use Save to save both graphic shapes and objects in the Graphic Editor Library.

HOW TO: To save shapes, select ShpLib, select Save. Move the cursor over the selected library number, press the trigger.
To save objects, select ObjLib, select Save. Move the cursor over the selected library number, press the trigger.

NOTE: Saving over an inverted library number replaces the shape or object saved in that location. The selected number inverts, indicating the shape or object has been saved.

COMMAND: **LOAD**

DESCRIPTION: Use Load to add a shape or an object from the numeric library into the Graphic Editor. Inverted numbers indicate saved shapes and objects.

HOW TO: To Load a shape, select ShpLib, select Load, then place the cursor over an inverted number on the numeric library area, press the trigger. This lowers the menu. Place cursor on the area of the screen where you want to place the shape, press the trigger.
To load an object, select ObjLib, select Load, then place the cursor over an inverted number on the numeric library area, press the trigger. This lowers the menu. Place cursor on the area of the screen where you want to place the object, press the trigger.

COMMAND: **PATH, SCALE, ROTATE**

DESCRIPTION: Use Path, Scale, or Rotate to take a graphic shape to one of the three animation editors.

HOW TO: Select Path, Scale or Rotate, this takes the shape to the selected animation editor. Once you are in one of the animation editors, follow the instruction for that editor.

COMMAND: **EXIT TO SHOW EDITOR**

DESCRIPTION: Takes you back to the Show Editor .

HOW TO: Move the cursor over Exit to Show Editor , press the trigger.

The Path, Scale and Rotate Animation Editors are used to animate graphic shapes.

Animations are saved in their individual libraries and can be saved with a specific graphic shape in the Graphic Object Library (ObjLib). To make objects, return to the Graphic Editor after creating and saving animations in the animation libraries and save the shape with its animation(s) in the Graphic ObjLib.

A numeric library is displayed in all graphic and animation editors. Each library has two pages of 16 memory locations. Select the numbers 1 or 2 for the page you want. Each library is specific to the Editor in which it appears; the path library stores only paths, and so on. However, the library that appears on the Graphic Editor saves shapes (ShpLib) and objects (ObjLib).

Use Load to Load shapes, objects and animations into an Editor from a library. Use Save to Save shapes, objects or animations to a library.

Draw small shapes in the Scale and Rotation animation editors. Scaled and Rotated objects that exceed 60 X 60 pixel boundary limitation do not execute smoothly.

PATH ANIMATION EDITOR

Use the Path Animation Editor to create motion paths for graphic shapes. The shapes center point (the first point drawn) follows the path. A path can not be created without bringing a shape from the Graphic Editor to the Path Editor.

Use the Box, Line, and Lines draw functions to create a path. Shapes follow the path in the order in which the segments of the path were drawn. The Set Speed function allows you to set the speed/loop/increment factors.
See the Speed Editor for description of HOW TO commands.

COMMAND: **BOX (PATH)**

DESCRIPTION: Use Box to draw paths in the shape of boxes.

HOW TO: Place the cursor where you want the box path to begin, press the trigger. As you move the cursor a continuous preview box appears. When you see the path size you want, press the trigger to "fix" that box path.
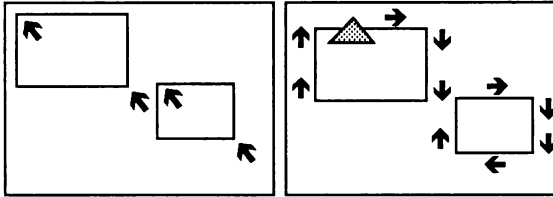To draw more box paths move the cursor to another position on the screen and repeat the procedure. Shapes follow the path in the order that the path shapes were drawn.
To see the shape follow the path you have drawn, select Run.

NOTE: See the Speed Editor for description of HOW TO commands for path speed/loop/increment.

ILLUSTRATION 11
BOX PATH

COMMAND:	**LINE (PATH)**
DESCRIPTION:	Use Line to draw single line paths.
HOW TO:	Place the cursor where you want the line path to begin, press the trigger. As you move the cursor a continuous preview of the line appears. When you locate the end point for the line, press the trigger. To draw more line paths move the cursor to another position on the screen and repeat the procedure. The lines do not have to connect. The shape "jumps" from line to line. To see the shape follow the path you have drawn, select Run.
NOTE:	See the Speed Editor for description of HOW TO commands for path speed/loop/increment.

