

CHIPMUNK



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## INTRODUCTION

The CHIPMUNK is a unique real time programmer with a built in dissolve unit for 2 projector shows.

The CHIPMUNK features AVL's POSITRAK, for reliable playback. POSITRAK locks your program to the audio track and will automatically resync your show should any showtime mag tape mishaps occur.

The CHIPMUNK can be used to program a professional 2 projector AV show with the special effects of REPEAT and FREEZE. With these special features, you can create, such screen effects as animation at 10 cues per second, superimpositions, fade to black, flashing dissolves and twinkle. The CHIPMUNK has 16 different dissolve rate keys, from FAST ALTERNATE to 8 SECOND DISSOLVE.

The CHIPMUNK is compatible with the entire AVL computer line, and will playback all of the SEQUENCE 2 DOVE D effects. In addition, up to three CHIPMUNKS can be daisy chained together with audio cords to playback a 6 projector show.

## PHYSICAL DISCRPTION

This section will describe the physical appearance of the CHIPMUNK and the uses of its features. The programmer has three major areas; the KEYBOARD, DISPLAY PANEL (located just above the keyboard), and the REAR PANEL.

## KEYBOARD

The keyboard is the communication path to the CHIPMUNK. The keys are embossed and the functions are color coordinated for ease of operation. A breakdown of the colors and their functions is as follows:

BLUE: DISSOLVES WITH PROJECTOR ADVANCES  
 GREEN: DISSOLVE ALTERNATES WITHOUT ADVANCES  
 YELLOW: SPECIAL EFFECTS  
 RED: SPECIAL FUNCTIONS

## DISSOLVE FUNCTIONS

The CHIPMUNK can generate 8 dissove rates plus 8 dissolve alternate rates. Each rate has its own button for ease of operation. They are as follows:

| BLUE     |            | GREEN    |           |
|----------|------------|----------|-----------|
| HARD CUT |            | FAST ALT |           |
| CUT      |            | ALT      |           |
| 1D       | 1 SEC DISS | 1A       | 1 SEC ALT |
| 2D       | 2 SEC DISS | 2A       | 2 SEC ALT |
| 3D       | 3 SEC DISS | 3A       | 3 SEC ALT |
| 4D       | 4 SEC DISS | 4A       | 4 SEC ALT |
| 6D       | 6 SEC DISS | 6A       | 6 SEC ALT |
| 8D       | 8 SEC DISS | 8A       | 8 SEC ALT |

The Difference between a DISSOLVE and an ALTERNATE is a projector advance occurs after a DISSOLVE to black. There is no advance after an ALTERNATE to black.

**CUT** This command turns the lamp ON or OFF instantaneously. If the lamp is ON, CUT will turn the lamp OFF and advance the tray 1 position. If the lamp is OFF, CUT will bring the lamp ON. When sequenced to cross from one visual to another, a CUT will turn the ON lamp OFF and the OFF lamp ON. The projector with the lamp going off will do a tray advance.

**ALT** ALTERNATE or ALT - Visually like a CUT on the screen, except there is NO tray advance.

**HARD CUT** A HARD CUT is used to move images faster, and create a sharper harder image change on the screen. A HARD CUT works by closing the gate of the slide projector, cutting out the light output before the lamp is turned OFF. This speeds up the tray advance time. When HARD CUT's are used to make a transition between 2 visuals the abruptness of the change is much crisper than with a CUT.

**FAST ALTERNATE** Same dissolve time as a HARD CUT without a tray advance. A FAST ALTERNATE used at 10 cues per second (10CPS) allows solo flashing and blinking effects.

#### SPECIAL EFFECTS

**FREEZE** The CHIPMUNK has the ability to FREEZE a dissolve alternate in progress and hold the lamp at that intensity. To continue your dissolve press the FREEZE key again. Outgoing rates can be changed.

**REPEAT** REPEAT is used when a series of cues is needed for an animated sequence. REPEAT does have wait periods built in to time the sequencing for each dissolve function. For example FAST ALT will run at 10 times a second. HARD CUT will occur every 1/2 second. To stop the REPEAT press the REPEAT button again. A table with all the times between commands can be found in the back of the manual.

