PROCALL X-1 MANUAL

AVL, Inc.
500 Hillside Avenue
Atlantic Highlands, New Jersey 07716-2197
(201) 291-4400

TABLE OF CONTENTS

Introduction

For those of you who have been using Procall (Programmable Computerized Audio-Visual Language Library), PROCALL-X1 can be considered the next step toward total creative freedom. Some of the main features are shown in the quick preview section. The two most visible differences are Independent Accessing and Flexible Formatting. Once these features are explained, it will be possible to utilize the power of the expanded looping capability and the Blink Alternate.

New Features

1. Independent Accessing- This feature allows each of your thirty possible projectors to be addressed in an independent manner in a single cue. Each projector is given an alphabet letter designation. (A thru O, Bank A; A thru O, Bank B). Projectors can be given commands with either the independents or the screen numbers but not both. This actually simplifies the addressing of projectors making PROCALL-X1 more user friendly.

2. Flexible Formatting- The idea behind this powerful feature is to allow you to set up your projectors in any way and then to lay them out on the video screen in the same physical manner so that your video screen reflects the actual projector setup when looked at from the back. You are given a 54 position grid in which to place your 15 projectors. This means that we are allowing nine screens per Bank and six projectors per screen. It does not mean that we are allowing a total of 54 projectors, just 54 places in which to choose the placement of 15 projectors.

	1	2	3	4	5	6	7	8	9
A									
B									
C									
D									
E									
F									

The following formatting limitations apply:

1. Two separate Banks.
2. Up to 15 projectors per Bank; 30 projectors total.
3. Up to nine screens per Bank; 18 screens total.
4. Up to six projectors per screen.

In PROCALL, DOVES were addressed by a screen number and an independent such as a,b,c or T,C,B, or L,C,R. Now we are saying essentially the same thing except that the numbers 1 thru 5 on the DOVES are no longer called screen numbers but DOVE NUMBERS. Since we have a limit of 15 projectors per bank, that means we still have DOVE numbers of 1 thru 5. We are also using A,B,C as the projector assignments. For example, an assignment of "2A" means DOVE #2, top projector. Again, this will be referred to as an assignment. The table of 54 unique positions is called the configuring table. It is in this table that you will place the projector assignments. In this way, you can place any projector under any screen number as long as no screen number contains more than six projectors. I think you can now see that DOVE number and screen numbers are not necessarily the same anymore. When programming, each assignment is given an alphabet letter (Independent). Therefore, you program with Independents and Screen numbers. It is no longer necessary to see the DOVE assignments. Each Bank works the same way and two different configurations or formats can be displayed and cued at the same time.

3. Expanded Looping- Loops are defined in terms of independents. In this way a loop can be formed using 1,2,3,4---28,29,30 projectors. Since each projector defines a loop, a DOVE X can hold three separate loops, one for each projector. Each loop has a 100 cue capability and all Alternates, Freezes, and Wait states are valid.

4. Blink Alternate, Soft Alt, Soft Cut- These functions are explained in detail in later sections.

5. Help Key- PROCALL-X1 is much more user friendly than the older Procall Versions. A special Help Key (©), which is found in the upper right hand corner of the keyboard, is now available. It can be used at any time during programming by simply pressing the key. POCKET PROCALL will be displayed one page at a time. To move on to the next page, press RETURN. At the end of the help file, RETURN will bring us back to your program. If you are not interested in seeing each page, ESCAPE can be pressed to return you back to the programming field.

The following part of the manual is intended for you, the user to read as you experiment on the EAGLE system. To fully understand PROCALL-X1, it is necessary to do as you read. The EAGLE will provide you with the best example.

QUICK PREVIEW

	PROCALL	PROCALL-X1
1.	Limited accessing by independents such as 1 L,C,R.	Total independent Accessing (A----O) Each projector designated by a letter.
2.	Constricted to two or three projector subsets per screen.	Flexible Format utilizing selected 1,2,3,4,5 or 6 projector format per screen.
3.	Access of Auxiliaries Limited.	Total Independent Accessing of AUX (A----J).
4.	Limited Looping Capability.	Expanded Independent Looping with a New Command LPxx. Each DOVE X can contain up to 3 Loops, one for each projector or can participate in 2,3,4,5,6,7,8,9,10,11,12, 13,14, or 15 and on up to 30 projector looping. All Dissolve Alternates, Waits, and Freezes are valid.
5.	Has Blink Go Featuring Blinking Dissolves.	Has a Blink Alt command for more powerful looping capability. You can create your blinking effect from 1 to 30 projectors in any order as fast as 20 cycles per second or as slowly as you choose. The power is in your choosing. Has Soft Alt and Soft Cut. Has Help Key.

Let's do an example with your EAGLE to show you the idea behind Independent Accessing.

1. Boot Up Using PROCALL-X1.

EAGLE says,
"Hello, I am the EAGLE II. What is your name?"

2. Type in your name, press RETURN.

EAGLE says,
"Thank you for loading PROCALL X1.
Would you like to
(1) Continue with standard format
(2) Create your own format
(3) Use format already created."
(4) Save format on another disk.

At this point, options (1), (2), (3) are the only choices that can be selected at this time. To get familiar with independent accessing, we will go to the standard format which you were used to in PROCALL.

3.Type "1"

EAGLE says,
Very Good. Please name your program and we can begin."

4. Type program name, RETURN.

VIDEO MONITOR DISPLAY

```
PROGRAM NAME: LEARN                OPERATOR:
MODE: MT BYPASS                                                  0.00
CONTROL COMMAND:                                          E1.25
STATUS:

          BANK A STATUS                                BANK B STATUS
     1    2    3    4    5                      1    2    3    4    5
    A0   D0   G0   J0   M0                     A0   D0   G0   J0   M0
    B0   E0   H0   K0   N0                     B0   E0   H0   K0   N0
    C0   F0   I0   L0   O0                     C0   F0   I0   L0   O0


CUE #   CODE    STATEMENT              BANK A              BANK B          RUN
----
----
----
----
----
     1
     2
     3
     4
     5
```

TOP LINE
This line contains the name of the operator and the program title. The space provided for the program title is 8 characters long and the operator name space is 25 characters long. If you skip over the "HELLO" sequence using the LINE FEED key the program title will default to DEMO 1, and the operator name will be blank.

SECOND LINE
This line contains the PROGRAMMING MODE selection. The possible choices are MAG TAPE BYPASS (the default mode), CEM (clock edit mode), CIM (clock output mode), PROCALL GUIDE PROCALL X1

The space at the right hand side of this line is reserved for incoming data display. When the system receives cue information from either mag tape or another AVL programmer, this line will display the word AMP if the data is of sufficient amplitude. MT POOR is displayed if the incoming data has some distortion in it but the system is still able to decode the cue. If the data is so distorted as to be unreadable by the system, MT BAD and the cue number of the distorted cue will be displayed. When no data is received by the system the display will remain blank. If only POSI-TRAK information is being received by the system the display will show the word POSI-TRAK.

THIRD LINE
This is the CONTROL COMMAND field and its features are discussed in the PROCALL GUIDE.

FOURTH LINE
This line is the status line. When certain normal features have been disconnected by the user, it will be indicated in this line e.g. RCF (Remote Cue Off) or POF (Posi-trak Output Off). This line also functions as a display for "EAGLE COMMENTS" such as "STANDBY FOR GOTO"

BANK A AND BANK B STATUS AREAS
These areas are used to give you a constant display of the projector tray positions and lamp status. The status area contains two sectors referred to as BANK A and BANK B. Each bank can have up to 15 projectors, a maximum of 9 screens, and a possibility of 6 projectors per screen depending on how the projectors were formatted. If you have formatted for all 15 projectors, the letters A thru O are used to individually designate each projector. To the right of each letter is the tray position o[inverse video if the lamp is on, and normal if the lamp is off.

THE TPO CONTROL COMMAND
(Tray position offset) permits you to set the starting tray position. Once you have saved a program with a particular starting tray position the new position is retained. Anytime you load that file the starting position will be reset to that value. Note that this does not send and cues to the equipment attached to the system. It assumes that you actually started with your trays in the offset position.

CNTR/V
This command removes the tray designation and replaces that information with DOVE number and A,B,C projector assignments, this allows a rapid examination of the independent and it's corresponding projector assignment.

CLOCK DISPLAY
The clock display is located on the right hand side of the screen on the second line. This clock acts as a free running timer as well as a display for CLOCK- TRAK from mag tape in either CLOCK EDIT or CLOCK INPUT mode. The clock will begin to run anytime the LINE FEED key is depressed and a TIME or TIME X cue is executed. It will continue to run until a STOP is encountered or you push the ESC key. Additionally, if the end of cue space is encountered while the clock is free running (no clock-trak data is being received) the clock will stop.

CUE AREA
This area contains the cue number, cue, statement, and the BANK A and BANK B projector commands.

CUE #
As with other AVL programmers the cue is previewed before it is executed. Unique to the EXPANDED ROADRUNNER, EAGLE II A-V and the EAGLE is the fact that the display shows you the 5 preceding cues as well as the five following cues.

CODE
This area is for the various programming CODES as described in the PROCALL GUIDE that designate what the screen action will be.

STATEMENT
After the entry of CODE, the system will use this area to feed back to you a more complete ENGLISH statement of what the action will be. This serves as a check on the CODE entry process.

BANK A and BANK B PROJECTOR COMMANDS
This area is used to specify which screen or projector will respond to the code entries. Screens and independents cannot be used on the same cue line. The independents and screens are the same for BANK A and BANK B and are no longer 1 thru 5 for OUT 1; 6 thru 10 for OUT 2.

RUN
This is used to indicate that the program in the system is executing. Runs are initiated by entering a "R" while in the screen area and are terminated when they encounter a "STOP" in the screen area of a subsequent cue. While a run is in progress the RUN heading will appear as reverse video (black characters against a white background).

When a run is in progress at a selected speed of 20 cues per second the area on the heading line between the SCREENS title and the RUN title will display "20CPS". When the system is executing the program at 10 cues per second, this area will remain blank.

```
PROGRAM NAME: LEARN                OPERATOR:
MODE: MT BYPASS                                              0.00
CONTROL COMMAND:                                        E1.25
STATUS:

          BANK A STATUS                          BANK B STATUS
     1    2    3    4    5                 1    2    3    4    5
    A0   D0   G0   J0   M0               A0   D0   G0   J0   M0
    B0   E0   H0   K0   N0               B0   E0   H0   K0   N0
    C0   F0   I0   L0   O0               C0   F0   I0   L0   O0


CUE #  CODE   STATEMENT              BANK A              BANK B          RUN
----
----
----
----
----
   1   FA     FAST ALT              12345               12345           RUN
   2   W2     WAIT 2.0 SEC.
   3   4D     4 SEC DIS             ABCDEF              AB
   4   LL     LOOP LOAD             ABCD                ABCD
   5   BA     BLINK ALT             ABCD                ABCD
   6   W.5    WAIT 0.5 SEC.
   7   LP12
   8   N      NO OPERATION                                              STOP
```

5. Take time to study the new screen format.

Notice that we have separate places for bank A and bank B. In this case, your screen numbers match the DOVE numbers for a fifteen projector show. Therefore, each bank can be viewed as a separate channel; Each channel connecting to five DOVE X's.