COMMAND:	**LINES (PATH)**
DESCRIPTION:	Use Lines to draw connected line paths. Place the cursor where you want the lines path to begin, press the trigger. As you move the cursor a continuous preview of the lines appears. When you locate the end point of aline path segment, press the trigger. This end point becomes the starting point of the next lines segment. Move the cursor to the next end point, press the trigger again. Each time you press the trigger, the line you are drawing ends and becomes the starting point for the next line. To end the lines segment and disengage the cursor, press the trigger twice or raise the menu. To see the shape follow the path, select Run. Shapes follow the path in the order in which the path was drawn.
NOTE:	See the Speed Editor for description of HOW TO commands for path speed/loop/increment.

ILLUSTRATION 12
LINE(S) PATH
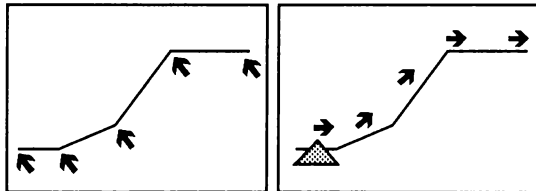
PATH ANIMATION COMMANDS

COMMAND: **RUN**

DESCRIPTION: Select Run to preview a shape traveling along the path.

HOW TO: After you create your Path, move the cursor over Run, press the trigger.

COMMAND: **NEW**

DESCRIPTION: Select New to reset the Path Animation Editor by removing the present Path from the Editor.

HOW TO: Move the cursor over New, press the trigger.

COMMAND: **SET SPEED**

DESCRIPTION: Selecting Set Speed takes you to the Speed Editor.
In a Speed Editor pattern: the number of times an object executes its animation is determined by the loop count; the rate of motion along the path is determined by the speed settings. The redraw increment of animations is determined by the increment settings. The greater the distance between redraws, the faster the object appears to move.
Each path animation can have its own speed/loop/increment setting.
A pattern of 8 loop/speed/increment settings can be set in the Speed Editor.

HOW TO: Select Set Speed, the Speed Editor appears.

NOTE: There is one Speed Editor for the entire system. The patterns you create in this Editor can be applied to any music or graphic animation.
Shift and Volume animations can be used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors. See the Linker Editor for description of HOW TO use music as the controller of graphic animations.
See the Speed Editor for description of HOW TO commands for path speed/loop/increment.

COMMAND: **SAVE**

DESCRIPTION: Use Save to access the Path Animation Library to Save Path animations.

HOW TO: Move the cursor over Save, press the trigger. Move the cursor over the number in the library where you want to Save your Path, press the trigger.

NOTE: Path animations can be saved with or without Speed settings.
To Save Path Objects and Animations:
(1) Save shapes in the Graphic Shape Library (ShpLib).
(2) Save animations in the Animation Libraries.
(3) Save an animated shapes as objects in the Graphic Object Library (ObjLib).
Saving over an inverted library number replaces the data previously saved at that number, and your previous work is lost.

COMMAND:	**LOAD**
DESCRIPTION:	Use Load to access the Path Animation Library to Load Path animations into the Editor.
HOW TO:	Move the cursor over Load, press the trigger. Move the cursor over the number in the library that contains the Path you want to Load, press the trigger.

COMMAND:	**SCALE / ROTATE**
DESCRIPTION:	Use Scale and Rotate to take the graphic shape and its Path to either the Scale or Rotation animation editors.
HOW TO:	Place the cursor over Scale ot Rotate, press the trigger. Once you are in one of the animation editors, follow the instruction for that editor.

COMMAND:	**EXIT TO GRAPHIC EDITOR**
DESCRIPTION:	Takes you back to the Graphic Editor with your shape and animations.
HOW TO:	Move the cursor over Exit To Graphic Editor, press the trigger.

SCALE ANIMATION EDITOR

Use the Scale Animation Editor to create scaling sequences for graphic shapes. The shapes center point (the first point drawn) follows the scale. A scale can not be created without bringing a shape from the Graphic Editor to the Scale Editor.

The Set Speed function allows you to set the speed/loop/increment. See the Speed Editor for description of HOW TO commands.