## SPECIAL FUNCTIONS

- REVERSE** This button will cause the projectors to back-up one cue and revert to the status as it existed on that cue. The CHIPMUNK will only do one true reverse cue. If a projector has advanced, the CHIPMUNK will issue a projector reverse to that projector. One previous command will be retained in the computer's memory to perform a true REV Q. If multiple reverses are requested between cues the second and all subsequent reverses will sequence right to left.  
NOTE: Reverse is not a programmable function. A REV Q is possible after each programmed cue.
- HOME** This command, when pressed, will issue a HOME cue causing all projectors to turn off their lamps and return to their starting positions by the shortest route.
- AUX** AUX is an auxiliary. The CHIPMUNK has one AUX built in, AUX right. The AUX can be used to turn on extra electrical equipment. The AUX is a logic level output of 5 volts, which will trigger an auxiliary box for a momentary contact closure. This AUX function requires an AVL COYOYE AUXILIARY BOX. AUX LEFT can be programmed for a TRAVLER III or DOVE.
- INDEPENDENTS** The CHIPMUNK has a normal sequence of left to right, etc. This unit will always cycle this way without projector selection. With the INDEPENDENT function this normal sequence can be overridden and the projectors can be accessed in any order with the proper projector designation.
- LEFT** Projector designation for top or left projector. See INDEPENDENTS.
- RIGHT** Projector designation of right or bottom projector. See INDEPENDENTS.

## DISPLAY PANEL (LEFT)

Three LEDs(light emitting diodes) with the following functions:

|                   |   |
|-------------------|---|
| READY<br>(GREEN)  | Green LED indicates that the next projector is ready for a command.   |
| AMP OK<br>(GREEN) | AMPLITUDE OK - Lights when the unit is receiving a Mag Tape signal through the PLAY IN jack on the rear panel.  |
| MT ERR<br>(RED)   | MAG TAPE ERROR - Lights when an error has been detected in the MAG TAPE signal being received<br>A blinking lamp indicates that only one bad pass has been received.<br>The LED remaining lit indicates that a cue was dropped. |



## REAR PANEL

The REAR PANEL, from left to right, features:

- DISSOLVE CORDS            TWO, seven pin cables, labeled LEFT AND RIGHT. These connect to the projectors.
- PLAY IN                The PLAY IN RCA jack is used for for receiving all DATA information.
- REC OUT                The RECORD OUT RCA jack is used for ALL outgoing DATA information. e.g. To record the program information in real time.
- REM CUE                The REMOTE CUE jack (a KODAK 5 pin female) is used to cue the CHIPMUNK from a remote location. A standard KODAK hand control can be used for remote cueing of a 2 SECOND DISSOLVE or one REVERSE CUE. This connector is also the AUX RIGHT output.
- POSITRAK ON/OFF        POSITRAK locks your program to the audio track and will automatically resync your show should any showtime mishap occur. This switch turns POSITRAK output and input, on or off.
- SCREEN SELECT         This switch allows you to select the screen to be used for playback. Screen 2 or 3 can be selected for playback only. Programming must be done with the switch in the 1 position.
- POWER CORD & ON/OFF SWITCH    Always make sure the POWER switch is turned OFF before plugging the unit in.
- 115/220 SWITCH        This switch is located UNDER the unit and is used to select the proper line voltage of either 115 or 220 VOLTS AC. The unit can sense 50 or 60 HZ with no switching required.