6. Notice that projectors are now labeled as letters A thru O, each projector receiving its own letter.

7. Press CNTRL/V, notice that the status now shows the corresponding DOVE X designation with each alphabet letter. If CNTRL/V is pressed again, the status display is returned to normal. This is shown in the figure below.

```
PROGRAM NAME:                    OPERATOR:
MODE: MT BYPASS                                                    0.00
CONTROL COMMAND:                                                E1.25
STATUS:

        BANK A STATUS                          BANK B STATUS              RUN

   1    2    3    4    5                 1    2    3    4    5
 A1A  D2A  G3A  J4A  M5A               A1A  D2A  G3A  J4A  M5A
 B1B  E2B  H3B  K4B  N5B               B1B  E2B  H3B  K4B  N5B
 C1C  F2C  I3C  L4C  O5C               C1C  F2C  I3C  L4C  O5C
```

When programming with screen numbers, projectors sequence according t the projectors under the screen column. If you want to use independents, program using the alphabet letters. There is no need for presets any more!

NOTE: You cannot usc both screen numbers and letters within the same cue. But you can have numbers on Bank 1 and letters on Bank 2 or vice versa.

Program the following to see how this operates.

Cue #	Code	Statement	Bank A	Bank B
1	AT	ALT	12345 Return	12345 Return
2	AT	ALT	12345 Return	12345 Return
3	AT	ALT	12345 Return	12345 Return
4	AT	ALT	12345 Return	12345 Return
5	AT	ALT	ADGJM Return	ADGJM Return
6	AT	ALT	ABCDEFGHIJKLMNO Ret.	ABCDEFGHIJKLMNO Return
7	AT	ALT	12345 Return	ABCDEF Return
8	AT	ALT	CFILO Return	AFEHI Return
9	AT	ALT	Return	245 Return
10	AT	ALT	Return	AFGLO Return

RESULT:

1. The Top projector lamps on each screen come on. (First in the sequence.)
2. The Center projector lamps come On and Top go Off. (2nd in the sequence.)
3. The Bottom projector lamps come On and Center Off. (3rd in the sequence.)
4. The Top projector lamps come On and the Bottom go Off. (Sequence starts again.)
5. This is an independent command and the ALT action only affects those letters that were designated (ADGJM).
6. All projector lamps come on.
7. All projector lamps go Off except the Bottom row, as defined in PROCALL. (The last of a Sequence.) However, the command to Bank B is different and all projector lamps in screens 1 & 2 are now down.
8. All Bank A projector lamps are now Off and Bank B projector lamps A,E,F,G,J,K,L,M,N,O are On.
9. Here, Return is pressed without any commands to Bank A.
10. This last command uses independents to turn Bank B projector lamps Off.

This simple program illustrates the case in commanding projectors. Also notice that bank A and bank B are affected in each cue. Knowing as much as you now know, you can probably reprogram 90% of your old shows with PROCALL commands in this format.

FLEXIBLE FORMATTING

Now that you understand how to use independents in PROCALL-X1, we now reformat to show you that screens and DOVE numbers no longer correspond

1. REBOOT the system by pressing RESET in the rear of your EAGLE.
2. Go through typing in your name, RETURN.
3. Press (2) to "Create your own format."

"EAGLE says,

"Options For Creating Format	Limitations
Up to 18 Screens	No More Than 6 Projectors Per Screen
Up to 30 Proj.	No More Than 15 Projectors Per Bank

How Many Screens Are To Be Used? How Many Projectors?

Note: There can be no more than 9 screens per Bank.

The questions are referring to total screens and projectors used in both banks. For now let's say we want 3 screens and 15 projectors in Bank A.

4. Type in 3, RETURN, 15 RETURN.

EAGLE says,

"How many screens would you like in Bank A?"

5. Type 3 RETURN.

EAGLE says,

"Bank B will have : 00"

Since you have assigned all screens to BANK A, EAGLE automatically calculate[zero screens for BANK B.

6. Type RETURN.

EAGLE has completed formatting questions and the configuring table is displayed as shown in table 2.

The "ASSIGN" refers to the DOVE number and projector within that DOVE. For example, DOVE #1 a,b,c; 2 a,b,c; 4 a,b,c; 5 a,b,c; In other words, 1A means DOVE #1, top projector.

(Table 2)

PLEASE ENTER THE DESIRED ASSIGNMENT AND
CONFIGURATION FOR YOUR PROJECTORS.

EX. ASSIGN 1A CONFIG. 5A

	1	2	3
A			
B			
C			
D			
E			
F			

ASSIGN: CONFIG:

"Config." refers to the table on the screen. If you entered the following:
2B, RETURN, 1A RETURN Which on the screen shows,
Assign: 2B Config: 1A
Projector B in DOVE #2 will be placed in the 1A location as shown in table 3:

Table 3:

PLEASE ENTER THE DESIRED ASSIGNMENT AND
CONFIGURATION FOR YOUR PROJECTORS.

EX. ASSIGN 1A CONFIG. 5A

	1	2	3
A	2B		
B			
C			
D			
E			
F			

ASSIGN: CONFIG: 3F

So you can assign each projector to whatever screen desired so long no more than six projectors are assigned to a single screen.

NOTE: When entering projectors into the Configuring table, you must enter in the natural table order (1A thru F, 2A thru F, 3A thru F). For example, if you now enter in space 2A, screen 1 is completely done and locked. You cannot go back to 1F for instance. Therefore, always assign all projectors to screen 1 before moving to screen 2. This is shown in table 3.

There is a special editing feature available to enable changes while configuring a new format. If a mistake is made, it can easily be corrected by CNTRL/U which places the user in a change mode for the current Bank only. In this mode, any assignment may be moved to any other unoccupied space in the configuring table. This change mode now allows the programmer to break the order of entrance rule of the previous page. Any assignment can be changed to any other untaken configuration space regardless of the order entered. If assignment 2B has been entered into configuration 1A, add the following to your configuring table to demonstrate the Control/U Feature.

```
    1B  RETURN                    1B  RETURN
    1C  RETURN                    1C  RETURN
    2A  RETURN                    1D  RETURN
    1A  RETURN                    1E  RETURN
```

WHICH YIELDS THE FOLLOWING TABLE:

```
    EX. ASSIGN 1A                 CONFIG: 5A

     1       2       3
    A2B
    B1B
    C1C
    D2A
    E1A
    F

     ASSIGN:                      CONFIG:
```

Suppose we wanted the assignments 1A and 2B switched in locations. To change locations, do the following:

1. Type in CNTRL/U;

EAGLE says,

"You are in Change Mode"

2. Address the assignment and configuration you want to change and then type in the assignment and its new location. For example, let's move 2B in location 1A to location 1F. To do this type in the following:

```
    2B RETURN                 1A  RETURN
    2B RETURN                 1F  RETURN
```

In other words,(2B,Return;1A,Return)addresses what you want to change and (2B,Return; 1F,Return)places 2B into location 1F.

3. To move 1A up to location 1A and 2B up to 1E, type the following,

```
CNTRL/U
        1A RETURN       1E RETURN
        1A RETURN       1A RETURN

CNTRL/U
        2B RETURN       1F RETURN
        2B RETURN       1E RETURN
```

NOTE: After every change in location, EAGLE goes automatically out of the change mode. Therefore, it is necessary to type in CNTRL/U before every change.

After making these configurations changes, your table should look like this;

```
EX. ASSIGN 1A                                   CONFIG: 5A

        1       2       3

A       1A
B       1B
C       1C
D       2A
E       2B
F

        ASSIGN:                                 CONFIG:
```

As another example, suppose we wish to change 2B in location 1E to 2C in the same location: To do this type:

```
CNTRL/U
        2B  RETURN              1E RETURN
        2C  RETURN
```

NOTE: When changing the assignment in a particular location as above, it is not necessary to type 1E twice as shown in the example.

This editing feature can be used as long as all projectors allotted to a particular Bank are not confiured. With this editing control in mind, reboot your system to start fresh again. After rebooting, select (2) to create your own format. Again, enter "3" screens and "15" projectors for BANK A as before.

Now, let's follow through with the example using 3 screens and 15 projectors. Enter the following information:

ASSIGN		CONFIG:	
1A	RET	1A	RET
1B	RET	1B	RET
1C	RET	1C	RET
2A	RET	1D	RET
2B	RET	1E	RET
2C	RET	1F	RET
3A	RET	2A	RET
3B	RET	2B	RET
3C	RET	2C	RET
4A	RET	3A	RET
4B	RET	3B	RET
4C	RET	3C	RET
5A	RET	3D	RET
5B	RET	3E	RET
5C	RET	3F	RET

Notice that the first time RETURN is hit the cursor moves to config. column. The second time the projector is placed into the chart.

NOTE: If a mistake is made when typing in an assignment, BACKSPACE, the EAGLE will print,

"Wrong Assign. Please try another"

Likewise, making a mistake while typing config.,BACKSPACE, and the EAGLE will print,

"Wrong Config. Please try another."

If a mistake is made after a table entry is completed, use CNTRL/U to enter the change mode.

If you have entered the entire amount of information listed above, the cursor will be displayed in the lower right hand corner. At this point, it is too late to use the CNTRL/U feature since every assignment has been made. To move on, press RETURN and EAGLE shows the following:

TABLE 4

PLEASE ENTER THE DESIRED ASSIGNMENT AND
CONFIGURATION FOR YOUR PROJECTORS.

EX. ASSIGN: 1A CONFIG: 5A

	1	2	3
A	1A	3A	4A
B	1B	3B	4B
C	1C	3C	4C
D	2A		5A
E	2B		5B
F	2C		5C

IS YOUR FORMAT CORRECT?

If this is what you have, type "Y" (yes).

If not, type "N" (no) and start over again.

NOTE: If an incorrect entry was made into the chart before this question, use CNTRL/U (the change mode).

If you typed "Y" the EAGLE says,

Please enter name of format: C.

For this example, type "M", RETURN

In this example, your format is saved on disk as C.M. The C. is automatically placed here by the EAGLE to remind you that you are saving a configuration (format) and not a program.