SCALE ANIMATION COMMANDS

COMMAND:	**DRAW SCALE SEQUENCE**
DESCRIPTION:	Use Draw Scale Sequence to create a sequence of proportional size changes to a shape. The cursor appears in the center of the screen. Moving the cursor up increases the shapes size. Moving the cursor down decreases the shapes size. Press the trigger when you are finished drawing your Scale animation sequence.
HOW TO:	Move the cursor over Draw Scale Sequence, press the trigger. The menu drops, leaving the cursor in the middle of the screen. Move the cursor up (larger) or down (smaller) to create a sequence of actions for the shape. When you have finished your sequence, raise the menu. To view your sequence, press Run.
NOTE:	The boundaries of the Touch Tablet or Koala Pad may be insufficient to complete one direction of your Scale sequence. If this occurs, pick up the stylus, move it back to the center and continue Scaling in that direction.

ILLUSTRATION 13
SCALE ANIMATION
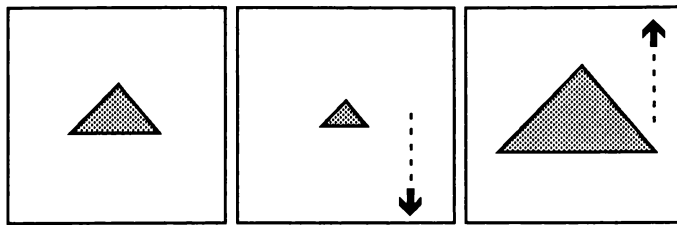
COMMAND: **RUN**

DESCRIPTION: Select Run to view your Scale sequence.

HOW TO: Move the cursor over Run, press the rigger.

COMMAND: **NEW**

DESCRIPTION: Select New to reset the Scale Animation Editor, and remove the current Scale animation from the Editor.

HOW TO: Move the cursor over New, press the trigger.

COMMAND: **SET SPEED**

DESCRIPTION: Selecting Set Speed takes you to the Speed Editor.
                In a Speed Editor pattern: the number of times an object executes its animation is determined by the loop count; the rate the size changes is determined by the speed settings. The redraw increment of animations is determined by the increment settings. The greater the distance between redraws, the faster the object appears to scale.
                Each scale animation can have its own speed/loop/increment setting.
                A pattern of 8 loop/speed/increment settings can be set in the Speed Editor.

HOW TO: Select Set Speed, the Speed Editor appears.

NOTE: There is one Speed Editor for the entire system. The patterns you create in this Editor can be applied to any music or graphic animation.
                Shift and Volume animations can be used as controllers of graphic path, scale and rotation animations in the Show and Live Performance Editors. See the Linker Editor for description of HOW TO use music as the controller of graphic animations.
                See the Speed Editor for description of HOW TO commands for path speed/loop/increment.

COMMAND:	**SAVE**
DESCRIPTION:	Use Save to access the Scale Animation Library to Save Scale animations.
HOW TO:	Move the cursor over Save, press the trigger. Move the cursor over the number in the library where you want to Save your Scale, press the trigger.
NOTE:	Scale animations can be saved with or without Speed settings. To Save Scale Objects and Animations: (1) Save shapes in the Graphic Shape Library (ShpLib). (2) Save animations in the Animation Libraries. (3) Save an animated shapes as objects in the Graphic Object Library (ObjLib). Saving over an inverted library number replaces the data previously saved at that number, and your previous work is lost.

COMMAND:	**LOAD**
DESCRIPTION:	Use Load to access the Scale Animation Library to Load Scale animations into the Editor.
HOW TO:	Move the cursor over Load, press the trigger. Move the cursor over the number in the library that contains the Scale you want to Load, press the trigger.

COMMAND:	**PATH / ROTATE**
DESCRIPTION:	Use Path and Rotate to take the graphic shape and its Scale to either the Path or Rotation animation editor.
HOW TO:	Place the cursor over Path or Rotate, press the trigger. Once you are in one of the animation editors, follow the instruction for that editor.

COMMAND:	**EXIT TO GRAPHIC EDITOR**
DESCRIPTION:	Takes you back to the Graphic Editor with your shape and animations.
HOW TO:	Move the cursor over Exit To Graphic Editor, press the trigger.

ROTATE ANIMATION EDITOR

Use the Rotation Animation Editor to create sequences that spin graphic shapes around their center point. The shapes center point (the first point drawn) follows the rotation. A rotation can not be created without bringing a shape from the Graphic Editor to the Rotation Editor.