## HOOK UP

1. Check that the power switch on the CHIPMUNK is in the off position.
2. Set the 115/220 switch to the proper voltage setting. NOTE: The CHIPMUNK will sense 50 or 60 Hz and automatically compensate the dissolve curves for Ektagraphic projectors. SAV, QBC or BULH HI-LITE projectors require special adaptors made for the CHIPMUNK.
3. Connect the two 7-pin dissolve cables from the back of your CHIPMUNK to the two Kodak Ektagraphic projectors. LEFT cable to the left or top projector and RIGHT cable to the right or bottom projector.
4. Plug the AC power cords from the two projectors and the CHIPMUNK into the same AC receptacle, by using a multiple-outlet extension cord or strip. This will eliminate phasing difficulties. It is very important to check that the AC outlets are wired properly using an AC receptacle tester.
5. Switch the projectors to FAN position on the rear of the projectors.
6. Turn the CHIPMUNK on, on the display the READY LED will be lit indicating the unit is operational.
7. Place trays on projector, align and focus.
8. Now set trays to the position you want as the home tray position.

## USING THE CHIPMUNK AS A PLAYBACK UNIT

The CHIPMUNK can be used as dissolve unit in place of a DOVE for shows programmed in the Sequence 2 mode.

You will notice the SCREEN SELECT switch on the REAR PANEL, this is used to select the playback screens. The CHIPMUNK can be assigned to playback screens 1, 2 or 3. This is done by selecting the appropriate screen number.

You can use three CHIPMUNKs to play back three screen format shows, by selecting the SCREEN SELECT switches for ONE, TWO and THREE, and linking the PLAY IN jacks of the CHIPMUNKS together.

Another use for two CHIPMUNKS is to program, with an EAGLE or ROADRUNNER, a four projector, one screen show. This can be used to improve "on screen" performance with the capability of combining LOOPS, BLINKs and REPEATS. Your creativity can be used to its fullest and the system cost is very affordable.

NOTE: You can only program on screen ONE.

\$

## PROGRAMMING YOUR CHIPMUNK

With the slide projectors now in use by our industry, we can do 4 major functions; 1) turn the lamp ON, 2) turn the lamp OFF, 3) forward the tray position and 4) reverse the tray position. With the technology of the micro-processor computers and the versatility of the CHIPMUNK, you as a programmer will be able to do much more with your projectors and therefore with your shows as a whole. A practical tip for best performance. We recommend using glass mounted slides and the 80 slide universal trays.

If you have any question about a definition, there is a GLOSSARY in the back of this manual for your convenience. The GLOSSARY will define the commands of the CHIPMUNK and what they mean to you in terms of programming ease and versatility. The programming examples in the actual text will answer your programming questions. The best way to learn is to actually use the computer and see how easy it really is. Let's program.

To program a cue (command) with the CHIPMUNK is very easy. The CHIPMUNK'S commands are ENGLISH and the KEYBOARD has the function spelled out. Select the desired effect and press the button, on the screen is the desired effect, it's that simple.

**INDEPENDENTS:** The CHIPMUNK has a normal sequence of left to right, etc. This unit will always cycle this way without projector selection. With the INDEPENDENT function this normal sequence can be overridden and the projectors can be accessed in any order at any time with the proper projector designation. Before we start press the HOME button, all lamps are now turned OFF and projectors are at their starting position. The projectors will always sequence in the following manner if you DO NOT assign them independently. The following commands are used with a CUT starting with no lamps ON.

|                          |                                  |
|--------------------------|----------------------------------|
| All lamps OFF, PRESS CUT | - LEFT projector will come ON.   |
| LEFT " ON, " CUT         | - LEFT goes OFF, RIGHT comes ON. |
| RIGHT " ON, " CUT        | - RIGHT goes OFF, LEFT comes ON. |

WHEN YOU USE PROJECTOR INDEPENDENTS PRESS THE BUTTONS FOR LEFT OR RIGHT BEFORE A COMMAND IS ISSUED.

When you use INDEPENDENTS, the projectors you assign will either come ON or go OFF according to their status at that time.

## EXAMPLE

LEFT lamp ON - press RIGHT then CUT - both projectors ON.

Both lamps ON - press RIGHT then CUT - RIGHT OFF, LEFT ON.

LEFT lamp ON - press LEFT then CUT - LEFT goes OFF.

The screen is now black.

These are just a few examples of the way INDEPENDENTS work. It allows you access of either projector at any time for any action.