EAGLE says,

"Would you like to"
(1) Continue with standard format.
(2) Create your own format.
(3) Use format already created.
(4) Save format on another disk.
or Hit RETURN.

Since we have created a new format named "C.M.", options (1), (2), and (3) are not relevant at this time.

If you do not want to save your format on another disk, press Return.

For this example, let's say we do want to save it again on another disk; type in "4".

EAGLE says,

"Will you use Disk A or B?"

If you have an EAGLE I or a ROADRUNNER, you must press A. If you have an EAGLE II both A and B are valid.

NOTE: If you choose Disk A, you must pull out the disk currently in use, and substitute a new disk for the format to be copied onto before you actually type "A". Once "A" is typed, the EAGLE begins to copy your format. If you have and EAGLE II, make sure you have a disk in drive B if you are going to type "B".

For this example, type A.

EAGLE says,

"Load Disk and hit RETURN"

Load the disk you want your format to be stored on and press RETURN.

EAGLE says,

"OPERATION COMPLETE"

To save again, depress (4); Else hit RETURN.

You may save the format on as many disks as you like. If you are finished saving, hit RETURN.

At this time the EAGLE will say,

"Very good, please Name Your Program and we can begin."

For this example, I will name it "LEARN" RETURN

Now we are back to our programming format.

NOTE:

1. Bank A has the configuration we have just entered.
   Bank B has nothing since we assigned no screens to Bank B.

2. We are using 3 screens, but five DOVES each with its own special DOVE number from 1 to 5. Screens no longer are the same as a DOVE number.

Press CNTRL/V

3. You now see again how the DOVE numbers are assigned. Screen 1 contains DOVE #1 & 2. (6 projectors) screen 2 contains DOVE # 3 (3 projectors) screen 3 contains DOVE #4 & 5 (6 projectors).

TABLE 5

PROGRAM NAME: OPERATOR:
MODE: MT BYPASS 0.00
CONTROL COMMAND: E1.25
STATUS:

BANK A STATUS BANK B STATUS

1	2	3
A1A	G3A	J4A
B1B	H3B	K4B
C1C	I3C	L4C
D2A		M5A
E2B		N5B
F2C		O5C

NOTE: DOVE numbers and projectors do not have to be entered sequencially, but all chart entries must be made in a sequencial order.

4. If you wish to spread out the location of the projectors on your video screen, type in 5 screens for Bank A and assign the DOVES to screens 1,3 to 5 instead of 1,2 and 3. Flexible Formatting!

If you program the following you can obtain with two cues, a 6 projector animation:

NOTE: The command for G (GO) has been changed to R (RUN).

AT	ALT	1	RUN	RETURN
RPØ	REPEAT Ø TIMES			RETURN

We still have programmed two DOVE X's but our programming is so much more flexible.

Save the above program and call it RP LOOP.

1. ESC -Gets out of repeat
2. CNTRL/C-Control Command
3. SV RP LOOP, RETURN

Once saved, EAGLE says,

"OPERATION COMPLETE".

REBOOTING A SAVED FORMAT

1. Reboot the system
2. Type in Your Name, RETURN
3. Type in (3) for "Use format already created"
   EAGLE says,
   "Please enter format NAME"
4. Type in "C.M", RETURN

The "C." must be typed since EAGLE automatically saved the format on disk as "C.M". This distinguishes this name from a normal program name.

"EAGLE says,"

"Would you like to"
(1) Continue with standard format.
(2) Create your own format.
(3) Use format already created.
(4) Save format on another disk.
or Hit RETURN

Here, your only two choices at this time are to:
1. Save on another disk.
2. Depress Return to continue.

Any other numbers are inactive at this time. Since we already have saved on another disk, depress RETURN.

EAGLE says,

"Very Good". Please Name Your Program and We Can Begin."

If you are going to recall a program from memory, you do not need to name it here so simply press RETURN.

To load a saved program, do the following
1. CNTRL/C to get to the Control Command Field
2. Type "LDRP LOOP, RETURN; this loads the program we previously saved.

The original program that we title["LEARN" is now ready in the preprogrammed format "C.M".

WHAT IS STORED ON DISK
Check to see exactly what is stored on your disk.
1. Type "LIB" RETURN in the control command field.

EAGLE says,
"C.M RP LOOP"

2. Press "Escape" to return to program. Again the C. distinguishes a format from a program such as RP LOOP.

NOTE: To load another preprogrammed format requires rebooting the system. For example, if in the standard format, it is not possible to change the format without rebooting.

**********LD C.M is not valid.**********

IMPORTANT NOTE: It is sometimes convenient to Boot-Up the EAGLE, to have it automatically load and to be ready to show. This can be done with any format and program by saving under the names "C. Show" and "Showtime" respectively. When the EAGLE is booted-up, Showtime is automatically loaded in the format "Show".

THE PURPOSE OF FLEXIBLE FORMAT

Let's summarize and highlight some of the important advantages of Flexible Formatting.

1. Flexible Formatting allows a physical projector setup to be realized on the video screen making the DOVE X's essentially transparent. Look at your projector setup from the back and now look at your screen. See exactly what projectors are doing.

2. Flexible Formatting allows more projectors to be assigned to a certain screen, thus creating different sequences. It is now possible to have 1, 2, 3, 4, 5, or 6 projector sequence depending on your format.

3. Flexible Formatting allows two different formats to be addressed by 1 cue. Simply configure two different formats, one for each bank. For example, Bank A may have a square format with 9 projectors and Bank B a pyramid shape format with 15 projectors.

PROGRAMMING COMMANDS:

CT

CUT- This cue turns the lamp ON or OFF quickly. If the lamp is already ON, this will turn the lamp OFF and initiate a tray advance. If the lamp is OFF it will then be turned ON. If you wish to cross from one visual to another quickly, a CUT will turn the ON lamp OFF and OFF lamp ON, and the projector with the down going lamp will perform a tray advance. A cut employs the afterburner effect as described in the note below.

Note: A projector lamp does not turn on or off instantly with the application or removal of power. The lamp actually requires a fraction of a second to heat up or to cool down. This is called the "thermal lag" of the lamp, and the lag is different for turning the lamp on than it is for turning the lamp off. All AVL computerized dissolve controls automatically compensate for this effect. Cuts and Alternates employ an "AfterBurner Effect" which allows the lamp to reach full intensity. Because of the time involved due to the lamp lag, the afterburner does not allow the lamp to flash on and off at 20 cues per second. Therefore, the Fast Alternate was created to defeat the afterburner and to allow solo flashing and movement of visuals at 20 cues/second.

SC

SOFT CUT- A soft cut is a compromise between a cut and a 1 second dissolve. The projector with a down going lamp will do a tray advance.

HC

HARD CUT- A hard cut was designed with two things in mind, first was the desire to move images faster, and second was the ability to create a sharper, harder image change on the screen. A hard cut closes the gate of the slide projector which shuts off the light before the lamp is turned OFF. The tray advances to the next image. That projector is now ready to be turned ON again with the next slide. When HARD CUTS are used to make a transition between 2 visuals the change is much crisper than a CUT. This can be used to simulate the flicker of an old time movie when moving through many visuals rapidly.

DISSOLVES

These cues turn the lamp ON or OFF in the designated amount of time in seconds, creating a dissolve or a fade effect e.g. 2D is a 2 second dissolve. You can create a cross-fade or dissolve from one visual to another using a dissolve in conjunction with 2 or more projectors. Again, the projector with the down-going lamp will have a tray advance.

1 D	6 D
2 D	8 D
3 D	16 D
4 D	32 D

FA

FAST ALTERNATE- This cue turns the lamp ON or OFF as fast as the lamp allows. It is used to do alternates at 20 cues per second and roughly equates to a HARD CUT with no tray advance.

BA
BLINK ALTERNATE- is a new feature that can best be defined as a Fast ALT for a loop. If the projector status states that the lamp is on, a BLINK ALT command will act as a FAST ALT and turn the lamp on and off instantaneousl[. If the status says the lamp is OFF, the BA will not turn the lamp on whereas FAST ALT will. This eliminates the popping on of the lamps at the end of a programmed blinking dissolve sequence.

Secondly, if Blink Alt, Wait Cues, or Freezes only are employed in a loop, it is possible to program a dissolve after a loop has been started. For example, suppose we program a three projector Blinking Loop using the BA command. This Blinking loop can be dissolved up and down, similar to methods used with the older Version 5 Blink Go command.

AT
ALTERNATE or ALT- This cue turns the lamp ON or OFF with NO tray advance. An ALT looks like a CUT on the screen with no tray advance.

DISSOLVE ALTERNATES- These commands are equivalent to the dissolves but with no tray advance for the downgoing projector at the end of the dissolve.

1 A	6A
2 A	8A
3 A	16A
4 A	32A

SA
SOFT ALT- Visually the same as a SOFT CUT but without a tray advance.

AUXILIARY FOR DOVES
(A thru J) this command is now programmed with independents only. The letters A thru J are used instead of, for example, 1L and R. The following table shows the PROCALL-X1 commands as compared to the PROCALL commands.

NOTE: We are using the DOVE number rather than screen number as our Auxiliary reference.

DOVE #	PROCALL-X1	PROCALL
1	AX A	AX 1 LEFT
	AX B	AX 1 RIGHT
2	AX C	AX 2 L
	AX D	AX 2 R
3	AX E	AX 3 L
	AX F	AX 3 R
4	AX G	AX 4 L
	AX H	AX 4 R
5	AX I	AX 5 L
	AX J	AX 5 R

FZ
FREEZE-The EAGLE II has the ability to stop any dissolve alternate while it is in progress and hold the light level at any light intensity. This cue also allows you to continue the dissolve in the same direction at the same rate or change the rate. You are also permitted to change directions using the same rate or a different rate. Only dissolve alternates should be used with a FREEZE.

HOME
PROGRAMMABLE RETURN TO BEGINNING OF PROGRAM- Home is used as a program function to return the program, slide trays and lamp status to the home (cue #1) position. Home brings the lamps down and sends the trays to their original starting position by the shortest route.

NOTE: When Home is part of a run sequence in the program, the program will assume it is to continue to run. The program will execute cue #1 and all subsequent cues in memory until it encounters a STOP command.

LDxx
PROGRAMMABLE LOAD OF FILExx- This cue automatically executes load from the disk into memory. When the LOAD FILE cue is executed in a run mode, the system will load the file "xx". The program file name may be any two digit alphanumeric character combination. The system will then reset itself to cue number one and continue to run from that point. The tray and lamp status of the projectors will stay exactly the way they were before the load. Keep in mind that while the system is loading the file it is totally occupied. Pick a convenient "slow" period when no projector action is needed such as a wait or long dissolve.

LG
LOOP GO-LG with DOVE X dissolves will cause ALL specified LOOPS to be repeated until told to STOP.