The Set Speed function allows you to set the speed/loop/increment. See the Speed Editor for description of HOW TO commands.
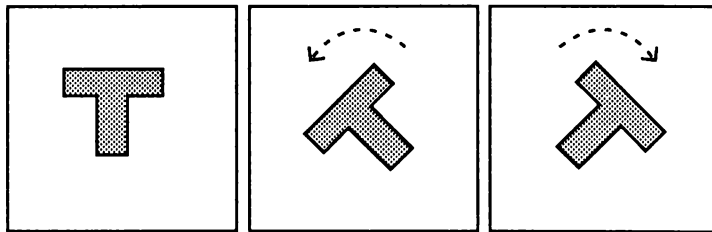
ROTATION ANIMATION COMMANDS

COMMAND: **DRAW ROTATION SEQUENCE**

DESCRIPTION: Use Draw Rotation Sequence to create a rotation animation that spins a shape around its center point in a clockwise or a counterclockwise direction in a two dimensional plane. Depending upon the placement of the center point, the shape spins in place or moves around the screen.

HOW TO: Move the cursor over Draw Rotation Sequence, press the trigger. The menu drops and the cursor appears at a preset point on shape. Move the cursor clockwise or counterclockwise around the screen to rotate the shape. Press the trigger or raise the menu to indicate the end of the Rotation animation.
To see the shape follow the Rotation animation you have created, select Run.

NOTE: Sprites do not rotate.
Rotation only applies to the first four graphic objects inserted into show or performance.

ILLUSTRATION 14
ROTATION
ANIMATION

COMMAND: **RUN**
DESCRIPTION: Select Run to view the Rotation Sequence.

HOW TO: Move the cursor over Run, press the trigger.

COMMAND: **NEW**

DESCRIPTION: Select New to reset the Rotate Animation Editor, and remove the current Rotation from the Editor.

HOW TO: Move the cursor over New, press the trigger.

COMMAND: **SET SPEED**

DESCRIPTION: Selecting Set Speed takes you to the Speed Editor.
In a Speed Editor pattern: the number of times an object executes its animation is determined by the loop count; the rate the size changes is determined by the speed settings. The redraw increment of animations is determined by the increment settings. The greater the distance between redraws, the faster the object appears to rotate.

Each rotation animation can have its own speed/loop/increment setting.
A pattern of 8 loop/speed/increment settings can be set in the Speed Editor.

HOW TO: Select Set Speed, the Speed Editor appears.

NOTE: There is one Speed Editor for the entire system. The patterns you create in this
               Editor can be applied to any music or graphic animation.
               Shift and Volume animations can be used as controllers of graphic path, scale and
               rotation animations in the Show and Live Performance Editors. See the Linker Editor
               for description of HOW TO use music as the controller of graphic animations.
               See the Speed Editor for description of HOW TO commands for path speed/loop/
               increment.

COMMAND: **SAVE**

DESCRIPTION: Use Save to access the Rotation Animation Library to Save Rotation animations.

HOW TO: Move the cursor over Save, press the trigger. Move the cursor over the number in
               the library where you want to Save your Rotation, press the trigger.

NOTE: Rotation animations can be saved with or without Speed settings.
               To Save Rotation Objects and Animations:
               (1) Save shapes in the Graphic Shape Library (ShpLib).
               (2) Save animations in the Animation Libraries.
               (3) Save an animated shapes as objects in the Graphic Object Library (ObjLib).
               Saving over an inverted library number replaces the data previously saved at that
               number, and your previous work is lost.

COMMAND: **LOAD**

DESCRIPTION: Use Load to access the Rotation Animation Library to Load Rotation animations into
               the Editor.

HOW TO: Move the cursor over Load, press the trigger. Move the cursor over the number in
               the library that contains the Rotation you want to Load, press the trigger.

COMMAND: **PATH / SCALE**

DESCRIPTION: Use Path an Scale to take the graphic shape and its Rotation animation to either
               the Path or Scale animation editor.

HOW TO: Place the cursor over Path or Scale, press the trigger. Once you are in one of the
               animation editors, follow the instruction for that editor.

COMMAND: **EXIT TO GRAPHIC EDITOR**

DESCRIPTION: Takes you back to the Graphic Editor with your shape and animations.

HOW TO: Move the cursor over Exit To Graphic Editor, press the trigger.