The best way to learn anything, is to get in there with "both hands" and practice. The more you use the CHIPMUNK, the more its operation will become second nature to you. Create small programming assignments for yourself, and carry them out like you would a project. In this way you will become more familiar with the CHIPMUNK, and understand its capabilities.

## A "GET ACQUAINTED" PROGRAM

Here is a step-by-step hands on run through of some programming procedures:

| ACTION       | PROJECTOR STATUS  |
|--------------|---|
| 1. PRESS CUT | LEFT lamp ON, READY LED lights up   |
| 2. " 2D      | LEFT fades OFF, RIGHT fades ON<br>This action takes 2 seconds.<br>The LEFT projector advances.<br>READY LED lights when the action is completed.  |
| 3. " 4D      | RIGHT fades OFF, LEFT fades ON<br>This action takes 4 seconds.<br>The RIGHT projector advances.<br>The READY LED lights when action is completed. |

## FADE TO BLACK

|           |  |
|-----------|--|
| 4. " LEFT | At this time nothing happens, an action is necessary with an INDEPENDENT.  |
| 5. " 6A   | LEFT lamp fades down in 6 seconds.<br>At the completion of the fade the screen will be black. There will be no tray advance because an alternate was used. |

## ANIMATION

NOTE: This will be the first use of the automatic REPEAT feature of the CHIPMUNK.

|                  |  |
|------------------|--|
| 6. " REPEAT      | No action until another effect button is pressed.  |
| 7. " FAST<br>ALT | An animation is now occurring on screen at the rate of 10 times a second. This will continue until REPEAT is pushed again. |

NOTE: In the REPEAT mode the CHIPMUNK sets up a specific route for all of the D (dissolve) and A (dissolve alt) effects. By pressing the desired dissolve rate the CHIPMUNK will set the correct timing needed for each dissolve to be completed and the next one starts automatically. This will continue until REPEAT is pressed again, which stops the action. If another rate is desired instead of stopping the effect, press that desired button and the new effect will begin repeating.

8. " ALT The animation is now occurring at 5 times per second.
9. " CUT Allow the projectors to advance, on the second advance when the LEFT projector is We will stop the animation.
10. " REPEAT The animation stops.

REPEAT is a very powerful feature that will allow you to be creative and keep a steady beat on the screen. Up till now this effect would have been difficult to do in real time. We will cover more REPEAT features later on in this manual.

### SUPERIMPOSITION

NOTE: AT THIS POINT THE LEFT PROJECTOR SHOULD BE ON, IF NOT PROGRAM AN ALT.

11. " RIGHT
12. " 2D The RIGHT projector fades ON and superimposes over the LEFT projector.
13. " RIGHT
14. " 1D The RIGHT projector fades down, and advances at the completion. The LEFT lamp remains ON.

### FLASHING A SUPERIMPOSITION

15. PRESS RIGHT
16. " REPEAT
17. " ALT The RIGHT projector is flashing with the LEFT projector ON.
18. " REPEAT The animation stops and the RIGHT projector is OFF.

NOTE: BECAUSE THE CHIPMUNK IS A REAL TIME PROGRAMMER, IT WILL TAKE A LITTLE PRATICE TO STOP THE REPEAT AT THE DESIRED STATUS. WHICH IN THIS CASE IS THAT THE RIGHT LAMP IS OFF AND LEFT LAMP IS ON.

## FREEZING

FREEZE - The CHIPMUNK has the ability to FREEZE or stop a dissolve alternate in progress and hold the lamp at that intensity. To continue your dissolve press the FREEZE key again. Dissolve rates can be changed, by pressing FREEZE again and selecting a new dissolve rate. This changes the lamp direction without popping the lamps on.

FREEZING is used to control the brightness of the lamp, therefore the brightness of the slide, super impositions, and to create other special effects.