LL
LOAD LOOP-LL is used to instruct DOVE X's to store a series of cues (ACTION CUES) in their memory as a routine that will be repeated.

LPxx
A desired number (xx) of times through the loop is actuated by this command. It acts much like a RPxx but the DOVE X's independently carry out this action.

LS
LOOP STOP- LS will cause all LOOPS in progress on the designated DOVES to stop.

NOTE: Loop commands LL,LG,LS must designate independents (A thru 0) to participate within a particular loop. Screen numbers are invalid.

N
NO OPERATION-This has no effect on the screen action. It equals a .1 second wait at 10 cues per second and a .05 second wait at 20 cues per second. N is also used as a convenient location for a RUN or STOP separate from any screen action.

PF
PROJECTOR FORWARD- This cue used with an independent projector designation, will move the assigned projector tray forward one position without effecting the lamp status. If you use PF, with a screen number designation, the system will assume that you want ALL projectors in the screen to move FORWARD one position. You cannot use both a screen number and an independent in one cue.

PR
PROJECTOR REVERSE-This command functions the same as the PROJECTOR FORWARD command except that it will REVERSE the trays one position.

RPO
REPEAT UNTIL TERMINATED-This cue is used if an undetermined number of REPEATS is desired. The RPO can be terminated by pressing the LINE FEED key or using a REMOTE CUE. This command is of use when you are doing "live" portions of your program and the length of a sequence is not predetermined.

RPX
REPEAT X-RPX allows you to let the EAGLE II determine the number of times the sequence has to repeat. It is used while you are in the RUN mode and actually viewing the sequence. Enter the RPX into the program and start the sequence running, when the desired number of repeats have taken place on the screen press the LINE FEED key to move on to the next part of your program. The EAGLE II A-V will resolve the X to the number of times the sequence is repeated.

NOTE: When you press the LINE FEED key to resolve the RPX, the system will finish the sequence in progress before moving on.

RP
REPEAT-This key is used to repeat a series of cues that have a RUN embedded in the first cue of that sequence. xx=number of times to be repeated from 1-255. Up to 10 consecutive (nested) RP commands are allowed.

NOTE: 1)When you repeat a sequence 23 times the sequence will actually take place 24 times. The sequence will take place once and then be repeated 23 times.
2)With the use of nesting, it is possible to create a sequence that has billions of cues. Use nesting with extreme care.

RUN SEQUENCES
The EAGLE II A-V SYSTEM can execute a program at 10 cues per second or at 20 cues per second. Either speed may be selected by embedding speed change cues in the program. At 10 cues per second the EAGLE II will wait .1 seconds between the time a cue is issued and the time a subsequent cue is issued. At 20 cues per second the system will wait .05 seconds between cues.

A run sequence is initiated by using a RUN command (stopped by a STOP command) or with the use of time cues from the CLOCK-TRAK. A RUN sequence will execute until it encounters a stop or the next time cue. Run sequences are used to fire a series of cues rapidly with precise timing.

S10
SPEED-10 CUES PER SECOND-S10 is used to shift speed from 20 cues per second to 10 cues per second. The EAGLE II will automatically select 10 cues per second when the system is first LOADED, when you CLEAR ALL CUES from the control command mode or when you perform a HOME.

S20
SPEED-20 CUES PER SECOND- S20 is used to increase the running speed to 20 cues per second.

SG
SMOOTH GO-SG is DOVE D command which allows direction change at any point in a dissolve curve. This feature enables the programmer to produce a rippling effect by cueing other dissolves before the completion of the previous dissolve. If this procedure were done without "Smooth Go", the previous dissolve would move to its ending state when another dissolve is cued in, giving a popping effect.

SS
SMOOTH STOP- SS is used to return all DOVES to normal from the SMOOTH state. A HOME will accomplish the same thing.

TBxx
TBxx-This is a label which may be nested in the program to mark different sections of the show. xx may be any two characters.

TM hh:mm:ss:ff:
TIME IN .01 SECOND STEPS-TIME cues may be located in the program at any desired point. In this format "hh" is hours, "mm" is minutes, "ss" is seconds and "ff" is hundredths of seconds. You do not have to enter unused fields. For Example:

10	Becomes 10 Seconds
10:	Becomes 10 Minutes
10::	Becomes 10 Hours

The maximum value for a time cue is approximately 11 hours and 39 minutes. A time cue of 0.00 is not valid. If you should attempt to enter a time cue less than or equal to the current time, the system will reject the cue and issue a message on the status line. A time cue is essentially a null cue, that is, nothing goes out the mag tape channel when it is executed. WHEN A MAG TAPE SAVE (MSV) operation is performed the time cues are recorded on the tape. A time cue takes less than .01 seconds to execute.

When PROCALL encounters a time cue while in the run mode, it will cause the program to stop. PROCALL will then wait until the clock equals the value of the time cue and then put the program into the RUN mode again.

TX
TIME X- TX is used to mark the beginning of a timed (RUN) sequence using the CLOCK-TRAK. The X value is resolved when you press the LINE FEED key.

W.05 thru W10-
WAIT TIMES- Waits are computer generated timing links that allow you to time out action sequences precisely. These times are entered into the program in the form of wait cues ranging from time longer than 10 seconds is desired, you may use consecutive wait cues to achieve the desired wait time.

NOTE: Because of the convenience of using CLOCK-TRAK, we strongly suggest that you use it instead of WAIT commands for times in excess of 1.5-2.0 seconds.

Wx-
WAIT-X- This cue is used when the proper timing of a sequence has not been determined before programming. The WX cue is resolved to the nearest .05 second when you are operating at 20 cues per second and to the nearest .1 second when you are operating at 10 cues per second. The WAIT X is resolved by pressing the LINE FEED key during the running of the particular section.

R
RUN- run is used in the "screen area" of the DISPLAY LINE to designate one of the following:

1. To mark the beginning of a REPEAT sequence.
2. To initiate a RUN sequence.
3. As a reference point.

S
STOP-A stop is used in the "screen area" of the DISPLAY LINE to designate one of the following:

1. To mark the end of a RUN sequence.
2. To stop the screen action when using CLOCK-TRAK.

P
Proceed- When running 20 cues per second, this is a 1/40th second link between two cues referencing different Banks. Its purpose is to approximate being able to make two separate cues happen at the same time. For example;

CUE #	CODE	STATEMENT	BANK A	BANK B	RUN
1	AT	ALT	ABCD		P
2	2D	2 SEC DIS		A C EF	

These two cues are staggered 1/40th second apart between Out 1 and Out 2, so that both cues are effectively given in 1/20th of a second. When running 10 cues per second, the two cues are staggered 1/20th second apart on Out 1 and Out 2. Please note that in order to maintain the PROCEED outputting, a P must be given on every other cue otherwise EAGLE returns to normal output procedure.

123456789
POSSIBLE SCREEN NUMBERS on OUT 1 (BANK A) and OUT 2 (BANK B)

ABCDEFGHIJKLMNO
Possible independent designations on OUT 1 and OUT 2

ABCDEFGHIJ
Possible auxiliary designations. Screen numbers are not valid with this command.

NOTE: The use of a screen number with an independent is invalid.

EDITING COMMANDS
Editing is a very important part of programming. The commands described below will assist you in editing your program quickly and easily.

Certain keys have dual functions and some keys are used in conjunction with the CONTROL key. For purposes of notation, to indicate that two keys are to be pressed simultaneously, a slash "/" will be represented by a "CNTRL/A".

CTRL/A
ADD-A-CUE- This allows you to "open up" the memory and insert a cue into your program. This will move all subsequent cues down one cue number in the memory. Same as "Insert" key.

CTRL/B
REVERSE TO PREVIOUS TAB-Same as CTRL/TAB.

CTRL/C
CONTROL COMMAND-This is the way to enter the CONTROL COMMAND mode.

CTRL/D
Delete a Cue- This will delete (Remove) the cue that is being previewed and will close up the memory.

CTRL/G RETURN
HOME PROJECTORS-This will issue a HOME cue to the attached dissolve units and return the program to CUE #1. The lamps will come down and the trays will move to their original starting position via the shortest route. This command functions the same as depressing the GOTO key and then the RETURN key. Same as typing "GOTO" in the control command field.

CTRL/G.xx
GOTO CUE xx- This will issue a command to the EAGLE II A-V to GOTO a specific cue in memory. xx= the desired cue number. The lamp status and tray position will be updated to the dissolve units. This cue is used to move from any cue in memory to any other cue in memory. Use 9999 as the cue number to quickly move to the end of your program since the GOTO will stop at the last cue in memory. Same as typing "GOTOxx" in control command field.

CTRL/G,T,M,
GOTO TIME HH:MM:SS:FF:- This will issue a command to GOTO the desired time cue. If there is not time cue equal to the entered value, the system will go to the next time cue greater than the desired cue. Same as typing GOTO TM in the control command field.

CTRL/N
DISPLAY NOTES/NORMAL- This is used to display a NOTE stored in the note buffer (the program will continue to run without interruption).

CTRL/P
SLIDES DISCONNECT/NORMAL-This command disconnects or disables any slide projector cues from going out of the EAGLE II A-V system. Same as typing "PD" and "PN" in the control command field.

CTRL/Q
STEP REVERSE CUE- This steps you through the program in the REVERSE direction on cue each time the "Q" is depressed while holding down the CONTROL key. Reverse SCROLLING at 10 cues per second is initiated by depressing the CNTRL/Q and repeat keys simultaneously.

CTRL/R
REPEAT PREVIOUS CUE-This repeats the previous cue each time the CNTRL/R is depressed. Cues may be repeated rapidly by depressing the CNTRL/R keys and holding them down. The EAGLE II will sense and key held down for longer than a second and repeat it.

CTRL/S
STANDBY-This will bring down the lamps of ALL projectors. The projectors will respond to advances and reverses and keep track of the lamp and tray status. To return to the normal lamp status, depress CNTRL/S again.

CTRL/T, ENTER
GOTO NEXT TAB-This allows you to access the TAB cue quickly.

CTRL/T.xx
GOTO TABxx- This allows you to GOTO any desired TAB. xx= desired TAB. Same as typing GOTO TB in the control command field.

CTRL/U
Change Mode- This command will allow the user to change assignments to different locations while creating a screen format.

CTRL/X
AUX DISCONNECT/NORMAL-This disconnects or disables auxiliary cues from going out of the EAGLE II A-V system. Same as typing "AD" and "AN" in the control command field.

CTRL/V
This allows the display of the DOVE number and projector designations in the status area. This allows easy reference to show which independents correspond to which projector. Pressing CTRL/V again returns status to normal.