REGIONS EDITOR

Use the Regions Editor to create graphic and text regions, and to set multiple the color palettes for each region. There can be up to 12 graphic regions, or up to 12 intermixed graphic and text regions, with a maximum of 4 text regions. Each text and graphic region can have its own color palette.

Any horizontal area of the screen can be designated as a region for either text or graphics. Once a text or graphic region has been defined, use the Set Color Palette command to select individual color palettes for each region area.

Text can not be used in a show or performance unless a text region has been created and saved.

Each text region can have its own 3 color palette: background/character and border. Each graphic region can have its own 7 color palette: GEO 1 2 3, SPR 1 2 3, and Background.

Any area that is not defined as text region is by default a graphic region. Inserting a full graphic region into a show or performance replaces all text regions.

Use the Delete Event Editor to remove regions from the time streams of a show or performance.

REGION EDITOR COMMANDS

COMMAND: **MAKE TEXT REGION**

DESCRIPTION: Use Make Text Region to define the text areas of the screen. Up to 4 text areas can be defined in a single region. A separate color palette can be defined for each text area of a region.

HOW TO: Select Make Text Region, the menu drops. Move the cursor to the position on the screen where you want the top of a text area to begin, press the trigger. Once you place the cursor on the screen and press the trigger, you can not move in an upward direction. Move the cursor down from that position until you reach the size text area you want, press the trigger. Repeat this procedure until you have defined up to 4 text areas.
Text regions can be saved either with their default settings, or you can exit to the Set Color Palette Editor to create text color palettes; and then return to the Regions Editor to save the regions with their new color palettes.

NOTE: To have intermixed text and graphic screens only define the text areas, the non-text areas of the screen are by default graphic areas.

COMMAND:	**MAKE GRAPHIC REGION**
DESCRIPTION:	Use Make Graphic Region to define graphic areas of the screen. Up to 12 graphic areas can be defined on a single screen. A separate color palette can be defined for graphic each region. Desk Top Performance Studio screens are preset to graphics mode. All regions not defined as text regions are graphic regions.
HOW TO:	Select Make Graphic Region, the menu drops. Move the cursor to the position on the screen where you want the top of the graphic region to begin, press the trigger. Once you place the cursor on the screen and press the trigger, you can not move in an upward direction. Move the cursor down from that position until you reach the size graphic area you want, press the trigger. Repeat this procedure until you have defined up to 12 graphic regions. Graphic regions can be saved either with their default settings, or you can exit to the Set Color Palette Editor to create color palettes; and then return to the Regions Editor to save the regions with their new color palettes.

COMMAND:	**SET COLOR PALETTE**
DESCRIPTION:	Use Set Color Palette to define color palettes for each graphic and text area in a region. Selecting Set Color Palette takes you and the region to the Set Color Palette Editor.
HOW TO:	Once there is a region in the Regions Editor, move the cursor over Set Color Palette, press the trigger.
NOTE:	To get to the Set Color Palette Editor you must bring a region from the Regions Editor. Regions are shapes, Palettes are animators. Regions saved with Palettes are objects. See the Set Color Palette Editor for description of HOW TO create color palettes.

COMMAND:	**SAVE**
DESCRIPTION:	Use Save to save a region to the numeric library.
HOW TO:	Select Save, place the cursor over a number on the numeric library, press the trigger. The selected number inverts. Inverted library numbers indicate stored regions.
NOTE:	Text and Graphic regions can be saved with the default color settings or with the Set Color Palette settings. Return to the Regions Editor after the Set Color Palette editor to save the new colors. Saving over an inverted library number replaces the shape or object saved in that location. The selected number inverts, indicating the shape or object has been saved.

COMMAND:	**LOAD**
DESCRIPTION:	Use Load to load a region from the numeric library into the Region Editor. Inverted library numbers indicate stored regions.
HOW TO:	Select Load, place the cursor over an inverted number, press the trigger. The menu drops, and the selected region appears.

COMMAND:	**EXIT TO SHOW EDITOR**
DESCRIPTION:	Takes you back to the Show Editor .
HOW TO:	Move the cursor over Exit To Show Editor, press the trigger.

SET COLOR PALETTE EDITORS

The Set Color Palette Editor is accessed from the Regions Editor.

Use the Set Color Palette Editor to define color palettes for each graphic and text area of a region.