19. PRESS 8D      LEFT lamp begins to fade down ,  
RIGHT projector begins to fade up.  
Wait 4 seconds.
20. "      FREEZE      Both projectors are now frozen at that light  
intensity.
21. "      LEFT
22. "      FREEZE      LEFT projector fades down, the RIGHT  
lamp remains at the same intensity.
23. "      RIGHT
24. "      6D      The RIGHT lamp fades OFF, the screen  
is dark when this dissolve is completed.

## INTENSITY CONTROLLED DISSOLVE

Dissolving while flashing an animation sequence can be done by using the FAST ALT and REPEAT method.

NOTE: FAST ALT is similar to BLINK on the D DOVE effects except that times with FAST ALT it is necessary to press the lamp REPEAT ON and OFF. the amount of this is real time you will be require to press the buttons on this next example as fast as possible.

25. PRESS 16D      LEFT projector begins to fade ON
26. "      Repeat
27. "      LEFT
28. "      FAST      As the LEFT lamp dissolves up,  
ALT      the lamp will be flashing ON and OFF.
29. "      REPEAT      The flashing will stop.



NOTE: If LEFT lamp is not ON press FAST ALT.

In this case the LEFT projectors is told to dissolve ON, and to flash the lamp for X amount of times. When the light intensity reaches full brilliance or whenever you want the flashing to stop, terminate the REPEATING by pressing the REPEAT button again.

NOTE: For a more complete definition of INTENSITY CONTROLLED DISSOLVE refer to the GLOSSARY.

30. PRESS HOME Lamps down, projectors retrning to starting position.

WE HAVE NOW COMPLETED A VERY BASIC EXERCISE IN PROGRAMMING, BY NOW YOU ARE FAMILIAR ENOUGH WITH THE CHIPMUNK TO FEEL COMFORTABLE PROGRAMMING. THE NEXT STEP TO BE COVERED IS RECORDING AND EDITING OF CHIPMUNK PROGRAMS.

## RECORDING IN REAL TIME

Because the CHIPMUNK is not a memory programmer you must transfer program commands to mag tape at the speed of your sound track.

Choice of tape deck is important. It is necessary to have one that will record at least two channels independently, allowing simultaneous playback of the left channel and recording of the right channel.

The cue output of the CHIPMUNK is compatible with all the AVL line and the CHIPMUNK generates POSITRAK.

## SET UP TO RECORD PROGRAM ON MAG TAPE

Equipment needed: A tape recorder, a good quality audio tape and a RCA phono cable.

1. Connect one end of the RCA cable to the "RECORD OUT" jack on the Rear Panel of the CHIPMUNK and the other end to the "line input" of your tape recorder.
2. Set the tape record to record mode following instruction in the TAPE RECORDER manual.
3. Press REPEAT and ALT to adjust the input levels of the tape recorder to between +1 and +3 db.
4. Press HOME to turn off lamp after setting levels.

## RECORDING THE PROGRAM TO THE THE SOUND TRACK

Before you can take advantage of the CHIPMUNK, the following steps must be taken:

1. SCRIPT - What do you want to say, and how do you want to say it.
2. STORYBOARD - Prepared from the script, this is a series of rough sketches, arranged in the order that the visuals will occur. The STORYBOARD will also serve as a guide for preparing and traying your slides.
3. SOUNDTRACK - The soundtrack you choose should be pre-recorded on one channel of your audio tape.
4. CUE SHEET - This should list the cues and effects that you will use in your presentation. The CUE SHEET becomes the programming guide. This will prove invaluable when you are programming in real time.

These steps should be taken before you attempt to program with the CHIPMUNK. In short, your creativity comes into play before ours goes to work for you.

When you are ready to record the cues on to the soundtrack tape, you press the appropriate buttons at the appropriate time, according to your CUE SHEET.

## PLAYBACK OF THE DATA TRAK

The cues have now been recorded on to tape in real time. You will now want to check to see if the show is in sync with the soundtrack, and you have a good recording of the cues.

Do the following:

1. Make sure that all projectors are at home tray position.
2. Plug DATA channel line out of the tape deck into PLAY IN jack of the CHIPMUNK.
3. Start the tape, when data is being recieved the green LED will light indicating that amplitude is OK. If the red LED marked MT ERR (mag tape error) flashes, that indicates only one pass of data is being received, if the LED latches on, this indicates a cue has been dropped.