LINE FEED
Line Feed key commands the EAGLE II A-V system to execute a cue or run a sequence from memory. When you are using the CLOCK-TRAK, the EAGLE II A-V will execute a chain of cues from memory until the next time cue is encountered. If you are hand cueing or remote cueing the system, LINE FEED will step the program on cue at a time or start a run sequence if that cue has a RUN included in it. If projectors have been formatted for both BANK A and BANK B, but you first want to program BANK A only, use line feed to enter cues because it eliminates having the cursor moving into BANK B. When BOOTING up the system, LINE FEED will move you directly to the standard format.

RETURN OR ENTER
Depressing this key will enter the cue into the memory of the EAGLE II A-V. This key is generally used to enter information into the EAGLE. It is essential to use this key to move through the flexible formatting questions and entries.

NOTE: When formatted for BANK A only the cursor never enters the BANK B column.

ESC
ESCAPE- This allows you to ESCAPE (stop) any action that is being carried out by the EAGLE II A-V. ESCAPE will turn off the MAG TAPE INPUT and cause the system to ignore CLOCK-TRAK or DATA information. Pressing any key will turn the MAG TAPE INPUT back on. AVL recommends that you use the space bar. The ESC key also turns you to the programming mode from the CONTROL COMMAND mode.

Q
STEP CUE- This will step through the program in the FORWARD direction each time you push the key. SCROLLING in the forward direction at 10 cues per second may be initiated by depressing the Q key and holding it down.

SPACE BAR
This key is used to move a character to the right without changing the character the cursor is moving across.

TAB
FORWARD TO NEXT TAB-Same as CNTRL/T,ENTER

UP ARROW-
UP ARROW (REVERSE CUE)-When depressed, this key will move the program (memory) in the REVERSE direction:

1. One cue if you are not in a RUN condition.
2. To the previous GO in a RUN mode.
3. To the previous TIME cue when using CLOCK-TRAK provided that there is not an intervening GO command.
4. To the previous LL it in a loop mode.

BACKSPACE
This key is used to move the cursor backward or to permit a change if a mistake is made during formatting.

CONTROL COMMAND ENTRIES

EDITING CONTROL COMMANDS

BPF ENTER
BEEPER OFF- This allows you to turn the BEEPER OFF.

BPN ENTER
BEEPER ON-Turns the BEEPER back to normally ON.

CAC ENTER
CLEAR ALL CUES-This command clears ALL cues from the memory. A home is also issued to the dissolve units.

NOTE: Use this command with caution. Be sure you have stored the information that you are clearing or that you really do not want the information.

CLN
CLEAR NOTES-This permits you to clear a NOTE currently stored in the NOTE BUFFER.

CUES-
DISPLAY TOTAL CUES- This displays the total cue storage capability of the memory and the amount of cues remaining. Subtracting the two will give you the total cues used in the program.

ESN
EXCHANGE SCREEN NUMBERS-ESN exchanges both screen numbers and independents.
FORM: ESN vx,yz where v and y are screen numbers or independents and where x and z are either Bank A or Bank B.

IAM
CHANGE OPERATORS NAME TO xx- This changes the operator name on the program in memory. xx may be up to 25 characters in length.

KBF
KEYBOARD EDIT OFF- This command disables the keyboard so that no direct changes can be made to the cues of the program. Any of the features of the EAGLE II A-V system that are available to you in the CONTROL COMMAND mode are still usable.

KBN
Keyboard Edit On- This returns the keyboard to normal operation.

NEW
ESTABLISH NEW HOME POINT-This tells the system that you want to use the current projector status as the home reference point. This is done automatically with the cue of programmable loads.

NOTES
EXAMINE AND EDIT NOTES- This blanks the display and allows the entry of up to 11 lines of 45 characters each. A NOTE can store information such as special set up instructions for a show.

PGMxx
CHANGE PROGRAM NAME TO xx- This permits you to change the name of the program in memory. xx may be up to 8 characters in length.

RCF
REMOTE CUE OFF- This will turn the REMOTE CUE jack off. The EAGLE II A-V system will ignore any remote cue impulses.

RCN
REMOTE CUE ON- This will return the remote cue jack to "normally on"

RTCxx.YY
REPLACE TIME CUES WITH TX-This command will replace all TIME cues with TIME X cues beginning with the first cue specified (x) and continuing until the last cue specified (y) has been examined.

TOC xx,yy
TIME OFFSET CUES xx,yy HH:MM:SS:FF- This command allows you to add or subtract a time value form either a range of time cues or from all time cues in memory. PROCALL will use the first cue number (xx) to begin a search for time cues to be modified and continue until the last cue specified (yy) has been examined and changed.

TPO
TRAY POSITION OFFSET- This will set a starting tray position for the position status. You can use any number x from 0 to 80.

MEMORY/DISK DATA TRANSFER COMMANDS

APxx
APPEND FILE xx- This allows you to add a file named xx from the disk to the end of the program in the memory of the EAGLE II. The long form "APPEND xx" is the same.

CNPxx
CLEAR NAME PROTECT xx- This command allows a file named xx to be renamed.

CWP xx
CLEAR WRITE PROTECT xx- This command permits you to delete a file named xx from the disk. Deletion occurs only if the program is not WRITE PROTECTED.

DELxx
DELETE FILE xx FROM THE DISK- This command permits you to delete a file named xx form the disk. Deletion occurs only if the program is not WRITER PROTECTED. Same as "Delete xx" long form.

DLC xx.vv
DELETE CUES FROM xx to yy-This command allows you to delete portions of your program from cues xx to yy inclusive.

DSK
Disk Drive Indication (For EAGLE II Only)- Typing DSK 1 RETURN instructs EAGLE II to use the top disk drive. Likewise DSK 2 RETURN instructs for the use of the bottom disk drive.

INS
INSERT FILE NAMED xx- This command allows you to insert a program named xx between cues already in the memory of the EAGLE II. The insertion takes place at the location of the cursor. The long for "INSERT xx" is the same.

LD
LOAD FILE NAMED xx- This permits you to load a program named xx from the disk into memory. The long form "LOAD xx" is the same.

LIB
LIBRARY-This will display on the video monitor the file names of all programs stored on the disk. When a full screen of library entries has been displayed you may push any key except the ESC or up arrow (reverse cue) keys to see the next line of entries. If you would like to start over again at the top of the list, push the REVERSE CUE key. If you do not wish to see any more entries, push the ESC key.

NLD
NOTES LOAD xx- This will load a NOTE file titled xx into the NOTE BUFFER in the memory of the EAGLE II.

NPRxx
NAME PROTECT xx- This will protect a file named xx from being accidentally renamed.

NSV
NOTES SAVE xx- This will save a NOTE currently in the NOTE BUFFER in memory on to the disk a xx. (xx may be any two characters).

PACK
PACK DISK- This command will close the gaps between the files stored on the disk caused by deletion of other files. The EAGLE II willdo this automatically as the disk fills up.

RNMxx
RENAME FILE xx AS yy- This will rename a file titled xx on the disk as yy. Renaming will occur only if the file is not name protected. Same as "Rename" in long form.

SV
SAVE- This will save the program in memory on to the disk with the program name on the monitor as the file name. The long form "SAVE" is the same.

SCxx
SAVE CUES xx TO yy UNDER FILENAME- This will save the program in memory on to the disk with xx assigned as the file name. xx may be up to 8 characters in length. The long form "SAVE xx" is the same.

SCxx.vv.FILENAME
SAVE CUES xx TO yy UNDER FILENAME- This command allows you to save sections of cues out of your program on to the disk under an assigned file name.

WPRxx
WRITE PROTECT FILE xx- This enables you to protect a file named xx on the disk from accidental erasure.

PRINT COMMANDS (Control Command Field)

PRINT-This command prints Program Name, Operator Name, and Cue information on an external printer.

PLB PRINT LIBRARY- This command will print all directory information onto an external printer.

SPD PRINTER SPEED SELECT- This command selects the Baud rate of the external printer. (See printer manual for suggested Baud Rate). The values that EAGLE II will accept are as follows; 75, 110, 150, 300, 600, 1200, 1800, 3600, 4800, 7200, 9600. If not specified, EAGLE II will default to Baud Rate 300.

PBH PRINTER BUSY HIGH- This command specifies to the EAGLE that a High Signal means the Printer is busy and it cannot accept more data. The EAGLE is then responsive to that input.

PBL PRINTER BUSY LOW- EAGLE II is instructed that the busy signal is low.

NPB NO PRINTER BUSY- This command tell EAGLE II not to bother to look for a busy signal. This also is the default condition if no other busy commands are given to the EAGLE.

PLP PARALLEL LINE PRINTER- This command depends upon the type of External Printer used. Check the printer specifications to determine the type of input your printer accepts. (Parallel or Serial)

SLP SERIAL LINE PRINTER- This is the default condition if Parallel Line Printer is not specified.

NOTE: SPD, PBH or NPB, PLP or SLP must be specified before the commands PLB or PRINT are used. If not specified, EAGLE automatically selects SPD 300, NPB and SLP.

MAG TAPE CONTROL COMMANDS

CEM
CLOCK EDIT MODE- Allows the EXPANDED ROADRUNNER to read CLOCK-TRAK of magnetic tape and synchronize the program in memory. If the tape data stops, the program will stop .5 seconds after the data stops. As soon as the CLOCK-TRAK input begins again, the system will execute a GOTO to be ready for the next section.

CIM
CLOCK INPUT MODE-This command will put the system into CLOCK INPUT MODE. The CLOCK TRAK data on a tape does not resemble normal cues on a data tape so the EAGLE II will ignore CLOCK-TRAK data unless you are in either CLOCK INPUT or CLOCK EDIT mode. When the system is in either of the two modes (CIM, CEM) it will accept only CLOCK-TRAK data as a valid input. The CLOCK-TRAK coming into the system starts and stops a program stored in the memory of the EAGLE II at precise times that you can designate and normal cue data will be sent out of the system.

The main difference between CLOCK INPUT and CLOCK EDIT modes is that in CLOCK INPUT mode the system will continue to run on its own internal clock timer if the input from the CLOCK-TRAK on tape stops. The EAGLE II will display a message warning you that the input form tape has stopped.

Once a TIME or TIME X cue has been executed, the EAGLE II will stay in perfect sync with the time recorded on the tape. The system will automatically execute a GOTO, if necessary, to continue tracking with the CLOCK-TRAK from tape. If you stop the tape and fast forward or reverse the tape, the system will GOTO the correct place in the program automatically and update projector lamp and tray status.

COM
CLOCK OUTPUT MODE-This generates CLOCK-TRAK from the OUT 1 jack on the EAGLE II for recording on to magnetic tape. Normally the time will begin at time zero. However, if you want to start at a fixed point in time, you can enter the starting time.