A region must be brought to the Set Color Palette Editor.
Regions with multiple graphic or text areas can have individual color palettes for each area. To set the color palettes, drop the menu (press the pad button) to see the selected region areas. Move the cursor over an area of the region, press the trigger. The graphic or text color palette menu, depending on the area selected, appears. Follow the commands in the Text and Graphic Palette Editors.

To continue setting color palettes for the areas of the region: lower the menu and select additional areas until the color palettes are set.

When all the palettes have been set, select Exit, and save the region with the new color palettes in the Regions Editor Library.

GRAPHIC PALETTE EDITOR

The Graphic Palette Editor is accessed through the Set Color Palette command on the Regions Editor. Use the Graphic Palette Editor to define separate seven color palettes for each graphic area of a region.

COMMAND:	**SET COLOR PALETTE (GRAPHIC)**
DESCRIPTION:	Selecting Set Color Palette in the Regions Editor brings the current region to the Graphic and Text Palette Editors.

The Graphic Palette Editor is divided in three sections:

1. The color bar menu displays six color bars plus the background color. Each bar represents one of the current colors used in the Graphic Editor: SP 1, 2, 3, (sprites); GEO 1, 2, 3, (geometric); and the BACK (background).

2. The color palette list, below the color bars, lists the current graphic palette by type (BK, GEO, SP), color and luminescence. The contents of this list are the same as the color bars.

3. The color selection area lists the 16 available colors and 8 luminescence.

HOW TO:

1. Move the cursor over one of the graphic areas on the region, press the trigger. The Graphic Palette Editor appears.

2. Move the cursor over either the color bar or the line on the palette list that you want to change, press the trigger.

3. Move the cursor over a color or luminescence in the color selection area, press the trigger. The color bar and the list change to the new color. Repeat this procedure to set the colors and luminescence.

4. Lower the menu. Move the cursor over another area of the region, press the trigger, repeat the color selection procedure.

5. Select Exit to return to the Regions Editor. Save the region and the new color palettes in the Regions Editor Library.

NOTE: Luminescence controls the brightness of a color. The available luminescence range from 00, the darkest, to 07, the brightest.

COMMAND:	**RESTORE**
DESCRIPTION:	Use Restore to return the color last selected to its original setting. Restore only effects the last Geo, Spr, or Back color selected.
HOW TO:	Move the cursor over Restore, press the trigger.

COMMAND:	**RESET**
DESCRIPTION:	Use Reset to return all the current palette colors to their original setting. Reset only effects the colors of the last region area selected.
HOW TO:	Move the cursor over Reset, press the trigger.

COMMAND:	**EXIT (TO REGION EDITOR)**
DESCRIPTION:	Takes you back to the Region Editor with the new color palette.
HOW TO:	Move the cursor over Exit, press the trigger.

TEXT PALETTE EDITOR

The Text Palette Editor is accessed through the Set Color Palette command on the Regions Editor. Use the Text Palette Editor to define separate three color palettes (two colors and three luminescence) for each text area of a region.

The background and the character colors must be the same, however, they can have different luminescence.

COMMAND:	**SET COLOR PALETTE (TEXT)**
DESCRIPTION:	Selecting Set Color Palette in the Regions Editor brings the current region to the Graphic and Text Color Palette Editors. The Text Palette Editor is divided in three sections: 1. The Text Palette menu displays sample text in the settings of the current text palette. 2. The color palette list, below the sample area, lists the colors and luminescence of the current text palette. The contents of this list are the same as the sample text area. 3. The color selection area lists the 16 available colors and 8 luminescence.
HOW TO:	1. Move the cursor over one of the text areas on the region, press the trigger. The Text Palette Editor appears. 2. Move the cursor over either Background, Border or Character, press the trigger. 3. Move the cursor over a color or luminescence in the color selection area, press the trigger. The sample area and the color list change to reflect the new color. Repeat this procedure to set the color and luminescence palette. 4. Lower the menu. Move the cursor over another area of the region, press the trigger, repeat the procedure. 5. Select Exit to return to the Region Editor. Save the region and the new color palettes in the Regions Editor Library.
NOTE:	Luminescence controls the brightness of a color. The available luminescence range from 00, the darkest, to 07, the brightest.
COMMAND:	**RESTORE**
DESCRIPTION:	Use Restore to return the color last selected to its original setting. Restore only effects the last Character, Background or Border selected.
HOW TO:	Move the cursor over Restore, press the trigger.
COMMAND:	**RESET**
DESCRIPTION:	Use Reset to return all the current palette colors to their original setting. Reset only effects the colors of the last region area selected.
HOW TO:	Move the cursor over Reset, press the trigger.