When the CHIPMUNK is being used as a playback unit the keyboard is locked out to prevent any accidental cues from being entered during a showtime situation.

The CHIPMUNK features AVL's show security system, POSITRAK, for reliable playback. POSITRAK locks your program to the audio track and will automatically resync your show should any showtime mag tape mishaps occur.

POSITRAK is a digital signal similar to the cue information signal, that is generated by the programmer. The information differs in that it contains projector tray and lamp status. POSITRAK information is interwoven between the program cues, therefore if a cue should ever be dropped, POSITRAK will resync the projector trays and lamps to the audio and the show will continue in perfect synchronization. This feature also allows you to fast forward or rewind a tape to make editing and reviewing easier.

## PROGRAM EDITING

We recommend the recording of one section of your show at a time. The reviewing of the last recorded section is easy with POSITRAK, playback the tape and the projectors go to where they should be and editing, if necessary can be carried out.

To edit a section of the show simply re-record over the previous cue or cues.

## CONCLUSION

Your CHIPMUNK is a remarkable real time programmer and can add excitement to 3 projector slide shows. It is easy to use and hard to make mistakes on. Use the CHIPMUNK to create a show and sit back and enjoy the results.

## TIME TABLE FOR CHIPMUNK REPEAT FUNCTION

TIME LISTED IN SECONDS

| DISSOLVE | 60 HZ | 50 HZ |
|----------|-------|-------|
| FAST ALT | .1    | .1    |
| ALT      | .3    | .3    |
| CUT      | 1.5   | 2.1   |
| HARD CUT | 1.0   | 1.5   |
| 1A/1D    | 2.3   | 2.3   |
| 2A/2D    | 3.3   | 3.3   |
| 3A/3D    | 4.3   | 4.3   |
| 4A/4D    | 5.3   | 5.3   |
| 6A/6D    | 7.3   | 7.3   |
| 8A/8D    | 9.3   | 9.3   |

## CHIPMUNK SPECIFICATIONS

PROJECTOR CONTROL : TWO PROJECTORS

POWER REQUIREMENT : AC 120/220 VOLTS 60/50 HZ

POWER CONSUMPTION : 30 WATTS NOT INCLUDING PROJECTORS

PROJECTOR LAMPS : 115VAC 300 WATT MAX WITH SAV CONVERTER  
BOX 115VAC OR 24VAC 1500 WATTS MAX

AUXILIARY CHANNEL : MOMENTARY, LOGIC LEVEL OUTPUT, 5 VOLTS  
MAX, USE PIN 1 AS POSITIVE AND PIN 5  
AS GROUND ON KODAK EBY PLUG 100 MIL  
SECOND DURATION.

REMOTE CONTROL : KODAK HAND CONTROL COMPATIBLE, TWO  
FUNCTIONS, FOWARD BUTTON 2 SECOND  
DISSOLVE, REVERSE BUTTON ONE TRUE  
REVERSE CUE

PLAY JACK : LINE LEVEL IN, RCA JACK, COMPATIBLE  
WITH ALL AVL COMPUTER EQUIPMENT,  
INCLUDING DOVE D EFFECTS

RECORD JACK : LINE LEVEL OUT, RCA JACK, TIME DIVISION  
MULTIPLES SIGNAL (DIGITAL) MULTIPLE  
PASSES WITH CRC AND POSITRAK FOR  
RELIABILITY

DIMENSIONS : 3.25"(H) X 12.625"(W) X 8.25"(D)

WEIGHT : 6 LBS

ORIGIN : MANUFACTURED IN U.S.A.