COM hh:mm:ss
CLOCK OUTPUT MODE-This also generates CLOCK-TRAK from the OUT 1 jack. However, if you want to start at a fixed point in time, you can enter the starting time (hours, minutes, seconds and hundredths).

MIF
MAG TAPE INPUT OFF- This will turn OFF any mag tape input and the EAGLE II will ignore any data input the PLAY IN jack.

MIN
MAG TAPE INPUT ON-This turns the mag tape input (PLAY) back on.

MLD
MAG TAPE LOAD- This allows you to load a program into the memory of the EAGLE II from any tape or directly from an EAGLE or another of AVL's other programmers.

MOF
MAG TAPE OUTPUT OFF-This will prevent the generation of DATA information from the "OUT 2" jacks. When this occurs only "nulls" are generated. (A NULL is a signal that indicates the absence of DATA). Turning the output off enables you to move through the program without advancing the projectors.

MON
MAG TAPE OUTPUT ON- This turns on Data to Out 1 and Out 2 jacks.

MSV
MAG TAPE SAVE- This feature allows you to dump the contents of the memory of the EAGLE II on to mag tape in the same fashion as saving the memory contents onto the disk. In dumping a program using both banks of projectors, simply connect the tape recorder to Out 1. Both banks are recorded simultaneously through Out 1. Therefore, it is possible to reload a 30 projector show. This feature is equivalent to the save on a disk but is done on a tape recorder.

PIF
POSI-TRAK INPUT OFF-This tells the EAGLE II to disreguard any POSI-TRAK being received.

PIN
POSI-TRAK INPUT ON-This tells the EAGLE II to process any POSI-TRAK being received.

POF
POSI-TRAK OUTPUT OFF-This command is used to instruct the EAGLE II to halt POSI-TRAK generation out. It can still be read into EAGLE II.

PON
POSI-TRAK OUTPUT ON- This command is used to instruct EAGLE II to restore POSI-TRAK generation.

STL
SET LEVELS- This command tells the EAGLE II to generate a continuous test tone from the RECORD OUT RCA jack on the rear panel to enable you to adjust the record level of your tape recorder. (Adjust for 0 VU).

VER
VERIFY (MSV ONLY)- This command allows you to verify the accuracy of the information that has been SAVED on to mag tape before you clear the program from memory.

COMMANDS FOR OPTIONAL PERIPHERAL EQUIPMENT

X-15 PROGRAMMING COMMANDS

XS
SHORT PULSE-This will initiate a momentary (50 millisecond) closure of the contacts. This amount of contact closure time is usually sufficient for most auxiliary equipment.

XL
LONG PULSE- This will cause a momentary (1/2 second) closure of the contacts. This is used for equipment that requires a longer contact closure such as KODAK S-AV projectors.

XN
LATCH ON- This will keep the selected channels closed until interrupted by a new command. This permits the relays to be used as either NORMALLY OPEN or NORMALLY CLOSED. The new command can be an XS or XL which will cause the contact to open momentarily and then close again.

XF
LATCH OFF- Cancels the LATCH ON status and renders the assigned channel inactive.
NOTES: 1. The EAGLE II allows you to use two X15s in line with your dissolve units (one each on OUT 1 & OUT 2) and allows you to use both the X-15 and dissolve auxiliaries with their respective commands.
2. All auxiliary cues must specify projector independents.
3. You CANNOT have an auxiliary command for the X-15 and an auxiliary in your dissolve unit in the same cue.

USE OF X-15 PROGRAMMING COMMANDS

Each of the above X-15 commands must be used with independents and not with screen numbers. The X-15 does not need to be updated to understand PROCALL X-1 but there is a restriction in programming.

In PROCALL (Version 5), X-15's were commanded using 1, LCR; 2, LCR; 3, LCR; 4, LCR; and 5, LCR. The following table shows the relationship between those commands and the new PROCALL X-1 independent commands.

PROCALL (VER 5)	PROCALL X-1
1 L	A
1 C	B
1 R	C
2 L	D
2 C	E
2 R	F
3 L	G
3 C	H
3 R	I
4 L	J
4 C	K
4 R	L
5 L	M
5 C	N
5 R	O

The X-15 commands are not completely independent in PROCALL (VER 5) nor are they completely independent in PROCALL X-1. For example, it is not possible in one cue to program the following:

XN AB D I NO

This is not possible in PROCALL X-1 because it was not possible to program this sequence in one cue in PROCALL (VER 5).

To achieve the above cue would have required three separate cues in PROCALL (VER 5).

```
XN          12      L
XN          1    5  C
XN             3 5  R
```

The following examples demonstrate correct programming of the X-15. Your programming is correct if the same action can be achieved with one cue of PROCALL (VER 5). Therefore, I also have listed the equivalent VER 5 command.

CORRECT PROGRAMMING

	PROCALL X-1		PROCALL (VER 5) EQUIVALENT		
1.	XN	A	XN	1	L
2.	XN	AB	XN	1	LC
3.	XN	ABC	XN	1	LCR
4.	XN	A D G J M	XN	12345	L
5.	XN	AB DE	XN	12	LC
6.	XN	ABCDEFGHIJKLMNO	XN	12345	LCR

The next examples show incorrect programming and also the PROCALL (VER 5) cues. Notice that if it takes more than one PROCALL (VER 5) cue, the PROCALL X-1 programming is incorrect.

INCORRECT PROGRAMMING

	PROCALL X-1		PROCALL (VER 5) EQUIVALENT		
1.	XN	AB D	XN	1	LC
			XN	2	L
2.	XN	A D GH J M	XN	12345	L
			XN	3	C
3.	XN	AB DE GH JK MNO	XN	12345	LC
			XN	5	R

ESN

EXCHANGE SCREEN NUMBERS- ESN has an expanded function and definition in PROCALL X-1. ESN is a very important feature especially with flexible formatting. ESN is very useful when merging two shows with different formats. It is a powerful command because it eliminates the need for time consuming editing and reprogramming of a show with a different format. It also is usef for changing programs to accomodate more projectors as will be shown in the accompanying examples. ESN command allows you to change not only screen numbers but also independent projector assignments as well. The command allows exchange between Banks A and B and exchange within each Bank. The rules of ESN in order of importance are as follows:

1. You can only exchange screens if they have equal number of projectors in them.

2. You cannot exchange to a screen or independent designation that currently has programming.

3. It is necessary to exchange both screen numbers and independents except when merging two programs of different formats.

4. ESN is a CONTROL COMMAND (CNTRL/C).

5. You may exchange independent projectors.

6. You may exchange between banks.

The ESN command is typed as follows:

a. For screen exchange,

_____BANK

ESN 1A,2A (Exchange Screen 1 to Screen 2 in Bank A)
ESN 1A,2B (Exchange Screen 1 in Bank A to Screen 2 in Bank B)

_____SCREENS

b. For independent exchange,

_____BANK

ESN AA,BA (Exchange Projector A to Projector B in Bank A)
ESN AA,BB (Exchange Projector A in Bank A to Projector B in Bank B)

_____INDEPENDENTS

ESN is a versatile feature that will be shown in the following two examples:

EXAMPLE 1

FORMAT 1

```
PROGRAM NAME: LEARN                    OPERATOR:
MODE: MT BYPASS                                                  0.00
CONTROL COMMAND:                                              E1.25
STATUS:

            BANK A STATUS                              BANK B STATUS
     1         3         5
    A0        D0        G0
    B0        E0        H0
    C0        F0        I0


CUE #  CODE   STATEMENT              BANK A              BANK B          RUN
----
----
----
----
----
     1 AT          ALT               1 3 5
     2 AT          ALT                B   E   H
     3 FA          FAST ALT          ABCDEFGHI
     4 3A          3 SEC ALT           C   F   I
```

Suppose we want to merge this program in Format 1 into a show with the following format, namely Format 2.

FORMAT 2

```
PROGRAM NAME: LEARN                OPERATOR:
MODE: MT BYPASS                                              0.00
CONTROL COMMAND:                                        E1.25
STATUS:

            BANK A STATUS                                BANK B STATUS
     1    2    3    4    5
    A0   D0   G0   J0   M0
    B0   E0   H0   K0   N0
    C0   F0   I0   L0   O0
```

This can easily be done since the screens have the same number of projectors as in FORMAT 1 of this example (Rule #1). We can merge the program using two different methods. The first method changes screen numbers leaving screens 4 and 5 blank. The commands are as follows:

EXCHANGING SCREEN NUMBERS (Rule #1)

```
ESN  3A,2A
ESN  5A,3A
```

Notice that your program is corrected to fit the format you are merging into. There is no need to exchange independents. They match in both formats since we have exchanged screen numbers. The second method changes independents leaving screens 2 and 4 blank. The commands are as follows:

EXCHANGING INDEPENDENTS (Rule #5)

```
ESN  DA,GA
ESN  EA,AA
ESN  FA,IA
ESN  GA,MA
ESN  HA,NA
ESN  IA,OA
```

In this second method the program is also corrected to fit the format you are merging into. Here, there is no need to exchange screen numbers now that the independents have been exchanged.

Therefore, ESN makes merging of programs of similar formats simple.

CAUTION: It is not possible to exchange screen 1 with screen 3 in this example. Your programming contains commands for both screens and exchanging 1 for 3 would also wipe out the commands for screen 3. Therefore, always exchange into a screen number or independent that is not being accessed by your current program (Rule #2).

EXAMPLE 2

Suppose you have a program that is long enough for projectors to require slide tray changes and you want to revise this program to switch to a second set of projectors rather than changing trays. Suppose the following is your format and program:

```
PROGRAM NAME: LEARN                OPERATOR:
MODE: MT BYPASS                                          0.00
CONTROL COMMAND:                                    E1.25
STATUS:

            BANK A STATUS                          BANK B STATUS
     1    2    3
    A0   D0   G0
    B0   E0   H0
    C0   F0   I0


CUE #   CODE    STATEMENT              BANK A          BANK B          RUN
----
----
----
----
----
    1  AT         ALT                  ABCDEFGHI
    2                      .
    3                      .
    4                      .
    5                      .
    .                      .
 2000  AT         ALT                  123
 2001  2A         2 SEC ALT              B   E   H
 2002  8A         8 SEC ALT            ABCDEFGHI
 2002  2A         2 SEC ALT            123
 2003  16A        16 SEC ALT            A   D   G
```

Suppose that at cue #2000 you want to switch to other projectors to save a tray change, do the following steps.

1. Boot up and place the format above in both Bank A and Bank B.
2. Load your program and clear all cues before cue #2000.
3. Exchange screens and independents between Bank A and Bank B which automatically places the program portion into Bank B (Rule #6).