COMMAND:	**EXIT (TO REGIONS EDITOR)**
DESCRIPTION:	Takes you back to the Regions Editor with the new color palette.
HOW TO:	Move the cursor over Exit, press the trigger.

TEXT EDITOR

The Text editor is used to create stationary text.

The Text Editor is a simple word processor for writing text to be used in shows or performances. A text object consists of words or letters which can be stationary or animated by a right to left scroll across the screen.

Text is stationary in the Show and Performance Editors until a speed pattern is inserted. The Speed Editor can not be accessed from the Text Editors. Speed patterns created through other editors can be applied to texts in both the Show and Live Performance Editors.

Text objects can be saved and loaded using the text library. The library is displayed when you Press Esc L (Load) or Esc S (Save).

The Text Editor differs from the other Desk Top Performance Studio editors in that it does not use the touch pad or joystick for operation. Use the computer keyboard to execute all Text Editor commands.

Text Regions and Palettes are created in the Regions Editor and Set Color Palette Editor, which are accessed through the Show editor. You can set up to 4 Text Regions, each with an individual three-color palette.

See the Set Regions and Set Color Palette Editors for description of HOW TO create color palettes.

NOTE: To insert stationary text in a show or performance, coordinate the number of lines in the Text object with the size of the Text Region.
Scrolling text can appear in any size Region.
Text scrolls from the lowest right corner of a region and wraps around upward through the entire region.
Stationary text can be scrolled by the application of a speed pattern to the text.

TEXT EDITOR COMMANDS

COMMAND: **LOAD (Esc L)**

DESCRIPTION: Use Load to load text from the text library to the Text Eeditor. Inverted numbers on the library grid indicate saved text objects.

HOW TO: Press Esc L to raise the Text library.
Use the keyboard arrow keys to move the cursor over an inverted number on the library, press return. The menu drops, and the selected text is loaded.

COMMAND: **SAVE (Esc S)** ·

DESCRIPTION: Use Save to save text to the text library.

HOW TO: Press Esc S to raise the text library. Use the keyboard arrow keys to move the cursor over a number on the library grid, press return. The menu drops. The next time the library is accessed, that number is inverted.

TO SCROLL TEXT AND SET SCROLL SPEED

DESCRIPTION: Once text is inserted into a region in a show or performance apply a speed pattern. Each text object can have its own speed pattern. The speed set in the pattern determines how fast the text scrolls within the region.
The loop count effects the speed of the scroll: a loop is one scrolled sequence of the text object.
For example: if the text object is 10 words, and the loop speed pattern is 2 loops at speed 10, 5 loops at speed 1 and 3 loops at speed 20: then the 10 words scroll past 2 times at speed 10, 5 times at speed 1 and 3 times at speed 20.
Loop/speed patterns continuously repeat.

HOW TO: In the Show or Live Performance Editor, insert the text into a region, and apply a speed pattern.
See the Show and Live Performance Editors for description of HOW TO insert Text and Scroll.

COMMAND: **EXIT TO SHOW EDITOR**

DESCRIPTION: Takes you back to the Show editor.

HOW TO: Press Esc E.

71

ILLUSTRATION 15   TEXT KEYBOARD COMMANDS

CTRL DELETE	DELETE CURRENT CHARACTER
DELETE	DELETE PREVIOUS CHARACTER
CTRL UP ARROW	CURSOR UP
CTRL DOWN ARROW	CURSOR DOWN
CTRL LEFT ARROW	CURSOR LEFT
CTRL RIGHT ARROW	CURSOR RIGHT
CTRL U	PAGE UP
CTRL D	PAGE DOWN
CTRL T	TOP OF TEXT
CTRL B	BOTTOM OF TEXT
CTRL F	FIRST CHARACTER OF SCREEN
CTRL L	LAST CHARACTER OF SCREEN
CTRL I	INSERT MODE/OVERTYPE TOGGLE
ESC C	CLEAR THE SCREEN
ESC E	EXIT TO SHOW EDITOR
ESC L	LOAD TEXT
ESC S	SAVE TEXT

VIRTUSONICS CORPORATION