## GLOSSARY OF TERMS

- ALT** ALTERNATE - Visually like a CUT on the screen, without a tray advance.
- ASSIGNMENT** Designating which projector(s) the action will take place on. You can independently select each projector for any action. This is done by selecting A,B, or C.
- AUX** AUX is an auxiliary. The CHIPMUNK has one AUX built in, AUX right. The AUX can be used to activate an electrical appliance, (16mm, tape deck, etc.). The AUX is a logic level output of 5 volts, which will trigger an auxiliary box for a momentary contact closure. This AUX function requires an AVL COYOTE AUXILIARY BOX. AUX LEFT can be programmed for a TRAVLER III or DOVE.
- CUT** This command turns the lamp ON or OFF instantaneously. If the lamp is ON, CUT will turn the lamp OFF and advance the tray one position. If the lamp is OFF, CUT will bring the lamp ON.
- DISSOLVES** DISSOLVES - This command turns the lamp ON or OFF in the designated time (in seconds), creating a fade effect. Dissolves are used to create a cross-fade or dissolve from one visual to another using 2 or more projectors. Again, the projector with the lamp going off will advance the tray one position when the lamp is completely off.
- 1D,2D,3D,  
4D,6D,8D



DISSOLVE  
ALTERNATES  
1A to 32A

Visually identical to DISSOLVES, without a tray advance. Dissolve rates are the same, but the ALTERNATE command is used.

FAST ALTERNATE

Same dissolve time as a HARD CUT without a tray advance. A FAST ALTERNATE used at 20 cues per second (20CPS) allows solo flashing and blinking effects.

FREEZE

Like all of AVL's computer programmers, the CHIPMUNK has the ability to stop a dissolve alternate in progress and hold the lamp at that intensity, by using FREEZE. Repeating FREEZE allows the lamp(s) to continue the dissolve in the same direction at the same rate, or change directions at the same or a different rate.

NOTE: ONLY Dissolve Alternates should be used with a FREEZE.

HARD CUT

A HARD CUT accomplishes two things:  
1. Move images faster, 2. Create a sharper, harder image change on the screen. A HARD CUT works by closing the gate of the slide projector, shutting off the light before the lamp is turned OFF. The tray advance is faster, allowing that projector to be used again sooner than with a CUT. When HARD CUT's are used to make a transition between 2 visuals the suddenness of the change is much crisper than a CUT (this can be used to create the flicker of old-time movies when moving through many visuals rapidly).

HOME

HOME brings the lamps down, and returns the trays to their original starting position by the the shortest route.

INDEPENDENTS

The CHIPMUNK will cycle through projectors from LEFT to RIGHT to LEFT etc. Usually only one projector at a time is on. With the INDEPENDENT function this normal sequence can be overridden and the projectors can be accessed in any order with the proper projector designation. This allows you to do superimpositions or fade to black. The use of INDEPENDENTS is a very powerful aid.

**INTENSITY  
CONTROLLED  
ALTERNATE**

This feature allows you to dissolve a lamp up or down, while simultaneously flashing the lamp ON and OFF.

One example of a use for this feature is fading up a rotating marquee from black to full intensity. The marquee effect is generated by using three different slides in the A, B and C projectors and sequencing between them.

**LOOP**

A DOVE D effect which will playback through a CHIPMUNK. This effect is not programmable by the CHIPMUNK.

**REPEAT**

REPEAT is unique to a real time programmer, and is used when a series of cues is needed for an animated sequence. REPEAT uses wait periods built in to time the sequencing for each dissolve function.

NOTE: A TABLE LISTING ALL OF THE REPEAT TIMES BETWEEN COMMANDS IS LOCATED ON PAGE ...

**REVERSE CUE**

When pressed, this button will REVERSE the projectors and restore them to the status of the previous cue this is a true reverse cue.

**SCREEN SELECT**

The CHIPMUNK can be used as a playback module. With the CHIPMUNK, you have a choice of either Screen 1, 2, or 3.

**SPEED 10**

Normal running speed for the CHIPMUNK is 10 CUES PER SECOND (10CPS). The CHIPMUNK waits 1/10th of a second between the time one cue is issued and the next cue is accessed.

**SPEED 20**

20 CPS a running speed available with the CHIPMUNK only during playback. This effect must be programmed on one of AVL'S memory programmers.