Go to the CONTROL COMMAND FIELD and perform the following exchanges (Rule #4).

```
ESN 1A,1B
ESN 2A,2B
ESN 3A,3B
ESN AA,AB
ESN BA,BB
ESN CA,CB
ESN DA,DB
ESN EA,EB
ESN FA,FB
ESN GA,GB
ESN HA,HB
ESN IA,IB
```

The program should now be as follows:

```
PROGRAM NAME: LEARN                OPERATOR:
MODE: MT BYPASS                                              0.00
CONTROL COMMAND:                                          E1.25
STATUS:

          BANK A STATUS                          BANK B STATUS
    1    2    3                          1    2    3
   A0   D0   G0                         A0   D0   G0
   B0   E0   H0                         B0   E0   H0
   C0   F0   I0                         C0   F0   I0


CUE #  CODE   STATEMENT          BANK A          BANK B          RUN
----
----
----
----
----
 2000 AT        ALT                             123
 2001 2A        2 SEC ALT                        B  E  H
 2002 8A        8 SEC ALT                       ABCDEFGHI
 2003 2A        2 SEC ALT                       123
 2004 16A       16 SEC ALT                      A  D  G
```

4. Save that program.
5. Load original program and clear all cues from #2000 to the end.
6. Add on the exchanged program.

Using this approach, when the program reaches cue #2000 the projectors in Bank B will be commanded and the projectors in Bank A will be finished.

NOTE: Since the above program commands control projectors by both screen number and independents, all screen numbers and independents must be exchanged (Rule #3).

NOTE: It is also acceptable to exchange screen numbers and independents from Bank B to Bank A. For example ESN 1B, 1A exchanges screen 1 from Bank B to A.

After doing those examples, the use of ESN should become clear. It is important to understand all of the rules that have been presented in order to use this command correctly.

PROGRAMMING EXAMPLES

The following examples illustrate the uses of the new PROCALL-X1 commands. It is suggested that these examples with their new formats be entered into your EAGLE and studied in detail for a full understanding of the commands and their implementation.

The following programs illustrate the use of Blink Alt and Looping commands using a square format and using a Pyramid Format. For these example programs, we will place the square format on Bank A and the pyramid format on Bank B. This will also serve as an example for formatting with both Banks.

SETTING THE FORMAT

The square format will be composed of 9 projectors and 3 screens and will be laid out so 1 DOVE unit will control a horizontal set of 3 projectors. The pyramid format will utilize 15 projectors and 9 screens. Therefore the total number of screens and projectors for both Banks will be 12 and 24 respectively.

* Boot Up Your EAGLE
* Type In Your Name, Return
* Press "2" to Create Your Own Format
* Enter 12 Screens and 24 Projectors, Return
* Enter 3 Screens for Bank A, Return
  EAGLE Will Automatically Calculate Bank B Screens.
* Enter 9 Projectors for Bank A, Return

Your Monitor Will Look As Follows.

Please enter the desired assignment and configuration for your projectors.

EX: ASSIGN: 1A

	1	2	3
A			
B			
C			
D			
E			
F			

ASSIGN:

CONFIG: 5A

	1	2	3	4	5	6	7	8	9
A									
B									
C									
D									
E									
F									

CONFIG:

* Assign & Configure the Following Information.

Assign:		Config.	
1A	Return	1A	Return
2A	Return	1B	Return
3A	Return	1C	Return
1B	Return	2A	Return
2B	Return	2B	Return
3B	Return	2C	Return
1C	Return	3A	Return
2C	Return	3B	Return
3C	Return	3C	Return

EAGLE says,

"YOU ARE NOW IN BANK B"

Continue your assignments for Bank B.

ASSIGN		CONFIG.	
1 C	Return	1 F	Return
1 B	Return	2 E	Return
1 A	Return	3 D	Return
2 C	Return	3 F	Return
2 A	Return	4 C	Return
2 B	Return	4 E	Return
3 A	Return	5 B	Return
3 B	Return	5 D	Return
3 C	Return	5 F	Return
4 A	Return	6 C	Return
4 B	Return	6 E	Return
5 A	Return	7 D	Return
4 C	Return	7 F	Return
5 B	Return	8 E	Return
5 C	Return	9 F	Return
Return			

EAGLE says,

"Is your format correct?"

*If the following table is what you have, type "Y".
If not, type "N" and start all over.

	1	2	3
A	1A	1B	1C
B	2A	2B	2C
C	3A	3B	3C
D			
E			
F			

	1	2	3	4	5	6	7	8	9
A									
B					3A				
C				2A		4A			
D			1A		3B		5A		
E		1B		2B		4B		5B	
F	1C		2C		3C		4C		5C

EAGLE says,

"Please enter name of format: C."

* Save Under Format Name "C. GEO".
* Either Copy Format on Another Disk, "4", or Get Into The Program Mode by Pressing, Return.
* Name Your Program, Return.

USE OF A BLINK ALT. (BA)

The use of a BLINK ALT command is much the same as using a FAST ALT command. The only two differences is that the projector lamps will not pop on after a dissolve down.

DISSOLVING USING BLINK ALT

The Blink Alt has a unique feature that allows easy programming for Blinking dissolves. If your loop contains only Blink Alt and Wait commands, any dissolve can be introduced after the loop has been executed.

To see an example, program the following:

PROGRAM: BLINK OPERATOR:

CUE#	CODE	STATEMENT	SCREENS	RUN
1	TB1	TAB 1		
2	AT	ALT	ABCDEFGHI	
3	8A	8 SEC ALT	ABCDEFGHI	RUN
4	BA	BLINK ALT	BC EF HI	
5	S20	SPEED=20 CPS		
6	N	NO OPERATION		RUN
7	BA	BLINK ALT	AB DE GH	
8	W.05	WAIT 0.05 SEC		
9	BA	BLINK ALT	BC EF HI	
10	W.05	WAIT 0.05 SEC		
11	BA	BLINK ALT	A CD FG I	
12	RP55	REPEAT 55 TIMES		
13	BA	BLINK ALT	BC EF HI	
14	N	NO OPERATION		STOP
15	TB2	TAB 2		
16	AT	ALT	ABCDEFGHI	
17	8A	8 SEC ALT	ABCDEFGHI	RUN
18	BA	BLINK ALT	A D G	
19	N	NO OPERATION		RUN
20	BA	BLINK ALT	AB DE GH	
21	W.05	WAIT 0.05 SEC		
22	BA	BLINK ALT	BC EF HI	
23	W.05	WAIT 0.05 SEC		
24	BA	BLINK ALT	A CD FG I	
25	RP55	REPEAT 55 TIMES		
26	BA	BLINK ALT	A D G	
27	N	NO OPERATION		STOP
28	TB3	TAB 3		
29	S10	SPEED=10 CPS		
30	8A	8 SEC ALT	ABCDEFGHI	RUN
31	FA	FAST ALT	BC EF HI	
32	FA	FAST ALT	AB DE GH	RUN
33	FA	FAST ALT	BC EF HI	
34	FA	FAST ALT	A CD FG I	
35	RP55	REPEAT 55 TIMES		
36	FA	FAST ALT	BC EF HI	RUN
37	8A	8 SEC ALT	ABCDEFGHI	
38	FA	FAST ALT	A D G	
39	FA	FAST ALT	AB DE GH	RUN
40	FA	FAST ALT	BC EF HI	
41	FA	FAST ALT	A CD FG I	
42	RP55	REPEAT 55 TIMES		
43	N	NO OPERATION		STOP
44	8A	8 SEC ALT	A D G	
45	TB4	TAB 4		
46	BA	BLINK ALT	A D G	RUN
47	LL	LOOP LOAD	ABCDEFGHI	
48	BA	BLINK ALT	AB DE GH	
49	BA	BLINK ALT	BC EF HI	
50	BA	BLINK ALT	A CD FG I	

```
51   LP255 LOOP 255 TIMES
52   N     NO OPERATION                                        STOP
53   8A    8 SEC ALT          ABCDEFGHI
54   16A   16 SEC ALT         ABCDEFGHI
55   6A    6 SEC ALT          ABC
56   8A    8 SEC ALT              DEFG
57   1A    1 SEC ALT                  HI
58   32A   32 SEC ALT         A        I
59   16A   16 SEC ALT          B      H
60   8A    8 SEC ALT            C    G
61   6A    6 SEC ALT              D F
62   4A    4 SEC ALT               E
```

NOTE: Since there is a format in Bank B, a Return at the end of a Bank A Cue shifts the cursor into Bank B. To eliminate this, use line feed to skip the Bank B section.

NOTE: CNTRL/G,RETURN takes you to cue #1. The "Q" key allows stepping through the program. "CNTRL/Q" allows reverse stepping through the program. "Linefeed" allows cueing with Run Sequences.

Notice that there are three tabs in this program. Tab 1 shows a dissolve while blinking in an inverted fashion. An inverted Blink is one where lamps are on and the off lamp is rotated. Tab 2 shows a similar dissolve with a normal Blink; A normal Blink is defined as two lamps off with a on lamp rotating. Tab 3 shows the same Blink as Tab 1 but using the Fast Alt command.

In each dissolve the programmed Blink repeats 55 times which is more than enough for an 8 sec dissolve. This is done intentionally to show you that with BA, the lamps do not pop on at the end of the dissolve. Tab 4 shows how a Blinking Sequence programmed using Blink Alt and no other Alt commands can accept a dissolve much like the Blink Go of PROCALL (Version 5).

NOTE: The EAGLE will not allow a dissolve when a loop is in progress if other Alt commands are utilized in that loop.

USE OF LOOPING COMMANDS

The following program shows some examples of using looping commands. Any of the alternates, waits and freeze commands can be used as long as the loop contains less than 100 cues. Each Dove will accept three different 100 cue loops; one for each projector. Since the loop works on a singular projector basis, they can only be activated using independents (alphabet letters).

NOTE: A Loop Load (LL) command with screen numbers is invalid. The commands within the loop must also be given with independents. The use of screen numbers is forbidden within any loop.

CUE#	CODE	STATEMENT	SCREENS	RUN
1	TB1	TAB 1		
2	AT	ALT	ABCDEFGHI	RUN
3	BA	BLINK ALT	BC EF HI	
4	LL	LOOP LOAD	ABCDEFGHI	
5	BA	BLINK ALT	AB DE GH	
6	BA	BLINK ALT	BC EF HI	
7	BA	BLINK ALT	A CD FG I	
8	LG	LOOP GO	ABCDEFGHI	
9	N	NO OPERATION		STOP
10	LS	LOOP STOP	ABCDEFGHI	
11	TB2	TAB 2		
12	SG	SMOOTH GO		
13	4A	4 SEC ALT	BC	RUN
14	W3	WAIT 3.0 SEC		
15	LL	LOOP LOAD	ABC	
16	4A	4 SEC ALT	AB	
17	W3	WAIT 3.0 SEC		
18	4A	4 SEC ALT	BC	
19	W3	WAIT 3.0 SEC		
20	4A	4 SEC ALT	A C	
21	W3	WAIT 3.0 SEC		
22	LP12	LOOP 12 TIMES		
23	LL	LOOP LOAD	DEF	
24	SA	SOFT ALT	DEF	
25	W.5	WAIT 0.5 SEC		
26	LG	LOOP GO	DEF	
27	FA	FAST ALT	HI	
28	LL	LOOP LOAD	G	
29	FA	FAST ALT	G	
30	LG	LOOP GO	G	
31	LL	LOOP LOAD	HI	
32	2A	2 SEC ALT	H	
33	W1	WAIT 1.0 SEC		
34	2A	2 SEC ALT	I	
35	W1	WAIT 1.0 SEC		
36	LP12	LOOP 12 TIMES		
37	N	NO OPERATION		STOP
38	LS	LOOP STOP	D	
39	LS	LOOP STOP	EFG	
40	SS	SMOOTH STOP		
41	TB3	TAB 3		
42	AT	ALT	A HI	
43	8A	8 SEC ALT	ABCDEFGHI	RUN
44	FA	FAST ALT	BC EF HI	
45	LL	LOOP LOAD	ABCDEFGHI	
46	FA	FAST ALT	AB DE GH	
47	FA	FAST ALT	BC EF HI	
48	FA	FAST ALT	A CD FG I	
49	LP55	LOOP 55 TIMES		
50	W10	WAIT 10.0 SEC		
51	W7	WAIT 7.0 SEC		
52	FA	FAST ALT	BC EF HI	RUN
53	8A	8 SEC ALT	ABCDEFGHI	
54	BA	BLINK ALT	A D G	

55	LL	LOOP LOAD	ABCDEFGHI	
56	BA	BLINK ALT	AB DE GH	RUN
57	BA	BLINK ALT	BC EF HI	
58	BA	BLINK ALT	A CD FG I	
59	LG	LOOP GO	ABCDEFGHI	
60	N	NO OPERATION		STOP
61	LS	LOOP STOP	ABCDEFGHI	

TAB 1 shows a simple repetitive Blinking Loop. Notice, the EAGLE is Free after the looping commands are given. Any projector within the loop can be stopped independently of the other projectors. For example;

LS A

"A" projector would go back to original status (Lamps On) and B I would continue the loop.

TAB 2 shows a loop with commands other than BA, FA, or AT. If desired, a 32 Sec Alt can be incorporated. This loop also has a new feature different from other loops. The command (LPnn) is used to tell the DOVES how many times the loop is to be executed. This command works like a RPxx command only external to the EAGLE. This program also demonstrates how loops can be started with any number or combination of projectors and how they can be stopped in any order; one projector at a time or altogether. Tab 3 shows a dissolve up and down using LOOPS, BA, and FA.

NOTE: A Loop will stop at the status of the projectors at the time of a loop Go command.

Lastly, I have included another sample program for this format that may be done for fun but also should be done as an additional example of command implementation.

PROGRAM: EYEBALL OPERATOR:

CUE#	CODE	STATEMENT	SCREENS	RUN
1	SA	SOFT ALT	A	RUN
2	W.5	WAIT 0.5 SEC		
3	LL	LOOP LOAD	ABCD FGHI	
4	SA	SOFT ALT	A D	
5	W.5	WAIT 0.5 SEC		
6	SA	SOFT ALT	D G	
7	W.5	WAIT 0.5 SEC		
8	SA	SOFT ALT	GH	
9	W.5	WAIT 0.5 SEC		
10	SA	SOFT ALT	HI	
11	W.5	WAIT 0.5 SEC		
12	SA	SOFT ALT	F I	
13	W.5	WAIT 0.5 SEC		
14	SA	SOFT ALT	C F	
15	W.5	WAIT 0.5 SEC		
16	SA	SOFT ALT	BC	
17	W.5	WAIT 0.5 SEC		
18	SA	SOFT ALT	AB	
19	W.5	WAIT 0.5 SEC		
20	LG	LOOP GO	ABCD FGHI	
21	16A	16 SEC ALT	E	
22	W10	WAIT 10.0 SEC		
23	W5	WAIT 5.0 SEC		
24	LL	LOOP LOAD	E	
25	BA	BLINK ALT	E	
26	LP25	LOOP 25 TIMES		
27	W2.75	WAIT 2.75 SEC		
28	BA	BLINK ALT	E	
29	8A	8 SEC ALT	E	
30	W8	WAIT 8.0 SEC		
31	LL	LOOP LOAD	E	
32	FA	FAST ALT	E	
33	FA	FAST ALT	E	
34	LP13	LOOP 13 TIMES		
35	W2.75	WAIT 2.75 SEC		
36	8A	8 SEC ALT	E	
37	W7	WAIT 7.0 SEC		
38	S20	SPEED=20 CPS		
39	LL	LOOP LOAD	E	
40	BA	BLINK ALT	E	
41	LG	LOOP GO	E	
42	W1	WAIT 1.0 SEC		
43	S10	SPEED=10 CPS		
44	LS	LOOP STOP	B D F H	
45	FA	FAST ALT	B	
46	LL	LOOP LOAD	B D F H	
47	FA	FAST ALT	B F	
48	FA	FAST ALT	F H	
49	FA	FAST ALT	D H	
50	FA	FAST ALT	B D	
51	LG	LOOP GO	B D F H	
52	W10	WAIT 10.0 SEC		
53	LS	LOOP STOP	E	
54	W5	WAIT 5.0 SEC		
55	LS	LOOP STOP	ABCD FGHI	
56	W10	WAIT 10.0 SEC		
57	2A	2 SEC ALT	AB E	

PROGRAMS USING THE PYRAMID FORMAT (BANK B)

This format shows the flexibility involved in PROCALL-X1. Here the projectors are in the shape of a pyramid (table 6) and the video screen shows exactly the same thing.

Use CNTRL/V to check the projector assignments. The following program shows the use of this format.

PROGRAM: MARQUE OPERATOR:

CUE#	CODE	STATEMENT	SCREENS	RUN
1	1A	1 SEC ALT	ABC E G J L NO	
2	1A	1 SEC ALT	123456789	RUN
3	W.3	WAIT 0.3 SEC		
4	1A	1 SEC ALT	D F HI K M	
5	W.3	WAIT 0.3 SEC		
6	1A	1 SEC ALT	123456789	
7	W.3	WAIT 0.3 SEC		
8	RP50	REPEAT 50 TIMES		
9	N	NO OPERATION		STOP
10	SA	SOFT ALT	BC E G J L NO	
11	TB2	TAB 2		
12	N	NO OPERATION		RUN
13	LL	LOOP LOAD	ABCDE G IJ LMNO	
14	FA	FAST ALT	AB	
15	FA	FAST ALT	BC	
16	FA	FAST ALT	C E	
17	FA	FAST ALT	E G	
18	FA	FAST ALT	G J	
19	FA	FAST ALT	J L	
20	FA	FAST ALT	L N	
21	FA	FAST ALT	NO	
22	FA	FAST ALT	M O	
23	FA	FAST ALT	I M	
24	FA	FAST ALT	D I	
25	FA	FAST ALT	A D	
26	LG	LOOP GO	ABCDE G IJ LMNO	
27	N	NO OPERATION		STOP
28	LS	LOOP STOP	A C G I L O	
29	FA	FAST ALT	A	
30	LS	LOOP STOP	B DE J MN	
31	TB3	TAB 3		
32	SG	SMOOTH GO		
33	N	NO OPERATION		RUN
34	LL	LOOP LOAD	ABCDEFGHIJKLMNO	
35	4A	4 SEC ALT	A	
36	W.3	WAIT 0.3 SEC		
37	4A	4 SEC ALT	B	
38	W.3	WAIT 0.3 SEC		
39	4A	4 SEC ALT	CD	
40	W.3	WAIT 0.3 SEC		
41	4A	4 SEC ALT	EF	
42	W.3	WAIT 0.3 SEC		
43	4A	4 SEC ALT	GHI	
44	W.3	WAIT 0.3 SEC		
45	4A	4 SEC ALT	JK	
46	W.3	WAIT 0.3 SEC		
47	4A	4 SEC ALT	LM	
48	W.3	WAIT 0.3 SEC		
49	4A	4 SEC ALT	N	
50	W.3	WAIT 0.3 SEC		

```
51  4A     4 SEC ALT                                    O
52  W3     WAIT 3.0 SEC
53  4A     4 SEC ALT                                    O
54  W.3    WAIT 0.3 SEC
55  4A     4 SEC ALT                                  N
56  W.3    WAIT 0.3 SEC
57  4A     4 SEC ALT                                LM
58  W.3    WAIT 0.3 SEC
59  4A     4 SEC ALT                              JK
60  W.3    WAIT 0.3 SEC
61  4A     4 SEC ALT                            GHI
62  W.3    WAIT 0.3 SEC
63  4A     4 SEC ALT                          EF
64  W.3    WAIT 0.3 SEC
65  4A     4 SEC ALT                        CD
66  W.3    WAIT 0.3 SEC
67  4A     4 SEC ALT                      B
68  W.3    WAIT 0.3 SEC
69  4A     4 SEC ALT                    A
70  W3     WAIT 3.0 SEC
71  LP2    LOOP 2 TIMES
72  SS     SMOOTH STOP
73  N      NO OPERATION                                                STOP
74  TB4    TAB 4
75  FA     FAST ALT                               I                    RUN
76  W.2    WAIT 0.2 SEC
77  FA     FAST ALT                         D         M
78  W.2    WAIT 0.2 SEC
79  FA     FAST ALT                     A               O
80  W.2    WAIT 0.2 SEC
81  FA     FAST ALT                      B             N
82  W.2    WAIT 0.2 SEC
83  FA     FAST ALT                       C         L
84  W.2    WAIT 0.2 SEC
85  FA     FAST ALT                         E     J
86  W.2    WAIT 0.2 SEC
87  LL     LOOP LOAD                          G
88  FA     FAST ALT                           G
89  LG     LOOP GO                            G
90  N      NO OPERATION                                                STOP
91  LS     LOOP STOP                          G
92  AT     ALT                          123456789
93  8A     8 SEC ALT                      D F  I K M
```

NOTE: Use the Return Key to shift the cursor out of Bank A and into Bank B.

In summary, Independent Assessing and Flexible Format should release most of the constraints to your creativity. This manual gives only basics and it is now up to you, the user, to create programs to show off features we may not have thought of. The Equipment Will Perform. We, the Professional Team in Multi-Image, are happy to introduce you to the most advanced Multi-Image tool in the industry. We encourage you to take it to the limit.